THE ROOTS OF A GLOBAL GROVE: LABOR, MARKETS, AND NATURE IN THE CITRUS INDUSTRIES OF FLORIDA AND SÃO PAULO

by

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(Under the Direction of Cindy Hahamovitch)

ABSTRACT

This dissertation examines the citrus industries of Florida (United States) and São Paulo (Brazil) between 1960 and 1995, during which these two states emerged as the world's dominant producers of oranges and frozen concentrated orange juice. It argues that transformations of labor arrangements, political economies, and landscapes in each state were rooted in the competition between their respective citrus industries. Specifically, it explores how growers and processors attempted to remain competitive by controlling the labor costs, market access, and natural environment on which their businesses depended. In attempting to control labor costs, growers and processors found themselves at odds with farmworkers and farmworker unions in the groves and in the courts, and, in Florida's case, oversaw a demographic transformation of their labor force from Black and white Southerners to a predominately immigrant labor force from Mexico and Central America. In attempting to control markets, including market access or in disputes over excess supply, growers and processors shaped the economies of some of the largest sectors of each state. And in attempting to control nature, such as growing conditions and the prevention of pests and diseases, growers actively reshaped the ecologies of their state. Using methods from labor, business, and environmental history, the dissertation takes seriously the

concerns of the industry as expressed in meeting minutes and trade journals while exploring how efforts to compete and control costs often had unintended consequences or provoked organizing and resistance.

INDEX WORDS: Agribusiness, labor history, Southern history, Nuevo South, farmworkers, environmental history, citrus industry, Florida, São Paulo, FCOJ, United Farm Workers, transnational.

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For Chelsea and Robin.

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INTRODUCTION

Looking around, it would seem endless: rows and rows of identically planted trees, glossy green leaves blocking out a view of anything other than the blue sky. And it is hot, unyieldingly so, the air heavy with moisture. Workers come around the row, their neck, head, hands, and arms all covered, carrying a tall ladder that they carefully push into the canopy of the tree. Looking closer, the tree is hung with green, yellow, and orange fruit. They are large, hard to peel, but sweet, almost too sweet. It is an orange grove – but where?

I like to imagine C. Van Woodward in this orange grove, so immaculately planted and maintained that its features become almost indistinct. The great historian of the distinctiveness of the U. S. South was also a pioneer of comparative history. The peculiarities of the South, its "long and quite un-American experience with poverty" and its "generations of scarcity and want," made it distinct within the United States.[1] But Woodward argued that these same peculiarities made the experience of Southerners more like the "other peoples of the world." [2] And yet, Woodward could be skeptical of comparisons drawn between his South and that other great "agrarian periphery" of the Western hemisphere, Latin America.[3] The comparison, he said, "suggests setting a flock of grey and white mockingbirds down in a tropical jungle filled with gaudy parakeets." [4]

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[1] C. Vann Woodward, "The Irony of Southern History," *The Journal of Southern History*, Vol. 19, No. 1 (Feb., 1953): 3-19 and "The Search for Southern Identity," *The Virginia Quarterly Review*, Vol. 34, No. 3 (Summer 1958), 332, 335.
[2] C. Vann Woodward, "The Comparability of American Culture," in *The Comparative Approach to American History*, ed. C. Vann Woodward (New York and Oxford: Basic Books, 1968): 3-18.
[3] Tore C. Olsson, *Agrarian Crossings: Reformers and the Remaking of the US and Mexican Countryside* (Princeton: Princeton University Press, 2020) compares the US South and Mexico as "agrarian peripheries."
[4] Jack Temple Kirby, *Mockingbird Song: Ecological Landscapes of the South* (Chapel Hill: University of North Carolina Press, 2009), xi.

This quote has stuck with me. But I wonder, among those long rows of trees, in the tropical heat, watching the workers, hearing their easy conversation in a language that was, at the very least, not his familiar English, would he have been able to tell so quickly if he was in the South, in Florida, the third state to join the Confederacy, the state he first taught in as a freshly minted professor; or if he was in "tropical" Brazil, in the interior of São Paulo State?[5] The birds would have been no help, unless he was lucky, or a birder. The painted buntings that winter in Central Florida, right during the citrus harvest, are almost garish in their brilliance; the scrub jays that lived on the high sandy ridge, skittering among treetops, calling out in their raspy shouts, were as luminously colored as any of the interior of São Paulo's highlighter-yellow bem-te-vis and thrushes.[6]

An orange grove in Florida and an orange grove in São Paulo State, chosen at any time between 1965 and today, would appear, at first glance, almost identical. In Florida, there would be big canopies dotted with Hamlin, Valencia, and Pineapple oranges, grown on rough lemon, Rangpur lime, and sweet orange rootstock; and in São Paulo, rows of Rangpur lime and sweet orange rootstocks hung with Pera oranges, Valencias, and Hamlins.[7] The leaves would be slick with herbicides and pesticides, nutritional sprays, and copper. In the groves, most differences between the rootstocks or even between fruit on a tree would be discernible only to a trained nurseryman or botanist. With the horizon blocked off by the endless rows of trees, the world of the orange grove was a model "cropscape," shaped by the hands of grove workers, under the direction of grove managers, informed by the latest advances in citriculture made at research

[5] James C. Cobb, *C. Vann Woodward America's Historian* (Chapel Hill: University of North Carolina Press, 2022).
[6] Mark Jerome Walters, "Don't Mourn the Orange," in *The Wilder Heart of Florida: More Writers Inspired by Florida Nature*, eds. Jack E. Davis and Leslie K. Poole (Gainesville: University Press of Florida, 2021).
[7] This is only a small survey of the, on paper, bewildering variety that makes up a citrus grove. In practice, the variety is often difficult to discern and was ultimately all squeezed into the uniformity of frozen juice concentrate. More details on the selection of rootstocks are in Chapters 1 and 4, but see also John McPhee, *Oranges* (New York: Farrar, Straus and Giroux, 1975).

stations Florida and in São Paulo, reported in scientific and trade journals read in both states, all bent to maximize efficiency and productivity, and all in the service of taming the unruly whims of the global market for orange juice.[8] They were identical by design and by a long, shared history.

This dissertation is about that shared history. It is not a comparative history, but neither does it balk at the idea of comparisons. Beginning in 1963, when the first orange juice processing plants were built in São Paulo's citrus belt – in part, with investment from juice processors in Florida – the citrus industries in Florida and in São Paulo have been intertwined. Those plants were built following a freeze in Florida the previous year, which devastated the state's groves. Some enterprising Floridians saw an opportunity to hedge future crop losses by investing in São Paulo's citrus industry, complimenting their supply of concentrated orange juice when Florida's groves fell short. Some enterprising Paulistas also saw an opportunity: to produce frozen concentrated orange juice for a world market in which Florida no longer appeared as the unbeatable standard-bearer.

After that initial investment, the relationship between the growers and processors in Florida and São Paulo has been one, primarily, of competitors.[9] The reason I do not shy from comparison is that in competing with one another, the industries in each state made constant comparisons between themselves and their competition. Agricultural economists in Florida and in São Paulo plotted out the comparative production costs between the two industries. Trade journals and newspapers in one state closely watched and reported on the performance of the

[8] On the idea of a cropscapes, see, Francesca Bray, Barbara Hahn, John Bosco Lourdusamy, and Tiago Saraiva, *Moving Crops and the Scales of History* (Yale University Press, 2023) and Barbara Hahn, Tiago Saraiva, Paul W. Rhode, Peter Coclanis, and Claire Strom, "Does Crop Determine Culture?," *Agricultural History*, vol. 88, no. 3 (2014): 407–439.

[9] The two processing plants with the most direct ties to Florida growers were Suconasa and Citrosuco. Suconasa was sold to Cutrale, a Brazilian firm, a short five years later and Citrosuco's Florida-based investors, Lykes-Pasco, sold their shares. Later, in the 1990s, Cutrale would acquire the Minute Maid processing plant in Florida.

industry in the other. More benevolently, botanists and agronomists working in each state regularly exchanged ideas and information across the boundary of competition, joining each other as guests, meeting at conferences, and trying to solve problems of pests and contagious diseases that, they recognized, rarely abided by national borders.[10] And the arbiter of these comparisons was, ultimately, the world market price for frozen concentrated orange juice.[11]

Florida and São Paulo have been, since the 1970s, the two largest producers of orange juice in the world. Their citrus industries have shaped the ecology, labor relations, and political economy in each state. If competition is the pole around which I structure the story of how these industries were intertwined, the idea of *control* is how I understand the developments within their respective borders. "Control" appears in the industries' own writings: control of production costs, control of diseases, control of markets.[12] Although what control looks like depends on

[10] In a sense, then, the dissertation follows Tore Olsson's proposal of replacing "comparative histories" with "histories of comparison." Olsson, *Agrarian Crossings*, 4. Historian Micol Seigel has cautioned against the use of comparative history frameworks due to their tendency to essentialize differences and to ignore the extent to which seemingly distinct developments were, in fact, mutually influential. Especially in the context of comparisons between ideas of race in the United States and Brazil, her caution is well warranted. It is hoped that in grounding my own comparisons in a critical analysis of the comparisons made in the sources themselves, and in demonstrating that these comparisons were themselves strategic utterances used within a framework of competition, I am able to avoid these faults. See Micol Seigel, "Beyond Compare: Comparative Method after the Transnational Turn," *Radical History Review* (2005): 62–90. More productive examples of comparisons between the United States and Brazil can be found in Leon Fink and Juan Manuel Palacio, eds., *Labor Justice across the Americas* (Chicago: University of Illinois Press, 2017) and Fernando Teixeira da Silva, et. al., eds., *The Entangled Labor Histories of Brazil and the United States* (Lanham: Lexington Books, 2023).

[11] A point that Peter Coclanis makes about transnational history – that as soon as there is a standard world market price for a commodity, there is a transnational history of that commodity.

[12] The metonymic use of "industry" here and throughout the dissertation warrants some defense because, ultimately, there is no "citrus industry" in either Florida or São Paulo. In both, there are investors, grove owners of groves of widely varying sizes, grove managers, caretakers, nurserymen, labor contractors, farmworkers; owners of or investors in processing plants, managers and employees in those plants; there are state employees, salaries paid either by the federal or state government, who work as licensors, inspectors, agricultural economists, botanists, or agronomists. Excepting the state employees, it can be safely assumed that there was competition between nearly all of these levels, not only between Florida and São Paulo, but within each state itself. Among the same categories, growers competed with growers, processors competed with processors. And between categories, the interests of growers rarely coincided with, for example, those of processors or of farmworkers. "Citrus industry" is meant as something between an ideal type, a useful narrative device, and a real abstraction. Although "the citrus industry" did not exist, many not only believed and behaved as if it did, but attempted to make it so – from trade journalists who conceived the industry as a whole, to cooperatives who sought to represent the interests one group as if they were the whole, to state agencies who oversaw the activities of growers and processors and presented themselves as the public face of the industry.

what is attempted to be controlled; it is not meant as a metaphor. In order to remain competitive, growers and processors in each state had to control certain aspects of their production and their marketing. Growers and agronomists attempted to gain control over *nature*: breeding rootstocks and citrus varieties that would be productive, resilient to diseases, and suited for the soils they were planted in. They attempted to control the pests and diseases that threatened their crops with pesticides, nutrient sprays, and even by introducing different pests to prey on the pests that gave them trouble. They attempted to control the soils themselves, with drainage for wet soils and fertilizers for nutrient-poor soils. And the weather, that part of nature perhaps least amenable to control, growers attempted to render less harmful by planting in areas, they hoped, that would be beyond its terrible caprice, in its frosts, or droughts, and storms. The guiding principle here was to render nature predictable and manageable. Likewise, growers, processors, and politicians legislating on their behalf attempted to control *markets* with a variety of different policies. Competitors' access to international markets could be limited by tariffs, overproduction in a national market could be tamed by selling surplus to public agencies, production could be coordinated or pooled to control prices, processors could cartelize to form a monopsony and set prices for oranges, and new markets for juice could be created by stimulating demand through advertising. The idea behind controlling markets was to "escape from equilibrium," that is, to avoid competition – because competition always loomed as a threat to profitability.[13] And

[13] Margaret C. Levenstein, "Escape from Equilibrium: Thinking Historically about Firm Responses to Competition," *Enterprise & Society* Vol. 13, No. 4 (Dec. 2012), 710-728. Levenstein's discussion of competition is the most lucid in the business history literature. That competition should be an organizing concept, or category of analysis, is a less common sentiment in histories of business or labor than might be expected. My approach is also informed by Andrew B. Liu's *Tea War: A History of Capitalism in China and India* (New Haven: Yale University Press, 2020). In both the book and the dissertation on which it is based, Liu notes the striking absence of literature on competition among historians. In the dissertation, he relies on the work of economist Anwar Shaikh, who theorizes "real competition" as a turbulent and non-equilibrium process by which firms attempt to lower costs, set rather than take prices, and to reap as rents the short-term benefits of technological innovation or favorable policies. I suspect that business historians tend to neglect competition due to the still-lingering shadow of Alfred Chandler's work on the firm: competition belonged to an earlier period of capitalism, before consolidation and internal firm organization

finally, the control of *labor costs*, and by extension, the control of the supply and organization of actual farmworkers, undergirded the profitability of every other aspect in the industry. Unlike other agricultural industries in the second half of the twentieth century, harvesting citrus was never successfully mechanized. Labor costs constituted one of the – in some cases, the – largest outlays in production.

In practice, neither the citrus industries of Florida and São Paulo were able to control nature, markets, or labor to their satisfaction. Their attempts to do so, and the ways in which this control continually eluded them, provides the dissertation's dramatic, or at least ironic, narrative thread. Pests and diseases continually thwarted eradication efforts, frosts and droughts continued to kill thousands of trees; over-enthusiastic growers threatened to sink their domestic prices with overproduction, while plans to coordinate production and set prices were floated and failed; and farmworkers organized into unions to raise their wages or took to the courts to retrieve stolen wages, that is, to increase labor costs, while attempts to mechanize their labor resulted in repeated, and expensive, failure.

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replaced competition – if not entirely, then for the purposes of a firm-level study – as a useful organizing principle. The contribution of my own dissertation, methodologically, comes from the market structure of the FCOJ industry itself. When business, commodity, and labor do treat competition, their theoretical insights are at the mercy of the market structure of the industry they study. FCOJ, with its production dominated by two states and its "manufacturing" largely fixed by ecological conditions in those states is, considered globally, locked into a very visible and pugilistic form of duopolistic competition between those producers in those states. The moves made in one state will, directly or indirectly, affect the prices in the other, and leave smaller FCOJ producing regions such as Mexico as price takers, rather than setters. Commodity and business histories, when they do treat competition, often do so looking at very different market structures: for example, at an industry that moves from country to country seeking lower cost inputs, or at an industry located in one region but sourcing its inputs globally and exerting control on global commodity chains, or cases where duopolistic competition quickly gives way to one of the competitors achieving lasting dominance and rendering the other a price taker. Liu's work on tea in China and India remains the only example I have found studying a similar structure.

This dissertation is not exactly a commodity history, although it is oriented around a single commodity: orange juice.[14] I conceive of it instead as a "critical business history."[15] It is a business history in that it takes seriously, and begins from, the concerns espoused by those whose interest in citrus was that it yielded them a profit. It is critical in that it does not stop with those concerns, but attempts to look at them from the perspective of those less interested in the grower or processor's bottom line. In the case of nature, for example, it means considering the ecologists who warned that citrus planting in Florida would destroy its unusual scrub ecosystem. In the case of labor, it means considering the fight over labor costs not only from the perspective that they must be kept low, but also from the perspective of the farmworkers whose lives and livelihood depended on them being raised.

The idea that the concerns of the industry ought to be taken seriously came while I puzzled over how exactly to tell a story spanning two countries with distinct national historiographies, and, at the very least, three very distinct methodological approaches and historiographies of labor, environment, and business. Reading industry trade journals, such Florida's *The Citrus Industry* or São Paulo's *Citrus*, *Laranja & Cia*., or *Informativo Coopercitrus*, I was struck by the fact that their writers had no compunction or methodological hangups whatsoever in writing one paragraph on the threat of a citrus pest, the next on the fluctuations of market prices, the next on the latest attempts by a union to organize, and the next on the production costs and concerns of growers in another country. Insofar as they all bore on their bottom line, they carried the same weight and warranted consideration.

[14] Because the dissertation does not touch on the question of consumption at all – since Sidney Mintz's work on sugar, rightly seen as the other half, alongside production, of any commodity history.
[15] The term is borrowed from Timothy Yang, *A Medicated Empire: The Pharmaceutical Industry and Modern Japan* (Ithaca: Cornell University Press, 2021).

In writing the dissertation, I have seen the wisdom in the trade journals' indiscriminate mixing of categories and now find it difficult to consider how the story of, for example, the 1984 strike of citrus farmworkers in São Paulo was not indirectly caused by a frost the preceding year in Florida, as discussed in Chapter 5. In considering the many distinct historiographies, I drew on historians with similarly catholic approaches to these topics. In John Soluri's *Banana Cultures*, Douglas Sackman's *Orange Empire*, and Thomas Okie's *The Georgia Peach*, these historians all seemingly arrived at a similar conclusion – that it is very difficult to write a history of a crop without, every step of the way, considering the labor that went into farming and harvesting it, the market conditions that made it worth growing, and the ecological impact of uprooting acres of land to plant it.[16] Among labor historians, Cindy Hahamovitch's *No Man's Land*, Jefferson Cowie's *Capital Moves*, and Aviva Chomsky's *Linked Labor Histories* provided models for thinking about the mobility of capital and labor, such as how the control of labor can be exerted by forced mobility as well as forced immobility.

Because each chapter treats a different case of attempted and eluded control, they also intervene into different historiographies. The first chapter addresses Florida's "decade of planting" in the 1960s, when the industry moved southward onto the state's central ridge. It looks at both growers' attempts to control the production surpluses that resulted from rapid planting and the ecological changes they wrought to the ridge. Addressing environmental history primarily, it draws on histories of California's extensive and intensive agriculture. The second chapter looks at the three institutional responses, one public and two private, to "the migrant question," that is, how to control the supply of migrant farmworkers in the state and to do so

[16] John Soluri's *Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2006), Douglas Sackman, *Orange Empire: California and the Fruits of Eden* (Berkeley: University of California Press, 2005),

without eliciting public outcry or federal policies that would threaten to reduce that supply. Both a political and labor history, it extends the analysis in Hahamovitch's *No Man's Land* by giving a greater role to private, rather than state, efforts to control the supply of labor. The third chapter turns to the United Farm Workers' unionization effort in Florida from the perspective – as much as it was available in the sources – of the workers and union organizers themselves. It intervenes into historiographies of multi-racial coalitions and interracial unionism. The fourth chapter turns, finally, to the industry in São Paulo, narrating its rise from complementary crop for coffee growers to a significant economic force through its own "decade of planting." It extends the analyses of São Paulo's agriculture modernization by Thomas D. Rogers and Jennifer Eaglin by examining how citrus's haphazard and often halting attempts at modernization differed from the role played by sugar.

The fifth chapter draws together all of the threads so far, looking at the attempt to mechanize citrus harvesting by Florida's growers and arguing that its failure was rooted in a catastrophic loss of control over nature (a crop-destroying freeze) and markets (as São Paulo's juice processors were poised to take their position); it ties this back to São Paulo by showing that the higher international prices that resulted from Florida's crop loss allowed for workers in São Paulo to demand, and briefly win, wage increases after a violent strike. The fifth chapter considers, at once, the literature on the mechanization of agriculture and on the "globalization" of the South, as well as addressing the historiography on Brazil's 1984 labor strikes, arguing that historians have overlooked citrus's distinctive role within them. The sixth chapter narrates the spread of citrus canker in both Florida and São Paulo. It finds that efforts to control it in one state rebounded to the other, drawing from environmental histories of agricultural diseases. The conclusion briefly narrates the series of defeats (and small victories) of farmworkers in both

states during the 1980s and 1990s, with former United Farm Workers in Florida organizers attempting to find ways to organize outside of the traditional labor union form and with the momentum of an ascendent São Paulo rural labor movement undermined by changes in the structure of labor contracts.

The historiography dedicated to Florida's industry comprises a small handful of master's theses and doctoral dissertation, a book chapter on its early environmental history, an article on the Congress of Industrial Organizations' (CIO) 1930s attempt to unionize its grove workers, and an article on its unique agroecology during the 1960s.[17] The latter article is discussed at length in the first chapter; otherwise, I have sought to supplement rather than contradict: Hutchings focuses on consumption, rather than production, while Warren, Hussey, Padgett, and Shofner study the decades prior to the 1960s.

In contrast, the academic secondary literature on citrus in São Paulo is extensive. Though written primarily as doctoral theses and master's dissertations in social science departments – and not in history departments – a large number of these works adopt a historical approach. Four departments, in particular, are responsible for the bulk of these: Geography at the University of São Paulo (USP), Economics at USP's Luiz de Queiroz College of Agriculture (Esalq), the

[17] Robert Hutchings, "Consuming Nature: Fresh Fruit, Processed Juice, and the Remaking of the Florida Orange, 1877-2014," (PhD diss., Carnegie Mellon University, 2014); Scott D. Hussey, "The Sunshine State's Golden Fruit: Florida And The Orange, 1930-1960," (MA thesis, University of South Florida, 2010); Christian Warren, "Natures Navels: An Overview of the Many Environmental Histories of Florida Citrus," in *Paradise Lost? The Environmental History of Florida*, eds. Raymond Arsenault and Jack E. Davis (Gainesville: University Press of Florida, 2005), 177-200; James Padgett, "Rebuilt and Remade: The Florida Citrus Industry, 1909-1939" (MA thesis, University of Central Florida, 2018); Jerrell H. Shofner, "Communists, Klansmen, and the CIO in the Florida Citrus Industry." *The Florida Historical Quarterly*, Vol. 71, No. 3 (Jan., 1993), 300-309; Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," *Agricultural History*, Vol. 77 (2003), 557-639. There are also discussions in more general histories of Florida and in fields outside of history, listed in the bibliography. The journalistic account in John McPhee, *Oranges* (New York: Farrar, Strauss, and Giroux, 1967), based on interviews conducted with citrus researchers and growers in the 1960s, functions in the first chapter as a primary source, but throughout as an aspirational model, capturing the ironies of an industry that made itself the very image of a "natural Florida" by wholly remaking nature. There are also discussions in more general histories of Florida and in fields outside of history, listed in the bibliography.

Institute of Economics at the State University of Campinas, and (oddly, though it will be explained) the School of Engineering at the Federal University of São Carlos.[18]

There are some broad differences in approach among these departments. Esalq stands out as the oddest, in that most works from its Agrarian Economics program follow minimally historical neoclassical economic modes of argument: gathering empirical data, offering a hypothesis, and constructing a formal model to measure the hypothesis. The other departments, although occasionally using formal models, are more historical in their approach: they deal with changing social relationships between classes, connect changes in demographics to changes in land ownership patterns, examine the role of the state in economic development, and other topics familiar to historians. Dissertations and theses on citrus written in USP's Geography program in the 1970s and 1980s did so in the long shadow cast by Pierre Monbeig, a founder of department and one of the fledgling French intellectuals who shaped USP's social sciences departments in the 1950s. Monbeig was a human geographer, more interested in the "influence of humans upon nature, not vice versa."[19] His fieldwork on the "coffee frontier" in São Paulo provided an example for students working on the economic development – and man-made changes in landscape – of the state's rural interior.[20] And in the 1990s, several graduate students working on

[18] All those that are relevant but not discussed explicitly here are listed in the bibliography.
[19] Alongside Claude Levi-Strauss and Fernand Braudel. See Ian Merkel, *Terms of Exchange: Brazilian Intellectuals and the French Social Sciences* (Chicago: University of Chicago Press, 2022).
[20] Antonio Olivio Ceron, "Aspectos geográficos da cultura da laranja no município de Limeira," Tese (FFCH Rio Claro, 1968); Liliana Laganá Fernandes, "Bairros rurais do município de Limeira: estudo geográfico," Tese (USP, 1972);, Silvio Carlos Bray, "A utilização da terra em Bebedouro e o papel atual da cultura da laranja," Dissertação (USP, 1974); Lígia Celoria Poltronieri, "Difusão espacial da citricultura no Estado de São Paulo," Dissertação (USP, 1975); Rosa Ester Rossini, "Contribuição ao estudo do êxodo rural no estado de São Paulo," Tese (USP, 1975); Magda Adelaide Lombardo, "Economia de mercado e organização do espaço agrário: o exemplo de Cordeirópolis," Tese (USP, 1978); A. G. de Souza Coelho, "Análise espacial da citricultura paulista – O caso de Limeira: Uma proposta metodológica," Tese (USP, 1979). In the 1980s, geographers at USP working in a broadly Marxist vein also treated citrus, notably Ariovaldo Umbelino de Oliveira, "O desenvolvimento do capitalismo no Brasil: A apropriação da renda da terra pelo capital na citricultura paulista," *Anais do 4º Congresso Brasileiro de Geógrafos*, v. 1, n. 2 (1984): 330-359 and Umbelino de Oliveira's student Fátima Rotundo da Silveira, "Poeira e sumo nos olhos dos que produzem: um estudo sobre o trabalhador rural, residente urbano e suas condições de vida no município de Bebedouro," Dissertação, (USP, 1982).

citrus did so under the direction of Milton Santos, an influential geographer who insisted that changes in social relationships and human-nature relationships in a region must be placed in the context of global divisions of trade and labor.[21] In contrast to the economics faculty at Esalq, many at Unicamp were more open to heterodox, institutionalist, and broadly political-economic approaches to their topic. Particularly important was José Graziano da Silva, who advised a dissertation on the growth of rural wage labor and unionization efforts in the rural interior by Francisco José da Costa Alves.[22] Alves would then go on to UFSCar, where he and his own former student Luiz Fernando de Oriani e Paulillo would anchor research on the history and sociology of São Paulo's citrus industry in the production engineering program. Graduate students under their direction would write incisive histories and studies of the changing forms of labor contracting and control in the industry, and the group of these citrus researchers clustered at UFSCar would co-author the most significant book on the industry.[23]

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[21] In his own words, "the division of labor grows at the global scale and transformations are driven at different levels. The scale of variables to be analyzed together is no longer exclusively the scale of the place or space that directly concerns the social group but the scale of the place and the scale of the world, the country, and the regions in which the place is inserted." In Milton Santos, *For a New Geography* (Minneapolis: University of Minnesota Press, 2021, originally published in Brazil in 1978). Students of Santos's working on citrus include Denise Elias, "Meio técnico-científico-informacional e urbanização na região de Ribeirão Preto (SP)," Tese (USP, 1996) and Alcindo José de Sá, "O espaço citricultor paulista nos anos 90: a reafirmação de um meio técnico-científico-informacional da globalização," Tese (USP, 1999).

[22] It has been called "the Campinas School of Political Economy." See Francisco José da Costa Alves, "Modernização da agricultura e sindicalismo: As lutas dos trabalhadores assalariados rurais na região de Ribeirão Preto," Tese (Unicamp, 1991) and Maria Madalena Zocoller Borba, "Adequação da força de trabalho rural na moderna agricultura da região de Ribeirão Preto," Tese (Unicamp 1994); José Graziano da Silva's most detailed treatment of citrus is "Agroindústria e Globalização: O Caso da Laranja do Estado de São Paulo," which circulated in mimeograph in the late 1990s before being collected in Josefa Salete Barbosa Cavalcanti, ed., *Globalização, trabalho, meio ambiente: Mudanças socioeconômicas em regiões frutícolas para exportação* (Recife: Inspo, 2004).

[23] Paulillo, Luiz Fernando de Oriani. "O processo de constituição do complexo agroindustrial citrícola de Ribeirão Preto no Estado de São Paulo." Dissertação, UFSCar - Production Engineering, 1994; Aquiles Elie Kalatzis, "Os novos rumos do complexo agroindustrial citrícola: A exploração de novos segmentos de mercado," Dissertação, (UFSCar, 1998); Ana Cláudia Vieira do Santos, "Desafios para os pequenos produtores de laranja do Estado de São Paulo diante dos novos fatores na relação agricultura/indústria nos anos 90," Dissertação (UFSCar, 1998); Gilmar Laforga, "Processo de trabalho agrícola: a degradação da saúde em decorrência do uso de agrotóxico na citricultura de São José do Rio Preto (SP)," Dissertação (UFSCar,. 1999); Edson Antônio da Silva, "A nova Ordem do Mundo no Trabalho Agroindustrial: Reflexões sobre as transformações na organização do trabalho na agroindústria," Dissertação (UFSCar, 1999); Luiz Manoel de Moraes Camargo Almeida, "Novas formas de contratação de mão-de-obra no complexo agroindustrial citrícola paulista," Dissertação (UFSCar, 2002); Ana Claudia Vieira dos Santos, "Integração vertical, concentração e exclusão na citricultura paulista," Tese (UFSCar, 2003);

For the purpose of this dissertation, what unites these works is that many serve as both a secondary and a primary source. The social sciences programs in Sao Paulo's universities grew in stature and enrollment over the same period that the state's citrus industry became the largest in the world. For graduate students in USP's Geography department (and at the short-lived campus in Rio Claro), the state's growing citrus industry provided a laboratory to study, in real-time, the processes of agricultural change, changes to the landscape, changes in population, and class differentiation. Because of these works' close temporal connection and its research methods (geographical surveys, field interviews), they can function as a primary source; because of their theoretical sophistication and reflection on their own methods, they can function as secondary sources. This is especially the case in Chapter 4, in which they serve as a counterweight to the booster narratives of the industry provided in contemporary newspapers.

Historian Tore Olsson concludes his historiography of comparative and transnational histories of the U. S. South by invoking Woodward, who "suggested that the South's history appears most revealing when told not merely in the context of the United States, but alongside the people of the world."[24] In the broadest terms, that is the aim of this dissertation. More specifically, Olsson notes that histories of the globalization of the post-Jim Crow South have tended to focus on either "humble immigrants" moving to the South or the "mighty corporations" whose webs of trade and investment imbricate the region in ever-thickening flows of cash and capital.[25] Florida's citrus industry offers a point of contact between those stories: harvested first

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Guilherme Sandoval de Araújo, "Mudanças nas relações contratuais na citricultura: um estudo de caso," Dissertação (UFSCar, 2006); Gabriela Rocha Barbosa, "Consórcios de produtores rurais no complexo agroindustrial citrícola: das gatoperativas aos gatosórcios – a velha forma de contratação de mão-de-obra rural," Dissertação (UFSCar, 2007). The book is Luiz Fernando Paulillo, ed. *Agroindústria e citricultura no Brasil: diferenças e dominâncias* (Rio de Janeiro: Editora E-Papers, 2006).

[24] Tore C. Olsson, "The South in the World since 1865: A Review Essay," *Journal of Southern History*, v. 87, no. 1 (Feb. 2021) 108.

[25] Tore C. Olsson, "The South in the World since 1865: A Review Essay," *Journal of Southern History*, v. 87, no. 1 (Feb. 2021) 102.

by Southerners, then by recent immigrants to the South from Mexico and Central America, who themselves would often become permanent residents in the state; grown and processed for an almost wholly domestic market first, then taken as capital goods to the interior of São Paulo, then losing in cutthroat price competition as São Paulo's processors themselves become the "mighty corporations."

Humble immigrants and mighty corporations drew the U. S. South and Latin America into closer connection, where distinctiveness begins to blur, or to change its shape, sometimes by way of cooperation, sometimes by way of competition. But what of Woodward's "grey and white mockingbirds" and "gaudy parakeets," which he invoked to insist on the distinctiveness of the U. S. South and Latin America? Do they have a place in this story? I take the birds as stand-ins for each region's undeniably distinct ecologies. Rather than mockingbirds, we could think of the scrub jay, whose habitat was replaced acres upon acres of groves, driving them towards extinction; or, in São Paulo, the bem-te-vis, who adapted much more readily. However distinct the ecologies may have been, citrus growing itself requires an effort towards a sort of uniformity. The landscapes themselves were made less distinct, through the efforts of farmers and agronomists.

CHAPTER 1

PLANTED IN THE SAND

Frank Bouis needed money. Not for himself – with a mechanical engineering degree from MIT, a stint working on solid fuels for missiles at the Department of Defense, and a citrus grove management company he founded in Florida after leaving the "government bureaucracy," he was doing quite well – but for an upstart citrus research grove in his adopted town of Leesburg.[26] The grove was to be 900 acres, purchased with donations from charitable growers, and leased to the U. S. Department of Agriculture. It would be used by USDA horticulturalists to breed new varieties of rootstocks, the root and lower-trunk system of a citrus tree onto which different breeds of fruit-bearing scions were grafted.[27] The development of rootstocks and scions, the discovery of the just-right combination that would be resistant to foot rot, hardy in cold weather, with roots deep enough to absorb nutrients but not so deep as to be inundated by water, all while yielding quality fruit was the organic alchemy from which the entire industry grew.

This quest for ideal new varieties seemed especially pressing in 1960. The industry was poised to expand more rapidly over the next decade than at any point in its history and its growth was creeping ever southward, into "types of land we haven't used before."[28] And Bouis seemed the perfect man for heading the Citrus Research Foundation. He came from old Florida citrus stock. His grandfather and father owned and farmed groves in Lake County, which he

[26] Dick McHenry, "Juice Engineer," *Orlando Evening Star's All Florida Magazine* (May 27, 1967), 3-4.
[27] Joe Sanchez, "Citrus Research Funds Sought," *Orlando Sentinel* (June 24, 1960), 6-A.
[28] Joe Sanchez, "Citrus Research Funds Sought," *Orlando Sentinel* (June 24, 1960), 6-A; Tom Burchnell, "Group Visit Grove, See Citrus Tests," *Orlando Sentinel* (June 19, 1962).

remembered thinking as a child were "the most marvelous place [he'd] ever seen."[29] Returning to Florida in 1958, he earned another bachelor's degree in less than a year, this time in agronomy from the University of Florida. He then founded Florida Fruit Managers, which hired farm workers to do the grove upkeep and fruit harvesting for the absentee individuals or out-of-state investment firms that by 1960 owned half of the county's citrus groves.[30] Bouis had one foot firmly planted in an idealized past of family farmers, while the other stepped out toward the "agricultural revolution going on in Florida."[31]

It was a role Bouis relished. He stood at the vanguard of the industry, rallying it to modernization. He spread his message widely, first with his grove management work, then in speeches to the Florida State Horticultural Society and the Citrus Growers Institute, then as President of the Lake County Farm Bureau, and later in leadership roles of the Florida Citrus Mutual and Florida Citrus Commission. New rootstock varieties were only a part of his encompassing vision. He prophesied that "the Florida citrus industry is in a period of change from small scale citrus growing and handling to an extremely complex and large scale industrial type of agriculture."[32] He proposed that growers, small and large, embrace this change, rather than be pulled along blindly by the "economic forces" that "will force this agricultural revolution whether we will it or not."[33]

Modernization, for Bouis, meant the rationalization of production, away from the "cottage production" of innumerable competing small farmers, "thousands of owners …

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[29] Frank Boius interviewed by William Mansfield, Florida Citrus Oral History Project, University of South Florida Libraries, 2005.
[30] John Fraser Hart, *The Land that Feeds Us* (New York: W. W. Norton & Co., 1991), 348.
[31] Dick McHenry, "Juice Engineer," *Orlando Evening Star's All Florida Magazine* (May 27, 1967), 3-4.
[32] Frank Bouis, "Industrial Aspects of Citrus Production," *Proceedings of the Florida State Horticultural Society*, Vol. 79 (1966): 70 and Frank Bouis, "Problems Confronting Small Citrus Growers," *The Citrus Industry* (Sept., 1966).
[33] Frank Bouis, "Industrial Aspects of Citrus Production," *Proceedings of the Florida State Horticultural Society*, Vol. 79 (1966): 73

growers, harvesters, concentrators, and state agencies," all who had a "strong tendency to compete with each other."[34] Bouis complained that the industry did not yet operate like "one giant corporation," or even like three or four "as the auto people" do. One option – less satisfactory, in Bouis's vision – was simply the gradual elimination of "traditional ownership patterns," by consolidation and vertical integration. Undoubtedly, at the back of his mind, was the recent purchase of Minute Maid, the state's largest grove owner, by the Coca-Cola Company. The other possibility, one more vaguely sketched, but better for the small grower, was that all of these disparate parts would operate organically as one "management team," with large grove management companies, the mechanization of all possible labor, and coordinated marketing. In essence, a smoothly functioning, automated, state-approved cartel. "From time to time, I have a wild idea and attempt to change the course of history," he recollected decades later, only half-jokingly.[35]

The principal forces behind this revolution, Bouis said, were the explosion of new plantings, and the increasing cost and scarcity of harvesting labor. Though planting was for the time still expanding in his own Lake County, the real growth was further south, into southern Polk County and below, into the sand pine flatwoods and oak scrubs whose porous, sandy soils were the destination of the research grove's rootstocks.

This chapter follows the industry along the two routes, both promising and perilous, that it moved in the 1960s: toward "modernization," and toward the south. The former entailed a reckoning with the strain that these new groves put on the institutions, public and private, that had served the industry for decades. The latter was a reckoning with a landscape of "stunted,

[34] Frank Bouis, "Industrial Aspects of Citrus Production," *Proceedings of the Florida State Horticultural Society*, Vol. 79 (1966): 71

[35] Frank Boius interviewed by William Mansfield, Florida Citrus Oral History Project, University of South Florida Libraries, 2005.

gnarled vegetation," of "concealed deserts," deemed by an earlier visitor to be "too poor to admit of cultivation."[36] I am interested in how these two routes informed each other in the agroecological vision of the industry's growers and spokesmen. How did they understand and present their attempts to control the market for this swelling supply of citrus? And how did they understand their efforts to control the seemingly sterile nature of the state's southern Ridge, transforming it into the scenery that would decorate postcards and television advertisements?[37]

By 1960 Polk County alone grew more citrus than the entire state of California. But California's industry looms large in the historiography of U.S. citrus, and especially of growers' agroecological visions. The familiar, critical picture that emerges in much of this historiography, rooted in early work by Carey McWilliams, is of the fruit grower as a ruthless capitalist, controlling the lives and movements of their farm labor, ensconced in positions of local and state power, and indifferent at best to the ecological costs of their agricultural empire.[38] David Vaught, in "Factories in the Field Revisited" and *Cultivating California*, breaks rank from this view, looking at the formative period of California agriculture around the turn of the century.[39] Vaught

[36] Don Stap, "Along a ridge in Florida, an ecological house built on sand," *Smithsonian* (Sept. 1994), 36.
[37] These questions about the relationship of agribusiness and agroecology are indebted to the work of Donald Worster, most clearly stated in his "Transformations of the Earth," in *The Wealth of Nature: Environmental History and the Ecological Imaginary* (New York: Oxford University Press, 1993): 45-63 and the first two sections of *Rivers of Empire: Water, Aridity, and the Growth of the American West* (New York: Oxford University Press, 1985). For a recent assessment of Worster, see Mark D. Hersey and Ted Steinberg, eds., *A Field on Fire: The Future of Environmental History* (Tuscaloosa: University of Alabama Press, 2019). Working in a similar vein, Richard Walker, *The Conquest of Bread: 150 Years of Agribusiness in California* (New York: New Press, 2004). F
[38] For Carey McWilliams on citrus, see "The Citrus Belt," in *Southern California: An Island on the Land* (New York: Duell, Sloan & Pearce), 1946. McWilliams's arguments are developed, in different ways, by H. Vincent Moses, "'The Orange-Grower Is Not a Farmer': G. Harold Powell, Riverside Orchardists, and the Coming of Industrial Agriculture, 1893-1930," *California History*, vol. 74, no. 1, Spring, 1995 – and by most of the contributors to that special issue on California citrus; Anthea Hartig, "Citrus Growers and the Construction of the Southern California Landscape, 1880-1940," PhD diss., University of California, Riverside, 2001; Douglas Cazaux Sackman, *Orange Empire: California and the Fruits of Eden* (Berkeley: University of California Press, 2005) and by Walker, *The Conquest of Bread*.
[39] David Vaught, "Factories in the Field Revisited," *Pacific Historical Review*, Vol. 66, No. 2 (May, 1997): 149-184 and *Cultivating California: Growers, Specialty Crops, and Labor, 1875-1920* (Baltimore: John Hopkins University Press, 1999). It is interesting to note that the latter was written as a dissertation under labor historian David Brody, given the broad critiques he levels at "new labor historians."

insists that historians should treat the agency and ideas of growers with the same careful attention they grant to workers. In letters, diaries, and trade publications, he discovers that California's fruit and specialty crop growers viewed themselves as horticulturalists first, with a vision of improvement that encompassed culture and agriculture. They oversaw farms that averaged "well under 100 acres," and utilized a variety of labor systems, many far from the image drawn by McWilliams.[40] Philip J. Pauly makes a similar argument regarding Florida's late 19th and early 20th century citrus growers: they were driven by ideals of cultural improvement, their aim to create communities of small farms that could serve as a counterpart to the dominant cotton agriculture of the Deep South.[41] It might seem implausible that the ideals and visions of growers in the 1910s are useful in understanding Florida's 1960 industry. What is important in this discussion is Vaught's combative methodological ultimatum: either take growers' agency seriously or reduce them to cost-cutting industrial farmers.[42] I suggest that taking Florida's growers' agency seriously amounts to recognizing that they were *very self-consciously* cost-cutting industrial farmers.

In his article "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," Shane Hamilton makes an argument parallel to Vaught's, though in place of McWilliams his target is Donald Worster and his similarly pessimistic portrayal of capitalist agriculture.[43] Hamilton's narrative of Florida's growers' ability to cope with and even profit from the uncertainty of nature in the 1950s and early 1960s contrasts with Worster's image of farmers

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[40] David Vaught, "Factories in the Field Revisited," *Pacific Historical Review*, Vol. 66, No. 2 (May, 1997), 168.
[41] Philip J. Pauly, "The Horticultural Construction of Florida," in *Fruits and Plains: The Horticultural Transformation of America*. (Cambridge: Harvard University Press, 2007): 195-229. Pauly's emblematic grower-as-reformer is, of course, Harriet Beecher Stowe.
[42] The methodological ultimatum is stated on David Vaught, *Cultivating California: Growers, Specialty Crops, and Labor, 1875-1920* (Baltimore: John Hopkins University Press, 1999), 8 and David Vaught, "Factories in the Field Revisited," *Pacific Historical Review*, Vol. 66, No. 2 (May, 1997): 163-164.
[43] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice." *Agricultural History* 77 (2003): 557-639.

driven by "the logic of capitalism" to single-mindedly exploit nature to the point of economic and ecological disaster.[44] Instead, Hamilton argues, the unique economic and ecological position of Florida's growers enabled them to achieve a fruitful compromise with the limitations imposed on them: "For a few fateful decades the industry was able to combine the intentional freezing of concentrated juice with the natural freezing of arctic air masses to squeeze juicy profits out of American consumers."[45] This chapter draws on Hamilton's article, but by extending the chronology only a few years, it will question both his narrower argument about the industry's development and his broader argument about capitalist agriculture.

Bouis was a single voice in a choir of eager modernizers for whom "industrial farming" and "capitalist agriculture" were neither aspersions nor categories of historical analysis, but ideals to be embraced. In 1960, Lake County extension agent Bob Norris coined the term "citribusiness," a deliberate play on John Davis and Ray Goldberg's "agribusiness," itself coined only three years earlier. He aimed to capture the general feeling of all of those who in Florida "were talking a lot about agribusiness [in those] days."[46] The term did not catch on. The idea of viewing the industry as an integrated system – accounting for all of the economic activity required to get from a nursery-bred rootstock to a consumer's glass of frozen concentrated orange juice – certainly did. From that perspective, in 1960, "citribusiness" was booming: a University of Florida economist put its total value at $900 million for a single season, the largest portion of Florida's agriculture, which was the largest sector of Florida's economy.[47] Ray Goldberg reciprocated the homage, flying down from Boston to visit Polk County on a research

[44] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice." *Agricultural History* 77 (2003): 577..
[45] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice." *Agricultural History* 77 (2003): 576.
[46] E. W. Cake, "This Business of Citribusiness," *The Citrus Industry* (Nov. 1960), 11.
[47] E. W. Cake, "This Business of Citribusiness," *The Citrus Industry* (Nov. 1960), 11.

trip, speaking with extension agents, growers, and executives, and ultimately dedicating a third of his pioneering book *Agribusiness Coordination* to Florida citrus.[48]

Norris and Goldberg credited the Florida Citrus Commission scientists who toiled with evaporation machinery in a wartime USDA laboratory in Winter Haven with animating "an industry of burdensome oversupply" and creating from it "one of vigorous new life and tremendous development."[49] What the scientists discovered was that heating orange juice to sub-boiling temperatures would evaporate the water content but leave behind the dense sugar solids.[50] To this "sickly" solution they added a "cut-back" of fresh squeezed orange juice, restoring the oils that give the juice its pleasant acidity, and then froze it.[51] The frozen concentrate would be reanimated in turn by consumers: one can of concentrate to three cans of water. It could be shipped further, stored longer, and standardized. It could be held by juice processors during periods of oversupply and released after freezes devastated groves, stabilizing prices. If the horticultural breeding and grafting of rootstock and scion was the alchemy that bound the rapidly modernizing industry to its mineral soils and organic roots, then the evaporation, chemical reconstitution, and freezing of juice was the modern science that gave growers a sense of being freed from nature's caprice. Bouis's smoothly-functioning, automated, state-approved cartel was to run on frozen concentrated juice.

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[48] Ray A. Goldberg, *Agribusiness Coordination: A Systems Approach to the Wheat, Soybean, and Florida Citrus Economies* (Boston: Harvard University Division of Research, 1968).
[49] Robert E. Norris, "Trends in Marketing Florida Citrus," *The Citrus Industry* (March 1967), 8.
[50] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice." *Agricultural History* 77 (2003): 562
[51] Alissa Hamilton, *Squeezed: What You Don't Know about Orange Juice* (New Haven: Yale University Press, 2009), 20.

After his visit to Polk County, Goldberg deemed Florida citrus a "growth industry."[52] The industry's trade journal was more forthright: "Florida citrus dominates."[53] Driving south down U.S. 27 from the research grove in Leesburg, this domination took the form of a distinctive landscape: as the ubiquitous symmetrical groves planted along the Ridge, on gently sloping hills, amid vast sinkhole lakes, which gave the appearance of an endless arboretum, a world so strongly perfumed by citrus blossoms that their fragrance reached as far as the boats sailing the state's Atlantic coastline.[54] "Many years ago," the journal continues, "it was customary for Florida's citrus growers to depend to a large extent on the ability of Nature to develop their crops."[55] Now, with "the steady increase in production … it has behooved the grower to produce by the most modern cultural practices."[56]

Below and between the groves, cracks in this masterpiece of modern horticultural engineering revealed the strange and vulnerable ecology that was being burned, root-raked, and planted over. The Lake Wales Ridge – "the Ridge" – began in Lake County and extended south some 115 miles to the southern border of Highlands County. John McPhee, traveling the state in the early 1960s to write his book *Oranges*, teased that "to hear Floridians describe it, [the Ridge was] the world's most stupendous mountain range after the Himalayas and the Andes. Soaring two hundred and forty feet into the sub-tropical sky, the Ridge is difficult to distinguish from the surrounding lowlands."[57] Those two hundred and forty feet made a world of difference in the Pliocene, when the Ridge was an archipelago of sand dune islands rising above the shallow sea

[52] Ray A. Goldberg, *Agribusiness Coordination: A Systems Approach to the Wheat, Soybean, and Florida Citrus Economies* (Boston: Harvard University Division of Research, 1968).
[53] "Florida Citrus Dominates," *The Citrus Industry* (Nov. 1961), 1.
[54] Gloria Jahoda, *The Other Florida* (New York: Scribner, 1967).
[55] "Florida Citrus Dominates," *The Citrus Industry* (Nov. 1961), 1.
[56] "Florida Citrus Dominates," *The Citrus Industry* (Nov. 1961), 1.
[57] John McPhee, *Oranges* (New York: Farrar, Strauss, and Giroux, 1968), 18.

that covered much of the peninsula.[58] That difference, in fact, made it its *own world*: elevated above the surrounding wet pine flatwoods, where roots and water table met just feet below the surface, the uncultivated Ridge appeared as patches of white desert between sparse clusters of tall, thin sand pine.

Early travelers and surveyors found this world less than enchanting. Unlike the familiar southeastern pine savannas of Northeast Florida that drew the loving attention of Harriet Beecher Stowe, the lush oak hammocks of Marjorie Kinnings Rawlings' Cross Creek, or the overgrown tropical abundance of South Florida cultivated by Charles Torrey Simpson, these scrubby, desert patches of low, gnarled vegetation, odd lizards, and innumerable beetles found few proselytizers. "When early travelers through Florida came upon an expanse of the prickly, inhospitable scrub, they saw a wasteland."[59] As late as 1961, a citrus growers' guide for the state predicted that "the scrub will probably always remain in its native condition for it has little possible use in agriculture."[60] This prediction was already false when it was made and would be disproven further over the next decades, as investment in citrus pushed planting down the backbone of the state. As scrubs became groves, their barren sandy soil came to be seen not as a burden but as a boon.[61] From wasteland into teeming groves, from a wilderness that was "the chaos from which

[58] Ronald L. Meyers, "Scrub and High Pine," in *Ecosystems of Florida*, eds. Ronald L. Meyers and John J. Ewel (Gainesville: University of Central Florida Press, 1990), 156.
[59] Don Stap, "Islands in Time," in *The WIld Heart of Florida: Florida Writers on Florida's WIldlands*, eds. Jeff Ripple and Susan Cerulean (Gainesville: University Press of Florida, 1999), 44.
[60] Louis W. Zieger and Herbert S. Wolfe, *Citrus Growing in Florida* (Gainesville: University Press of Florida, 1961), 97.
[61] The idea that the scrub has "little possible use for agriculture" was shown to be false by the study of aerial mapping in Patricia A. Peroni and Warren G. Abrahamson, "Vegetation Loss on the Southern Lake Wales Ridge," *Palmetto* (Fall, 1985), 6: "The xeric group (sandhills, scrubs, and scrubby flatwoods), originally accounting for 36,121 ha, shows the greatest depletion with a 64% loss, primarily to citrus cultivation (16,093 hectares or 45%)..." Remarkably, the claim was reprinted in every subsequent edition of *Citrus Growing in Florida*.

landscapes are created by men intent on ordering and shaping space for their own ends," Florida's growers built their citrus empire.[62]

Botanists and biologists already realized that these patches of desert were teeming with odd and still unclassified plant and animal life. Two decades prior, in 1941, a thousand acres of southern Ridge scrub had been purchased by Richard Archbold – the larger-than-life naturalist and adventurer, grandson of Rockefeller associate and oil-magnate John Dustin Archbold – and preserved as a biological research station.[63] Despite the enticing offer of room, board, and amenities for a "nominal" monthly fee of $50, research was slow to get started.[64] But by the 1960s, researchers were driven by a newfound urgency and "strong conservation ethic," forced on them by the recognition that Archbold Biological Station "was rapidly becoming an island of natural vegetation in a sea of citrus groves."[65]

Research focused on two problems: first, documenting the species there to understand their unique adaptations to their seemingly sterile ecosystems and, second, understanding the role that fires played in maintaining those ecosystems. Work in the 1950s and 1960s revealed that the Ridge's southern scrubs contained the highest number of endemic species – native species that existed there and nowhere else – in the state and one of the highest in the country.[66] The gallery of endemics was startling. Most immediately visible was Florida rosemary, an evergreen shrub,

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[62] The quote comes from John R. Stilgoe, *Common Landscapes of America, 1580 to 1845* (New Haven: Yale University Press, 1982), 3 on the relationship between wilderness and landscape. For an overview of the ideas of landscape, which I draw on throughout this dissertation, and which are likewise indebted to Worster, see Thomas Rogers, "The Deepest Wounds: The Laboring Landscapes of Sugar in Northeastern Brazil," PhD. diss., Duke University, 2005: 1-24. Rogers's rich theoretical and historiographical discussion was largely shorn in the book published from the dissertation.

[63] Purchased from a family friend for the very reasonable cost of $1 – for the earlier history of the station, see Maria Minno and Ronald Myers, "Archbold Biological Station: Its History and Biology," *Palmetto* (Winter, 1986), 3-7.

[64] James G. Needham, "Archbold Biological Station," *Ecology*, Vol. 34, No. 3 (Jul., 1953), p. 649.

[65] Maria Minno and Ronald Myers, "Archbold Biological Station: Its History and Biology," *Palmetto* (Winter, 1986), 7.

[66] Wilfred T. Neil, "Historical Biogeography of Present-Day Florida," *Bulletin of the Florida State Museum* (Gainesville: University of Florida, 1957) and C. W. James, "Endemism in Florida," *Brittonia*, Vol. 13, No. 3 (Jul. 15, 1961): 225-244

well documented but not yet well understood, "a sphere of dark green up to six feet across" and about chest-high, which were found on the whitest sands, "rooted in a bed of silica, to which the term soil is but remotely applicable."[67] The rosemary's thin waxy leaves limited the evaporation of water and its wide network of roots collected rain water before it drained through the porous sands. Under the low-shade of the rosemary bushes lurked sand skinks, scrub lizards, and burrowing gopher tortoises; while flitting from branch to branch in a flash of blue was the Florida scrub jay, the star of the cast of nearly 100 endemics, noted for its eagerness to approach people.[68] Study of the scrub jay began at Archbold in the late 1960s: ornithologists were fascinated by the species' monogamy and cooperative behavior. Scrub jays mated as life partners, settled a patch of scrub as their permanent domus, and fiercely protected it against intrusion from other families. The visiting researchers soon recognized that these scrub jays were so well adapted to their patches of scrub that they were helpless anywhere else. In a citrus grove, they starved.[69]

Just feet from a patch of rosemary on bald white sands were yellow, cream-colored sand hills, overhung by a pine savannah. The abrupt changes in the Ridge's ecosystems between rosemary scrub and sand pine, both populated by endemic plants and animals, perplexed early visitors.[70] The stark division between white sand and yellowish soil was first thought to represent different nutrient contents. But, as it turned out, both were equally porous, both equally devoid of nutrients. Was the relationship successional? Sand pine into scrub, or scrub into sand pine, and

[67] D. Bruce Means, Anne Rudloe, Eleanor Noss Whitney, *Priceless Florida: Natural Ecosystems and Native Species* (Saraosta: Pineapple Press, 2004), 68. Maurice Mulvania, "Ecological Survey of a Florida Scrub," *Ecology*, Vol. 12, No. 3 (Jul., 1931), 528.
[68] Wilfred T. Neil, "Historical Biogeography of Present-Day Florida," *Bulletin of the Florida State Museum* (Gainesville: University of Florida, 1957).
[69] Glen Everett Woolfenden and John W. Fitzpatrick, *The Florida Scrub Jay: Demography of a Cooperative-breeding Bird* (Princeton: Princeton University Press, 1984). Woolfenden began his research at Archbold in 1968.
[70] Roland M. Harper, *Natural Resources of Southern Florida* (Tallahassee: Florida State Geological Survey, 1927).

why?[71] The answer to any perplexing feature of the Ridge seemed to return to the same variable: fire. John McPhee wrote, "central inland Florida has more thunderstorms than any other area in the United States, and there is not much on the Ridge for the bolts to strike except the trees."[72] A lightning strike to a sand pine erupted the canopy into an expansive and fast moving blaze. With only a few decades of evidence to draw on, researchers posited that fire after fire turned a pine savannah into a gnarled scrub. A few years of observation at Archbold raised doubts. Instead of a mechanical successive relationship, they discovered that within the scrub, the vegetation was so well adapted to fire that the species would begin to repopulate almost immediately. Dormant rosemary seedbeds would begin growing, quickly drawing out the resources needed for other species to take over; while mammals and reptiles would emerge from the gopher tortoise burrows they used to duck for cover. The line in the sand itself reflected the long-term adaptation of the two ecosystems. The scrub's sparse, evergreen shrubs never dropped enough plant litter to ignite large fires – unlike the neighboring sand pines – or to leech decomposing vegetable material into the sand, which, as it turned out, was the source of the pine flatwood's yellow tint. Not succession, but stalemate.[73] At points, some ground would be gained, and some lost, but with a steady supply of lightning and without human fire prevention, the line held.

Frank Bouis described the 1960s as "the decade of planting."[74] But why, of all places, plant there, on sands so devoid of nutrients that "when viewed from a short distance, [gave] the impression of a thin rift of wind-driven snow"?[75] Because despite the sterility, the inability to

[71] For a history of these debates, Ronald L. Meyers, "Scrub and High Pine," in *Ecosystems of Florida*, eds. Ronald L. Meyers and John J. Ewel (Gainesville: University of Central Florida Press, 1990), 154.
[72] John McPhee, *Oranges* (New York: Farrar, Strauss, and Giroux, 1968), 42.
[73] Ronald L. Meyers, "Scrub and High Pine," in *Ecosystems of Florida*, eds. Ronald L. Meyers and John J. Ewel (Gainesville: University of Central Florida Press, 1990), 166-168 and Warren G. Abrahamson, "Post-Fire Recovery of Florida Lake Wales Ridge Vegetation," *American Journal of Botany*, Vol. 71, No. 1 (Jan., 1984). 9-21. Abrahamson began his research at Archbold in the late 1960s.
[74] Frank Bouis, "Harvesting Costs vs. Production Costs," *The Citrus Industry* (July 1971), 7-9.
[75] Maurice Mulvania, "Ecological Survey of a Florida Scrub," *Ecology*, Vol. 12, No. 3 (Jul., 1931), 528

retain moisture, and the frequent lightning and fires, it seemed to answer a decisive prayer: it was far enough south to avoid freezes. And any further south, off the southern tip of the ridge, the pine flatwoods were too soggy without heavy investment in water diversion.[76] As growers would say, citrus trees prefer to keep their feet dry.

One rootstock particularly averse to getting its feet wet was the rough lemon. It had a limited appeal further north, where sour orange rootstocks predominated thanks to their shorter root systems and resistance to foot rot. Rough lemon had a long central taproot and expansive root system that made it a "vigorous grower" in the well-drained sands of the ridge.[77] But it had two drawbacks: it was especially susceptible to cold and, though it yielded more and larger fruit than the sour orange, they had "coarse, thick skin" and were "lacking in flavor."[78] Growers shrugged off both problems. By planting further south, they hoped, freeze susceptibility would not be as much of a problem. And the poorer quality oranges grafted and grown on rough lemon were all fated to be made into frozen concentrate in any case.

The rough lemon rootstocks received essentially no nutrients from the former scrub sand. That was provided by the grower, in the form of chemical fertilizers. The usual macronutrients of nitrogen, potassium, and phosphorus were applied in bulk, with "100 to 200 pounds" per acre, applied twice per year, along with the minor and micronutrients applied as needed: magnesium, copper, zinc.[79] Growers were kept abreast of the latest practices in publications by the citrus research center in Lake Alfred, by regular trade journal reports, and by the counties' USDA extension agents. Because of rough lemon trees' wide root systems, USDA extension agents

[76] Louis W. Zieger and Herbert S. Wolfe, *Citrus Growing in Florida* (Gainesville: University Press of Florida, 1961), 114.
[77] Jack T. McCown, "Citrus Rootstocks," *The Citrus Industry* (August, 1961), 14.
[78] A. F. Camp, "Citrus Growing in Florida," in *Citrus Industry of Florida* (Tallahassee: Florida Department of Agriculture, 1960), 28.
[79] Herman J. Reitz, "Economical Citrus Production Practices," *The Citrus Industry* (Feb., 1967), 32-33.

advised that fertilizing them demanded a wide dispersal, "spread evenly over the ground in a circle whose diameter [was] twice that of the spread of the tree top."[80] It was still a halting and inexact science, with recommendations revised and rescinded, but it was a stark contrast to fertilizing only a few decades earlier: from labor intensive hand application, to oil drums mounted to Model-T engines, to modern bulk spreaders, the needed labor was reduced to a single driver.[81] Bouis was pleased by the progress. Grinning as he spoke to an interviewer, he remembered that "twenty years ago we spread fertilizer by hand out of a bucket. It came out of 200-pound sacks and we had to send the sacks back for a refund. Now there's nobody on the payroll that could lift 'em … we spread it by machine, and never see a sack."[82]

With the combination of rough lemon rootstocks and a strict regime of chemical fertilization, growers created an almost entirely artificial agroecology. The closest comparison was *hydroponic agriculture*.[83] Bob Norris beamed over the industry's accomplishment: "We produce fruit from fertilizer … not from the natural fertility of the soil. The soil doesn't do much more than hold up the trees, and we supply all the plant food they need. We select grove sites for frost protection, not for the fertility of the soil, because it doesn't have any to speak of."[84] A grower made the comparison explicit in a conversation with John McPhee: "It's kind of a hydroponic deal …. the sand holds up the trees, and we do the rest."[85] It took endemic scrub

[80] Louis W. Zieger and Herbert S. Wolfe, *Citrus Growing in Florida* (Gainesville: University Press of Florida, 1961), 131 and R. E. Norris, "Changes in the Methods of Applying Citrus Grove Fertilizers," *The Citrus Industry* (March, 1965), 20.
[81] R. E. Norris, "Changes in the Methods of Applying Citrus Grove Fertilizers," *The Citrus Industry* (March, 1965), 20-21.
[82] "Changes Make Citrus a Highly Complex Industry," *The Citrus Industry* (August, 1970), 27.
[83] The only academic source that explores this fascinating comparison with hydroponic agriculture is Cesar N. Caviedes and Wolfgang Weischet, "Citrus in Florida: Ecological Management and Nature's Latest Intervention through Freeze," *Erdkunde*, Bd. 41, H. 3 (Sep., 1987): 210-226.
[84] John Fraser Hart, *The Land that Feeds Us* (New York: W. W. Norton & Co., 1991), 344.
[85] John McPhee, *Oranges* (New York: Farrar, Strauss, and Giroux, 1968), 40.

species hundreds of thousands of years of evolutionary history to adapt to the nutrient poor, fast-draining sands of the southern Ridge. It took citrus growers a few decades.[86]

The other crucial ingredient in hydroponic agriculture was, naturally, water. It seemed possible that the regular rainfall on the Ridge would be enough to provide for the 10 to 75 gallons of water per tree per day that citrus needed.[87] This was not to be. Between 1961 and 1965, a series of droughts hit the state, leaving freshly planted groves withered. A 50-day drought in 1961 threatened not just to reduce yields but to kill trees outright.[88] Another in 1962 saw groves in Highlands County in a "deep wilt," except, that is, for those that were under "constant irrigation."[89] Frustrated by miserly nature, growers began to install irrigation sprinklers in old groves and as a matter of course with any new groves. They did so at a frantic pace, with the devil of drought on their trail: between 1959 and 1964, just five years, "irrigated cropland tripled, with citrus irrigation showing the largest absolute increase," from 106,328 to 422,310 acres.[90] No nutrients from the soil, no rain from the sky, no matter – the massive hydroponic *orangery* of the southern Ridge would grow.

It was a transformation of the land from rough wasteland to a frictionless machine for producing frozen concentrate. But the scrub, with its heat and rainfall, was also an ideal home for innumerable citrus pests – scabs, mites, aphids, nematodes – that threatened to throw sand into

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[86] For which Worster's canonical description of capitalist agriculture seems especially fitting: "The land itself evolved into a set of specialized instruments of production. What had once been a biological community of plants and animals so complex that scientists can hardly comprehend it … now increasingly became a rigidly contrived apparatus competing in widespread markets for economic success." Worster, *The Wealth of Nature*, 58-59. [This extended section on the ecology of the ridge is intended to do three things, which I worry is not clear enough: (1) polemically, to demonstrate the Hamilton was looking in the wrong place – freezes, rather than the land – for the relevant story about the political ecology of citrus in the 1960s, (2) accordingly, to show that the industry's agroecological vision followed Worster's understanding of capitalist agriculture exactly, (3) to set the stage for treatment later in the dissertation of when advocates for the Ridge's ecology finally push back.]
[87] Herman J. Reitz, "How Much Water Do Florida Citrus Trees Use?" *The Citrus Industry* (Oct., 1968), 4.
[88] Sheeny White, "Long Drought Puts Citrus Industry in Peril," *Orlando Sentinel* (Nov. 21, 1961), 1-B.
[89] "Drought Effects on Citrus Fruits and Blooms Eyed," *Tampa Tribune* (April 1, 1962), 19-A.
[90] Rajinder Singh Bajwa, *Analysis of Irrigation Potential in the Southeast: Florida, a Special Report* (Washington, D.C.: United States Department of Agriculture, 1986), 4.

the gears. Growers responded with an arsenal of pesticides. For aphids, they sprayed nicotine. For mites, they sprayed sulfur. A grove owner remembered the sulfur sprays burning their eyes for days afterwards, relieved briefly by submerging their face in water – "this felt good until you had to come up for breath" – or by rubbing their eyes with condensed milk.[91] Even still, "sleep did not come easy no matter what you did."[92]

The most troubling pests in the late 1950s and into the 1960s were scales: small insects that looked like tiny shields that joined together into a parasitic legion on the tree's branches, leaves, and fruit. For scales, growers sprayed organic phosphates. The most common, and the most controversial, was parathion.[93] Florida's growers were well aware of the dangers of parathion.[94] Direct exposure was fatal. Even with precautions, workers that mixed and hand-sprayed parathion were subject to nausea, headaches, and vomiting, and workers who entered groves before the poison residue decomposed – the industry recommended fifteen days after spraying before harvest – became violently ill. In 1962, Rachel Carson named parathion one of agriculture's "Elixirs of Death," and warned that the parathion applied on California orchards alone was enough to "provide a lethal dose for 5 to 10 times the whole world's population."[95] She illustrated its dangers with a citrus grove in Riverside, California, where a third of a picking

[91] Paul J. Driscoll, "The History of Sulfur Use on Florida Citrus and Its Effect on Scale Populations and Environment," *Proceedings of the Florida State Horticultural Society* 117 (2004): 120-124.
[92] Paul J. Driscoll, "The History of Sulfur Use on Florida Citrus and Its Effect on Scale Populations and Environment," *Proceedings of the Florida State Horticultural Society* 117 (2004): 120-124.
[93] Louis W. Zieger and Herbert S. Wolfe, *Citrus Growing in Florida* (Gainesville: University Press of Florida, 1961), 184.
[94] James T. Griffiths, Charles R. Stearns, Jr., W. L. Thompson, "Parathion Hazards Encountered Spraying Citrus in Florida," *Journal of Economic Entomology*, Volume 44, Issue 2 (April 1951): 160–163.
[95] Rachel Carson, *Silent Spring & Other Writings on the Environment*, ed. Sandra Steingraber (New York: Library of America, 2018), 33.

crew had to be hospitalized, noting that "the residues that reduced them to retching, half-blind, semiconscious misery were sixteen to nineteen days old."[96]

Though industry spokesmen regularly acknowledged the dangers of parathion in spray guides and editorials, the dangers of Rachel Carson troubled them more. They responded with paeans to pesticides. In response to *Silent Spring*, which might "cause unnecessary alarm among consumers," they reminded readers that pesticides were required for preventing mass starvation and reassured that while "insecticides are poisonous or they wouldn't be effective against insects," "the danger is only to those who apply the compounds."[97] In "The Positive Side of Pesticides," an extension agent connects the necessity of pesticide use with an overall drive toward "more efficient production practices," forced on growers by an expanding population that demands they "grow more and more with less and less labor."[98] Their defense of pesticides sometimes stretched the boundaries of sympathy for the beleaguered grower. In 1967, seven children of a citrus farmworker died in Arcadia, just off the southern Ridge, by ingesting parathion in their breakfast. Their deaths elicited an outpouring of coverage and a hasty trial that saw their father wrongly imprisoned for murder.[99] The editorial that ran in *The Citrus Industry* following their death pressed on its readers that "hysteria must not be allowed to result in a campaign to ban [pesticides] use altogether." It compared pesticides to fire, a similarly necessary if dangerous tool for civilization, concluding that "outlawing fire – or parathion – because it can be used mischievously is not the solution."[100]

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[96] Rachel Carson, *Silent Spring & Other Writings on the Environment*, ed. Sandra Steingraber (New York: Library of America, 2018), 34.
[97] Kendall Tolle, "Benefits of Using Insecticides Outweigh Any Risks," *The Citrus Industry* (Nov. 1962), 30.
[98] Robert M. Davis, "The Positive Side of Pesticides," *The Citrus Industry* (March, 1965), 12-13.
[99] For a contemporary journalistic account of this contested trial, see Mark Lane, *Arcadia* (Holt, Rinehart and Winston, 1970). Their father, James Joseph Richardson, was exonerated and released from prison in 1989.
[100] "Education Needed," *The Citrus Industry* (Nov. 1967), 10.

Extension agents and experiment station researchers came to realize by the late 1960s that there was an ecological irony built into growers' reliance on chemical pesticides. In their efforts to control the mite population with sulfur, growers had unwittingly killed off a small, parasitic wasp that laid its eggs in the citrus scales, and in doing so, controlled the scale population. The march of scales down the Ridge followed the increasing use of pesticides.[101] This recognition of "environment" and "ecology" in pest control came late and bore with it very little self-reflection on any limitations imposed by the Ridge.[102]

The position toward "nature" adopted by growers, extension agents, and researchers was triumphalist, a conquest of modern science over scrub land that would not be missed. A researcher at the experiment station in Lake Alfred, near the heart of the southern Ridge, boasted: "We succeeded in uprooting a species that Nature originally intended for the jungles of Southeast Asia, and we transplanted them to an alien land where soils are 99% silica, where temperatures are often lethal, and where … the area is dangerously close to slipping from an Eden into a Sahara."[103] A recognition of "ecology" brought with it only the satisfaction that the industry had defied its inviolable laws: "Despite all violations of ecology, we have reached the pre-eminent position of producing 30% of the world's citrus."[104] The control of nature and the institutional control of markets were seen as two sides of the same modernizing coin: "Of all the many current trends … there are two that seem to be particularly prevalent in Florida: rapidly increased plantings and vertical integration."[105]

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[101] Martin H. Muma, "Environment and Control of Injurious Insects and Mites in Florida Citrus Groves," *The Citrus Industry* (June, 1970), 4.
[102] Martin H. Muma, "Environment and Control of Injurious Insects and Mites in Florida Citrus Groves," *The Citrus Industry* (June, 1970), 4.
[103] L. C. Knorr, "The Florida Citrus Virus Picture," *The Citrus Industry* (July 1970), 13.
[104] L. C. Knorr, "The Florida Citrus Virus Picture," *The Citrus Industry* (July 1970), 13.
[105] Fred P. Lawrence, "Modernizing and Looking Ahead Into Grove Management Practice," *The Citrus Industry* (Oct., 1965), 5.

During the decade of planting, growers' confidence in their control over nature appeared both justified and unchallenged.[106] The looming variable they could not control were freezes. "Since we have gone about as far south as we can go, we must now rely on whatever cold protection devices that appear to be practical under the circumstances."[107] When a mass of arctic air moved 2,000 miles from Western Canada into Florida in December of 1962, those devices were tested all the way down the backbone of the state.[108] Lake County, and the other northern counties, were totally devastated.[109] But Polk, Highlands, and Hardee, further south, were relatively unscathed.[110] The freeze had a paradoxical impact for the industry, as argued by Shane Hamilton.[111] It was a disaster for individual growers on the northern Ridge, but for the industry as a whole, it proved to be a boon. The easy storage of frozen concentrate and the frenzied planting already underway contributed to a perpetual oversupply of orange juice, which threatened to undermine prices. The General Manager of the Florida Citrus Commission laid it out: "Before the freeze hit, we were frankly faced with burdensome carry-overs of processed products, and on-tree prices which were not at all profitable for our growers."[112] Early efforts to expand the market through advertising or to offload excess onto government programs such as school lunches or the military barely dented the surplus.[113] Over two cold December nights, the oversupply problem vanished. The price for concentrated solids grew from 18 cents per pound in

[106] After Carson, challenges from both nature and the avowed advocates of nature, including the staff of Archbold, would be mounted in the 1980s and 1990s.
[107] Henry F. Swanson, "'62 Freeze Supplants Historical '95 Killer," *Orlando Sentinel* (Jan. 1, 1963), 1-B.
[108] John Attaway, *A History of Florida Citrus Freezes* (Lake Alfred: Florida Science Source, 1997), 96-98.
[109] John Attaway, *A History of Florida Citrus Freezes* (Lake Alfred: Florida Science Source, 1997), 107.
[110] John Attaway, *A History of Florida Citrus Freezes* (Lake Alfred: Florida Science Source, 1997), 107-108.
[111] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," *Agricultural History* 77 (2003): 574.
[112] Homer E. Hooks, "Florida Citrus From Brown to Green," *The Citrus Industry* (Mar., 1963), 9.
[113] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," *Agricultural History* 77 (2003): 574.

December to a dollar per pound by April. The industry reaped record profits from their FCOJ, amounting to "undoubtedly the greatest bull market for juice in its history."[114]

It is from the 1962 freeze that Hamilton draws his argument. His point – that growers corrected oversupply by almost-intentionally incorporating the "natural" disaster of freezes – is well made, but the argument is less well supported when he extrapolates beyond the 1957 and 1962 freezes. This was an exceptional five year period in which his argument held true, but it did not span "decades," nor is it true that "growers have usually preferred just to lose oranges to freezing."[115] He uses this exceptional period as evidence in his broader argument against Worster's model of capitalist agriculture: "According to the model of capitalist agriculture developed by Worster, this combination of technology and ecological luck should have driven Florida's orange growers to expand the scale, scope, and intensity of production beyond the limits of their environment."[116] And presumably, too, beyond the limits of their profitability. But this is exactly what they did, beginning almost as soon as the freeze thawed. Driven by the temporarily high profits after the freeze and by the promise of warmer scrub and sand hill, between 1962 and 1970 growers planted at an unprecedented scale. The harvest seasons of 1963-64 encompassed 507,000 bearing acres, the next year 557,000 the next, 589,000 then – with an intensity that exasperated industry spokesmen – to 653,000 acres, 692,000, 746,000 and finally, by 1970, 817,000 bearing acres of citrus.[117] The pace of new plantings threatened to undermine the profitability of the industry, drowned in overproduction.

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[114] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," *Agricultural History* 77 (2003): 575. John Attaway, *A History of Florida Citrus Freezes* (Lake Alfred: Florida Science Source, 1997), 110.
[115] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," *Agricultural History* 77 (2003): 576.
[116] Shane Hamilton, "Cold Capitalism: The Political Ecology of Frozen Concentrated Orange Juice," *Agricultural History* 77 (2003): 560.
[117] *Florida Agricultural Statistics: Citrus Summary 1970* (Tallahassee: Florida Department of Agriculture, 1970), 2.

A case could be made that the self-imposed crisis that followed was not an encounter with natural limits, but only institutional limits: markets that could not absorb the surplus, state and federal administrative agencies were unable or unwilling to redirect oversupply to restore profits. This would be missing the point of both Worster's understanding of "capitalist agriculture" and the self-understanding of the industry, who saw no such distinction between their control of nature and their control of markets.[118] "The citrus industry" was at once the research stations, extension agents, and growers who perfected the ability to plant massive, modern hydroponic groves in the sand of southern Ridge *and* the marketing committees, grower associations, and advisory boards who attempted to market and regulate the produce of those groves. These tasks were accomplished by the same institutions, often the very same people, and their ability to do both enabled "the decade of planting."

Frank Bouis was the citrus industry personified. In the 1960s, he managed groves, gave speeches on "labor problems," and sponsored research on rootstocks. By 1970, he was on the executive committee of the Florida Citrus Mutual. By the end of the 1970s, he was appointed to the Florida Citrus Commission. All the while, he maintained his grove management company. The institutions that made up "the citrus industry" were at once public, private, and somewhere in-between, with a constant exchange of leadership between them. The Florida Citrus Mutual was a private grower's association that served as the public face of growers and, behind the scenes, issued regular price indexes to growers so that they would get fair prices from processing companies. The Florida Citrus Commission administered the rules set by Florida Department of Citrus, a state agency that oversaw the quality standards of fresh fruit, the sugar solids content of concentrated juice, the registration of nurseries and groves, the approval of new rootstock

[118] Worster insists that the kinds of land-use encouraged by profit-seeking agriculture and the institutions developed to enable it must be viewed as a whole.

varieties, and funded research into every aspect of growing and harvesting. The Department of Citrus was funded by a self-imposed tax on boxes of fruit, not by the state's general revenue. Its members were appointed by the governor, often directly from directors of the Florida Citrus Mutual. Research on rootstocks, new citrus varieties, spray programs, disease control, irrigation, and mechanical harvesting were conducted by the land-grant extension service of the University of Florida, the Institute of Food and Agricultural Science, often at the Citrus Research and Education Center in Lake Alfred, but also with privately owned and leased groves. In addition to its extension service, growers adhered to a USDA marketing order on fresh fruit, which controlled both supply and quality.[119] The one thing the citrus industry did not yet have, the mark of fully self-conscious, fully rational agriculture, the avowed goal of all these institutions once overproduction became chronic, was a means of controlling the supply of frozen concentrate.

Undergirding this complex arrangement, where state and private sector blurred so seamlessly as to appear as one, was a full-throated commitment to "free enterprise." Worster's description of the modern farmer fits to a tee: "He works hard, is full of self-confidence, and wants no interference with his work. Yet these days he is a ward of the government, unable to function alone. He is full of contradictions … between his insistence on free enterprise and his simultaneous demand for public support."[120] Industry spokesmen would proudly contrast their humble faith in American free enterprise with the morally suspect, subsidy-reliant midwestern

[119] Ray A. Goldberg, *Agribusiness Coordination: A Systems Approach to the Wheat, Soybean, and Florida Citrus Economies* (Boston: Harvard University Division of Research, 1968) – Goldberg was astonished by the complexity of the institutional arrangement of the industry. On the USDA, M. O. Watkins, "USDA and Its Relationship to the Florida Citrus Industry," *The Citrus Industry* (Sept., 1962), 14 and M. O. Watkins, "The Florida Agricultural Extension Service and the Citrus Industry," *The Citrus Industry* (Jan., 1965), 26; on the FL DoA, Doyle Conner, "State Department of Agriculture – Its Relation to Florida's Citrus Industry," *The Citrus Industry* (Sept., 1961), 16; on the FCC, Edward A. Taylor, "The Grower Per Box Tax and Where It Goes," *The Citrus Industry* (July, 1966), 5 and on the FCM, Loyal Frisbee, "Twenty Years of Service," *The Citrus Industry* (July, 1968), 14.
[120] Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imaginary* (New York: Oxford University Press, 1993), 65.

wheat farmers. Robert Rutledge, the General Manager of Florida Citrus Mutual, made this point when testifying before Congress, in support of the maintenance of the federal tariff on citrus products: "The Florida citrus grower is an economic phenomenon of the agricultural world. He not only rejects price supports, production controls, and all forms of subsidies. He pays his own money to make his own crops, even to the point of financially supporting scientific research to make better crops to give to the consumer the highest possible quality products."[121] In the early 1960s, this contrast became a defiant badge of self-identification. Citrus offered American agriculture a picture of self-sustaining, self-supporting farmers, free – they argued – of government interference. Evangelizing their self-image, the industry's trade journal warned ominously that "American agriculture, with very few exceptions, is rapidly moving farther and farther down that road toward total dependence," the only destination to which would be "a tyranny which can lead only to economic slavery."[122] The example given of the tyranny that inevitably follows government reliance was of federal money for public schools that was contingent on desegregation.

But by the mid-1960s, after the post-freeze frenzy of planting, growers' idea of "free enterprise" would be stretched to its rhetorical limits by the problems brought on by oversupply. Groves planted far enough south to avoid frost damage or after the freeze began to bear fruit in 1966, setting an all-time production record for the industry and dropping the on-tree price for oranges well below the previous years.[123] Initial crop reports promised that 1967 would be more disastrous still: "a 39 per cent increase over the 1965-66 crop," with estimates later revised

[121] Robert W. Rutledge, "Oral Testimony Presented Before Trade Information Committee and U. S. Tariff Commission," *The Citrus Industry* (Jan., 1964), 11.
[122] Loyal Frisbee, "Just Like the Man Said," *The Citrus Industry* (May, 1965), 13.
[123] *Florida Agricultural Statistics: Citrus Summary 1966* (Tallahassee: Florida Department of Agriculture, 1966), 2.

upward to 44 percent.[124] "As a measure of the impact of this increase, this season's crop gain alone will be greater than the total orange production of all other citrus-growing areas of the country."[125] In order to remain at production cost, the market for oranges would need to be expanded by just as much: an extraordinarily tall order.[126] This they failed to do, and the 1966-67 prices were the lowest in two decades, leaving many growers in the red.

The institutions that served the industry uniformly attempted to dampen the enthusiasm for new groves and to sound the alarm about oversupply. After the 1966 crop estimates, the director of the Florida Citrus Commission's economic research argued that supply management would be necessary in both the short and long term.[127] One possibility was a pooling agreement, allowing the creation of stockpiles of at least "four to six month's supply of concentrate."[128] Leadership of the Florida Citrus Mutual flew to Washington for an emergency meeting with Secretary of Agriculture Orville Freeman for a federal purchase of the surplus crop. Freeman was receptive to "the serious situation facing the citrus industry," in which production "has increased about 42 per cent in one season."[129] Mutual leadership followed with an elated press conference: Freeman agreed to purchase 10 million gallons of frozen concentrate, to be used in the federal school lunch program.[130]

The Mutual's next step was to scramble together representatives of the industry to begin work on a federal marketing order.[131] The terms would have been favorable to growers, but processors blanched, as the "marketing agreement called for the processor to set aside up to 15

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[124] Loyal Frisbee, "Citrus Men Rise to the Challenge," *The Citrus Industry* (Nov., 1966), 18.
[125] Fred Shilling, "Citrus Overproduction Threat Jolts Industry," *Orlando Sentinel* (May 29, 1966), 1-C. and Roulhac Hamilton, "Secretary Seeks Facts Immediately," *Orlando Sentinel* (Dec. 16, 1966), 3-A.
[126] Fred Shilling, "Citrus Overproduction Threat Jolts Industry," *Orlando Sentinel* (May 29, 1966), 1-C.
[127] Fred Shilling, "Citrus Overproduction Threat Jolts Industry," *Orlando Sentinel* (May 29, 1966), 1-C.
[128] Fred Shilling, "Citrus Overproduction Threat Jolts Industry," *Orlando Sentinel* (May 29, 1966), 1-C.
[129] "Help for Citrus Industry Announced by Freeman," *Tallahassee Democrat* (Dec. 17, 1966), 5.
[130] Roulhac Hamilton, "Secretary Seeks Facts Immediately," *Orlando Sentinel* (Dec. 16, 1966), 3-A.
[131] "Marketing Order Study Set by Florida Citrus Mutual," *The Palm Beach Post* (Jan. 19, 1967).

per cent of his pack to be sold at a price to be fixed by an agreement board."[132] Mutual leadership quickly proposed a state-level marketing order in its place, which was approved by the industry in May, passed in the state legislature, and signed into law by the governor in June of 1967. Called the Orange Stabilization Act, Rutledge boasted that it signaled "the threshold of a new era in the citrus industry."[133] The Act allowed for the state purchase of on-tree fruit for "economic abandonment," set terms for the "pooling of concentrate" during surpluses, and established the guidelines for further self-imposed taxes for marketing research.[134] Citrus growers passed their first self-imposed tax under the terms of the Act in December 1968, "to finance a special marketing research program … to determine the best and most convenient way to make orange concentrate available for school food programs." This would not be an emergency measure, but a permanent feature of the industry. "As far as the nation's school kids are concerned, it will mean the addition of delectable, healthful orange juice to their school meals. To the citrus industry, it will mean a strengthening of the on-tree price of fruit by the advance guarantee of a certain amount of fruit going directly into the school food program–and therefore being removed from the public marketplace."[135]

As the surplus persisted into 1968 and the industry made clear that reliance on the school lunch program would become permanent, a career employee of the USDA steamed: "What gripes us is that these guys (Florida citrus industry) are the first to holler about government controls but they scream bloody murder for government purchases as soon as they have a bumper crop."[136]

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[132] Blanton McBride, "Voluntary Agreement Dead, But Not Citrusmen's Hope," *Orlando Sentinel* (Mar. 12, 1967), 3-C.
[133] Blanton McBride, "Citrus Industry Okays Stabilization Act," *Orlando Sentinel* (May 13, 1967).
[134] Blanton McBride, "Citrus Industry Okays Stabilization Act," *Orlando Sentinel* (May 13, 1967).
[135] Loyal Frisbee, "Chance for Self-Help," *The Citrus Industry* (Dec., 1968), 12.
[136] Tom Vinciguerra, "Washington Bureau Chief," *Fort Lauderdale News* (Oct. 27, 1968), 5-H.

Disaster was averted, but only just, and prices remained below their early decade highs. The staff statistician for the crop forecast service took the opportunity to admonish growers about their hand in the crisis. “Now, in times of stress we start looking around for a culprit. We figuratively grab the shotgun and dash out to run down the villain… This job was done by committee. Its members number several thousand. They represent every commercial citrus county in the state. Their reason for planting citrus is simple – to make money, and you can't blame them for that.”[137] Growers were driven, that is, by capitalist motives, and their self-imposed crisis was precisely a measure of their control over the nature of the southern Ridge. “The fact that is important here is that the bulk of the new acreage is on Ridge and Hammock land,” where “because of a combination of soil, rootstock and varieties are generally high producers. These high producing characteristics, combined with the large new acreage in these areas will accelerate the upward trend in production” and “a dry Spring does not necessarily result in a small crop – particularly when irrigation is widespread.”[138] Rough lemon’s high productivity, the precise fertilizer mixtures necessary to turn barren sand into life-giving soil, the wide adoption of irrigation: the very things the industry used to violate the ecology of the scrub proved, by the end of the “decade of planting, to be their undoing.

The crop forecast statistician teased, “Mother Nature surely does play tricks on us, or so it seems. But is Mother Nature to blame? What about the ability or inability of the individual to look analytically at subjects that affect him?” One thing seemed unanimous by 1967: freezes were not, and could not be, the answer. Florida Citrus Mutual President W. Albert Carlton “admonished that growers can no longer get by with help from natural disasters such as hurricanes or freezes to keep production in line with demand,” noting how many of the new

[137] Joe E. Mullin, "Citrus Acreage, Production, and Potential," *The Citrus Industry* (Oct., 1967), 4-5.
[138] Joe E. Mullin, "Citrus Acreage, Production, and Potential," *The Citrus Industry* (Oct., 1967), 4-5.

plantings were below the traditional freeze line.[139] The move south down the Ridge, out of the fatal reach of the arctic airs, vitiated any balance established between growers and nature. In so doing, it demanded new, modernizing institutional arrangements to deal with the resulting irrationality of the Ridge's artificial over-abundance. The salient political ecological story of the citrus industry of the 1960s was not, as both Hamilton and growers of the early 1960s thought, a story of freezes, but one of a transformation of the land.

The Orange Stabilization Act left the industry more "rational," that is, more coordinated, and Frank Bouis was pleased with the result. He took a position on the Florida Citrus Mutual's legislative committee, overseeing its "price stabilization subcommittee."[140] In his reflection on the coming challenges of the 1970s, Frank Bouis predicted that the industry would leave "the decade of planting" with its concomitant problems of oversupply and enter into the "decade of production," with a new focus on controlling costs, by whatever means possible.[141] With fertilization, spray programs, and irrigation already subject to the most modern, rational methods, applied as cost-efficiently as was then possible, this left – for Bouis – one clear area where costs still remained to be controlled: labor.

[139] Fred Shilling, "Crossroads Crisis Cited by Citrus Mutual Executive," *Miami Herald* (Jun. 21, 1967), 2-B.
[140] Unlisted Author, "Subsidies to Both Schools, Citrus Processors Studied as Lunchroom Solution," Orlando Sentinel (Feb. 6, 1972), 7-B.
[141] Frank Bouis, "Harvesting Costs vs. Production Costs," *The Citrus Industry* (July, 1971), 7-9.

CHAPTER 2

PROCESSING THE HARVEST OF SHAME

The 1970s treated Frank Bouis well. The gospel of modernization he spent the previous decade preaching was by now settled dogma. He took his place among the elect, chosen in 1970 as director of Leesburg's district in the Florida Citrus Mutual.[142] The research farm he helped to found and fund in Leesburg was finally bearing fruit, with 25,000 hybrids growing on 500 planted acres, worked by USDA botanists and financed by the state's Florida Citrus Commission. It was impressive enough for two hundred growers to weather a December rain to drive to Leesburg and meet with Bouis, where they toured exhibits touting the commercial potential of the newly bred rootstock and scion varieties.[143] And Bouis's own grove management firm continued to grow, following the expansion of planting southward along the Lake Wales Ridge, picking up business throughout sprawling Polk County.

But a din could be heard in the background of the good times. Newsmen, politicians, church groups, even union organizers were nosing their way into the problems of Florida's citrus industry, loudly posing *the migrant question*.[144] It was not the first time this question was raised, nor was Florida citrus its first stage. The poverty, mobility, and political rights of migrant agricultural workers were made the subject of federal and state law – and of public scrutiny – for

[142] Unlisted author, "People, Places, and Things in the News," *The Citrus Industry* (June 1970), 24.
[143] Terry Frost, "Research Farm Tour…," *The Citrus Industry* (Jan. 1972), 10.
[144] My understanding of the debates over migrant labor in agriculture during the 1960s and '70s as "the migrant question" is informed by Holly Case's *The Age of Questions* (Princeton: Princeton University Press, 2018), which seeks to understand how social conflicts were framed by press, politicians, and intellectuals as problems that demanded and invited a solution, an *answer* – but that every "question" was framed and reframed by those asking it in such a way that the specific framing of the question suggested certain answers, while rendering others unthinkable.

decades.[145] Typically, it would reach a fever pitch following an exposé of systemic abuses and grinding deprivation, which would be met with a rage of follow-up reporting, congressional hearings and investigations, and culminate in proposed legislation that, if passed, would seldom be effectively enforced.[146] The public would move on, the scrutiny slacken, a decade would pass, and migrant workers would end up roughly where they had begun. Bouis's ascent coincided with a renewal in interest in the migrant question, when a 1970 exposé turned national attention to his own Lake and Polk Counties.

The way the migrant question was posed would often decide how it was answered. Asked publicly in documentaries, newspapers, and congressional hearings, the question had one form, roughly: "How can the impoverished migrant farmworkers in Florida be helped?" Answers floated included expanded welfare programs, collective bargaining, minimum wages, and inclusion in employee benefits like unemployment insurance and workers' compensation. But there was a second form of the question, asked more privately, in closed door meetings, confidential labor reports of grower associations, and trade journals: "How can the input cost that is harvesting labor be controlled, given our overall rising production costs?" This basic form could be expanded to include: "What can be done about labor shortages? Is a stationary labor

[145] A brief overview of post-WWII reform efforts can be found in Erin Conlin, "Invisible Hands in the Winter Garden: Power, Politics, and Florida's Bahamian Farmworkers in the Twentieth Century" (PhD diss., University of Florida), 225-234. Histories of the political struggles of and for migrant farmworkers consulted in this chapter are Anne Effland, "The Emergence of Federal Assistance Programs for Migrant and Seasonal Farmworkers in Post-World War II America" (PhD diss., Iowa State University, 1991); Kitty Calavita, *Inside the State: The Bracero Program, Immigration and the I.N.S.* (London and New York: Routledge, 1992), Devra Weber, *Dark Sweat, White Gold: California Farm Workers, Cotton, and the New Deal* (Berkeley: University of California Press, 1994); Deborah Cohen, *Braceros: Migrant Citizens and Transnational Subjects in the Postwar United States and Mexico* (Chapel Hill: University of North Carolina Press, 2011); Christina Salinas, *Managed Migrations: Growers, Farmworkers, and Border Enforcement in the Twentieth Century* (Austin: University of Texas Press, 2018); Andrew J. Hazelton, *Labor's Outcasts: Migrant Farmworkers and Unions in North America, 1934-1966* (Champaign: University of Illinois Press, 2022) and the work of Cindy Hahamovitch, cited below.

[146] This cyclical framing is indebted to Cindy Hahamovitch, *The Fruits of their Labor: Atlantic Coast Farmworkers and the Making of Migrant Poverty* (Chapel Hill: University of North Carolina Press, 1997) and *No Man's Land: Jamaican Guestworkers in America and the Global History of Deportable Labor* (Princeton: Princeton University Press, 2011), esp. Ch. 6 for the cycle that ended with the phasing out of the Bracero Program.

force suitable for Florida agriculture? How can union advances in agriculture be delayed, or halted? How much should a grower spend on worker benefits?"

Bouis preferred to frame the question in its second form. He stood tall, a Paul Bunyan in cowboy boots, unmissable in any room, and would address growers in a deep, rumbling voice.[147] To an audience of Lake County growers in 1970, he rumbled about "the big bugaboo," the issue on everyone's mind: picking labor. "Costs are almost out of control and we are wailing around in every direction looking for some way to reduce the cost."[148] He spoke of shortages: "Already we cannot pick the crop with the number of people available who think of themselves as pickers." He spoke of the difficulties recruiting out-of-state migrants and moonlighters, and of the recalcitrance of the pickers themselves, who expected $2.50 an hour, and would quit if they didn't receive it.[149] Whatever migrant workers represented for those outside of that Lake County meeting room, for those inside it they were, above all else, "a very expensive asset."[150]

The migrant question was posed by growers as an economic problem; it was posed by farmworker advocates – reporters, politicians, labor organizers – as a social problem. In practice, the questions could never be so separate, and both invited political solutions. This chapter examines the answers to the 1970s migrant question of three institutions that blurred the already-hazy lines between private and public, economic and political.[151] The grower-funded Citrus Industrial Council (CIC); the Agricultural Labor Project (ALP) of Minute Maid, a Coca-Cola

[147] Unlisted author, "Changes Make Citrus a Highly Complex Industry," *The Citrus Industry* (August 1970), 27.
[148] Frank Bouis, "Harvesting Costs vs. Production Costs," *The Citrus Industry* (July 1971), 8.
[149] Frank Bouis, "Harvesting Costs vs. Production Costs," *The Citrus Industry* (July 1971), 9.
[150] Frank Bouis, "Harvesting Costs vs. Production Costs," *The Citrus Industry* (July 1971), 9.
[151] For the background of the Florida state government's involvement in labor migration for the benefit of growers, see Hahamovitch, *The Fruits of Their Labor*, esp. Ch. 5. This chapter draws on but differs in emphasis from Hahamovitch; where she "brings the state back in" (particularly the federal government) to the history of agricultural labor, this chapter "brings the employers back in" by looking at the responses of growers (in trade journals and the grower-funded labor council), of a corporation large enough to be quasi-governmental (Coca-Cola), and of a small Division of a state-level Department that was particularly sensitive to the whims of growers. The subsequent chapter will examine the efforts of citrus farmworkers themselves to organize.

subsidiary since 1960; and the Division of Migrant Labor (DML) of the Florida Department of Community Affairs.

To understand the industry's position, you must wade through a sea of acronyms. Briefly: the CIC was founded in 1961 in response to an earlier cycle of the migrant question and faithfully presented the growers' economic view of the question through the 1970s. It tracked labor numbers, lobbied on behalf of growers, testified before Congress, and on rare occasions attempted media damage control. The ALP was Minute Maid's attempt to "solve" the problem, with questionable sincerity and effort, by building housing and offering full-time work to migrant farmworkers. And the DML was the state government's umbrella organization that attempted to coordinate the fairly meager resources the state offered for farmworkers. Both the ALP and the DML were established on paper in 1969, but were not operational until 1970. For both, the social logic of ameliorating the working and living conditions of migrant workers chafed against the economic logic of ensuring a consistent supply of affordable labor for citrus harvesting. And in both cases, it would be the latter that prevailed.

Thursday, July 16, 1970 at 7:30 PM, NBC broadcast *Migrant: An NBC White Paper*, an hour-long documentary produced by Martin Carr and narrated by veteran newsman Chet Huntley. The third act of the documentary opened with Huntley in an orange grove, workers bustling on tall wooden ladders beside him. After reciting familiar facts about the grandeur of Florida's citrus industry – "two thirds of the oranges grown in the United States are Florida oranges," "a citrus crop worth $400 million" – the scene shifted abruptly to the squalor of the company houses of its harvesters.[152] A primetime audience was brought into the shacks occupied

[152] The script of the documentary is reproduced in *Migrant and Seasonal Worker Powerlessness*, Hearings Before Subcommittee on Migratory Labor, Committee on Labor and Public Welfare, Part 8-C (July 24, 1970), this quote comes from p. 5968.

by large farmworker families, who were cramped into small rooms, many without running water.[153] They were told of the piece rate of workers, which could yield $25 for day of work or could yield days or weeks during harvest season without reliable work, "without a dime."[154] After rent, utilities, groceries, and the cut for the crew leader, even a good day's pay was whittled down to change. Interviewing farmworker Leith Ann Bridges at her home in Minute Maid's Frostproof labor camp, producer Martin Carr asked if she was worried about her future. She replied, "I don't see no future, nothing but hard work and I mean I don't ever save anything." Before they were able to complete the interview, Carr and Bridges were interrupted by a Minute Maid foreman, who told Carr that he was trespassing on "Coca-Cola Foods property."[155]

The documentary as a whole was a damning indictment of Florida's agricultural employers. It stung the citrus industry particularly, and the image-conscience Coca-Cola most of all. But for many growers it felt like falling into a recurring nightmare. The documentary was a deliberate echo of *Harvest of Shame*, aired a decade earlier, on CBS the day after Thanksgiving in 1960. *Harvest of Shame* followed Atlantic Coast farmworkers from South Florida to New Jersey, revealing the abysmally low wages, unsanitary living conditions, and unsafe travel to which they were subjected. Citrus growers were spared direct portrayal in 1960 but not spared the documentary's aftermath. Migrant workers were briefly in the national spotlight and federal initiatives on their behalf received new impetus, resulting in the 1964 Farm Labor Contractor Registration Act, the 1964 end of the Bracero Program, the provisions for migrant workers in the

[153] *Migrant and Seasonal Worker Powerlessness*, Part 8-B (July 21, 1970), 5502.
[154] *Migrant and Seasonal Worker Powerlessness*, Part 8-C (July 24, 1970), p. 5968.
[155] *Migrant and Seasonal Worker Powerlessness*, Part 8-C (July 24, 1970), p. 5988. A more detailed account of Leith Ann Bridges's life as a twelve-year employee of Minute Maid is provided in Ed Domaingue, "Migrants: An Invisible Army of 25,000 Languishes in Poverty in Polk," originally published in the *Lakeland Ledger* (July 13, 1970) and reprinted in *Migrant and Seasonal Worker Powerlessness*, Part 8-B (July 21, 1970), 5559.

1964 Economic Opportunity Act, and the efforts of Secretary of Labor W. Willard Wirtz to curtail the use of offshore workers from the Bahamas and the Caribbean islands.[156] The citrus industry did not need to wait for federal legislation to know that they did not like what they saw that November 25th. Florida agriculture seemed to be under attack. In the last meeting of their 1960-61 session the Florida Citrus Commission passed a resolution condemning *Harvest of Shame*; in 1962 the Florida Citrus Mutual helped to fund a counter-documentary made to entice potential workers into the migrant stream.[157]

The seeds for the 1970s migrant question were sown in the 1960s in other ways too. One month after *Harvest of Shame* aired, Coca-Cola completed its acquisition of Minute Maid.[158] Minute Maid was already the largest grove owner and processor in the state.[159] But it was, according to its top executive, Henry Cragg, "concerned primarily with production," and lacked the larger company's resources and expertise in "sales, marketing, advertising and public relations."[160] Cragg said that the merger was a shot fired in "a revolution in the citrus industry," where marketing and PR would be given as much attention as rootstock selection and harvesting practices.[161]

Florida newspapers touted the merger as "good for the Florida grower."[162] But the Florida Citrus Mutual – the grower association that included among its members nearly every grower

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[156] Anne Efland, "The Emergence of Federal Assistance Programs for Migrant and Seasonal Farmworkers in Post-World War II America," ch. 3. Effland also cites other exposés that shortly preceded or succeeded *Harvest of Shame* and contributed to the national attention directed to the migrant question, pp. 106-107.
[157] "FCC Approves 2 New Top Positions," *Orlando Sentinel* (May 11, 1961), 7C and Tony Schiappa, "Citrus News Notes," *The Tampa Tribune* (April 22, 1962), 4B.
[158] *Economic Inquiry Into Food Marketing*, Staff Report to the Federal Trade Commission (December 1962), 123-124.
[159] *Economic Inquiry Into Food Marketing*, Staff Report to the Federal Trade Commission (December 1962), 123-124.
[160] Elvis Lane, "Number One Man at Minute Maid," *Orlando Sentinel* (May 23, 1965), 5F.
[161] Elvis Lane, "Number One Man at Minute Maid," *Orlando Sentinel* (May 23, 1965), 5F.
[162] "The Minute Maid Merger," *Orlando Sentinel* (Sept. 15, 1960), 5B.

that *wasn't* Minute Maid – frequently found itself at odds with the behemoth corporation. When the Mutual attempted to solve the industry's oversupply issues of the late 1960s by securing a federal and then a state marketing order to limit production or pool concentrate, Minute Maid publicly dissented. Cragg blasted "schemes which would lead to confining the citrus industry by governmental controls" in the name of "free enterprise."[163] Cragg did not mention that as both grower and processor the low on-tree prices that were the fruit of years of over-planting did not harm Minute Maid, but benefited them.

It was an unusual acquisition for Coca-Cola. Historian Bart Elmore has described Coca-Cola's "lean corporate figure," a company whose success depended on its owning as little as possible. While it was the world's largest buyer of sugar and caffeine, and consumed copious amounts of aluminum, plastic, and water, it did not own a single sugarcane plantation, sugar refinery, aluminum smelter, or water filtration plant.[164] For the ultimate outsourcer, the purchase of Minute Maid was a massive insourcing. It acquired three processing plants and 20,000 acres of citrus groves with the grove caretaking and harvesting labor that it demanded. Coca-Cola acquired, and would be forced to answer, the migrant question.

After the Minute Maid foreman ran the NBC film crew out of the Polk County labor camp, the 1970 documentary cut to the wood-paneled office of Citrus Industrial Council executive director Clark Ghiselin. In the interview, Ghiselin patiently explained *averages*: that if the piece rate for the boxes harvested across the industry were averaged into an hourly wage it would work out to $2.50; that, on average, 40 to 48 hours of work were available per week to

[163] Tom Milsaps, "Citrus Men Told Selling, Advertising Their Answer," *The Tampa Tribune* (Mar. 30, 1967), 8D and Henry Cragg, "The Positive 'Triple A' Program: Let's Eliminate the Negative and Accentuate the Positive," *The Citrus Industry* (June, 1967), 15, 18-24.
[164] Bart Elmore, *Citizen Coke: The Making of Coca-Cola Capitalism* (New York: W. W. Norton, 2016).

those who wanted.[165] But harvesting labor does not work in averages. The number of boxes picked in a day varied wildly between workers. The available work was sporadic, with delays for weather, grove quality, and travel. During peak harvest, growers could be more discriminating when choosing crews, leaving many with nothing but hopes that they would find work the next day. Ghiselin, of course, knew this. But by the time Ghiselin gave that 1970 interview he was a veteran of reframing the migrant question. He had been executive director of the Citrus Industrial Council (CIC) since its founding in 1961.[166] The CIC was founded as a joint effort of the Florida Citrus Mutual and the Florida Citrus Shippers and Canners Associations. Per reports, "its work will be primarily of a 'hush-hush nature."[167] What it amounted to was an industry supported effort to ensure adequate labor during harvest season. During the 1960s, this meant going state-to-state through the Southeast and coordinating state employment officials there to track "advance estimates from these States of the number of single males, Negro and white that they could provide," and to incentivize that those looking and qualified for farm work make their way to Florida.[168] For all of this, the CIC had one full time employee: Clark Ghiselin. He was the perfect man for the job. His experience in labor issues came from time as the personnel director for Lykes-Pasco, where, in 1951, he had unionized citrus packinghouse workers fired and, after they went on strike, jailed.[169] He was also active as part of the National Right to Work Committee, speaking on behalf of a statewide Right to Work amendment in 1962.[170]

[165] *Migrant and Seasonal Worker Powerlessness*, Part 8-C, 5989.
[166] Jack Detweiler, "New Citrus Labor Group Established," *The Tampa Tribune* (Mar. 4, 1961), 25.
[167] Jack Detweiler, "New Citrus Labor Group Established," *The Tampa Tribune* (Mar. 4, 1961), 25.
[168] "Statement by Congressman Edward J. Gurney, Republican, of Florida, for Inclusion in the Record of Hearings before the Senate Agriculture and Forestry Committee, January 19, 1965," Congressional Record: House (February 18, 1965), 2998.
[169] "Pasco Defends Firing of Union Workers in Strike," *The Tampa Tribune* (Sep. 20, 1951), 1.
[170] "Amendment Set on Work Law," *Orlando Sentinel/Lake Sentinel* (Jun. 27, 1962), 1.

Ghiselin had his hands full in the 1960s. Lyndon B. Johnson's Secretary of Labor, Willard Wirtz, made it a priority to phase out the use of offshore workers in agriculture, increasing financial burdens on growers who did so. He demanded that they demonstrate they first made an effort to hire domestic workers at a set wage. Sometimes he denied guest worker requests outright.[171] This threatened Florida's sugar industry the most – because it was "cut exclusively by guestworkers" – but it also burdened citrus.[172] In the 1950s and '60s, most citrus was picked by domestic workers, but the industry relied on offshore guestworkers to supplement their labor force, especially near the end of harvest season, April and May, when domestic workers went elsewhere for work, or after frosts. And it only magnified the industry's already constant complaints about labor shortages: "there just won't be enough pickers," one grower grumbled.[173] Ghiselin thought that Wirtz's idea of a higher wage floor to incentivize domestic workers "would kill the incentive of good workers and subsidize the poor ones."[174] The Florida Citrus Mutual pointed to Ghiselin's efforts to recruit workers from across the Southeast as proof that the industry was already complying with Wirtz's demands.[175] In response to grower complaints, Wirtz's Department of Labor offered a "crash recruitment program," promising to replace the industry's requested guestworkers with domestic workers recruited throughout the southeast. Growers footed the bill for bus tickets and claimed that of the 788 domestic workers who arrived in time for harvest, a quarter absconded after a week of working, and more than half after three weeks.[176] The Florida Citrus Mutual argued that the Department of Labor was sending unqualified and untrained workers and that, moreover, the areas that they were recruiting from

[171] "A Case History of Failure and Losses to Florida Agriculture, 1965," in Box: 11. Donald Ray (Billy) Matthews Papers, Ms 068. Special and Area Studies Collections, George A. Smathers Libraries, University of Florida.
[172] Hahamovitch, *No Man's Land*, 146.
[173] "Citrus Newsletter," *The Citrus Industry* (Sept. 1964), 20.
[174] "20 Cent Boost Aimed to Reduce Foreign Workers," *Fort Myers News-Press*, Dec. 20, 1964.
[175] "A Case History of Failure and Losses to Florida Agriculture, 1965."
[176] "A Case History of Failure and Losses to Florida Agriculture, 1965."

had already been exhausted by the recruitment efforts of the Citrus Industrial Council. Ghiselin compared the fight with Wirtz's Department of Labor to "a battlefront such as Vietnam."[177] And in the same talk, Ghiselin complained that domestic labor shortages and the migrant question as a whole were stirred up only thanks to the "Civil Rights leaders [who] are urging Negroes not to accept farm labor because it is 'beneath your dignity.'"[178]

A month after Ghiselin's comments, Wirtz traveled to the citrus belt. It went better than anyone expected. Wirtz was "impressed" by the industry's "willingness and interest in placing our labor problems on a more even basis."[179] And industry officials were "impressed with the apparent open-minded attitude" of Wirtz throughout the trip.[180] The understanding was not just symbolic: Wirtz acknowledged that the Mutual and the CIC were genuine in their attempts to recruit domestic workers and in return granted a request for 3,500 offshore workers for that year's late season Valencia harvest.[181] Wirtz and Ghiselin established a publicly contentious but seemingly privately amiable relationship, Ghiselin saying of Wirtz that "he had a change of attitude" after his visit.[182] At the same time, Ghiselin knew that this relationship was contingent on the industry's continued attempt to "divorce itself from foreign labor."[183] In recognition of those efforts, Wirtz's Department of Labor awarded Ghiselin's Citrus Industrial Council a grant of more than $20,000 to train domestic workers for citrus harvesting.[184] And for the remainder of Wirtz's term as Secretary of Labor, this understanding would hold: the CIC would ramp up its

[177] "Socialist Dreams Come True–Farm Labor Woes Reviewed," *The Tampa Tribune*, March 1965, 9D.
[178] "Socialist Dreams Come True–Farm Labor Woes Reviewed," *The Tampa Tribune*, March 1965, 9D.
[179] Fred Shilling, "Wirtz, Growers Find 'Understanding'," *The Orlando Sentinel*, April 17 1965, 1.
[180] Fred Shilling, "Wirtz, Growers Find 'Understanding'," *The Orlando Sentinel*, April 17 1965, 1.
[181] Peter Kramer, "Citrus Group Lauds Wirtz' Action," *The Tampa Times*, May 15, 1965, 7-A.
[182] Fred Shilling, "Citrus Housing Needed," *The Orlando Sentinel* May 1, 1965.
[183] "Citrus Industry Seeking to Divorce Itself from Foreign Labor," *Fort Pierce Tribune*, July 30, 1965.
[184] "Citrus Growers Training Jobless as Harvest Hands," *The Tampa Tribune*, Dec. 1, 1965.

domestic recruitment efforts while Wirtz would certify a small number of guest workers during late-season or emergency harvests.[185]

Amid the fallout from *Harvest of Shame*, the persistent cries of "labor shortages," Wirtz's curtailment of foreign workers, and the CIC's southeastern recruitment program, there were efforts by the state government, the industry, and journalists to determine who, exactly, citrus farmworkers were. The state government attempted a demographic and wage survey, the industry publicly pondered what motivated their workers, and one journalist – Peter Kramer – went "undercover" as a citrus farmworker for a week, picking groves around Winter Haven and Avon Park.[186] The Florida Industrial Commission's Citrus Crew Foremen surveys, conducted between 1966 and 1969, were undertaken to understand the "ever increasing problems encountered by growers in recruiting and retaining an adequate number of citrus pickers to harvest the crop."[187] In particular, to "estimate labor requirements for future citrus harvests," to determine how to employ that labor most productively, and to understand farmworker motivation – in order to better recruit them. The Foremen surveys were undertaken entirely in the spirit of the "second form" of the migrant question. But both in farmworkers answers to what they disliked about the work and in comments on weekly pay sheets left by foremen, some details

[185] After 3,504 were approved for 1965's late season harvest, 665 were approved for 1966 in response to freeze damage, 2,919 for 1967 in response to freeze damage, none for 1968, and 1,983 for 1969's late season harvest. Numbers from Fair Labor Standards Amendments of 1973: Hearings, Ninety-third Congress, First Session, on H. R. 4757 and H. R. 2831 (Washington: U. S. Government Printing Office, 1973), 386 and corroborated in Migrant and Seasonal Farmworker Powerlessness, 5-B (Washington: U. S. Government Printing Office, 1970), 2571.
[186] The University of Florida's Institute of Food and Agricultural Sciences would conduct a more comprehensive demographic survey, the Florida Farm Labor Survey, in 1970 and 1971, the results published in Leo Polopolus and Galen C. Moses, *The Impact of Extending Unemployment Insurance to Agricultural Workers in Florida* (Gainesville: IFAS, 1972) and Gary F. Fairchild, *Socioeconomic Dimensions of Florida Citrus Harvesting Labor* (Gainesville: Economic Research Department, Florida Dept. of Citrus, 1975). Peter Kramer's four part series, "Florida's Fruit Picker," ran in the *St. Petersburg Times* from beginning Feb. 21, 1965 and ending Feb. 24, 1965.
[187] The records of the survey are held in the Florida Industrial Commission, Citrus crew foreman surveys, 1966-1969, State Library and Archives of Florida, Tallahassee, FL while the results (which *were* published, contrary to the archive's description that the survey produced "no known surviving final report, evaluation, or conclusion") are in the three volumes of *Survey of Citrus Harvest in Florida* (Tallahassee: Florida Industrial Commission, 1967, 1968, 1969).

emerge: the most common complaints from farmworkers were over the physical difficulty of the job, the "low earnings," that "they could not pick fast enough to make money," while foremen complained of frequent absences and unreliability.[188]

In June 1969, *The Citrus Industry*'s editorial page took a stab at understanding what motivated citrus farmworkers. The editorial quoted Herman J. Reitz, researcher at University of Florida's Citrus Experiment Station: "Just who are these pickers? Where do they go in the Summer? What do they want?" And, "why don't they develop into ambitious, avaricious, comfort-loving middle class citizens like the rest of us?" The editor acknowledged that farmworkers had been "largely ignored and shunted about in years past … as long as field labor was plentiful and cheap."[189] He went on to suggest that, on these and other perplexing questions about labor, "Maybe the Foreman Knows Best." One thing was certain, according to *The Citrus Industry*'s editor: the answer was not "government handouts" or "higher wages," as those would only encourage the farmworker to more quickly "buy enough liquor to get drunk on."[190]

These questions were being asked in the late 1960s, before NBC's *The Migrant* aired in July 1970. Unsatisfied with the negligible progress made for farmworkers since 1960's *Harvest of Shame* and unsatisfied with the answers normally given by the industry, the documentarians sought out their own answers. The documentary began production in February of 1970. By April, crew members were in Florida's groves seeking out interviews with farmworkers, foremen, and industry officials, running into significant resistance nearly every step of the way. They hoped, at least, to get an interview with Florida's governor Claude Kirk, to take place in an orange grove of his choosing. It was scheduled for April, delayed, and finally cancelled by the governor.

[188] *Survey of Citrus Harvest in Florida* (1967), 15-16.
[189] "Maybe the Foreman Knows," *The Citrus Industry* (June, 1969), 13.
[190] "Maybe the Foreman Knows," *The Citrus Industry* (June, 1969), 13.

Once the documentary aired in July, both Coca-Cola's President, J. Paul Austin and Florida's Governor bristled at the suggestion that they became interested in the migrant question only as a response to its airing. They were, *sort of*, right. In Coca-Cola's case, J. Paul Austin claimed in later Congressional testimony that back in December of 1968, in response to news from California of Cesar Chavez's United Farm Workers Organizing Committee staging boycotts and winning contracts, he had asked the President of the company's Foods Division – which managed Minute Maid – to look into the labor and housing situation of the company's farmworkers,. Nothing came of it. In February of 1970, Austin sent a team from the vaguely named Scientific Resources, Inc. to live among farmworkers and produce a report documenting problems they faced, as a first step to addressing Smith's concerns.[191] In the State of Florida's case, Kirk argued that "an action plan for migrants" had been created in March of 1969, although it amounted to little more than approving the creation of a Division of Migrant Labor in the executive Department of Community Affairs.[192] Even this was done only in response to a visit to the state by Senator Walter Mondale to inspect working conditions and housing in South Florida's agriculture.[193] But Florida's Division of Migrant Labor remained unfunded and leaderless until Governor Kirk got word that NBC's team was visiting the state. The state legislature followed suit, passing legislation between the filming and the airing of the

[191] Though the report was never published – even when requested in the Congressional hearings by Senator Walter Mondale – a book was later published by one of the four members of the team: Sara Harris and Robert Allen, *The Quiet Revolution: The Story of a Small Miracle in American Life* (New York: Rawson Associates Publishing, 1978). The book is essentially a pro-Coca-Cola puff piece. Confusingly, the book states that this team arrived in Florida in 1968 and left two years later – in 1972. This 1968 date is not referenced anywhere else and can be assumed to be a misprint or misremembering.

[192] "Kirk's 'Action' for the Migrants," *Fort Myers News-Press* (Jul. 28, 1970), 4A.

[193] Mondale was there as chair of the Subcommittee on Migratory Labor's Migrant and Seasonal Worker Powerlessness hearings, which were also undertaken primarily in response to the UFWOC's actions in California. For more on this 1969 visit of Mondale, see Hahamovitch, *No Man's Land*, 177-178. The most lasting consequence of the hearings came when J. Paul Austin publicly agreed under pressure from Walter Mondale to allow Minute Maid's workers to be unionized is the subject of the following chapter, below.

documentary to create a counterpart in the legislature of the executive's Division of Migrant Labor, named the Legislative Commission on Migrant Labor. By the time the documentary aired, neither had done much, even on paper.[194]

Governor Kirk's rushed April appointment of someone to head the dormant Division of Migrant Labor illustrated his view of the migrant question. The Governor knew just the man for the job. John K. Arnold – called Colonel Jack Arnold by everyone in Tallahassee – was a retired Air Force officer who spent two years, 1953 to 1955, being tortured as a prisoner of war in Beijing. Arnold and his crew had been shot down and captured flying a B-29 over North Korea into China on a "psychological warfare" mission.[195] Publicly, the mission was to drop propaganda leaflets; later declassification revealed it was part of a larger Air Force-C.I.A. collaborative effort to foment and supply guerilla rebels against the Communist government of China.[196] After a negotiated release, he moved to Florida, began teaching air science at Florida State University in Tallahassee, and, in the late 1960s, took a position in the university's administration as Director of Student Affairs.[197] There he gained a reputation as a "hardliner" against campus activist groups. His tenure culminated in a standoff with the Students for a Democratic Society (SDS) after he obtained a court injunction forbidding their use of university facilities for a rally.[198] When three hundred students turned out anyway, the sheriff's office was called in, scattering the majority and arresting the fifty-seven that remained, helmeted riot police menacing the crowd with bayonet-affixed rifles. It would be remembered as "the night of the bayonets." It was too much and too public for Colonel Jack Arnold, and he retired – for three

[194] "Restriction Now Law," *Tallahassee Democrat* (Jun. 18, 1970), 19.
[195] Robert Burns, "Military 'Weapon' on Communism Took Unexpected Toll," *The Bradenton Herald*, Aug. 30, 1998, 4.
[196] Robert Burns, "Military 'Weapon' on Communism Took Unexpected Toll," *The Bradenton Herald*, Aug. 30, 1998, 4.
[197] Don Pride, "And State Migrant Head Can't Say What's Better," *The Palm Beach Post*, Jul. 26, 1970, A18.
[198] "Arnold to Work with Migrants," *Tallahassee Democrat*, April 24, 1970, 13.

months.[199] Arnold moved from his very brief retirement directly into the top spot of the Department of Community Affairs' Migrant Labor Division. He had no experience with agriculture or labor.

A week after the documentary aired, Arnold assessed what the Division had done since his appointment in April: they had begun to create inventories of services, state and federal, available to migrants. They would be published as reports, he said, in September and October. The Division was working on a shoestring budget, with Arnold and his secretary the only full-time staff. Asked to reflect on "his first contact with migrants," he said only, "it's about as I thought it was. It's a hell of a condition."[200]

After the documentary aired, Coca-Cola's plans were finally given a name and institutional reality: the Agricultural Labor Project. J. Lucian Smith's initial plans, laid out to "executives of the company" in June of 1970, were ambitious: "new and better housing, new and better buses, new and better recreational facilities, child care, health facilities, and improved compensation and fringe benefit programs."[201] One promise – that Coca-Cola would be able to offer year-round harvesting work to some of its employees – was possible because the company had invested in lemon groves, which were picked during the summer off season for oranges. Most important for Lucian, though, was "dignity" – that workers must be involved, in some way, in managing these programs and in owning the homes the company promised to build. One journalist noted that "Coke's prospectus for its Florida program reads astonishingly like the brief for a federal anti-poverty program."[202] The public face of the Agricultural Labor Project would be William Kelly, who oversaw Minute Maid's grove operations. Six months into its operation,

[199] "Arnold to Retire," *Tallahassee Democrat*, Jan. 5, 1970, 9.
[200] "Migrant Aid: Mostly on Paper So Far," *St. Petersburg Times* (July 27, 1970), 4-B.
[201] "Coca-Cola Says Dignity Goal of Migrant Plan," *Orlando Sentinel* (July 23, 1970), 16-A.
[202] Sylvan Meyer, "Coke Hopes Improving Worker's Lot Helps Coke," *The Miami News* (Oct. 30, 1970), 16-A.

Kelly explained the Project to an audience of skeptical citrus growers in Vero Beach, Florida, mostly echoing the ideals of Smith but with his own added humility. "We found deplorable conditions and people without hope."[203] Wages were low, turnover was high, and "company loyalty and identification did not exist."[204] Grove caretaking workers – though not harvesters – were brought into "regular employment status," with an accompanying wage increase; medical and life insurance coverage offered to seasonal workers. In keeping with their promises on worker involvement, the company implemented "a worker committee on health, education, and social services," and converted labor camp dormitories into "community service centers" to host the worker-elected community service boards.[205] The boards themselves were established as "non-profit corporations consisting of up to 18 elected workers and up to seven non-voting advisory members, two of whom will be appointed by the company," and would be responsible for implementing the health, childcare, and social service programs for the workers.[206] For education and childcare, volunteer tutors were recruited from local colleges. All in all, "we have been more successful in this phase of the program in a shorter time period than we had originally anticipated."[207] The editor of *The Citrus Industry* responded in the same issue, skeptical of Coca-Cola's Project. He illustrated his skepticism with an anecdote: at the same time Coca-Cola was unveiling its Agricultural Labor Project, the Lakeland city commission "was deluged by a crowd of unemployed men and women demanding welfare payments." And "parked outside the Lakeland city hall was a fruit pickers' bus," offering harvesting employment to anyone who

[203] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 4. The speech was delivered January 28, 1971.
[204] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 4.
[205] The number of grove workers made regular employees was fewer than 300. One of these non-profits, the Agricultural & Labor Program, remarkably, still exists today as a community-service center, though it is no longer affiliated with Coca-Cola.
[206] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 7.
[207] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 7.

wanted it. "Not a single member of the departing audience climbed aboard."[208] The welfare of migrant workers was the problem, not the solution.

Perhaps what bothered Kelly the most – and, not coincidentally, what was most conspicuously on display in the NBC documentary – was the housing situation of Coca-Cola's workers.[209] Company housing was as bad as it was portrayed in *The Migrant*, Kelly admitted. In the labor camps, "drunkenness, gambling, and lack of sanitation were prevalent."[210] Typical of Minute Maid's company up to that point was Maxcy Quarters in the town of Frostproof: no running water or indoor plumbing of any kind and no heating.[211] What workers wanted, at least according to Kelly, and what the company wanted, was for Coca-Cola to get out of the housing business.[212] Instead, their ideal was for workers and their families to own their own homes. The Agricultural Labor Project's solution was Lakeview Park. The company provided 30 acres of potential grove land beside Lake Clinch, in Frostproof, right on the state's Lake Wales Ridge and secured mortgages from the Federal Housing Authority to have "a projected 85" houses built there.[213] It was to be a model community, with its own homeowner's association ensuring the grass was trimmed and the lawns kept clean.[214] It was not, as it at times appeared to be in glowing media presentations of the program, a case of Coca-Cola footing the bill for decent migrant housing: qualified and approved workers were expected to purchase the homes, initially priced between $14,000 and $17,000 and paying them off with FHA subsidized low-interest mortgage payments.[215] However, the company did reluctantly pay for the development's initial

[208] "Out of Balance," *The Citrus Industry* (June, 1971), 14.
[209] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 5.
[210] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 5.
[211] "The Corporate Migrants," *The Palm Beach Post* (July 22, 1970), A4.
[212] W. M. Kelly, "Tackling the Problems of Seasonal Workers," *The Citrus Industry* (June, 1971), 5.
[213] "Homes for Citrus Workers," *Fort Lauderdale News* (Oct. 23, 1971), 24E.
[214] "Adios to Migrancy," *Manpower* (Aug. 1974), 20-21.
[215] "Homes for Citrus Workers," *Fort Lauderdale News* (Oct. 23, 1971), 24E.

water and sewage hook up, after asking the city of Frostproof to do so and being denied by city officials who were "unhappy about the development."[216] The first homes were finished in April of 1971, squat concrete block constructions, painted in a variety of pastel colors.[217]

Lakeview Park was the showpiece of the Agricultural Labor Project. It won Coca-Cola a glowing writeup in *Business Week*, as "a company that helps migrants" and an award from the publication for "developing human resources."[218] Coca-Cola issued a monthly report, "A Project in Progress," to keep track of the Agricultural Labor Project. In the April 1971 issue, the company justified its policy of substituting company housing with worker-owned houses: "it was felt that a worker's sense of independence was decreased when the Company controlled not only his working conditions but his living conditions as well."[219] That it might keep workers permanently close to the job and out of the migrant stream was a subsidiary, and unmentioned, benefit. With the sewage system, water, and streets completed, it seemed that Lakeview Park would be smooth sailing. They were particularly proud of the "cul-de-sac street layouts," "tot-lots," and recreational areas, which the company also paid for.[220] The company was also underway on a pilot medical program, to "provide some medical examinations and follow-up care to community residents" and by June of 1971 established a third Community Development Corporation, with initial funding from the company.[221]

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[216] Bob Bobroff, "Model Home Symbolizes Start of Worker Program," *Orlando Sentinel* (April 25, 1971).
[217] Bob Bobroff, "Model Home Symbolizes Start of Worker Program," *Orlando Sentinel* (April 25, 1971).
[218] "Business fights the social ills–in a recession," *Business Week* (March 6, 1971), 61.
[219] "A Project in Progress, April 1 1971" in Subject Files Box 1, Folder 5, Migrant Labor Project, State Library and Archives of Florida.
[220] "A Project in Progress, Sept. 30 1971" in Subject Files Box 1, Folder 5, Migrant Labor Project, State Library and Archives of Florida.
[221] "A Project in Progress, June 1971" in Subject Files Box 1, Folder 5, Migrant Labor Project, State Library and Archives of Florida.

But Lakeview Park and the ALP as a whole were not immune to criticism, especially from farmworker advocacy groups.[222] The most glaring problem was that Coca-Cola did not employ only the 300 or so workers that had been converted to "regular employees," but nearly 3,700, including the seasonally hired grove workers, who so far had received very little. And in Lakeview Park, workers already expressed concerns about the mortgage payments. One worker, married with four children, moved from the rent-free company owned labor camps into one of the new Lakeview Park homes as soon as they could; but noted that a regular mortgage payment was a tall ask given her and her husband's wages. She worried that she and her husband would still have to travel north in the summer to pick apples to afford it.[223]

Skepticism about the state's Division of Migrant Labor and Legislative Commission on Migrant Labor was even more widespread. Jack Arnold was set up in a new building in a "nice neighborhood" on the east side of Tallahassee with a total budget of just over $45,000.[224] Asked what the Division had accomplished since Governor Kirk's action plan was announced more than a year prior, Arnold said "I don't know I can give you an answer offhand… I'm sure each of the agencies could."[225] But by January of 1971, Kirk was out, and Reubin Askew – a Democrat, progressive by Florida's standards, was in. And the Legislative Commission began touring the state and actually crafting and proposing legislation. Unlike the Division, which had too small a staff to even bicker with each other, the Legislative Commission was internally contentious from the start. One member of the Commission was Wayne Mixson, a representative from the rural Jackson County, on the state's panhandle, who prior to his career in politics was President of that

[222] "Coca-Cola Farmworker Aid Called Sham," *The Miami Herald* (April 9, 1971), 2-B.
[223] Carolyn Bower, "Coca Cola Housing Project in Frostproof: Refreshing Pause for Migrant Workers," *Orlando Sentinel* (March 28, 1972), 7-H.
[224] Don Pride, "State Migrant Agency Mostly Talk," *The Miami News* (Jul. 27, 1970), 15-A.
[225] Don Pride, "State Migrant Agency Mostly Talk," *The Miami News* (Jul. 27, 1970), 15-A.

county's Farm Bureau. Mixson was the Commission's loudest voice on behalf of agriculture. Touring the state in March of 1971, Mixson mocked the whole ordeal: "I saw very few migrants," explaining that by that he meant "the laborer who packs up in an old jalopy and clickety clacks north across state lines looking for work, then drops his family under shade of a tree while he picks the field." Instead he just found "people with broader problems, problems brought to us everyday." For Mixson, there was no migrant question, except that crafted by his liberal colleagues on the Commission.[226] In the April legislative session following the tour, the Commission issued a "package of reform bills" including legislation to cover farmworkers under workmen's compensation laws, requiring labor contractors (crew leaders) to register with the state, and prohibiting child labor under twelve from farm labor.[227] The proposed legislation was, by all accounts, modest. And it incensed Mixson: "This thing [the Commission] is being used as a vehicle to promote reforms through all of agriculture, and I'm not going to be a part of it."[228] With Arnold's Division shuffling papers and the Legislative Commission nearing self-destruction, Governor Askew stepped in to tackle the problem himself – by establishing another commission: the Governor's Coordinated Task Force on Migrant Affairs. The announcement "caught not only the commission by surprise, but also was news to Jack Arnold."[229] The first task of this Task Force: to produce a report to determine all of the agencies and services available to migrants. The Chairman of the Commission would be Jack Arnold.

Remarkably, the proposed legislation requiring that farmworker crew leaders register with the state actually passed in 1971. Unremarkably, it was barely enforced. Those few contractors who attempted to register, paying the $25 fee to do so, found that the Farm Labor

[226] Pat Leisner, "Migrant Aid Said Missing Mark," *Tallahassee Democrat* (Mar. 14, 1971), 7A.
[227] David Schultz, "Fight Looms Over Funding Migrant Unit," *The Palm Beach Post* (April 25, 1971).
[228] David Schultz, "Fight Looms Over Funding Migrant Unit," *The Palm Beach Post* (April 25, 1971).
[229] David Schultz, "Fight Looms Over Funding Migrant Unit," *The Palm Beach Post* (April 25, 1971).

Offices had "not received official authorization to take the fees" and that "the necessary forms" were not yet provided. A farmworker advocate complained, "all we are getting are words, excuses, and false promises."[230] Two years after passing, little had changed. By March of 1973, thirty-seven crew chiefs had registered out of an estimated 1,500 active in the state.[231] The Department of Commerce, in charge of enforcing the law, was "unable to implement [it] because of lack of funds." And even "the proper forms were still unavailable."[232]

Jack Arnold was invited to appear before the Legislative Commission in March, 1973 to report on the activities of both the Division of Migrant Labor and the Governor's Task Force. He sounded pessimistic, even defeated. "Legislation alone is not sufficient to bring about desired change," as evidenced by the lack of enforcement of the Crew Leader Law.[233] In his role on the Task Force, Arnold completed the requested 80-page document, with 16 recommendations for different state agencies. The report was not adopted because members on the Task Force could not agree on all the measures.[234] The individualized recommendations to each department were not implemented. And shortly after, the Task Force, whose staffing was funded by an Office of Economic Opportunity grant that was expiring, was dissolved.[235] Following the meeting of the Commission, Arnold noted "that not a single representative of a migrant organization … attended the meeting last night. I know for a fact that this boycott reflects a complete lack of

[230] Earl Dehart, "Enforcement of Migrant Law Blasted," *The Miami Herald* (Dec. 7, 1971), 2-B.
[231] "Minutes," Joint Legislative Commission on Migrant Labor, March 26, 1973, Subject Files Box 1, Folder 3, Migrant Labor Project, State Library and Archives of Florida.
[232] "Minutes," Joint Legislative Commission on Migrant Labor, March 26, 1973, Subject Files Box 1, Folder 3, Migrant Labor Project, State Library and Archives of Florida.
[233] John K. Arnold to Edward J. Trombetta, March 27, 1973, Subject Files Box 1, Folder 3, Migrant Labor Project, State Library and Archives of Florida.
[234] "Minutes," Joint Legislative Commission on Migrant Labor, March 26, 1973, Subject Files Box 1, Folder 3, Migrant Labor Project, State Library and Archives of Florida.
[235] John K. Arnold to Wayne Mixson, Joint Legislative Commission on Migrant Labor, March 26, 1973, Subject Files Box 1, Folder 3, Migrant Labor Project, State Library and Archives of Florida.

confidence by influential migrant leaders in the ability of the State to improve the … condition of farmworkers in Florida."[236]

As the state's efforts came to nothing, Jack Arnold held up Coca-Cola's Agricultural Labor Project as "most successful" and a model for farmworker programs in the state.[237] But it too was facing mounting problems. Driving through the narrow streets of the development – King Boulevard, Garvey Lane, Douglass Lane; their names chosen by farmworker homeowners in the community – in 1975 revealed more than half of the homes unoccupied. "More than a third" of the workers who bought the new Lakeview Park homes had been foreclosed on, and many more were struggling to make payments.[238] Of the eighty-six houses, twenty-nine or thirty were in foreclosure, and twenty-seven more were vacant.[239] The subsidized interest rates that the Federal Housing Authority was able to offer were no more. One critic was Mack Lyons, of the United Farm Workers: "In 1972, when people started moving in, people found that housing was costing more than they could afford… a lot of people since have had to give it up."[240] Lyons called the Agricultural Labor Program "paternalistic" and a way of avoiding the real problem – adequate income.

By 1974, Coca-Cola's executives hoped to rid themselves of the Agricultural Labor Project, and unload it in pieces onto the Florida state government. On April 10 1974, the President of Coca-Cola's Foods Division, B. M. Middebrooks sent a letter to Governor Askew,

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[236] John K. Arnold to Edward J. Trombetta, March 27, 1973, Subject Files Box 1, Folder 3, Migrant Labor Project, State Library and Archives of Florida.
[237] Jack Arnold to Jim Tait, April 25, 1975, Subject Files Box 1, Folder 5, Migrant Labor Project, State Library and Archives of Florida.
[238] Jane Daugherty, "Is Coke's Housing Project for Citrus Workers 'The Real Thing'?" *The Tampa Bay Times* (Dec. 21, 1975).
[239] Jane Daugherty, "Is Coke's Housing Project for Citrus Workers 'The Real Thing'?" *The Tampa Bay Times* (Dec. 21, 1975).
[240] Jane Daugherty, "Is Coke's Housing Project for Citrus Workers 'The Real Thing'?" *The Tampa Bay Times* (Dec. 21, 1975).

explaining that "it was our intent in the first instance to provide the 'seed money' for these activities with the expectation that government (either local, state or federal) would be sufficiently interested in their continuance to participate… My question is whether the State of Florida could appraise our progress and consider whether these activities might well fit into an ongoing State activity."[241] It was either a drastic about-face or an unusually candid admission of long-held but never-publicized intentions. The company hoped to rid itself of its child care and medical facilities and its community service centers, which were "outside our province and probably not a continuing part of our activity."[242] Jack Arnold and William Kelly collaborated closely in pitching the handoff to Askew. Within months, an ad hoc committee was set up to evaluate the Agricultural Labor Project, with Arnold as the chairman.[243] But department after department appeared skeptical of the program, which would add a significant line to their budgets. They recommended that Coca-Cola retain the programs for another year while the state agencies figure out how, or if, they can come up with the $800,000 budget that Coca-Cola had apparently been spending annually on the Agricultural Labor Project.[244]

And while the evaluation was under way, there was a shakeup in leadership at the Division of Migrant Labor. Fred Staff took over from Jack Arnold and presented a radical change in outlook and rhetoric. Staff's own evaluation of the Agricultural Labor Project was that the company "continued to talk of self-determination," while "the Coke staff plays a large hand in guiding the people in making those decisions and no radical change will ever take place as

[241] B. M. Middlebrook to Reubin Askew, April 10, 1974 Subject Files Box 1, Folder 5, Migrant Labor Project, State Library and Archives of Florida.
[242] B. M. Middlebrook to Reubin Askew, April 10, 1974 Subject Files Box 1, Folder 5, Migrant Labor Project, State Library and Archives of Florida.
[243] Interdepartmental Coordinating Council on Community Services, Ad Hoc Committee, Agricultural Labor Project of the Coca-Cola Company Foods Division: An Appraisal, August 19, 1974, Subject Files Box 1, Folder 7, Migrant Labor Project, State Library and Archives of Florida.
[244] Coca-Cola Company Evaluation Report, July 16, 1974. Subject Files Box 1, Folder 8, Migrant Labor Project, State Library and Archives of Florida.

long as this in-house influence is allowed to continue."[245] Staff supported radical change. As head of the Division of Migrant Labor, he supported a farmworker labor relations bill supported by the United Farm Workers. He affiliated with the grower-despised Rural Legal Services attorneys, who represented farmworkers in cases of wage theft. He suggested that Coca-Cola could lease their groves to workers, allowing them to run and manage the groves on their own or they could lease the groves to the non-profit community development corporations to fund their own activity. Independence, dignity, "calls for economic independence, not the providing of services."[246] But Staff's tenure with the Division of Migrant Labor was not long. He resigned after an internal Department of Commerce memo surfaced that loosened the already barely-enforced standards for crew leader registration. And he intended to testify against other state departments. "I got to feeling we were a scapegoat organization." He explained, "we were part of the ripoff, because the state used us as an excuse."[247]

[245] Fred Staff, Coke Migrant Project Report, July 15, 1974. Subject Files Box 1, Folder 8, Migrant Labor Project, State Library and Archives of Florida.
[246] Fred Staff, Coke Migrant Project Report, July 15, 1974. Subject Files Box 1, Folder 8, Migrant Labor Project, State Library and Archives of Florida.
[247] Fay B. Joyce, "Nobody's Getting Trampled in the Rush to Aid Migrants," *The St. Petersburg Times* (March 30, 1977), 2-B.

CHAPTER 3

"NOW WE WORK JUST AS ONE"[248]

"I have your letter of June 1 [1974] and suggest that if you really want to know what is involved in organizing a Union, you should put some time into working to build one."[249] Mack Lyons seemed impatient, even dismissive. He had other things on his mind. As director of the United Farm Workers (UFW) Union in Florida, he had worked tirelessly for the last two-and-a-half years. Driving an aging 1968 Ford station wagon across the state, from swampy South Florida to the capital of Tallahassee he gave countless speeches in churches, at local unions, and at political rallies and, with his wife Diana Lyons and a small team of volunteers, planned, negotiated, and administered the first farmworkers' collective bargaining agreement in Florida's history. It was a contract between the black, Mexican American, and white workers in Florida's citrus groves and one of the most powerful companies in the world, Coca-Cola, which owned the Minute Maid groves and company houses where those workers lived and toiled.

Mack was responding to a letter that sat in the usual heap of correspondence received daily at the Florida headquarters of the United Farm Workers. It was a well-meaning inquiry from a student at the historically black Florida Agricultural and Mechanical University. The student wanted to know how, under Mack Lyons's leadership, the California-based UFW had been able to win such an improbable contract. What were the main problems of organizing

[248] Originally published in Terrell Orr, "'Now We Work Just as One': The United Farm Workers in Florida Citrus, 1972–1977," *Southern Cultures*, Vol. 25, No. 4 (Winter 2019), pp. 140-157 © 2024 Center for the Study of the American South, reproduced in accordance with the terms of the publication agreement.
[249] "Mack Lyons to Curtis Rudolph, June 4, 1974," box 1, folder 3, UFW Florida Boycott Records, Archives of Labor and Urban Affairs, Walter P. Reuther Library, Wayne State University, Detroit, MI (hereafter cited as UFW Records).

farmworkers? What could be done to replicate their unprecedented success across the state of Florida?

It was a chance for Mack to reflect on his time as an organizer and explain how an understaffed crew of volunteers from California and local grove workers had forged an interracial union within a multiracial political coalition in the 1970s U.S. South. Not least of all, in a state hostile to labor unions, whose workers the Florida legislature described as "the most economically and socially deprived" in the nation.[250] Even if Mack had the energy, neatly formulating abstract principles was not really his forte: "I cannot take the time from a very busy schedule to write for you a dissertation on what is required in building a union for farmworkers."[251] He was pragmatic, flexible, and suspicious of theorizing. As Mack realized, it was hard to put into words. It was a conscious, day-to-day effort in the union and in the community that created solidarity in practice, using methods that Mack and Diana Lyons deliberately and painstakingly cultivated in the UFW's tumultuous first years in Florida's citrus groves.

Mack Lyons had come a long way to get to Florida. He was born in 1941 near Dallas, to parents who worked in Texas's cotton fields. He moved around the Southwest, including a stint hustling pool in Las Vegas, until in 1966 he settled with his first wife in Central California's San Joaquin Valley.[252] In Texas, he had been a farmworker inconsistently and deliberately so. It was grueling work that he avoided as much as possible. Now in California and needing money, Mack and a few friends took a truck and went looking for a job in Delano's sprawling grape fields.

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[250] *Migrant and Seasonal Farmworker Powerlessness. Hearings Before the Subcommittee on Migratory Labor* [. . .], vol. 8-B (Washington, DC: Government Printing Office, 1971), 5459.
[251] "Lyons to Rudolph," UFW Records.
[252] "Mack Curtis Lyons," Obituaries, Chapel of the Chimes Oakland, accessed September 9, 2019, https://oakland.chapelofthechimes.com/obits/mack-curtis-lyons/.

Mack said that until he pulled up to the edge of that DiGiorgio grape field in Delano, he "had never saw any grapes."[253] But it was not the fruit that made a lasting impression on him. It was the picket line of people, primarily Mexicans and Mexican Americans, holding flags emblazoned with a striking black Aztec eagle against a bright red background, and signs that read, in all capital letters, *HUELGA*.[254]

Mack recalled that neither he nor any of the other black farmworkers he was riding with knew any Spanish.[255] *Huelga* is Spanish for "strike," and what Mack saw were the early days of Cesar Chavez's United Farm Workers, striking in the Delano vineyards. Before the decade was over, everyone in California would know what *huelga* meant.

Apprehensive but curious, Mack talked to the UFW members on the picket line. They likely explained to him that the strike began a year earlier in 1965. Initiated by the largely Filipino Agricultural Workers of California (AWOC) and followed by the largely Mexican American National Farm Workers of America (NFWA), which was led by Cesar Chavez, the strike targeted the grape growers in the San Joaquin Valley.[256] They likely explained that these growers cheated field workers out of wages, used state-subsidized labor in the Bracero Program as competition, exposed workers to harmful pesticides, and treated them as barely human. The growers attempted to break the unions' strike by pulling in workers from elsewhere and having picket line demonstrators arrested. When Mack showed up looking for work that day, he himself had been an unwitting strikebreaker.

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[253] "Union Leader,", 5.
[254] "Union Leader," 5.
[255] "Union Leader," 5.
[256] Detailed accounts of the AWOC and the Filipino American contribution to the farmworker movement can be found in Craig Scharlin and Lilia V. Villanueva, *Philip Vera Cruz: A Personal History of Filipino Immigrants and the Farmworkers Movement*, 3rd ed. (Seattle: University of Washington Press, 2000).

The farmworkers had to figure out how to outmaneuver the growers, who had seemingly endless resources and local, state, and national political influence. In 1966, two ideas were hatched by union leadership: nationwide boycotts of grapes, which became the largest consumer boycott in American history; and a *peregrinación*, a pilgrimage, made from Delano to Sacramento with marchers holding large wooden crosses and posters of the Virgin of Guadalupe. UFW members drew parallels between their approach and the contemporary black freedom struggle, and it was from the Civil Rights Movement that the UFW drew its image as "a 'movement' more than a 'union.' Once a movement begins it is impossible to stop," as an editorial in *El Macriado* put it.[257] The pilgrimage galvanized ecumenical religious sympathy, not only among Mexican American and Filipino American Catholic farmworker communities but also among a broad base of liberal Protestant churches. In 1966, against the protestations of some members, AWOC joined with NFWA to become the United Farm Workers of America, led by Cesar Chavez and funded by the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO). It was a pragmatic move. Most California farmworkers were Mexican American, and the promise of AFL-CIO funding was hard to ignore.

Mack was in. Quick to joke or jump into song, with "long legs" and a "languid smile," Mack was a constant presence within the union.[258] Over the next three years, he worked nonstop around the valley, organizing pickets and picking grapes in fields where contracts were won. He was elected steward – a union representative – by workers in Arvin, near Delano, by a field crew

[257] "Editorial: Enough People with One Idea," *El Malcriado*, September 1965, 2, quoted in Lauren Araiza, *To March for Others: The Black Freedom Struggle and the United Farm Workers* (Philadelphia: University of Pennsylvania Press, 2014).
[258] "Janis Peterson 1968–1990," Farmworker Movement Documentation Project, University of California San Diego Library, https://libraries.ucsd.edu/farmworkermovement/essays/essays/059%20Peterson_Janis.pdf (hereafter cited as UCSD Library).

composed of Mexicans, Filipinos, Puerto Ricans, African Americans, and white southerners.[259] Mack "*must* be a nice guy," Chavez remarked, and admired that Mack was able to get such a diverse group of workers to agree on anything.[260] Chavez came to respect Mack as much as his fellow workers did. Only years after joining the union, Mack became the sole black member of the UFW executive board and of Chavez's inner circle.

The United Farm Workers was never just a labor union. Before he organized farmworkers, Chavez got his start as a community organizer on the payroll of Saul Alinsky, the Chicago-based community organizer and political theorist.[261] During his tenure as UFW president, Chavez was sometimes accused by fellow members of being more interested in leading a national social movement like Gandhi or Martin Luther King Jr.—two of Chavez's foremost inspirations—rather than dealing with the everyday toil of a labor union. In practice, the UFW was at least three distinct things. After winning contracts with grape growers pressured by the boycott, it was officially a labor union. It was also a community organization offering medical and legal services, social events, and political representation to members and nonmembers. And as produce boycotts drew national sympathy, Chavez insisted on a more expansive vision, reimagining the UFW as a nationwide social movement to provide economic justice for all poor Americans.

When the UFW was working properly, these three elements were seamless. When it was not, internal and external critics tore into Chavez for being unable to decide on the goals and identity of the union. After the successes of the 1960s, the struggles of the '70s were more

[259] Peter Matthiessen, *Sal Si Puedes (Escape If You Can): Cesar Chavez and the New American Revolution*, 2nd ed. (Berkeley: University of California Press, 2014), 155.
[260] Matthiessen, *Sal Si Puedes*, 155.
[261] Frank Bardacke, *Trampling Out the Vintage: Cesar Chavez and the Two Souls of the United Farm Workers* (London: Verso, 2011).

complicated and bitter. Protracted fights with strikebreaking members of the Teamsters Union—a more politically conservative union brought in by growers to replace the UFW—, interminable boycotts, and the passage and subsequent lack of support for statewide agricultural labor legislation left the union diffuse and exhausted, a symbol without much reality. In California, the UFW became a social movement without a labor union. In Florida, it was the other way around. It would become a sustained labor union without an accompanying social movement.[262] But in its first decade everyone in UFW's California offices was optimistic, riding high off of contracts won throughout the state. Mack, committed to realizing the UFW as a labor union and eager to be on the ground organizing and interacting directly with workers, said to Chavez, partly in jest, "Let's consider California liberated and move somewhere else!"[263]

It was a hot day in Lake County, Florida, 1971. The orange harvest encompassed the winter months, but most days between November and May, winter meant merely hot and humid, rather than unbearably hot and humid. The orange trees were tall enough—about thirty feet—that they normally cast a long shadow on the dirt road beside them. That day, the shade was punctured by the red and blue lights of the Lake County Sheriff Office's patrol cars. The cars were parked on the side of the road, creating a barricade between six Mexican American volunteers with the UFW and the several dozen black workers who were harvesting oranges in the Minute Maid groves.[264]

UFW volunteers were there with union election cards, hoping to get a simple majority of workers to sign demanding union representation. The officers were there to arrest them the

[262] Miriam Pawel, "A Self-Inflicted Wound: Cesar Chávez and the Paradox of the United Farm Workers," *International Labor and Working-Class History* no. 83 (Spring 2013): 154.
[263] Matt Garcia, *From the Jaws of Victory: The Triumph and Tragedy of Cesar Chavez and the Farm Worker Movement* (Berkeley: University of California Press, 2012), 200.
[264] D. Marshall Barry, "Farmworkers and Farmworkers' Unions in Florida," *Florida's Labor History: A Symposium, Proceedings*, ed. Margaret Gibbons Wilson (Miami: Florida International University Center for Labor Research & Studies, 1991), 43.

moment they stepped off the county road and into the groves, onto private property. The volunteers didn't need to move. Workers stepped out from beside the trees, crossed the road, and took the cards to sign up themselves. In the following months, this scene would play out again and again across Central Florida's citrus belt as Mexican American UFW volunteers from California drove miles across the sinkhole-pocked flatland of Central Florida, getting lost on unpaved backroads, visiting Coca-Cola-owned shantytowns, and signing up 76 percent of Minute Maid's workers.[265]

Coca-Cola executives had seriously blundered and they knew it. This was the result. In 1960, only days after Thanksgiving, Edward R. Murrow's CBS documentary *Harvest of Shame* broadcast the misery of Florida farmworkers into living rooms across America. That same year, Coca-Cola acquired juice producer Minute Maid and its Florida-based citrus groves and processing plants.[266] Coca-Cola had been spared in Murrow's exposé only because it had not yet established a strong presence in the state's agriculture. In 1970, a decade later, it was the single largest citrus producer in the state, with thirty thousand acres of orange groves and nearly three thousand employees. Coca-Cola would not be spared that year when NBC broadcasted a follow-up to *Harvest of Shame* titled *Migrant: An NBC White Paper*. "[267]

The immediate result of the documentary was a congressional investigation into migrant farmworker poverty. Coca-Cola President J. Paul Austin was pressed by Senator Walter Mondale and the threat of a UFW-backed boycott into agreeing to allow collective bargaining agreements with a union. Winning collective bargaining agreements in California took the UFW nearly five grueling years of boycotts, strikes, and political pressure. With Coca-Cola, it took only a few

[265] Barry, "Unions in Florida," 42.
[266] *Hearings Before the Subcommittee*, 5501.
[267] *Migrant: An NBC White Paper*, produced by Martin Carr (New York: NBC News, 1970). Documentary details can be found at http://www.peabodyawards.com/award-profile/migrant-an-nbc-white-paper.

months. After longtime UFW members and a half dozen local workers negotiated the contract, the union declared it "the best contract signed to date by the United Farm Workers."[268]

The victory was not just unique for the UFW. It was also unique for the U.S. South's farmworkers. Organized resistance by citrus workers had taken place in the 1930s and '40s, when grove and processing plant workers under the CIO-affiliated unions walked out by the thousands during harvest season.[269] At best, these demonstrations resulted in an increased picking rate for that one season. At worst, the organizations drew the attention and ire of Central Florida's Ku Klux Klan, which opposed labor organization—especially among black workers—and targeted CIO organizers as Communists. An unidentified Klan leader was quoted in the *Tampa Tribune* saying, "We know who the radicals are and we shall care for them in due course." On the night of December 5, 1938, the Klan paraded four hundred members through the towns of Lake Alfred, Winter Haven, and Auburndale to intimidate workers into ending a strike.[270] What made the UFW contract unique was simple: *they had a contract*, a three-year collective bargaining agreement with federally enforced arbitration. In place of temporary radicalism, there was the opportunity for permanent change.

Since joining the union in California, Mack separated from his first wife and married Diana Lyons, a white farmworker and early member of the UFW. Having proved their mettle in the fields Mack and Diana were sent by Chavez to Florida to administer the Minute Maid contract. With "no job description," a five dollar per week salary, and fewer than a dozen volunteers—a sympathetic lawyer, some freshly minted white college students, black and Mexican American former farmworkers—Mack and Diana were expected to manage a contract

[268] "Farm Worker's Eagle Flys in Florida," n.d., box 3, folder 36, UFW Records.
[269] Jerrell H. Shofner, "Communists, Klansmen, and the CIO in the Florida Citrus Industry," *Florida Historical Quarterly* 71, no. 3 (January 1993): 300–309.
[270] "Klan Parades," *Tampa Tribune*, February 27, 1947.

of 1,200 to 1,500 workers. It had to be done across racial lines with Minute Maid's "mixture of African- and Mexican-American, and white men and women."[271] And it had to be done among workers who, unlike in the California UFW, did not have a half decade of struggle and unionizing as common ground.

The familiar tensions of the New South boiled under Florida's sweltering heat, where the majority of Florida's 150,000 to two hundred thousand migratory agricultural workers were black. Many of them came from sharecropping arrangements on former cotton plantations in the Deep South, which were mechanized in the 1960s. A *New York Times* reporter predicted that race would be "a stumbling block" for the UFW in the citrus belt because its organizers were largely unfamiliar with black farmworkers.[272] And despite his childhood in Texas, including working in cotton fields, Mack demurred that "the only thing I know about the racial problem in the South is what I read in the paper."[273] Mack and Diana would spend 1972–'76 working in the UFW's Florida office in Avon Park, a Central Florida citrus town with racially segregated North- and Southsides and schools that had been integrated fewer than five years earlier.

It was not that the United Farm Workers were aloof from the black freedom movement. Far from it.[274] Their grape boycott won crucial support along the East Coast from the Southern Christian Leadership Conference's (SCLC's) Operation Breadbasket and in Northern California from the Black Panther Party.[275] But those were examples of a multiracial coalition of otherwise

[271] Rebecca (Hurst) Acuna, "Memoir: UFW Volunteer/Florida 1972," Farmworker Movement Documentation Project, UCSD Library, https://libraries.ucsd.edu/farmworkermovement/50th-anniversary-documentation-project-1962-1993/rebecca-hurst-acuna/.
[272] Jon Nordheimer, "Blacks May Be Stumbling Block," *Miami News*, February 9, 1972. It was a *New York Times* news service report printed in the *Miami News*.
[273] "Union Leader," 5.
[274] Lauren Araiza, *To March for Others: The Black Freedom Struggle and the United Farm Workers* (Philadelphia: University of Pennsylvania Press, 2014).
[275] Gordon K. Mantler, *Power to the Poor: Black-Brown Coalition and the Fight for Economic Justice, 1960–1974* (Chapel Hill: University of North Carolina Press, 2013), 226.

discrete struggles. Chicago's Operation Breadbasket supported the boycott because "there was an identification . . . with what Mexicans were going through."[276] But the UFW Florida office was unique. Here the UFW was not a Mexican American group cooperating or building coalition with a black movement. This was the UFW's best contract and it belonged to thousands of southern farmworkers, 70 percent of whom were black.[277]

If labor organizers have learned anything from decades of small victories and stubborn failures in the U.S. South, it was that interracial unions were hard work. The UFW's guiding philosophy for their unions was that the only way to make a contract function for workers was to ensure that workers took ownership of it. The same principle applied to interracial solidarity. If the only difference between having a union and not having one was a slightly larger paycheck, with everything else remaining the same, it would not work. That had been Mack's view since the late '60s. His model of *what not to do* was the Teamsters—whose leaders set apart from workers, were paid lavishly, and dealt with the company over the heads of the rank and file. As one of the Florida volunteers said, "Unlike the Teamsters, we put the workers into administering every step of the contract."[278] For Mack and the Minute Maid workers, this bottom-up, interracial ownership of the union was based on three aspects of the contract: the hiring hall, steward election, and piece rate procedures. These were not Mack's ideas, but the resolute insistence on them was.

The day of a Minute Maid grove worker began early, when morning was still dark as night, and Florida's humidity laid a heavy dew across everything: cars, grass, trees, work jackets. Work crews traveled by converted buses or piled into pickup trucks, either hired by a crew leader

[276] Quote from Calvin Morris in Mantler, *Power to the Poor*, 226.
[277] "Jerry Kay 1969–1975: Farmworker Union Memories," Farmworker Movement Documentation Project, UCSD Library, https://libraries.ucsd.edu/farmworkermovement/essays/essays/065%20Kay_Jerry.pdf.
[278] "Jerry Kay," UCSD.

who contracted the workers as a self-interested intermediary between the grove owner and farmworker or with a group of their close friends and family.[279] From Mack and the UFW's perspective, the problem with these work crews was twofold: growers could stoke competition among crews, lowering wages for all potential workers, often segregated by race, so grower-imposed wage competition became racialized. In place of crew leaders and self-segregated work crews, the UFW implemented hiring halls.

The hiring hall was both a physical place and a concept embedded in the contract. As physical places, Mack described them as the buildings "out of which the contract is administered. Each hall also serves as a service center to help workers who are members," and workers who were not members but might be soon.[280] As the cornerstone of the contract, they functioned to subvert the role of the crew leader. Rather than hiring and firing crews at the company's discretion, the company was required to send a letter to the union with the precise number of desired workers forty-eight hours before they were needed.[281] The union would then assign workers based solely on its seniority lists. After the harvest, the company would send back a list of all workers, union and nonunion, with their hours and pay. The union supplied all the necessary workers; if the union could not supply the amount needed, only then could the company look elsewhere. As Minute Maid worker Ernest Fleming said, it was "the best part of the Union. It's the best system that could be set up—it's our hiring hall."[282]

Within the Minute Maid fields, violations by grove foremen and supervisors were common, which required union stewards to be constantly on their feet. Foremen would list absent union workers as present and hire nonunion labor under the table, in their place, and

[279] Bardacke, *Trampling Out the Vintage*.
[280] "Mack Lyons to Vivian Davenport, July 1974," box 1, folder 3, UFW Records.
[281] "HP Hood Contract," box 16, folder 23, UFW Records.
[282] "Listen to the Voices of United Farm Workers in Florida," box 3, folder 21, UFW Records.

pocket the difference in wages. This had the unintended effect of breeding solidarity among union members. It meant stewards had to know the names and faces of everyone on their crew, they greeted and checked in with fellow workers, made note of whether they were there in the groves each morning.[283]

Florida's citrus growers and their allies in the state legislature recognized the threat that hiring halls posed. Within a year, the Florida legislature introduced a "right to work" bill, HB74, intended specifically to undermine what a critic in the *Orlando Sentinel* derided as the UFW's "compulsory agricultural union hiring halls."[284] With the UFW in mind, state Representative Lew Earle denounced "union monopolies and other enemies of free choice," including hiring halls and closed shops, as violations of workers' rights.[285] This brand of union busting was common throughout the postwar South and Sunbelt. UFW stewards from Minute Maid testified in Tallahassee against the bill, "Now that I have the Union . . . there's nobody that is going to take my job away from me or discriminate against me."[286] The UFW still pulled enough public sympathy and political sway that the bill was killed in the House subcommittee.

Stewards were employees of Coca-Cola but represented the union in the groves. They were elected from among the work crews, which meant that stewards had to be, at the very least, likable. Stewards brought any problems from the crews—grievances, piece rate negotiations—to Coca-Cola foremen. For months after the contract was initially signed, stewards would take their problems to Mack, expecting him to solve them. Mack turned them away, insistent that if he took care of every problem in the groves the union would fail.[287] The division between stewards,

[283] "Mack Lyons to Harold Brondway, Dec. 26 1974," box 2, folder 26, UFW Records.
[284] "Bill a Prop for Right to Work," *Orlando Sentinel*, February 22, 1973.
[285] "Bill a Prop for Right to Work," *Orlando Sentinel*, February 22, 1973.
[286] Mark Pitt, "Defeating HB74," *El Malcriado*, April 20, 1973, 6.
[287] Barry, "Unions in Florida," 48.

employees, and volunteers was always flexible, by design. UFW volunteers were practically mendicants, living on a meager salary of five dollars per week. A Florida volunteer remembered how Mack and Diana taught them to live on "peanut butter, bread, and apples," sleep in their cars, and "shower" between long drives in rest stop bathrooms.[288] It was common for volunteers to give up and work in the fields temporarily; the pay was better.

Walter Williams, a lifelong farmworker, was a white steward elected by a crew "made up of about one-third Anglo, one-third black, and one-third chicano workers."[289] In an interview with Diana, he admitted that on occasion there was a language barrier but said that "there are certainly no barriers to real communication."[290] The rhetoric invites skepticism. But stewards were answerable by vote to their typically multiracial crews. Black union member Ernest Fleming beamed, "The Union is our Union and we support it. One time some growers made it so that the blacks didn't get along with browns and the browns didn't get along with the whites. Now we work just as one—just like a bouquet of flowers."[291]

Picking oranges was different from working with grapes, sugar, or lettuce. Its biggest draw was that workers did not have to lean, squat, or crouch. Unlike the workers who harvested sugar or celery, they did not carry knives, which meant they had less chance to miss and accidentally tear into their own skin. However, orange harvesters had to carry a ten-foot or taller ladder and a canvas bag to fill with as much as ninety pounds of fruit. Bouncing and swaying at a dozen feet in the air, they would reach into the tree, grab the orange in their one free hand, twist, and yank, dropping the orange into the bag that was slung over their shoulder. It was easy to lose

[288] Jayme Harpring, "My UFW Remembrance 1973–1975 Florida," Farmworker Movement Documentation Project, UCSDiego Library, https://libraries.ucsd.edu/farmworkermovement/50th-anniversary-documentation-project-1962-1993/jayme-harpring/.
[289] Diana Lyons, "Florida Worker Turns Organizer," *El Malcriado*, March 23, 1973, 16.
[290] Lyons, "Florida Worker," 16.
[291] "Listen to the Voices," UFW Records.

balance and fall. A worker that fell from their ladder could break just about anything in their body that could be broken and be out of work for the rest of the season.

But it was not physical hardship that most incensed workers. It was the ways that foremen grifted them out of their full piece rate pay. The workers emptied their canvas bags into boxes, which were then emptied into tubs by mechanical loaders. Per the workers' piece rate pay scale tubs were supposed to hold ten boxes worth of oranges. But foremen insisted that workers pile the tubs with fruit so that they held closer to eleven boxes. Correct tub counts were one of the first things that the union won in 1972 in grove after grove. Piece rates followed a similar principle. Before any worker picked a single orange, the crew steward would reach an agreement with the Coca-Cola foreman on a piece rate. This was intended to reflect the reality that some groves are harder to pick and have fewer fruit than others. Until a rate was agreed on, workers would remain stationary in the grove.[292]

Diana Lyons was white and educated. She had a bachelor's degree in political science from California State University, Stanislaus, but she was not a "twinkylander," as UFW executive board member Eliseo Medina called the typical white, college-educated, upper-middle-class UFW volunteer with no experience in farm work.[293] Before earning her degree, she had spent years working dairy farms and joined the union early, in 1966. In her first appearance in *El Malcriado*, she identified herself only as "a farm worker."[294] When she moved to Florida with Mack, she became the state's boycott director and inherited a pile of responsibilities when Eliseo

[292] Lisa Power, "Farm Laborers Plan Rally Against Policies," *Tampa Tribune*, June 6, 1988, box 3, folder 18, UFW Records.
[293] Miriam Pawel, *The Union of Their Dreams: Power, Hope, and Struggle in Cesar Chavez's Farm Worker Movement* (New York: Bloomsbury, 2009), 207.
[294] Diana Lyons, "Some Untitled Thoughts on the United Farm Workers," *El Malcriado*, November 30, 1973, 16.

Medina and much of the boycott staff left Miami for California.[295] In 1973, from her desk in the Avon Park headquarters, she penned a poem,

> We've lived our lives as rented slaves
> worked us into early graves
> but that's over now.
> We've built a Union of our own . . .
> built it with our blood and bone.[296]

Under Mack and Diana, the Florida Division embedded itself into the local communities, in counties whose entire economies depended on citrus. After Medina's departure, the UFW opened its main Florida headquarters in an old funeral parlor in the Southside of Avon Park, a predominantly black neighborhood in Highlands County, one block from the railroad tracks, one block from the town's historic Mt. Olive AME Church, and one block from a sinkhole-formed lake typical of the area. In addition to running the state's boycott operations, Diana translated between English and Spanish for workers during meetings, phoned state representatives, helped write legislation, worked to get donations from local churches, and fought for a health clinic to be opened near the headquarters. In 1973 and '74, while she was juggling all these tasks, she was also watching her and Mack's young son, Rick Lyons, and attempting to get a UFW day care opened—for herself as much as for the workers.

[295] According to Pawel, the Florida boycott office was shuttered. Instead, the duties fell to Diana Lyons in her Central Florida office.
[296] Lyons, "Untitled Thoughts," 16.

The old funeral parlor was the hiring hall and service center for the area. There workers could get help with translating documents, food stamp and welfare applications, and writing petitions to the city council.[297] According to Avon Park volunteer Dorothy Johnson, the services they provided were admittedly "the type of work you would expect some government agencies to perform," except that there were no such agencies, much less ones that did the work with "respect and dignity" for their clients.[298] The centers helped with workers' compensation, wrote letters for the illiterate, reported a family's income tax, and even tangled themselves up in some divorce cases. UFW lawyers went over housing leases, pointing out inconsistencies and dates and ensured that leases were compliant with Florida landlord-tenant law.[299]

Diana organized meetings in local Protestant churches across the citrus belt, attended by the congregation and interested public. She would sometimes become so impassioned that her remarks ran over her allotted time. She apologized to the pastor of Titusville's First Presbyterian Church for having "taken so much time," but explained that it was only because of "the urgency we feel for community participation."[300] Many churches responded positively and the themes bled into their liturgies; Westminster Presbyterian in Gainesville gave a sermon dedicated to the efforts of "America's minorities to achieve freedom and dignity," with a focus on farmworkers, comparing their struggle to the exodus of Israelites, an analogy familiar from the Civil Rights Movement.[301]

One of the services Diana organized during her first years in the area was a farmworkers' summer camp for children with "simulations of strike and boycott activities, along with

[297] Dorothy Johnson to Nancy Thomas, August 29, 1972, box 1, folder 1, UFW Records.
[298] Johnson to Thomas, UFW Records.
[299] "Violations and Arbitrations," box 2, folder 29, UFW Records.
[300] Diana Lyons to Dale Heaton, December 4, 1974, box 1, folder 8, UFW Records.
[301] Samuel B. Trickey to Cesar Chavez, January 13, 1973, box 1, folder 8, UFW Records.

swimming, arts and crafts and games." After normal summer camp activities, the children and their parents picketed the neighborhood Winn–Dixie supermarket in support of the California produce boycotts, and then marched to city hall to demand streetlights and markers, fire hydrants, and traffic lights for the Southside of town. The children chanted in front of city hall, "I am Somebody! I may be poor and Black, but I am Somebody!"[302] In Avon Park, which had a population that barely cracked five thousand and a downtown that encompassed a few small blocks, a gathering of even a dozen people would have been noticeable. A gathering of more than a hundred, especially if they were black, would have been an event. The Avon Park City Council agreed to increase streetlights and safety markers. Mack Lyons was quoted in *El Malcriado*, "Maybe the Council members realize that once we get a taste of freedom, nobody can get away with treating us like slaves again."[303]

Diana stood in the August sun, washing her and Rick's clothing. Maria Barajas, wife of UFW steward Hilario Barajas, was nearby, preparing food. For more than a week they had lived and slept and worked out of their cars, which was normal for farmworkers.[304] But they were not camped out in front of a grove. They were camped in front of Minute Maid's headquarters in Auburndale, Florida. Two weeks earlier, Mack camped out on the lawn, fasting, consuming nothing but water. In response, Coca-Cola built a fence around the building. While Diana and Maria sat on top of their cars, they watched their children play in the grass and watched Coca-Cola workers come and go through the new gate. Another member, Joanne Francis joined Diana and Maria and celebrated her daughter's second birthday in front of the Auburndale office. She said, "a union contract is the only way we can provide for our children's future."[305]

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[302] "Farm Worker Children March in Florida," *El Malcriado*, September 4, 1974, 7.
[303] "Residents Win in Florida, "*El Malcriado*, October 18, 1974, 2.
[304] "News Release, 8/2/1975," box 16, folder 24, UFW Records.
[305] "News Release," UFW Records.

They were there because the three-year contract with Coca-Cola had expired on January 3, 1975, and, as expected, the company was less than eager to renew it. After eight months of negotiations, about which Diana said, "I use the term loosely," Coca-Cola and the UFW have been unable to agree on piece rate policy, hiring hall violations, discrimination against union members, and union volunteers' ability to enter the groves.[306] But the contract could be lost as quickly as it was gained. Mack and Diana were unable to use many of the UFW's most effective tactics. They couldn't strike. Mack predicted that doing as much would wipe out the union, as unionized workers would simply be replaced. The Florida office did not have the funds necessary to sustain a strike and the national office would not spare their resources on it. Threats of a Coca-Cola boycott were no longer taken seriously, for good reason: the threat was made nearly every month over the entire period of negotiations, but never materialized.

Instead, Mack and Diana organized small-scale demonstrations, fasts, and sit-ins; and aired public accusations of racism in the groves. Mack invoked the language of Coca-Cola's most famous advertisement against the company, finding that instead of "teaching the world to sing in perfect harmony," they were "prompting discord in the fields."[307] Mack broadcasted his message in the language of racial solidarity, in contrast to what he deemed as the company's "paternalism," "master-slave relationship," and "massive discrimination in the fields against black and brown people."[308] While Diana camped in front the company's Auburndale office, Mack drove to Atlanta in late August and sat in Coca-Cola's corporate offices, and demanded a meeting with J. Paul Austin, which never came.

[306] Diana Lyons to John C. Barnette, June 28, 1975, box 2, folder 15, UFW Records and "Diana Lyons to UAWW Orlando," box 2, folder 15, UFW Records.
[307] Jane Daugherty, "Labor Leaders Fast Continues," *Tampa Times*, July 6, 1975.
[308] Daugherty, "Labor Leaders."

In California, the UFW had its hands full with three boycotts, strikes, and a legislative campaign. A *Tampa Times* writer interviewing Mack noted that "no direct confrontation" had happened yet with Florida growers, because the "union's manpower and money are being poured" into its California boycott campaigns. Mack accepted the situation and responded with a smile, "Once we get *those* over with, we'll have some economic pressure to apply."[309] Reluctantly wary of mounting negative press, much of it from Mack, the company gave in, renewing the contract in November. But the union had been weakened. The limits of its large-scale organizational capacity were exposed and the fact that boycott and strike threats were empty now apparent.

The negotiations were Mack and Diana's last major success in Florida. In 1976, Diana traveled to Tallahassee to lobby for a sweeping agricultural labor rights bill in the Florida legislature, HB 3095, modeled on legislation that the UFW had seen passed in California a year earlier. Despite Diana's efforts and some support among liberal representatives, the bill did not even make it out of the House Agriculture Committee. It was struck down in front of a room Diana helped pack with sympathetic farm workers.[310] A Florida UFW volunteer argued that the failure meant the UFW in Florida now seemed "sparse and largely ineffective."[311] When the union arrived in 1972, Mack predicted boldly that the entire citrus industry would be organized under UFW contracts by the end of the decade.[312] Instead, the union and its vision shrunk. No other citrus companies were unionized. And in 1976, Mack and Diana were called back to Sacramento to lobby for legislation to fund California's agricultural labor bill.[313] 1976 was the

[309] Daugherty, "Labor Leaders."
[310] "Farm legislation dies, backer vows to fight," *Tallahassee Democrat*, May 19, 1976.
[311] "Chris Byrne to Mack Lyons, Nov. 18, 1976," box 8, folder 5, UFW Records.
[312] "Chavez," *Tampa Bay Times*, April 26, 1974.
[313] "Chris Byrne to Mack Lyons, Nov. 18, 1976," box 8, folder 5, UFW Records.

last time the Florida office received sustained attention in *El Malcriado*. The union had not disappeared. It survived for a two more decades, organized on the lines drawn by Mack and Diana, and only lost membership very slowly. But, confined to a single company, and without attention or backing from California, it was a labor union without a social movement. Success seemed to be an unreachably tall order, requiring conflicting commitments: the vision and resources of a national social movement, the rank-and-file commitment of workers ensuring economic justice on a daily basis, and a rootedness in local communities served by the union. Looking back on it twenty years after, volunteer Jerry Kay reminisced, "There, in and around Apopka, Florida, I saw not only what the [United Farm Workers] did to help the workers, but also what it could have become."[314]

[314] "Jerry Kay," UCSD.

CHAPTER 4

PLANTED IN THE PURPLE EARTH

Ody Rodriguez was born in 1917 in Campinas, the great "second city" of São Paulo State and the gateway to its fertile interior. He was born into a professional family: his father, an immigrant from Spain, opened the city's first telephone installation company in the late 19th century.[315] He pursued a sensible and upwardly mobile path of agronomy, receiving undergraduate and graduate degrees at the Luiz de Queiroz College of Agriculture (Esalq) of the University of São Paulo, the state's prestigious agricultural school in the interior city of Piracicaba. Interior São Paulo's sprawling and productive agriculture was, at the time of his birth, principally based around the production of coffee for export. By the time of his graduation, however, coffee prices had been wiped out by the Great Depression and coffee crops in the state – despite efforts by the state to intervene and prop-up prices – had become nearly a money-losing proposition. He focused his efforts not on revitalizing coffee, but instead, on oranges. Rodriguez would devote the rest of his life to citrus and the citrus industry, taking a job in the 1950s at the Instituto Agronômico de Campinas (IAC), the state-funded agricultural research center established by Dom Pedro II in 1887. The obituary published by his alma mater noted that "the only thing able to compete [for his attention] with his family was the orange."[316]

In the 1950s, when he took his position at the IAC, the citrus industry in São Paulo was in a bad state. Narratives of Brazil's citrus industry – especially those given in publications of the

[315] Estêvão Bertoni, "Ody Rodriguez (1917-2012) - Agrônomo referência em laranja," clipping from *Brasil Online/UOL* (April 8, 2012), provided by Esalq.
[316] Bertoni, "Ody Rodriguez."

Florida citrus industry – often give the impression that it began in the 1960s, as a result of a strategic or opportunistic attempt to fill a void in U. S. and international demand that resulted from Florida's crop losses in the 1962 freeze. There is some truth to this narrative. But Brazil did have a citrus industry before then.

The industry before and after the 1950s can be divided by a sharp line: *tristeza*. Tristeza was a highly contagious aphid-transmitted virus, which affected any trees on sour orange rootstocks. And nearly all of the state's trees were on sour orange rootstocks. After infection, the tree's branches would begin to die, moving first to the tip, then the stem. The leaves suffer chlorosis, an insufficient production of chlorophyll, turning them a pale yellow-green, or sometimes a ghostly white. Sylvio Moreira, an agronomist at the IAC, gave the disease its name – "sadness" – in 1942, after it was discovered in São Paulo.[317] By the middle of the 1950s, it had torn through the state's groves, killing ten million trees, "reducing them to firewood."[318] Ody Rodriguez arrived just in time to see the industry at its nadir.

Before tristeza, citrus had been grown commercially in São Paulo for decades. In the 1910s and 1920s, when overproduction of coffee threatened prices, it offered landowners and coffee growers a means of diversifying their crops: if coffee was down, at least there were the oranges.[319] For others, it was, simply, an alternative to coffee or livestock. During this period, citrus was typically planted on lands too sandy and nutrient poor to be used for coffee, in a geological depression in the larger plateau that makes up the interior of the state. When geographer Pierre Monbeig ventured out into the interior in the 1930s, studying what he took to be an agricultural frontier still in the making, he noted the high, rolling hills, with their deep red

[317] Ary A. Salibe, "The Tristeza Disease," *Proceedings of the First International Citrus Short Course* (Gainesville: IFAS, 1974).
[318] Ody Rodriguez, ed. *Citricultura brasileira*, 1st ed. (Campinas: Fundação Cargill), 12.
[319] Geraldo Hasse, *The Orange: A Brazilian Adventure, 1500-1987* (Ribeirão Preto: Duprat & Iobe, 1987), 49.

soils, covered by waves of coffee plants.[320] It would be between those hills that citrus would be found. The alternative – in terms of the land to be used – was often not between coffee and citrus, but between pastures, or unused land, and citrus.

The epicenter of the early industry in São Paulo was Limeira. Limeira was connected by rail to Piracicaba and Campinas and though it was surrounded by fertile coffee-bearing hills, it was in a sandy depression. The first growers to attempt citrus farming at a large scale were either themselves wealthy coffee growers or were the well-connected relatives of prominent agricultural families. Mário de Souza Queiroz, for example, was the son of wealthy planters and cousin of the Queiroz whose name adorns the state's agricultural college.[321] He purchased a 1,300 acre estate in 1911, whose "front gate was less than a mile from the center of Limeira," all land too poor to be used for coffee cultivation, but, he hoped, good enough for citrus.[322] It was, and others followed his example. At the time, the available market was not even national, but regional: just cities that could be reached by rail before the oranges rotted. The city of São Paulo was the harvest's principal destination, but growers shipped where they could, including to other southeastern cities, and to neighboring Argentina and Uruguay. Growers were eager, though, to expand their exports to European markets, because the harvest season for citrus in Brazil was at its peak during the months that citrus in Spain, the traditional producer for European oranges, was out of season. Mário de Souza Queiroz was instrumental here too, and though his exported fruit gained a reputation for their poor quality, it barely stemmed the tide.[323]

[320] Quoted in Cássio Arruda Boechat, "O colono que virou suco: terra, trabalho, estado e capital na modernização da citricultura paulista," (PhD Dissertation, USP, 2014), 60.
[321] Hasse, *The Orange*, 53.
[322] Hasse, *The Orange*, 53.
[323] Boechat, "O colono que virou suco," 280.

The successes of individual Limeira growers were translated into a victory for growers as a class when, in 1928, the state's Secretary of Agriculture requested that a dedicated citrus research institute be founded in Limeira.[324] The Limeira Experiment Station (EEL) would be a subordinate campus of the IAC and would be responsible for experiments on higher-yield varieties, on rootstocks most suitable for the state's soil, and on exhibitions and promotion of the industry. The "golden years" of the 1930s brought more investment into groves, from previously cautious planters and wildly optimistic speculators. Growers expanded out from Limeira, even onto lands previously reserved for coffee plants. With a reliable market, a dedicated research center, and a few decades of know-how under their belt, the industry seemed to promise success. Its boosters balked at the idea that speculation and overproduction could even be a problem.[325] They were right, at least for the moment. But it was then that tristeza was first detected.[326]

Institutionally, tristeza had two lasting effects: it decentered Limeira as a producer of oranges and it demonstrated the importance of EEL's agricultural research, which developed methods of detecting the disease before trees were symptomatic, and discovered rootstocks that were both suitable for São Paulo's soils and resistant to the virus. The industry as it emerged from tristeza was culled, but hardened: the growers that remained were convinced of and devoted to the value of rationalized farming methods, of remaining up to date with latest research at the EEL, and after the close collaboration between growers and agronomists in addressing tristeza, were unlikely to see a very hard line between their private interests and the public resources that

[324] Sylvio Moreira, "História da citricultura no Brasil," in Ody Rodriguez, ed. *Citricultura brasileira*, 1st ed. (Campinas: Fundação Cargill).
[325] Navarro de Andrade, quoted in Hasse, *The Orange*, 89.
[326] Tristeza was the greater problem, but after the golden 1930s, export-oriented growers also faced a nearly total shutdown in European demand during the Second World War. Boosters castigated "traditionalist" growers unable to adapt and cultivate a larger domestic market – the immediate problem was that the types of oranges produced for export were different than those preferred in European markets. For reasons that mystified Brazilian growers (and consumers), the European preference was for smaller, less sweet varieties.

could be offered, and wielded, by the state government. After its rebirth in the late 1950s, the industry – and its public boosters – would press for agricultural modernization in any form they could find it: rationalizing growing techniques (standardizing spacing between trees, hedging, fertilizers, or experimenting with new fruit varieties), embracing frozen concentrate processing plants, attempting to foster grower cooperatives, reducing costs wherever feasible, and finding public means of disposing of their crop surpluses without hurting their profits. In other words, they attempted to create the same smoothly functioning juice producing machine as proselytized by Frank Bouis and the Florida Citrus Mutual. Measured in gallons of orange juice concentrate, at least, they succeeded. But it was rarely as smoothly functioning as its proponents hoped. Increases in productivity resulted, in the 1960s, in bouts of overproduction. The adoption of new rootstocks or the opening of new areas of the state to citrus planting would be followed by the discovery of new pests and diseases that preyed upon those factors. Federal laws passed to benefit agriculture in one crop would have unexpected negative repercussions in others, with citrus sometimes the beneficiary and sometimes the loser. The tremendous enthusiasm for FCOJ drew in wildly over-optimistic and over-leveraged investors, domestic and international, who built processing plants that would end in spectacular financial ruin. And all of this machinery was built on top of a growing number of "free labor" farmworkers, whose exploitation provided a key cost-saving measure that allowed São Paulo's citrus industry to grow so rapidly.

This chapter examines the moments that the smoothly functioning machine back-fired or seized-up, the results of conflicts between its many parts. This view of the industry belies the presentation of Brazilian citrus in Florida's citrus trade publications, which often imagined it as an inevitable and terrible force: a combination of highly capitalized juice processors working hand-in-hand with an interventionist state committed to agricultural modernization, all built on

land and labor prices that Florida's growers could not compete with. It also provides an interesting contrast to another São Paulo crop, sugar, that has been the subject of two recent books: Jennifer Eaglin's *Sweet Fuel* and Thomas D. Rogers's *Agricultural Energy*. Compared first to coffee, and then to sugar (which was often planted on the prime agricultural lands that had been used or reserved for coffee), citrus has been decidedly second-fiddle in the state's priorities. Though FCOJ was part of a broader model of conservative modernization and benefited from federal programs offering cheap credit for fertilizers, a minimum export price policy, state-funded agricultural research, and a lax enforcement in the later 1960s and 1970s of the federal laws covering rural workers, it was not at the center of the military dictatorship's promise of agricultural modernization in the way that sugar was. São Paulo's sugar industry was the beneficiary of the Proálcool program that promised to replace petroleum fuels with sugar-based ethanol for the country and spurred enormous investment.[327] While Rogers stresses the role of the state's developmental ambitions to link the modernization of agriculture to a broader model of sustained economic growth, Eaglin stresses the role of a private agricultural elite who were able to translate their economic power into political influence.[328] Both portray how thin the line between public and private often was, especially in sugar. There was no equivalent to Proálcool for citrus. Instead, there was a faltering and often conflictual relationship between large growers, small growers, processors, and the state; often it did align for the growers' benefit, but it also sometimes threatened to undermine them.[329]

[327] Thomas Rogers, *Agriculture's Energy: The Trouble with Ethanol in Brazil's Green Revolution* (Chapel Hill: University of North Carolina Press, 2022) and Jennifer Eaglin, *Sweet Fuel: A Political and Environmental History of Brazilian Ethanol* (New York: Oxford University Press, 2022).
[328] This contrast is the argument of Christian Brannstorm's comparison between the two books in his review in *Journal of Latin American Geography*, v. 23, no. 1 (May 2024): 203-206.
[329] The state here means both the state government of São Paulo and the government of Brazil; the distinctions will be detailed throughout.

The trauma of tristeza was deep, especially in Limeira. Agronomist Sylvio Moreira noted that for years after, "psychological and material obstacles" stood in the way of the industry's rebirth.[330] Other than the damage done to groves, it had damaged the standing of a foundational figure in the region's citrus industry: Edmundo Navarro de Andrade, who was the public face of the industry, regarded and revered as, very nearly, its father.[331] Born in São Paulo but trained as an agronomist in Coimbra, Portugal, Navarro de Andrade, was professionally interested in reforestation and, in particular, in eucalyptus trees.[332] But his research into eucalyptus brought him to Southern California, where he was exposed to, and impressed by, its booming citrus industry.[333] In 1928, he began writing a series of articles in the state's leading newspaper, *Estado de São Paulo*. *Estado* was, fundamentally, a conservative paper, founded by and representative of the state's coffee-oriented elite.[334] Titled simply "Citricultura," Navarro de Andrade's articles propounded the gospel of California's industry, and pointed to it as not only a profitable investment for São Paulo's farmers, but as an ennobling one. Citrus farming was not the sort of thing, he insisted, that could be done by a careless or absentee landlord looking for a quick investment; rather, it required and rewarded careful, caring attention and scientific scrutiny: the grower as gentleman agronomist. He singled out for praise the virtues of one citrus rootstock in particular: sour orange.[335] Sour orange was the most common rootstock planted in California and was also the rootstock favored in the traditional, more northern regions of Florida's citrus industry (prior to the industry's southward move down the Ridge). Sour orange rootstock spread

[330] Hasse, *The Orange*, 138.
[331] Boechat, "O colono que virou suco," 16.
[332] Tiago Saraiva, "Anthropophagy and Sadness: Cloning Citrus in São Paulo in the Plantationocene era," *History and Technology*, Vol. 34, No. 1, 94.
[333] Saraiva, "Anthrophagy and Sadness," 94.
[334] For a background on the social composition of *Estado*'s founders, Ian Merkel, *Terms of Exchange: Brazilian Intellectuals and the French Social Sciences* (Chicago: University of Chicago Press, 2022), 20.
[335] Moreira, "História da citricultura no Brasil."

throughout the state's peripheral depression, making up the vast majority of groves in and around Limeira. Before tristeza, more than eighty percent of all citrus in São Paulo was grown on sour orange stock; it was a physical emblem of Navarro de Andrade's influence.[336] That growers state-wide so consistently and overwhelmingly adopted this single rootstock was largely responsible for the devastation of *tristeza*.

Navarro de Andrade established the role that the state's newspapers would play for its citrus industry thereafter. Not only *Estado*, but its main rival, *Folha de São Paulo*, would cover – and vocally support – the industry. Although *Folha* largely covered its business side, *Estado*, in its regular "Agricultural Supplement," printed the cutting edge of research conducted at the EEL. In 1957, shortly after accepting his job with the IAC, Ody Rodriguez began regularly publishing articles in *Estado*. One of his first was on rootstocks. In it, he warned against sour orange, noting its peculiar susceptibility to tristeza.[337] One of his suggested alternatives was *limão cravo*, or rangpur lime, a hybrid of the citron and the mandarin orange. EEL as a whole made the propagation of rangpur lime one of its main efforts, spreading the good news to growers; by the late 1960s, it was the primary rootstock on which the state's oranges were grown.[338] But it was not a cure-all. The drawbacks of rangpur lime were known by IAC agronomists as early as the 1940s: after a few years of growth, it tended to decline, that it was relatively less productive than

[336] On rootstocks, Luiz Octávio Ramos Filho, "O papel da pesquisa científica e tecnológica no desenvolvimento da citricultura paulista: análise histórica da atuação do Instituto Agronômico de Campinas (1920-1960) (PhD Dissertation, Unicamp, 1999), 58.
[337] Ody Rodriguez, "Cavalos para citrus," *Estado de São Paulo* (March 13, 1957), 19.
[338] Ramos Filho, "O papel da pesquisa científica," 30. It is an interesting coincidence – and it is a coincidence – that both São Paulo and Florida moved away from the sour orange rootstock along roughly the same timeline, the former to rangpur lime and the latter to rough lemon. They did so for very different reasons: rough lemon for its ability to survive in deep, sandy soils and rangpur lime for its resistance to tristeza. The spread of tristeza in São Paulo was closely watched by botanists at IFAS in Florida during the 1950s – it eventually appeared in the state in 1952. But because it only affected trees in areas already declining in economic importance, it did not have the same devastating impact as in São Paulo.

other rootstocks, and it resulted in smaller fruit.[339] These were ultimately deemed minor considerations thanks to its resistance to tristeza, although this hasty decision would come to have its own consequences.

The change in rootstock accompanied another significant shift, from the industry's traditional base in Limeira it moved further into the interior, further north and west by about 150 miles. The new focal point of the industry would be Bebedouro, and other cities in the same immediate geographic region, especially Araraquara, Matão, and Jaboticabal. It was here that the "modern" industry of the 1960s, grown on rangpur lime and processed into frozen concentrate, would take shape. At first, the appeal was twofold: one, it was simply distant from the epicenter of tristeza and two, it was on better, more fertile land.[340] Geographer Ligia Celoria Poltroniéri, doing her graduate work at the University of São Paulo while this transformation was taking place, described the movement of the industry with metaphorical imagery of energy and flows: turbulence in the peripheral depression, diffusion outward, and an energy infusion into traditionally coffee regions further north.[341] These "naturalized" descriptions were subjected to unsparing criticism by a later doctoral student in the same department, Cássio Arruda Boechat, for mystifying the social relationships that made this movement possible.[342] But it was not only Poltronieri who was mystified by the rapidity of the growth. From a low point of 93,300 trees in Bebedouro in 1950, there were by 1959 more than three million planted trees.[343] In that same

[339] Leon Dexter Batchelor and Herbert John Webber, eds. *The Citrus Industry, vol. 2: The Production of the Crop* (Berkeley and Los Angeles, 1948), 121.
[340] Lígia Celoria Poltronieri, "Difusão espacial da citricultura no Estado de São Paulo," Tese, Universidade de São Paulo, 1975).
[341] Poltronieri, "Difusão espacial."
[342] Boechat, "O colono que virou suco," 71.
[343] "Assume grande importância econômica a produção citrícola em Bebedouro," *Folha de São Paulo*, June 26, 1960, 6 and Fátima Rotundo da Silveira, "Poeira e sumo nos olhos dos que produzem: um estudo sobre o trabalhador rural, residente urbano e suas condições de vida no município de Bebedouro," Dissertação, USP, 1982 46.

period, less than a decade the number of boxes of oranges produced increased by more than thirty-five times.[344] The growth astonished even the industry's boosters in *Folha* and *Estado*. And this all took place before a single FCOJ processing plant had been built.

Unlike most "flows," this one went *uphill*. Bebedouro was not in a depression, but on the Western plateau proper. It grew up during the early parts of the century as a small coffee hub, its population stagnant between 1920 and 1950 and three-quarters of its cultivated farmland devoted to large coffee plantations.[345] With coffee planting came rail lines that connected it to neighboring cities and, ultimately, to the state's main port of Santos.[346] Its coffee was planted in rich "*terra roxa*" soils. Poet Elizabeth Bishop, writing from Brazil in 1961, said of *terra roxa* that "according to the Paulistas, God created [it] especially for the raising of coffee."[347] It translates literally to "purple earth," though that is really a misnomer.[348] It is a rich, dark red, similar in appearance to the red soil of the United States' southeastern Piedmont. Initially nutrient-rich, decades of coffee production had leached the soils across the Western plateau.[349] Orange trees, however, are not as picky as coffee plants, and as long as the soil remained well-drained, they could be grown on lands that would be "second best" or that had been previously planted with coffee.

While in Limeira, citrus plantings were largely confined to land unsuited for coffee, in Bebedouro, they began, in places, to replace coffee.[350] This meant that the astoundingly complex

[344] "Assume grande importância," *Folha de São Paulo*, June 26, 1960, 6.
[345] Silveira, "Poeira e sumo," 42. This is, there was a large growth between 1900 and 1920 – from a population of a few thousand to more than 20,000 – that was followed by a longer period of "stagnation" between 1920 and 1950.
[346] Silveira, "Poeira e sumo," 40.
[347] Elizabeth Bishop, *Brazil* (New York: Time Incorporated, 1962), 72.
[348] The problem over whether to translate it as "red earth" or "purple earth" extends into the English-language historiography of São Paulo. On team red, there is Roberto Saba and Jennifer Eaglin; on team purple, Warren Dean and Cliff Welch. I will defer to the poet, Elizabeth Bishop, who rendered it purple earth.
[349] Eaglin, *Sweet Fuel*, 38.
[350] Silveira, "Poeira e sumo," 47.

land tenure and labor relationships that characterized coffee production in São Paulo were replaced by the stark and familiar labor relationship that would characterize the modern citrus industry.[351] In coffee, one such arrangement was the traditional and semi-permanent "colono" family, which lived as tenants on the land and in place of wages received a portion of the crop yield or a share of the final profits, while keeping some land allotted for their own subsistence agriculture. Another was more simple annual rental arrangements with a cash rent for the farmland, or, alternatively, rental arrangements with rents paid by crops grown. These non-proprietor family farmers would often then supplement their income with occasional waged farm labor elsewhere in the region.[352] São Paulo's coffee-based labor systems – which, in the second half of the 19th century, were presented as the modern and properly capitalist alternative to the slavery-reliant coffee farming of the Paraíba Valley between Rio de Janeiro and São Paulo – have been the subject of some of the most contentious debates in the entire historiography of Brazil.[353] The correct characterization of these labor systems are taken to be a key in answering a slew of questions: on the "transition to capitalism," on the end of slavery and its gradual replacement by wage labor, on the relative "modernity" of São Paulo vis-a-vis the rest of country, as well as questions of gender roles in family farming, immigration and "assimilation." In an overly-simplified form, these debates hinge on whether these labor systems were forms of disguised wage labor (and so, properly capitalist, modern, and growth-encouraging) or whether they were a renewed form of peasant agriculture (and so, potentially, backwards, colonial, and

[351] Silveira, "Poeira e sumo," 50-51.
[352] Boechat, "O colono que virou suco," 252.
[353] Significantly, too, was that many of the workers were immigrants. See Viotti da Costa, "Masters and Slaves: From Slave Labor to Free Labor," in *The Brazilian Empire: Myths and Histories* (Chicago: University of Chicago Press, 1985). See Roberto Saba for the development of immigrant policies. Overviews of the debates can be found in Mauricio Font, *Coffee, Contention, And Change in the Making Of Modern Brazil* (Oxford: Basil Blackwell, 1990), 282-295 and Cássio Arruda Boechat, "The agrarian question in São Paulo, Brazil: the debate over the end of the colonato and the appearance of the boia-fria in agriculture," *Geousp – Espaço e Tempo*, v. 24, n. 2 (Ago. 2020), 203-225.

growth-retarding).[354] Cássio Arruda Boechat's conclusion, that the binary is a false one, seems clear enough, and his own research on the citrus industry demonstrates how, with coffee's gradual decline from its predominant place in the state's agriculture, these hierarchies of land tenure and labor arrangements were flattened into more recognizable forms of capitalist agriculture.[355] In a sense, the citrus industry itself "solved" the questions in practice, by polarizing the rural population into landowning proprietors and wage-earning farmworkers.

This transition was visible in the 1950s but it accelerated over the following two decades. The first form it took was a "rural exodus" as those living on coffee plantations moved into the nearby cities when the coffee plantations were either shuttered or replaced, by citrus or by sugar. The rural exodus was noted by two other graduate students in USP's Geography Department, Silvio Carlos Bray and Fatima Rotundo da Silveira, both of whom were researching the transformation of the landscape and labor relations that followed Bebedouro's meteoric rise. They offered several reasons for the exodus. Bray focuses on the fact that citrus requires less labor to maintain a grove. It could be accomplished entirely by daily grove caretakers during the off-season and by hired hands during the long harvesting season.[356] Despite Navarro de Andrade's message of citrus demanding a gentleman-agronomist, involved in closely caretaking his crop, in practice citrus enabled a movement away from the rural areas where it was planted

[354] Boechat, "The Agrarian Question in São Paulo."
[355] Why coffee entered this long period of "decadence" and low profitability is, of course, complicated, involving declining international prices, efforts by the state and federal government to prop up those prices, declining soil fertility, and more. To some extent, the numbers speak for themselves. In Silveira, "Poeira e sumo," 47, the author notes that between 1950 and 1980 the area devoted to coffee farming in bebedouro had declined to 2.19% of cultivated land, compared to the 64.1% of citrus. A broad view of coffee's history can be found in Carlos José Caetano Bacha, "The Agricultural Sector," in *The Oxford Handbook of the Brazilian Economy*, eds. Amann, Edmund, et. al. (New York: Oxford University Press, 2008). A more detailed account in Verena Stolcke, *Coffee Planters Workers and Wives: Class Conflict and Gender Relations on Sao Paulo Coffee Plantations* (Basingstoke: Macmillan Press, 1988), 77-93.
[356]Silvio Carlos Bray, "A utilização da terra em Bebedouro e o papel atual da cultura da laranja," (Thesis, University of São Paulo, 1974).

and into the cities. Many of the workers who harvested citrus began living in the city itself, or on the outskirts of the city. The "rationalization" of citrus production, Silveira found, also created a new "articulation between agriculture and industry" in the city, providing opportunities for the production of farm equipment and, with the appearance of juice concentrate plants in the region in the 1960s, work in those plants.[357] Mechanization (mostly, "tractorization") of farming in the 1950s and '60s itself contributed to the growing exodus of workers. And just as rail accompanied coffee farming in the early part of the century, the construction of highways accompanied the growth of citrus, with roads connecting Bebedouro to neighboring cities, to regional hubs, and ultimately to the port of Santos. There was more than one dubbed "the orange highway," their miles of newly paved concrete cutting between groves planted right to the road's edge.[358]

Bebedouro's growers were at the forefront of rationalized production. They demanded and invested in "better and larger" packing house facilities in the port of Santos, with modern refrigeration, loading machinery, and expanded capacity.[359] They prided themselves on the speed by which their oranges could move from the tree to the port; in 1960, the thirty-six hour rail journey of a Bebedouro orange to the storage facilities in Santos was glowingly reported on in the newspaper *Folha de São Paulo*.[360] When the state's Secretary of Agriculture visited the city in February of 1960, the growers he met had one thing on their mind: how to best industrialize their production.[361]

[357] Silveira, "Poeira e sumo," 48.
[358] The practice of planting right to the edge of the road would decrease in later decades, to prevent the spread of diseases. Driving through São Paulo's citrus belt today, what is remarkable is how invisible many of the groves are from the ground – you can drive for miles without seeing one from the road. It's a contrast to Florida, where groves are still regularly planted along the roadside.
[359] Luiz Carlos Donadio, *História da citricultura de Bebedouro* (Jaboticabal: Maria de Lourdes Brandel - ME), 46.
[360] "Na safra de 1960: Laranja de Bebedouro a Santos em 36 horas," *Folha de São Paulo*, March 24, 1960, 12.
[361] "Industrialização da laranja," *Estado de São Paulo* (Feb. 19, 1960), 12.

As in Florida, this rationalization could have irrational consequences. Between 1959 and 1962, the groves were so productive that they threw the industry, statewide, into a situation of dangerous overproduction, threatening the growers' returns for their exports. In 1959, the landscape around Bebedouro was marked by vast "orange cemeteries," where growers dumped excess supply onto the ground, leaving massive piles of oranges to rot.[362] In 1962, for a harvest of 24 million boxes of oranges, growers expected to be able to profitably export only 4 million.[363] The growth in productivity capacity outstripped the ability of the growers to cultivate an equally expansive market in the European countries that received their exports.

The solution seemed obvious. Those oranges should be made into frozen concentrate. As early as 1955, commentators noted that it was "difficult to understand Brazil's enormous delay" in moving toward the production of concentrated juice.[364] Writing in 1960, Ody Rodriguez agreed with the worries of even the "most optimistic citrus growers" that the industry's rapid growth and consequence "surplus of fruit" was a problem in need of a solution, and he too suggested "the industrialization of juice" production.[365] When São Paulo's Secretary of Agriculture made an eight day trip to the United States, he did so with an eye toward learning to how set citrus farming on a "rational basis." He returned to Brazil with the message that producing juice concentrate would be the means to accomplish it.[366] But realizing the value was one thing; amassing the capital and technical know-how necessary to actually build the processing plants was another.

[362] "Cemitérios de laranja," *Folha de São Paulo* (June 30, 1960), 14.
[363] "Venda direta de laranjas ao público," *Folha de São Paulo* (April 16, 1962), 4.
[364] Armando Martins Clemente, "Suco das frutas," *Estado de São Paulo* (Sept. 14, 1955), 15.
[365] Ody Rodriguez, "Pela citricultura comercial paulista," *Estado de São Paulo* (Nov. 9, 1960), 15.
[366] "A tecnologia na agricultura," *Estado de São Paulo* (Nov. 12, 1960), 3.

It would take an external shock to provide the impetus – and the capital – to build the plants. The 1962 freeze in Florida demonstrated the vulnerability of its citrus crops to an uncontrollable nature. For Brazilian growers, it meant there might be market opportunities when Florida's industry is not able to provide enough FCOJ to meet demand. For Florida's growers and processors, it suggested that having a supply – either owning groves, or owning processing plants directly – outside of the reaches of Florida's rare but devastating frosts might be a valuable investment. Within a year, the first large processing plant was built in São Paulo State, in Araraquara, a booming hub of citrus production only seventy miles from Bebedouro. The plant, Suconasa, was funded in part by investors from Clearwater, Florida.[367] When an international seminar on agriculture, hosted by the IAC, took place in Campinas, the hosts were sure to take their guests north to Araraquara, to tour the new Suconasa plant.[368]

The next big plant was Citrosuco's, in the city of Matão, twenty miles north of Araraquara. Citrosuco was initially conceived not in São Paulo, but in Dade City, Florida. Glynn Davies was a vice-president at Lykes-Pasco, Florida's largest processing firm.[369] In 1963, he was tasked with figuring out how to deal with the collapse in supply following a freeze, like the one that hit Central Florida the previous December. He partnered with Carl Fischer, based in São Paulo, and Ludwig Eckes, based in Germany, to create a processing firm that would be able to supply Lykes-Pasco with concentrate during years in which Florida's growers were not able to. Engineers from Florida worked closely with Fischer in Matão to build a state-of-the-art processing plant in a town that had, at the time, only 10,000 residents, while Eckes remained in Germany and attempted to drum up demand in the European market for concentrate not destined

[367] "Bases técnicas para a citricultura," *Folha de São Paulo* (April 2, 1963).
[368] "Campinas abre amanhã I seminário sobre alimentos," *Folha de São Paulo* (Nov. 22, 1964), 6. The plant is still there, now owned by Cutrale.
[369] "25 Anos Beneficiando a Citricultura," *Laranja & Cia* (Nov./Dec., 1988), 5.

for Florida. But in 1969, after nearly a decade without a major freeze, Pasco pulled out of the partnership, which Davies said, "broke his heart."[370] But even without American investors, Fischer and Eckes were well positioned to continue to grow their facilities in Matão. Although citrus was not singled out as a priority, Brazilian agriculture as a whole was leading the way for the federal government's gradual attempts to facilitate a base for export-oriented growth amid an economy still largely dominated by import-protection.[371] Tax exemptions for exports, exemptions for importing capital goods, and tax credits for exporters' domestic taxes were part of a broad package pursued by the military dictatorship to shape a business environment friendly to the growth of exporters. It suited Citrosuco's model perfectly: a concentrate plant built largely with imported capital goods, selling largely to European and increasingly, over the decades, American markets.

The rapid growth already underway in and around Bebedouro was encouraged even more by the development of processing plants. And the processing plants became an unavoidable part of the landscape: their sour steam carried on the wind, and recognizable as soon as one entered the city. Novelist Ignácio de Loyola Brandão, who grew up in Araraquara and set some of his novels there, always made a point to note "the acrid smell from the orange juice factory."[372] Just as the 1960s was, for Florida, "the decade of planting," it was too in São Paulo and the problems that accompanied that planting, especially the continual complaint of looming overproduction, appear very familiar.

Accompanying the drama of planting and processing was a chorus of boosters, growers, and agronomists. *Estado* and *Folha* both took the side of the industrious and modernizing citrus

[370] "25 Anos Beneficiando a Citricultura," *Laranja & Cia* (Nov./Dec., 1988), 8.
[371] Ronaldo Sued, *O desenvolvimento da agroindústria da laranja no Brasil: o impacto das geadas na Flórida e da política econômica governamental* (Rio de Janeiro: Editora da Fundação Getúlio Vargas, 1993), 37.
[372] Ignácio de Loyola Brandão, *Teeth Under the Sun* (McLean, IL: Dalkey Archive, 2007), 159.

farmer, "the grower" as an ideal type capitalist-farmer, who happened to be, at all times, up-to-date and in agreement with the latest findings of the IAC and EEL. Before there were trade publications or even specialized academic journals for the industry, *Estado* carried results of rootstock tests, the distances trees should be planted from one another, dutifully reported the correct fertilizer quantities to be used, and suggested how to detect and eradicate potential pests. Ody Rodriguez gained his public profile thanks to his regular contributions to *Estado's* Agricultural Supplement. His authorial tone could not have been more dissimilar to that of Navarro de Andrade's 1930s exhortations. Presenting his research to readers, his prose was a model of lucid, patient exposition; even in times of crisis, it gave the sense of the inevitable forward march of scientific agriculture.

One ideal type farmer-capitalist was profiled in *Folha* in 1965. Alim Basset was a grower in Araraquara. With diversified farms of citrus, coffee, cassava, and livestock, Netto was a model of "planning and rationalization," with "modern agricultural practices" yielding crops that he sold to the newly completed Suconasa processing plant.[373] But, it seemed, few citrus growers lived up to the ideal type; and, other than Ody Rodriguez, editorials often took a hectoring tone, castigating growers when they failed to be adequately rational. This frustration spread from the pages of the newspapers to state officials. Herbert Levy, Secretary of Agriculture in 1967, complained of growers' not following IAC recommendations, planting rather than planning, and producing low quality fruit.[374] At least one grower received the message positively, following up with a letter three months later praising Levy for his warnings.[375]

[373] "Planejamento: base do rendimento rural na Alta Araraquarense," *Folha de São Paulo* (Nov. 5, 1965), 8.
[374] "Pronto estudo sobre cítricos," *Estado de São Paulo* (Oct. 20, 1967), 12.
[375] "Citricultura paulista," *Estado de São Paulo – Suplemento Agrícola*, Jan. 3, 1968,, 2.

One complaint raised again and again in the 1960s was the lack of viable grower cooperatives, especially of grower cooperatives that would – as in Florida – handle all of their own harvesting, caretaking, processing, and marketing. When IAC agronomist Ary Salibe visited Florida in the early 1970s and presented a lecture on citrus in São Paulo, he was asked by audience members about the progress of cooperatives in the state. He was pessimistic. "Most Brazilians," he said, "are like lions, you cannot put them together."[376] He made one exception: "The only cooperatives which work well in Brazil are the Japanese cooperatives. Brazilians are very independent. It is very difficult to have a co-op working well there."[377]

Salibe overstated his complaint. The need for cooperatives was recognized throughout the citrus belt in the 1950s. After the ghastly "orange cemeteries" of 1959, Bebedouro growers realized the urgency of creating internal means of controlling supply, of taming the rapid and "disorderly" growth of the industry.[378] Within a few years, Capezobe was formed in Bebedouro, with Walter Ribeiro Porto as its president. Ribeiro Porto was an outspoken leader, a fervent believer in and promoter of the cooperative movement – not for any sentimental reasons, but because they offered growers the best option to make ever-increasing profits without losing it, either to disorderly overcompetition or to price-setting monopsonies of packing houses and juice processing plants. Capezobe gathered a few thousand grower-members throughout the 1960s. Ribeiro Porto stuck to his motto: "He who does not grow, perishes."[379] It still seemed to not be enough. Despite the existence of cooperatives, the *idea* of cooperatives cast a long shadow on

[376] Ary A. Salibe, "The Brazilian Citrus Industry," *Proceedings of the First International Citrus Short Course* (Gainesville: IFAS, 1974), 60.
[377] Ary A. Salibe, "The Brazilian Citrus Industry," 60. And indeed, several of the founding figures of the industry in Bebedouro were Japanese. Although there were cooperatives of Japanese growers, they were small, and did not handle all of the features mentioned above. When Coopercitrus finally emerged as the most viable grower-owned cooperative in Bebedouro in 1976, Japanese growers eagerly joined. See Donadio, *História da citricultura de Bebedouro*.
[378] "Citricultores de Bebedouro procuram ativar sua organização cooperativa," *Folha de São Paulo* (July 3, 1960).
[379] Donadio, *História da citricultura de Bebedouro*, 80.

growers. Whether it was processing plants, or fertilizers, or the right tax incentives, or the right laws, the industry seemed to move from one promised cure for their problems to the next. When each one was found not to solve the persistent problem of overproduction, they complained that it was simply not implemented properly. Salibe's complaint was echoed in editorials into the early 1970s. One headline ran: "cooperatives can save the citrus industry."[380] Another article complained that growers, who produce tremendous wealth, "do not yet have an entity to defend their interests and guide its members."[381]

The ironies of Navarro de Andrade's influence did not end when the state's sour orange rootstocks were eaten away by tristeza. He was known in his lifetime – and is largely remembered outside of the industry – for his celebration of the eucalyptus tree, and his dogged hope to see it planted throughout his birthplace of São Paulo. Beginning in 1966, his dream seemed poised to be realized when the Brazilian government passed a law incentivizing, through special tax deductions, the "reforestation" of the country, with a focus on eucalyptus and pine trees.[382] The motives were primarily commercial: to replace a dwindling supply of timber in the country. But included in the trees that qualified for the tax incentives were orange trees, allowing for a subsidy on income taxes of as much as 50%.[383] To already-established growers, this was not a boon but a potential disaster: they alleged that the incentives would create an even greater glut of supply and would allow corporations with the capital on-hand to invest heavily in massive groves that threatened to compete them out of business. Prices, they complained, were already too low; incentivizing even more planting would drive them lower.[384] In *Estado de São*

[380] "Cooperativa pode salvar a citricultura," *Estado de São Paulo* (Oct. 27, 1971), 19.
[381] "Citricultura, uma riqueza indefesa," *Estado de São Paulo* (Sept. 11, 1973), 3.
[382] For background on the law, see Ricardo Berger, "The Brazilian Fiscal Incentive Act's Influence on Reforestation Activity in São Paulo State" (PhD dissertation, Michigan State University, 1979).
[383] "Pomar não é floresta," *Estado de São Paulo* (April 23, 1972), 54.
[384] "Incentivo prejudica citricultura," *Estado de São Paulo* (April 22, 1970), 21.

Paulo, an article presenting the growers' arguments ran with the headline "citrus groves are not forests."[385] Nearly daily throughout April and May of 1972, both *Estado* and *Folha* ran stories espousing the growers' position, and, in general, raising a deafening chorus against the incentives. Bebedouro's own farm bureau wrote letters to the editor at *Folha* making their case.[386] And yet it seemed, for a time, to be falling on deaf ears.

In July of 1972, they finally got their message across. The Finance Minister of the country, Antônio Delfim Netto, made a rare trip out of Brasília and flew in to meet with the politicians and agricultural elite of Bebedouro, during their annual citrus festival.[387] They met in the Bebedouro Club; when they emerged, Delfim Netto was declared an honorary Citizen of Bebedouro. He said to the press that the reforestation plan's potential to undermine citrus growers "cannot happen in this country" and promised to create an exemption for orange trees.[388] A month passed, though, and nothing was done.[389] The governor of São Paulo State visited Bebedouro and while praising the initiative of the city's growers, made sure to fire a comment at the delays in passing the exemption for citrus trees.[390] It was, finally, modified accordingly. The episode is, frankly, more amusing than consequential. What it illustrates, though, is that the agricultural modernization of which both Bebedouro's growers and the reforestation incentive were a part was as often messy and haphazard as it was a model of efficiency.

At other times, seemingly haphazard and unpopular laws could go in the growers' favor. The 1970 juice law was introduced by Federal Deputy Sérgio Cardoso de Almeida.[391] Cardoso

[385] "Pomar não é floresta," *Estado de São Paulo* (April 23, 1972), 54.
[386] "Citricultura em foco," *Folha de São Paulo* (Jun. 21, 1970), 4.
[387] "Delfim admite exclusão de incentivos fiscais para laranja," *Estado de São Paulo* (July 9, 1972), 49.
[388] "Delfim visita a Festa da Laranja em Bebedouro," *Folha de São Paulo* (July 9, 1972), 42.
[389] "Incentivos prejudicam," *Folha de São Paulo* (July 22, 1972), 14.
[390] "Citricultura tem seu zoneamento ecológico," *Folha de São Paulo* (July 26, 1972), 20.
[391] The juice law is briefly discussed in Seth Garfield, *Guaraná: How Brazil Embraced the World's Most Caffeine-Rich Plant* (Chapel Hill: University of North Carolina Press, 2022), 121, 161.

de Almeida came from a family of farmers in the interior of the state, spending his childhood in Ribeirão Preto, the largest city in the vicinity of Bebedouro.[392] He entered politics after time spent in agriculture and as president of the Ribeirão Preto farm bureau, and he brought those interests with him into politics. The juice law he proposed required beverage manufacturers to add 10% juice to all of their non-alcoholic drinks.[393] The law was immediately embraced by the industry, who saw in it a solution to their problems of overproduction; by creating a captive domestic market for their products, they could expand production without fears of falling prices. Soft drink producers were less pleased. They complained that juice producers could not even meet the demand to fulfill the law's requirements.[394] The law's supporters suggested that they would divert their juice produced for export to domestic markets instead. The law was passed over the objections in 1972, and growers held out hope that it would be a panacea for their production problems. After it passed, Sérgio Cardoso de Almeida wrote a warm letter to the editors of *Estado de São Paulo*, thanking them for their continued public support of the law.[395] For the following two years, its implementation was resisted and stalled by beverage manufacturers. In 1974, a decree was issued giving beverage manufacturers ninety days to demonstrate compliance. Few complied. Those who did comply, to the frustration of the officials in charge of implementation, waited to register until the final day.[396]

One of the voices from the citrus industry praising the juice law was a director of the Sanderson processing plant.[397] The director admitted that while the law would not solve the problems in production or build new factories, as Sanderson themselves presumably were doing,

[392] Sérgio Cardoso de Almeida, *Olhos D' Água – O Começo de Tudo* (São Paulo: João Scortecci, 1994).
[393] Ary A. Salibe, "Citricultura: problemas e perspectivas," *Estado de São Paulo* (Nov. 14, 1970).
[394] "Limitação as vendas externas de frutas?," *Folha de São Paulo* (March 9, 1974), 12.
[395] "'Estado' recebe visitas," *Estado de São Paulo* (Oct. 21, 1972), 19.
[396] "Lei dos sucos: não haverá novo prazo," *Folha de São Paulo* (Feb. 19, 1975).
[397] "Produtores aplaudem as medidas," *Folha de São Paulo* (Dec. 7, 1973), 16.

it would help to raise consumer awareness to the value of juice, building up what was still a lagging domestic market for juice concentrate. Brazilians, the Sanderson director said, need to be shown that orange juice should be a regular part of their daily diet.[398] Sanderson was a relatively new arrival into the industry. An Italian agricultural machinery company, Sanderson bought an existing processing plant in Bebedouro and promised to greatly expand production in the region.[399] Raising funds to plant groves and to expand the processing facility, Sanderson's president even moved to Brazil from Italy, ensconcing himself among Bebedouro's grower elite.[400] To fund their expansion, Sanderson sold shares publicly on the Brazilian stock market. Expecting a massive harvest and a receptive market, Sanderson offered to growers higher-than-usual prices for the oranges that they would process during the 1973 growing season, paying growers in promissory notes that were – for many regional banks – as good as money.[401] Because Sanderson bid up prices, other processors followed. Their propping up of prices was praised by Finance Minister Delfim Netto.[402]

This boom in citrus prices, after years of complaints about overproduction, created an infectious enthusiasm. The period between 1971 and 1973 was one of growing confidence. Editorials celebrated the industry's record-shattering production numbers. Already Brazil was the world's largest exporter of FCOJ, and it was forecasted that it would take its place as the largest grower of citrus in the world within a decade, surpassing the United States.[403] But the confidence had to be tempered, lest the excessive optimism of growers lead them into further crises. Hans Krauss, an agronomist at the EEL, cautioned growers against pinning their hopes on

[398] "Produtores aplaudem as medidas," *Folha de São Paulo* (Dec. 7, 1973), 16.
[399] Donadio, *História da citricultura de Bebedouro,* 71.
[400] Hasse, *The Orange*, 212.
[401] Hasse, *The Orange*, 214.
[402] Donadio, *História da citricultura de Bebedouro*, 28.
[403] Ary A. Salibe, "O crescimento da citricultura," *Estado de São Paulo* (Feb. 25, 1973), 15.

the juice law. He warned that the "indiscriminate installation" of new processing plants without a corresponding increase in markets will only exacerbate problems and he reminded growers that their almost total reliance on exports continued to expose them to fluctuations in market prices beyond their control.[404] If these problems are recognized, and solved, Krauss wrote, the industry could continue its path toward predominance. Ultimately, though, what was needed was a full-throated effort in changing the dietary habits of Brazilians, to accustom them to regularly buying orange juice. Krauss's more cautious optimism was not shared by the state's governor, who heaped praise on the industry's rapid progress, and lauded the efforts of the IAC and EEL in facilitating it. Cautious optimism was, perhaps, wiser.

Sanderson's prices seemed almost too good to be true. It turned out, they were. Within a year, Sanderson would bring the entire industry as close to ruin as it had been since tristeza. At the same time that Sanderson and other processors were feverishly bidding up prices, demand – and international prices – for FCOJ began crashing, largely attributed to the oil crisis and accompanying global economic downturn.

The typical contract for juice processing stipulated that the processor, not the grower, would pay for and provide harvesting operations. These companies would subcontract a harvesting company to send farmworkers out to groves. When harvest time came, Sanderson's harvesters did not show up. Growers found out that the company had not even been paying its own employees for months. Panicked, the growers who had contracted with Sanderson realized that they would not be paid in cash. Sanderson could not even pay their own electricity bill at the processing plant, whose tanks began to rust.[405] They declared bankruptcy, leaving thousands of

[404] J. B. Petreli, "Limeira: otimismo exagerado pode ser prejudicial aos citricultores," *Folha de São Paulo* (April 8, 1973), 21.
[405] Donadio, *História da citricultura de Bebedouro*, 28.

growers in Bebedouro and throughout the region with harvest-ready crops and no buyer. Other juice processors took advantage of the situation by offering to buy the crops, but at rock bottom prices, far below their production costs. Bebedouro's grower elite met with the outgoing state governor, who declined to bail out the bankrupt company – or the growers. Growers, on the one hand, hoped for government intervention to save their investments that were now rotting on the tree; processors hoped to prolong the crisis to reap the low prices it yielded.

Sanderson was not the only processor accused of manipulating the market. Citrosuco, the processor created in part with capital from Florida's Lykes Brothers, had been accused by the Brazilian government of "dumping," selling their concentrate to the US below the minimum price guaranteed by CACEX, the agency that governed exports.[406] In response, Citrosuco had their license pulled, which prevented them from processing for the season; contributing to the glut of oranges.

After months of indecision, Ernesto Geisel – a General who had been appointed President of Brazil only earlier that year – sided with the growers, and demanded that São Paulo's state government intervene. The state's public bank, Banespa, took over the bankruptcy proceedings, paying off creditors, selling off most of the assets, including Sanderson's groves, and kept control only of the plant itself, which was ceded to an ad-hoc state-owned corporation called Frutesp.

Remarkably, *Folha* ran articles by critics of the bailout. Financial journalist and former student of then-radical sociologist (and later, President of Brazil) Fernando Henrique Cardoso, Joelmir Beting published several pieces stridently condemning the state's intervention on behalf of Sanderson. Headlined "A Juice in the Face," the first article calls the market for citrus

[406] Luis Fernando de Oriani Paullilo, et. al. *Agroindústria e citricultura no Brasil: diferenças e dominâncias* (Rio de Janeiro: E-papers Serviços Editoriais Ltda., 2006), 75.

"rotten," noting that growers were set to receive less per box of orange than they had a decade before, receiving a price for an 80 pound boxes of oranges equivalent to the cost of two glasses of orange juice at the corner bar.[407] Growers, Beting argued, had treated orange production like a "gold rush," running headfirst expanding their crops with no consideration of the markets for them that may or may not exist on the other side. It was, by extension, a financial bubble – and Sanderson had popped it. Banks were not willing to extend credit to growers, and processors could not absorb the excess supply left by Sanderson's closure. Full of scorn, Beting wrote "there is nothing more immoral than the bankruptcy of a poorly managed company." Sanderson had "pulled the rug from under a once-europhic industry" and now that the private sector had washed their hands of it, it fell to the public sector to rescue the company.[408]

Though the fiasco devastated Bebedouro's growers for 1974, they began to limp into recovery the following year. And where others saw disaster, one well-placed grower saw opportunity. Walter Ribeiro Porto, president of the grower cooperative Capezobe, oversaw the merger of his cooperative with another in the region, forming the largest grower cooperative in the state, Coopercitrus. Keeping true to his motto, "grow or perish," Coopercitrus's first move was bold: they proposed buying the Sanderson processing plant from Frutesp. With the purchase, the industry appeared to stabilize, and over following decade, São Paulo's industry – though still expanding its footprint of plantings throughout the state – would enter its own "decade of production," where controlling production costs, and especially, the costs of labor, would move to the center of their concerns.

[407] Joelmir Beting, "Um suco na cara," *Folha de São Paulo* (Sept. 28, 1974), 14.
[408] Joelmir Beting, "O suco amargo," *Folha de São Paulo* (May 6, 1974), 17.

CHAPTER 5

LEFT OUT IN THE COLD[409]

"Grove" conjures the bucolic image of a small, shaded family farm, an image reflected in the cart labels and advertising used in selling the oranges. However, by the end of the Florida citrus industry's heated "decade of planting," grove ownership had gone through wave after wave of consolidation, and the trees that a worker worked on were now often owned by large firms or absentee landowners.[410] The industry had realized the hopes of its rationalizing evangelists that it become, in all respects, a characteristically modern agribusiness.[411] All respects, that is, except that citrus harvesting itself—the climbing, the picking, the bagging—was *still* not mechanized.[412] Even after "the migrant crisis" and the United Farm Workers, growers relied on farmworkers to turn their investments in groves into frozen concentrate, and, ultimately, into profits.

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[409] Portions of this chapter were originally published in Terrell James Orr, "Mechanical Harvesting, Globalization, and the Fate of Citrus Farmworkers in Florida and São Paulo, 1965–1985," *International Labor and Working-Class History*, v. 102 (2022): 76-93 © Cambridge University Press, reproduced with permission.

[410] 1969 *U. S. Census of Agriculture*, Part 29: Florida, vol. 1 (Washington DC: U. S. Census Bureau, 1972).

[411] On the characteristics of modern agriculture—consolidated ownership, synthetic fertilizers, market dependent labor, partial or total mechanization—see the overview by Shane Hamilton, "Revisiting the History of Agribusiness," *Business History Review* 90 (Autumn 2016): 541–45; for a history of American agribusiness sensitive to social and political factors, see Paul Conkin, *A Revolution Down on the Farm: The Transformation of American Agriculture since 1929* (Lexington, KY, 2008); Harriett Friedman, "The Political Economy of Food: the Rise and Fall of the Postwar International Food Order," *American Journal of Sociology* 88: 248–68, which shows how the modern agricultural regime sustains the dependency of an agrarian periphery, and Marcel Mazoyer and Laurence Roudart, *A History of World Agriculture: From the Neolithic Age to the Current Crisis* (New York, 2006), esp. 375–439.

[412] This runs counter to the normal tendency in agricultural modernization that "due to the industrialization of agriculture, the quantity of land and labor needed for growing crops was minimized—in the case of labor, almost to the vanishing point," Aaron Benanav, "A Global History of Unemployment: Surplus Populations in the World Economy, 1949–2010," (PhD diss., University of California, 2015), 125.

This put Florida's citrus in an odd position relative to other modernized Southern crops after WWII, such as the Deep South's cotton or South Florida's sugar. The comparison is a reasonable one, given Florida citrus's wealth, political influence, profitability in global markets, and seasonal reliance on cheaply paid, and by 1970, still primarily black farmworkers. Florida's citrus was one of the South's "global agricultural commodities," crops whose divergent histories came—in the second half of the twentieth century—to run in ever closer parallel, as Southern farms weathered international competition and staged conflicts between owners and workers.[413] The southern growers who thrived did so "through innovation and mechanization" that reduced their reliance on labor-intensive harvesting.[414]

Between 1965 and 1975, Florida's citrus industry expanded its production by half and cemented its place as the world's largest producer of oranges, even with increasing competition from São Paulo's industry. At once offering a solution to "the migrant question," a means of neutralizing the threat of the United Farm Workers, and a way of rationalizing its labor costs, the

[413] On the demographics of the labor force in the 1960s, *Migrant Farm Labor in Florida* (State of Florida Legislative Council, 1963), 5. The quoted term comes from Richard Follett, Sven Beckert, Peter Coclanis, and Barbara Hahn, eds., *Plantation Kingdom: The American South and Its Global Commodities* (Baltimore, MD, 2016) and the description of Southern agricultural modernization, p. 156. The modernization of southern agriculture has yielded a rich historiography recounting, in tones both nostalgic and indignant, the depopulation of the rural South, as growers' restless drive toward the consolidation and mechanization of farms resulted in wave after wave of out-migration or, for those who remained, a continued fight against poverty and political repression. In the now canonical narrative, the South's growers followed a "federal road" to agricultural modernization. First, New Deal agricultural policies subsidized growers to limit their acreage to raise crop prices, resulting in profits rarely shared with tenants. Then, as WWII drew greater numbers of potential farmworkers out of the rural labor force, federal research offered growers the possibility to mechanize their crop harvesting, pushing tenant farmers out and farmworkers into total market dependence, completing the post-WWII South's "enclosure movement."

[414] Follett, Beckert et al., eds., *Plantation Kingdom*, 156. Cindy Hahamovitch, "Planting Jim Crow in Modern South Florida: Growers, Government, and the Making of a Mobile Reserve Army of the Unemployed," (unpublished manuscript, presented October 8, 2021, DC Area Labor and Working-Class History Seminar) has characterized the US South's agriculture as a whole as being meaningfully distinct from the rest of the nation due to this overwhelming "reliance on Black labor." This, she argues, fits Florida's agriculture squarely among the southern states; but Florida departs from its plantation South neighbors in that their Black labor force was stationary—held in place through tenant contracts, debt, and threats of violence—while Florida's was mobile and migratory. I endorse this characterization and, in this paper, attempt to explain how that crucial difference resulted in a very different experience with mechanization—for growers and for workers—in Florida's citrus industry than in other southern agriculture.

Florida Citrus Commission (FCC) appeared eager to follow the rutted path of labor mechanization taken in other southern crops. The Commission echoed and responded to growers' vocal complaints of domestic labor shortages and called forth a wave of state and federal research money to be poured into harvesting research, until total mechanization seemed not only desirable but commercially viable and imminent.[415] But, ultimately, Florida's citrus industry still failed to mechanize its harvesting. To this day, each orange processed into each glass of Florida orange juice remains picked by hand. The attempt failed and was, in retrospect, looked upon as something of an expensive boondoggle.

This chapter narrates attempts to control labor in both Florida and São Paulo and how they unraveled or violently backfired in the 1970s and 1980s. It argues that, though distinct, these attempts were connected through the industries increasingly competitive relationship with one another. During their respective "decade of production" in the 1970s, both Florida and São Paulo's industries were tremendously productive, profitable, and – at the same time – conflict-ridden. Their trajectories crossed definitively in the early-and-mid 1980s, when a series of devastating freezes in Florida left the industry wide-open for price competition from São Paulo's citrus industry. While Florida's groves were wiped out by the freeze, São Paulo's industry was able to sell FCOJ in the United States, making a profit even despite the tariff erected against foreign FCOJ.

The attempted method of labor control during this moment looked very different in each state. In Florida, those in the industry hoped to mechanize citrus harvesting, doing away with the problem of labor recruitment and labor costs altogether. In São Paulo, growers and processors fought over who would bear the burden of labor recruitment and labor costs, which was decided

[415] *Florida Agricultural Statistics: Citrus Summary*, 1975 Issue (Florida Department of Agriculture Publication Department, 1975), 4.

based on the harvesting contract made between the grower and the processor. Both parties, growers and processors, attempted to skirt labor laws and recruit as cheaply as possible, despite unionization efforts and challenges in labor courts from farmworkers. This situation unravelled, and erupted, shortly after the freezes in Florida. São Paulo's farmworkers saw the unprecedented profits made by growers and processors via exports to the U. S. during Florida's freezes and went on strike for labor agreements that cut them in on those profits. Their strike was part of a larger series of state-wide agricultural strikes in 1984, principally involving sugar cane workers, but it followed a logic of its own. Their strikes won them a better contract for the season, a more aggressive unionization effort over the remainder of the 1980s, and a new standard contract between growers and processors that – in theory, at least, and until 1995 – fixed the responsibility for hiring harvesting labor with the juice processors.

Florida's attempt at labor control, mechanizing harvesting labor, unraveled for different reasons when a cheaper method became available – a welcome development given that profits were now threatened by competition from São Paulo's industry. Where Florida's growers initially expected the modernization of labor to look like the replacement of migrant farmworkers with tree-limb shaking machines and abscission chemicals, it ended up instead as the hiring of contractors whose workers came from rapidly growing and pliable immigrant communities from Mexico, Guatemala, and Haiti. Instead of mechanization ridding the industry of labor, the industry became dependent on cheaper and more vulnerable immigrant workers.[416]

[416] That is, Florida's citrus industry became both an eager participant and reluctant victim of the globalization of the South. Florida's citrus industry was unusual in that it experienced, in the same moment, the two movements of globalization that are normally considered, and studied, separately: the movement of labor (via immigration and guestworker programs) and the movement of capital (via international competition and consolidation). This separation is reproduced in the historiography of the South's globalization, resulting in a literature on "humble immigrants'" and one on "mighty corporations" that have too rarely been brought together. Tore C. Olsson, "The South in the World since 1865: A Review Essay," *Journal of Southern History* 87, 1 (February 2021), 102. Leon Fink, *The Maya of Morganton: Work and Community in the Nuevo New South* (Chapel Hill, NC, 2007) inaugurated the former in his study of the "Nuevo New South," in which he recounted how immigrant poultry workers from

The chapter consists in three parts: the first will recount the background and rapid rise of the Florida Citrus Commission's Mechanical Harvesting Research and Development Committee (HRDC), the committee of growers, engineers, and scientists that coordinated the efforts of the industry to mechanize its harvesting. The HRDC and associated growers framed their efforts as a response to rising labor costs, often attributed to the unions and farmworker organizations that they closely tracked. In the second part, I show how the HRDC responded to the crises and opportunities that unfolded for Florida's industry between 1975 and 1985: the series of freezes in Florida that opened the floodgates to international competition from São Paulo and the federal effort to reform immigration laws affecting farmworkers. And in the third, I look at how São Paulo's growers, processors, and farmworkers responded to the same moment, when Florida's freezes set off a series of events that broke their increasingly fragile balance. After the freezes, Florida's growers stayed afloat not by mechanizing their harvesting, a proposition too costly after

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Guatemala worked, lived, and organized in 1980s and 1990s North Carolina, and argued that traditions of unionism that workers brought with them allowed their success in the US South, in a region and an industry notoriously hostile to labor. Historians since Fink have questioned the novelty of this "nuevo" South, and have attended more closely to the sustained and reciprocal connections between immigrant communities in the South and their countries of origin. For arguments against the novelty of the "Nuevo New South" on the grounds that it largely reproduced the dominant racial hierarchies and white supremacy of the South, see Perla Guerrero, *Nuevo South: Latinas/os, Asians, and the Remaking of Place* (Austin, TX, 2017), and Angela Stuesse, *Scratching Out a Living: Latinos, Race, and Work in the Deep South* (Berkeley, CA, 2016); for the long history of Latina/o communities navigating and subverting those racial hierarchies, see Sarah McNamara, "Borderland Unionism: Latina Activism in Ybor City and Tampa, Florida, 1935–1937," *Journal of American Ethnic History* 38, 4 (Summer 2019): 10–32, and for a comprehensive argument that recent migration can only be understood in the long context of Latina/o migration and in the joint histories the US South and Latin America, see Julie Weise, "Dispatches from the 'Viejo' New South: Historicizing recent Latino migrations," Latino Studies 10 (2012): 41–59, and *Corazón de Dixie: Mexicanos in the U.S. South since 1910* (Chapel Hill, NC, 2015). In the case of Florida citrus, an emphasis on continuity must be tempered by an acknowledgement that worker demographics shifted radically between the 1960s and the end of the 1980s, when Latina/os grew as a portion of the workforce from around 10 percent to around 70 percent, a quantitative change large enough to have qualitative significance. Leo C. Polopolus and Robert D. Emerson, "IRCA and Agriculture in Florida," *Immigration Reform and U.S. Agriculture*, Philip L Martin et al., eds. (University of California, Division of Agriculture and Natural Resources, 1995), 89. And at the level of capital, historians have examined how southern communities have attempted to draw in foreign corporations, and how southern corporations have expanded abroad, in what historian Tore Olsson characterizes as a "boomerang" movement. For capital moving into the South, Timothy Minchin, "When Kia Came to Georgia: Southern Transplants and the Growth of America's 'Other' Automakers," *Journal of Southern History* 83 (November 2017): 889–930 and Bart Elmore *Country Capitalism: The American South and Planetary Ecological Change* (Chapel Hill, 2024).

São Paulo cut into Florida's profits, but by "peripheralizing" its own labor force, exploiting ever more vulnerable populations with ever more flexible contracting methods, reducing its labor costs to a level more comparable to that of São Paulo farmworkers.[417] But, at the same time, São Paulo's farmworkers seized the opportunity to better their own condition.

"The Peaceful and Sound Labor Climate"

Labor shortages, real and imagined, haunted the imaginations of Florida's citrus growers throughout the 1960s.[418] The slow death of Jim Crow in Florida and the fast economic growth of the state presented farmworkers with higher-wage jobs elsewhere. This situation was worsened when Willard Wirtz, Secretary of Labor under Lyndon B. Johnson, steeply curtailed the availability of the migrant guestworkers to whom growers would turn when domestic labor was deemed too expensive.[419] All the while, Florida's growers watched anxiously as the United Farm Worker Union (UFW) in California mounted a nationwide grape boycott and, in 1966, began to win contract after contract with California's powerful grape growers. Fears that the UFW would turn their attention to Florida's farmworkers were realized in 1969, when the union began to

[417] On the increasing peripheralization and flexibilization of labor within the "agrarian periphery" proper, see Philip McMichael, ed., *The Global Restructuring of Agro-Food Systems* (Ithaca, NY, 1994), and, more recently, with a particular focus on Brazil, Josefa Salete Barbosa Cavalcanti and Alessandro Bonanno, eds., *Labor in Globalized Food* (London, 2014). In general, the strategy adopted—a familiar one in agriculture—by global agribusinesses is to hire farmworkers who are wholly dependent on wages but who have vanishingly few resources to contest exploitation or underpayment, either via law and the state (by hiring noncitizen workers) or by directly confronting an employer (by using easily replaceable third-party contractors). On guestworker programs in the United States context, see also Vanessa Casanova and Josh McDaniel, "Pines in Lines: Tree Planting, H2B Guest Workers, and Rural Poverty in Alabama," *Southern Rural Sociology*, 19 (2003): 73–96.

[418] On the ideological character of labor shortages, which is more typically a concern with having the "right kind" of labor available at the right cost, rather than a concern with absolute numbers of possible workers, see Conlin, "'Work or Be Deported'," 445.

[419] Conlin, "'Work or Be Deported," and Cindy Hahamovitch, *No Man's Land: Jamaican Guestworkers in America and the Global History of Deportable Labor* (Princeton, NJ, 2011), 145–46.

organize sugar harvesters in the far south of the state[420]; and again in 1972, when the UFW's threat of a boycott of Coca-Cola—the parent company of Minute Maid and the largest single citrus grove owner in Florida—won the union their first contract in the state, a contract that left more than three-thousand Minute Maid farmworkers "looking like autoworkers."[421]

The same year that the UFW's Minute Maid contract was signed, the largest line on the Florida Citrus Commission's annual research budget was mechanical harvesting.[422] The Florida Citrus Commission's mechanical harvesting program was overseen by the HRDC, the sub-committee that met monthly from the early 1960s until 1984, composed of roughly a dozen of researchers, growers, and representatives from grower, producer, and packinghouse associations. Under their supervision, at research facilities, universities, and in groves throughout the citrus belt, the effort to rid the industry of its worsening labor problem was pursued aggressively, an effort that echoed the initiatives undertaken in the Deep South's cotton fields and presaged similar efforts for Florida's sugar and North Carolina's tobacco crops.

When the HRDC met during 1965's growing season, it was to discuss what was seen as the immediate problem facing the industry: labor costs. Committee members agreed that "the cost of harvesting was increasing excessively," presenting a "serious problem" to the industry.[423] But they lamented that the severity of the problem was not yet matched by the resources available to them. Though they had the clear objective of devising "a practical solution" to the

[420] Hahamovitch, *No Man's Land*, chapter 8, and "FFVA Labor Bulletin No. 307," November 24, 1970, box 129, folder 1, Chase Collection, Special and Area Studies Collections, George A. Smathers Libraries, University of Florida Repository, Gainesville, FL (hereafter cited as Chase Collection).
[421] Hahamovitch, *No Man's Land*, 179. On the UFW in Florida citrus, see Terrell Orr, "'Now We Work Just As One': The United Farm Workers in Florida Citrus," *Southern Cultures* 25, 4 (Winter 2019): 140–57.
[422] "Harvesting Research and Development Committee Meeting," January 17, 1972, box 9, folder 18, Minutes, 1935–2017, Florida Citrus Commission, Dept. of Citrus, State Library and Archive of Florida, Tallahassee, FL (hereafter FCC Minutes).
[423] "Florida Citrus Research Council Meeting," November 3, 1966, box 9, folder 4, FCC Minutes; "Florida Citrus Research Council Meetings," March 17, 1967, box 9, folder 6, date, FCC Minutes.

harvesting problem they still lacked a workable plan to get there.[424] And so Committee members traveled to California during the summer off-season to observe the progress of citrus mechanization there. They were disappointed by what they saw.[425] As in cotton, sugar, tomatoes, or any crop whose harvesting has been mechanized, orange trees presented physical and natural difficulties that seemed, at times, insurmountable. In California, those problems were exacerbated by the demands of picking and selling fresh fruit. Many of the proposed machine designs could scathe and damage the oranges, leaving them unappealing to consumers. As a result of this, California's citrus growers had less incentive to develop what was for Florida's growers the holy grail: a "mass removal machine."[426]

The machines used in Florida were not constrained by the need to keep the oranges attractive. Because the bulk of Florida's oranges were taken to be peeled and pulped in processing plants and made into frozen concentrate, it did not matter if they were scuffed, scratched, or dirtied.[427] Which was fortunate, given that the HRDC pinned their hopes on machines like limb shakers, water blasters, and air blasters, which would move on tire or tread between trees and violently shake or force the fruit from their limbs with concentrated bursts of water or hurricane-force winds. The oranges would then fall into either a catch frame or directly onto the ground, into the dirt. In the latter case, workers would still be needed to gather the fallen oranges, but this was not a concern: Because the labor was less demanding, the committee thought, they could hire elderly or unfit workers, who could be paid even less. While they waited

[424] "Florida Citrus Research Council Meeting," box 9, folder 4, November 3, 1966, FCC Minutes.
[425] 6/3/1965, box 9 folder 1, FCC Minutes. On the difficulties of mechanizing citrus in California, Matt Garcia, *A World of Its Own: Race, Labor, and Citrus in the Making of Greater Los Angeles, 1900–1970* (Chapel Hill, NC, 2001), 37.
[426] "Harvesting Research and Development Committee Meeting," June 3, 1965, box 9 folder 1, FCC Minutes.
[427] But other natural difficulties remained persistent: in particular, nearly half of the Florida orange crop were Valencia oranges, whose trees carry "ripe fruit and new fruit at the same time," so removal of the former threatens to remove the latter, McPhee, *Oranges*, 59. The HRDC's solution to this problem was abscission chemicals, which loosened ripe oranges enough that tree shakers would release only those.

for funding from the USDA to come in, the HRDC turned to temporary measures: mailing questionnaires to growers that asked, "how to improve the attitude of the workforce" and sending Committee members to groves during harvest to closely watch the picking movements of workers, to spot any uneconomical movement or downtime that could be eliminated.[428]

The HRDC's desire to observe and document the movement of workers was not limited to members' time in the groves. In July 1968, the HRDC welcomed a new member onto their committee, George F. Sorn. At the time of his appointment, Sorn was the manager of the Labor Division of the Florida Fruit and Vegetable Association (FFVA), a powerful growers' association. As recorded in the HRDC's meeting minutes, Sorn did not say much, only stressing the urgency of mechanical harvesting given the "labor problem."[429] Outside of the meetings and even after his tenure on the HRDC, he was far more vocal. Sorn edited, and often wrote entirely, the FFVA's Labor Bulletin and its confidential citrus and sugar supplements: newsletters that were mailed to growers across the state, which tracked any labor problems that came under Sorn's purview. And, seemingly, every labor problem came under Sorn's purview. In 1965, his biggest concern was Secretary of Labor Wirtz's national effort to curtail the use of temporary guest workers in agriculture. Citrus growers did not use as many guest workers as did Florida's sugar industry. But the availability of a reserve of labor was important. Growers clamored to convince Wirtz that labor shortages would ruin them absent guestworkers.[430] And their clamor was joined by the *Labor Bulletin*, which argued that Wirtz's "radical efforts to attempt to correct

[428] "Study of Handpicking Methods of Fruit Separation," July 18, 1967, box 9 folder 7, FCC Minutes.
[429] "Meeting of Florida Citrus Industry Harvesting Committee," May 13, 1969, box 9 folder 12, FCC Minutes.
[430] "FFVA Labor Bulletin No. 233," April 14, 1965, box 128, Florida Fruit and Vegetable Association - Labor committee (1970), Chase Collection.

various social problems of the so-called migratory worker problem," would only "wreak irrevocable damage throughout a large sector of the agricultural industry."[431]

The threat of unionization weighed heavily on the pages of the *Labor Bulletin*. The newsletter tracked the efforts of organizers among Florida's farmworkers and the churches that supported them. Those churches that "stressed noble humanitarian objectives as justification" for the support of "certain splinter union groups" had to be reined in, and the newsletter called for its readers to contact their "priest or rabbi" to impress "the economic facts of life" on them.[432] When the inclusion of farmworkers under the National Labor Relations Act (NLRA)—allowing for collective bargaining—was raised in the 1960s, the Bulletin argued that "giving Unions the additional power dictated by the NLRA" would "completely destroy" the balance of power between farmers and workers.[433] Explicitly connecting the threat of unionization to mechanization, the Bulletin claimed that "mechanization as a means of keeping production costs down may be the only answer to a grower's continued existence," and that unionization could disrupt the forward march of mechanization, as "strikes and labor disputes to prevent the adoption of technological improvements" would "be disastrous in agriculture."[434]

The *Bulletin* harbored a particular concern for the Florida Christian Migrant Ministry (FCMM)—a ecumenical group representing Florida's farmworkers, which was closely allied with the UFW throughout the 1970s, publishing the FCMM's member lists, members' positions in the organization, office locations, updates when locations changed, and reports on the contents

[431] "FFVA Labor Bulletin No. 221," February 28, 1965, box 128, Florida Fruit and Vegetable Association - Labor committee (1970), Chase Collection.
[432] "FFVA Labor Bulletin No. 221," February 28, 1965, box 128, Florida Fruit and Vegetable Association - Labor committee (1970), Chase Collection.
[433] "Correspondence to Senator Harrison Williams," April 29, 1969, box 127, Florida Fruit and Vegetable Association – Labor (1969), Chase Collection.
[434] "Correspondence to Senator Harrison Williams," April 29, 1969, box 127, Florida Fruit and Vegetable Association – Labor (1969), Chase Collection.

of the FCMM's own newsletters and proceedings, all to the Bulletin's readership of growers.[435] The FCMM was only one of the groups representing Florida's farmworkers, but it was unique in that it split its efforts between support for the UFW and services for the large majority of farmworkers who were not members of the union. After winning its contract in 1972, the UFW was unable to expand into any further citrus groves, and by 1974, all of its organizing efforts were consumed by contract renegotiation. More typical among Florida's farmworker organizations were groups like Benito Lopez's United Migrant Association, which won no collective bargaining contracts but instead operated partly as a political pressure group and partly as a service center. Because these groups did not pose an immediate threat to growers, they often slipped under the radar of the Bulletin.

The twin threats of labor shortages and unionization hung over the HRDC's meetings in the early 1970s. But their desire for increased funding was finally realized. By 1972, the HRDC's budget ballooned from the low hundreds of thousands of dollars to nearly two million per year. This boost in research funding was paid for by a new tax on growers to be renewed every three years and by larger allotments offered by the FCC and the USDA.[436] The largest portion of the budget went to the HRDC's ambitious mechanical harvesting incentive program. The incentive program would pay growers who volunteered to use mechanical harvesting instead of hand labor for the cost of that harvesting and for any damage done to their groves by the experimental machines. The initial list of growers eager to sign up for the program was long and represented the largest players in the industry, from Minute Maid—where the machines would be used as a substitute for unionized workers—to Golden Gem, the largest cooperative of independent

[435] "FFVA Labor Bulletin No. 328," March 16, 1973, Florida Fruit and Vegetable Association - Labor: bulletins and legislative matters (1973), Chase Collection.
[436] "Minutes: Industry Harvesting Committee," October 13, 1972, box 9, folder 12, FCC Minutes.

growers.[437] "Since the cost of picking soared beyond expectations," the Committee reasoned, "growers were becoming more willing" to adopt any method to ameliorate the costs and some ideas previously "thought too costly might be reconsidered."[438]

The HRDC found the first two years of the incentive program, 1973 to 1974, to be a resounding success. It was the sea change the HRDC longed for and which established that mechanical harvesting was commercially viable, producing results that were no longer "haphazard and uncoordinated," but precisely implemented, observed, and documented.[439] The growers, too, were satisfied: "almost without exception the users are enthusiastic."[440] The most commonly leased machine was the limb shaker. It became the clear frontrunner of viable harvesting machines, harvesting as much as 90 percent of a grove's early and midseason oranges, a number that the HRDC previously considered so good as to be unrealistic. Reviewing the progress of the program, the committee's lead researcher felt confident in saying that "the gap between hand-picked and mechanical harvested is fast closing."[441]

"I seen 'em work. They don't work."[442]

As the 1970s wore on, the HRDC's resolve, and funding, would be tested. It was not because the FCC withdrew support for the program, nor because the Committee's enthusiasm diminished. Instead, the industry as a whole felt the impact of events beyond its immense control. In 1975, to the relief of growers but the chagrin of the HRDC, there was a reversal in the

[437] "Florida Citrus Harvesting Research and Development Committee," November 19, 1973, box 10, folder 1, FCC Minutes.
[438] "Meeting of Florida Citrus Harvesting Research and Development Committee," August 20, 1973, box 10, folder 1, FCC Minutes.
[439] "Presentation of Mechanical Harvesting Status," April 15, 1974, box 10, folder 2, FCC Minutes.
[440] "Presentation of Mechanical Harvesting Status," April 15, 1974, box 10, folder 2, FCC Minutes.
[441] "Presentation of Mechanical Harvesting Status," April 15, 1974, box 10, folder 2, FCC Minutes.
[442] McPhee, *Oranges*, 60.

long trend of "labor shortages" seen as plaguing the industry. In meetings, Committee members attributed the turnaround to the nationwide economic downturn, suggesting that workers turn to farm labor in moments of economic desperation. The FFVA's *Activities Report* and *Labor Bulletin* also noted a trickling increase of noncitizen immigrants working in Florida's groves, warning its grower readership of increasing border patrol activity in the state, "apprehending and deporting illegal aliens" and advising on how to avoid employer penalties.[443]

At the same time, the UFW—with its contract renegotiations finally secured—launched an ambitious effort to introduce an Agricultural Labor Relations Act into Florida's legislature, which would secure organizing rights along the lines of the National Labor Relations Act for Florida's farmworkers. They found sympathetic representatives in both the House and the Senate, who introduced the bill, and it went to the House Agriculture Committee for a vote in 1976. Sorn's Labor Bulletin expressed dismay at the prospect of the UFW's legislation and chastised its readers: "there were about 200 United Farm Workers sympathizers including workers in attendance" but only "about 30 growers."[444] Because the bill "would allow strikes at harvest," the Bulletin encouraged readers to write urgently to the House Agriculture Committee.[445] It was not necessary. The Committee killed the bill before it could go to the floor for a vote. In response, growers doubled down on efforts to prevent further unionization, pushing agricultural "right to work" bills in the state legislature, lobbying against secondary boycotts, blocking efforts to introduce unemployment insurance and workers' comp, and firing on sight any workers seen talking with union organizers.[446]

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[443] "FFVA Activities Report," November 27, 1976, Florida Fruit and Vegetable Association – General File (1976–1977), Chase Collection.
[444] "Labor Bulletin, No. 350," May 12, 1976, Florida Fruit and Vegetable Association (1976), Chase Collection.
[445] "Labor Bulletin, No. 350," May 12, 1976, Florida Fruit and Vegetable Association (1976), Chase Collection.
[446] "Public Needs it Most of All," *The Citrus Industry*, December 1976, 20.

But just as growers exhaled in relief at the failure of the UFW's labor legislation, their groves were visited by a devastating freeze in January of 1977. When temperatures fell below 26°F and remained there, oranges would begin to spoil as the sun rose and thawed the groves. Growers needed their trees harvested quickly and so could not risk any fruit loss or delays due to mechanical failure. For the HRDC, the freeze had the immediate consequence of drastically reducing the number of groves available to mechanically harvest. With yields reduced by the freeze across the citrus belt, Sorn's *Labor Bulletin* reported that this would mean there would be a surplus of labor for the harvesting that remained. It was a bright spot, no doubt, in an otherwise dire moment for growers.[447]

But with the threat of labor shortages and labor organizing dwindling – given the overabundance of workers after the freeze and from increasing immigration and the failure of the UFW to expand in citrus or pass their ambitious farmworker labor legislation in Florida – getting buy-in from growers with the incentive program became substantially more difficult. And the growers who did continue with the program became more critical of, and impatient with, the results. After two harvesting seasons where there "has not been a real crunch in terms of hand labor costs," growers felt "considerable discouragement."[448] The reports from the fields became nearly comical in their descriptions of problems that, earlier, were easier to overlook. Machinery would regularly get stuck in Florida's soft sugar sand, oranges would fall through or out of catch frames completely, and regular rains in the late harvesting season would wash off abscission chemicals—which made the oranges easier to remove from their stems—before harvesting could

[447] "Labor Bulletin, No. 357," February 3, 1977, Florida Fruit and Vegetable Association (1976), Chase Collection.
[448] "Meeting of Florida Citrus Harvesting Research and Development Committee,"," May 19, 1975, box 10, folder 6, FCC Minutes.

take place.[449] The machines were noisy, unwieldy, and prone to breaking down, which would often take hours to fix. The HRDC remained committed, convinced that the temporary abundance of labor would pass.

With the incentive program on its last legs but with full mechanization still seemingly within their reach, the HRDC turned to another approach to put their ideas, and their machines, into practice. The committee agreed to fund and operate a nonprofit harvesting operation, the Citrus Research Foundation (CRF), which, instead of relying on growers taking the initiative, would lease groves outright and harvest them directly.[450] One of the first grove owners to volunteer was Minute Maid, which arranged a five-year lease on a forty-acre grove to be harvested by the CRF. The program was slow to get off the ground and would regularly run over budget. The machinery they had available was not the best: It was either experimental or leftover from earlier projects, cobbled together with spare parts and makeshift fixes the morning before harvesting. With skepticism from grower organizations, particularly from the Florida Citrus Mutual, the HRDC proposed that the CRF either be cut back substantially or that the committee go all-in, investing more heavily and riskily, accepting losses in order to keep afloat the dream of mechanization.[451]

At the same time, growers embraced another "technology" in their groves: increasingly byzantine third-party labor contracting. In an attempt to circumvent legal responsibility for labor violations, ever more layers of hierarchy were added between the grower and the worker. Growers hired grove managers, who hired contracting companies, which temporarily employed

[449] "Meeting of Florida Citrus Harvesting Research and Development Committee," May 14, 1974, box 10, folder 3, FCC Minutes.
[450] "Meeting of Florida Citrus Harvesting Research and Development Committee," October 2, 1975, box 10, folder 7, FCC Minutes.
[451] "Meeting of Florida Citrus Harvesting Research and Development Committee," May 4, 1976, box 10, folder 7, FCC Minutes.

individual contractors, who hired (often with little or no paperwork) teams of workers.[452] Sorn documented the changes with approval and from his position as manager of FFVA's Labor Committee and was instrumental in disseminating information to growers about the use of labor contractors, the proper wording of contracts, and in lobbying for favorable immigration reform legislation. In 1980, the FFVA praised Sorn for keeping federal enforcement of contractor laws "off our backs."[453]

But the HRDC saw its precarious funding dwindle further. With profits threatened first by the series of freezes and then, as a consequence, by mounting competition from São Paulo's industry, the Committee's tax on boxes was allowed to lapse. The nonprofit CRF followed shortly after. The HRDC made a case for its continued existence while also acknowledging the causes of grower reluctance. "This committee and the Citrus Commission had a responsibility to continue bona fide efforts to improve methods of harvesting," an effort that should be maintained despite the reluctance of growers, because, at any moment, labor costs could again begin "rapidly spiraling" out of control. Machinery should be kept in good repair, research should continue even if at a reduced pace, and the option of mechanization should remain open should it become necessary, especially if proposed federal immigration reforms threatened a greater "loss of labor." As the Committee stated forthrightly, "only because of new sources of Mexican labor has the harvesting situation remained tolerable at all."[454]

[452] An overview of the hiring structures and history of their adoption can be found in Leo Polopolus, Robert Emerson, Noy Chunkasut, and Rebecca Chung, *The Florida Citrus Harvest: Prevailing Wages, Labor Practices, and Implications* (Gainesville, FL, 1996).
[453] "FFVA Activity Report," September 25, 1980, Florida Fruit and Vegetable Association (1979–1980), Chase Collection.
[454] "Program for the Future," April 14, 1981, box 11, folder 6, FCC Minutes.

Yet Florida's growers continued to grumble about how the migrant stream, and consequently their labor supply, had "thinned."[455] They turned their energy toward lobbying for favorable legislation that would guarantee a surplus of workers. Grower associations made clear their support of the proposed Migrant and Seasonal Agricultural Worker Act in 1982 for that reason, praising it because it "would delete the prohibition against farmers, processors and packers and their employees hiring illegal aliens" that was law at the time.[456] Trade journals ran articles on the "Pros and Cons of Illegal Labor," in which they called for a robust, grower-oriented guestworker program but acknowledged that "raids on Florida citrus groves and vegetable fields by the Border Patrol certainly showed that knowingly or unwittingly farmers or crew chiefs hired the illegal immigrants."[457] This callous weighing of "pros and cons" had real consequences for the farmworkers, documented and undocumented, that were employed by these growers. Golden Gem was raided in 1984 by the US Border Patrol, ultimately deporting eighty-eight farmworkers to Mexico.[458] Golden Gem's president pled ignorance, placing blame on the labor contractor. The border patrol officials told the press that "more aliens without work permits have come to Central Florida this year than ever before," with deportation numbers doubling the already-high counts of the previous two years.[459] Labor contractors noted that even still, the rate of deportations was lax and the penalties paid for by the profits.[460] The number of workers swelled as the migrant stream from Mexico was joined by refugees from Haiti and Guatemala in

[455] Jeff Bloch, "Citrus Freeze Puts Long-term Squeeze on Industry," *The Miami Herald*, March 14, 1982. This claim was later shown to have been spurious by labor economist D. Marshall Barry, "The Adverse Impact of Immigration," 7–8.
[456] *Florida Citrus Mutual Triangle*, October 29, 1982, 2.
[457] "The Pros and Cons of Illegal Labor," *The Citrus Industry*, August 1983, 11.
[458] Lauren Ritchie, "88 Illegal Aliens Sent Home, U.S. Probes Crew Bosses," *The Orlando Sentinel*, February 18, 1983.
[459] Lauren Ritchie, "88 Illegal Aliens Sent Home, U.S. Probes Crew Bosses," *The Orlando Sentinel*, February 18, 1983.
[460] Lauren Ritchie, "Workers Find a Promised Land After the Dismal Life in Mexico," *The Orlando Sentinel*, May 9, 1983.

the middle of the 1980s.[461] Marshall Barry, an economist at Florida International University and one-time staff economist for the UFW's Florida Division, estimated that real wages of Florida's farmworkers declined by 13.3% between 1982 and 1986.[462] Writing in 1989, Barry noted that "as long as a large and steady stream of undocumented workers entered the pool of available agricultural workers in Florida, this wage depression, both in a relative and real sense, was a welcome phenomenon to the agribusiness employer."[463]

Barry was hardly the only person to notice the trend. Leo Polopolous, economist at the University of Florida's Institute of Food and Agricultural Sciences, wrote several pieces analyzing the increasing presence of undocumented immigrants in citrus harvesting crews after the passage of the Immigration Reform and Control Act (IRCA) in 1986. In theory, IRCA proposed harsh penalties on employers who knowingly hired undocumented immigrants. Polopolous, reading the legislation, assumed that it would act to counter the trend, and encourage growers and labor contractors to hire either domestic workers or to use H2-A guestworkers. He wrote, "of course, we all know now that the above scenario did not take place."[464] "IRCA has not prevented new illegals from entering seasonal labor markets," because, Polopolous argued, "these new workers come from foreign countries, mostly Mexico, with exceptionally fine looking, but forged, documents."[465] Ultimately, though, Polopolous recognized the law, and the immigration, was a boon to Florida's agriculture, as "the unexpected increase in the supply of workers has kept wage rates and piece rates in the South from increasing much above the

[461] *The Hands that Feed Us: Undocumented Farmworkers in Florida* (Washington DC, 1986), 25–28.
[462] Marshall Barry, *The Adverse Impact of Immigration on Florida's Farmworkers* (Center for Labor Research and Studies, Florida International University, 1989), 5.
[463] Marshall Barry, *The Adverse Impact of Immigration on Florida's Farmworkers* (Center for Labor Research and Studies, Florida International University, 1989), 32.
[464] Leo C. Polopolus, "Agricultural Labor Issues in the South." Gainesville: IFAS, 1992, 7.
[465] Leo C. Polopolus, "Agricultural Labor Issues in the South." Gainesville: IFAS, 1992, 7.

inflation rate."[466] And he recognized, too, how growers were going about hiring these workers before and after IRCA: "we believe that citrus growers and other agricultural enterprises that utilize large numbers of workers are increasingly using 'independent' labor contractors."[467] The economic logic was simple, "while growers look for ways to avoid risks of IRCA penalties and sanctions, labor contractors are adept at dealing with the threat of IRCA sanctions in the midst of large numbers of documented, illegal foreign workers."[468]

Florida's farmworker organizations attempted to confront the system of third-party labor contracting in two ways. The UFW's strategy was to win a contract stipulating that all the farmworkers used by grove owners were rightly the employees of that grove owner, not of a third-party contractor. Organizers targeted the groves of the Adams Packing Association, which employed only four hundred workers. The employees had the lowest pay of any citrus workers in Florida, roughly $3 an hour, nearly half the rate Minute Maid workers made.[469] Any whiff of meetings between farmworkers and UFW representatives, and Adams would call county deputies. Despite these odds, over two years the union managed to get signatures from all of the Adams Grove workers demanding the recognition of a union and the opening of collective bargaining negotiations. The response from Adams was swift: all four hundred workers were terminated. The UFW thought this would be a clear-cut legal case of discrimination. But the rabbit hole of labor contracting was deep. Adams's executives pleaded that they were a mere juice processor, that they neither owned groves, nor hired farmworkers.[470] The actual owners of the groves were "Gapway Grove Corp." The union provided paperwork proving that Gapway

[466] Leo C. Polopolus, "Agricultural Labor Issues in the South." Gainesville: IFAS, 1992, 7.
[467] Leo C. Polopolous and Robert D. Emerson, "Immigration and Employment Policy Impacts: The Florida Citrus Case," *Choices* (4th quarter, 1991), 16-18.
[468] Leo C. Polopolous and Robert D. Emerson, "Immigration and Employment Policy Impacts: The Florida Citrus Case," *Choices* (4th quarter, 1991), 16-18.
[469] Box 6, Folder 11, UFW Florida Boycott Records.
[470] "United Farm Workers Hope to Squeeze Citrus Processors," *The Tampa Tribune*, December 12, 1985.

Grove Corp. was a shell company of Adams, sharing offices and board members. Nevertheless, Adams pleaded again, even Gapway Grove Corp. does not directly employ farmworkers, they hire contractors—crew-leaders—and those contractors are responsible for the workers and working conditions. Adams ultimately succeeded. It was the last citrus grove in Florida that the UFW would attempt to organize.

The other approach was to challenge exploitative labor contracting methods by operating farmworker-owned cooperative contractors. Tirso Moreno, a former UFW member, saw that Adams was able to evade not only legal liability by their use of harvesting companies but also avoid any chance of workers achieving a collective bargaining agreement.[471] Moreno founded his own harvesting company, PEP Labor Crews, a worker-owned cooperative that would compete directly with the industry's harvesting companies.[472] Because it was a cooperative, PEP Labor Crews would, ideally avoid the abuses that Moreno associated with crew-leaders, which were "given authority in the field by the companies," and who "mistreat the people pretty badly."[473] Although, at the peak of its operations, PEP Labor Crews employed more than a hundred workers, it faced a steep uphill climb before it would become sustainable, much less competitive. Although farmworker wages and piece rates within the dwindling UFW Florida Division rose at negotiated amounts, what Moreno found outside of the UFW was that farmworkers' real wages had fallen sharply.

As Florida's farmworkers attempted to navigate this new landscape, so too did the HRDC. Proposing a threadbare budget that allowed just for continuity of staff and maintenance

[471] Tirso Moreno, interview by author, May 21, 2021.
[472] "Report to the PEP Labor Crews, Inc. and Farmworker Association of Central Florida, Inc.," Florida International University Special Collections, Miami, FL.
[473] Tirso Moreno, interview by Laurie Sommers, Apopka, Fla. March 6, 1998, Last Harvest Documentation Project, UA 22-12, Box 14, Valdosta State University, Valdosta, GA.

of machines, they all but acknowledged that their committee had come to an end. It was finally dissolved in 1984. But it served its purpose: demonstrating the commercial viability of mechanical harvesting. But it was a "commercial viability" achieved only in a specific moment, when Florida's industry was not seriously challenged by global competitors and when labor costs appeared to be trending steeply upward.

"A Climate of War."[474]

Though the freeze in 1977 shook Florida's growers, it was only a preview for the series of freezes that would follow. Back-to-back January freezes in 1981 and 1982 and a Christmas freeze in 1983 would reshape the landscape of the citrus industry of Florida – and of São Paulo. In Florida, after a freeze, grove workers would wake earlier than usual, picking with numb fingers in the ragged cold, warming their hands when they could beside the fuel-burning, waste-high "smudge-pots" that lined the groves and released fumes into the air to blanket the groves in an oily warmth. That was if they were lucky and could find work. If they were not, farmworkers woke up after a freeze to see their livelihoods destroyed along with the groves, a crucial workforce reduced to a reserve army of labor in a single night.

But in São Paulo State, the mood after a freeze in Florida was euphoric. And for good economic reasons: with the January 1981 freeze, Brazil finally overtook the United States as the largest producer of oranges, growing just shy of ten million tons of oranges that year.[475] And it was not just that Florida's numbers were falling; São Paulo's were growing. Between 1974 and 1981, growers had nearly doubled their production. And in 1982, with the floodgates to U. S.

[474] "Clima de Guerra," *Estado de São Paulo* (May 26, 1985), 48.
[475] Ronaldo Sued, *O desenvolvimento da agroindústria da laranja no Brasil: o impacto das geadas na Flórida e da política econômica governamental*. Rio de Janeiro: Editora da Fundação Getúlio Vargas, 1993, 7.

markets opened, São Paulo's growers produced almost three million more than the prior year. News of a frost would send international prices up and processors would scramble to buy oranges from growers, sometimes doubling or tripling their normal offers.[476]

Citrus, a São Paulo-based trade journal with ties to Bebedouro's grower cooperative, captured the mood in its editorials and, especially, in its magazine covers: the January 1982 issue featured a model Orange Bird, the Disney designed mascot for Florida's industry, with a single tear falling down its cheek.[477] The journal was just as forthright in its writings on competition between Florida and São Paulo's industries. In an article on the crop forecast for Florida's groves in 1981, it was noted that "one cannot talk about the price of juice or oranges in Brazil without taking into account what happens in the U. S."[478] They ran crop forecasts for Florida, analyzed production costs, and interviewed Florida's growers and agronomists. They even maintained a full-time correspondent based in Miami, who observed the freezes first hand, meeting with Florida growers whose "looks on their faces" showed that they "still seemed in disbelief."[479] They weighed in, too, on the harvesting mechanization efforts in Florida. Impressed by the investment of funds that would be in the "tens of millions of cruzeiros" if it had been undertaken in Brazil, they were less impressed by the results.[480] But they recognized the motive: "increasingly expensive labor costs." But they also saw the countervailing trend that might solve Florida's labor cost problems. *Citrus*'s Miami correspondent wrote in 1981 that, "larger increases in the cost of manual harvesting have apparently been avoided through the use of, often illegal, Latin American immigrants… some citrus growers or contractors take advantage of the

[476] "A euforia com a laranja," *Estado de São Paulo* (Jan. 11, 1984), 13.
[477] "Tristeza na Flórida, alegria em São Paulo: Brasil na liderança," *Citrus* (Jan., 1982), cover.
[478] "Ao futuro," *Citrus* (Out., 1981), 5.
[479] José Eduardo O. de Lima, "O frio, visto da Flórida," *Citrus* (Jan. 1982), 11.
[480] José Eduardo O. de Lima, "Nos EUA, aumenta o interesse pela mecanização," *Citrus* (Out., 1981), 17-18.

irregular status of many Latin American immigrants, paying them prices below those of North American harvesters."[481] They admitted, at the same time, that mechanical harvesting in São Paulo would be "decades away."[482]

But the euphoria could barely restrain the tensions that were growing in the industry. Throughout the 1970s, the juice processing companies concentrated their economic power into a small, and seemingly ever-more unified, group. Aside from Frutesp, the grower cooperative that purchased Sanderson, the largest companies were Cutrale, Citrosuco, and Cargill. Cutrale and Citrosuco alone accounted for more than half of the FCOJ production in the 1970s. By the mid-1980s, the four named processing companies produced nearly 90% of all of São Paulo's FCOJ.[483] Grower accusations of cartel behavior by the processing companies has been a continuous thread in the industry since the 1970s. The counterweight to the monopsony power of the processors was the grower association Associtrus. Associtrus was formed in 1974, during the Sanderson crisis, when so many growers were left without a buyer and with plummeting prices.[484] The hope was that Associtrus would be able to represent growers as an economic collective and negotiate prices with the processing firms. The response from the firms, though, was the creation of their own association: Abrassucos.[485] Annual negotiations between the two groups to set prices for the oranges to be processed regularly devolved into protracted and acrimonious standoffs that would spill into the editorial pages of newspapers and, sometimes, into public demonstrations, when growers would picket processing plants. Cacex, the foreign trade department of Brazil's central bank, attempted to mediate the negotiations and to create a

[481] José Eduardo O. de Lima, "Nos EUA, aumenta o interesse pela mecanização," *Citrus* (Out., 1981), 17-18.
[482] José Eduardo O. de Lima, "Nos EUA, aumenta o interesse pela mecanização," *Citrus* (Out., 1981), 17-18.
[483] Luiz Fernando Paulillo, ed. *Agroindústria e citricultura no Brasil: diferenças e dominâncias* (Rio de Janeiro: Editora E-Papers, 2006), 35.
[484] Donadio, *História da citricultura de Bebedouro*, 28.
[485] Donadio, *História da citricultura de Bebedouro*, 28.

binding price that would be respected by both parties. In response to their mediation, Cacex too became subject of condemnations from both sides. In 1983, São Paulo's Secretary of Agriculture was also called in to mediate that year's contentious negotiations, describing it dryly as "the traditional, cyclical, repetitive, monotonous confrontation of the so-called orange agreement."[486] He took the opportunity to criticize the situation as a whole, but singled out Cacex, who ultimately decided on the price. "We have 18,000 growers, ten processors, and 600 million dollars in exports" and a single "gentleman from Cacex" will decide the fate of all of it.[487] Fetaesp, the Agricultural Workers Union of São Paulo, also criticized the annual ordeal from the standpoint of the effect it had on workers. Although sympathetic to the "plight of São Paulo citrus growers" who dealt with the "monopoly" of the processors and would be forced to settle for a price "out of touch with the reality of production costs," the victims in it all were the rural workers left without a job as oranges rotted on trees during the drawn out negotiations.[488] Although news of a freeze produced an initial flush of excitement – with as much as 50% of the state's FCOJ being sold to the U. S. – the end result would be a war over who would be able to capture the profits.[489]

On Christmas Eve of 1983, Florida's citrus region reached lows in the teens and barely warmed above freezing during the day. Worse than that, the cold snap was not forecast by the frost warning system widely used in the industry. And still worse, temperatures sank back down to similar lows the next night.[490] It was the most damaging freeze in the state since 1962. The head of Abrassucos, the processors association, noted that it was for São Paulo's growers a

[486] "Fala, Secretário," *Estado de São Paulo - Suplemento Agrícola* (June 15, 1983), 2-3.
[487] "Fala, Secretário," *Estado de São Paulo - Suplemento Agrícola* (June 15, 1983), 2-3.
[488] "Laranja: tubarões do suco tumultuam as colheitas e provocam desemprego," *Realidade rural* (Junho 1982), 6.
[489] "Começa a briga pelo preço da laranja," *Estado de São Paulo - Suplemento Agrícola* (May 11, 1983), 7.
[490] John Attaway, *A History of Florida Citrus Freezes* (Lake Alfred: Florida Science Source, 1997), 174-176.

moment of as much joy as it was sadness for Florida's growers.[491] In *Estado de São Paulo*, it was speculated that the freeze would wipe nearly a third of the oranges destined for juice concentrate.[492] The article was accompanied by an illustration of a miserable-looking anthropomorphic orange pitifully holding an American flag while ice collects on his head slumped beside two cheering oranges, waving the flag of Brazil – in case the text was too subtle. A representative from the State's Secretary of Agriculture claimed that the freeze would initiate "a new phase for the nation's citrus farming."[493] One immediate result was a fevered investment in land in the citrus regions of the state, around Bebedouro and Araraquara.[494] Others cautioned growers and speculators that one year's euphoria could be another year's overproduction crisis.

But the stage was already set for another negotiating battle between Associtrus and Abrassucos. Because the price negotiations are typically set from May of one year to the following May, the December freeze occurred during the middle of a fixed price agreement. But international prices for FCOJ were already reacting to the news from Florida. Growers hoped to renegotiate rates set the prior year in order to account for the significantly higher international price for FCOJ. Processors, unsurprisingly, had no interest in doing so: Hans Krauss, President of Abrassucos, said that if a meeting were scheduled, he would be sure to follow along with it by reading the newspaper.[495] But Cacex intervened on behalf of the growers, threatening that they would halt the approval of exports until the processors agreed to re-negotiate a higher rate.[496]

A few months after the freeze and as the negotiations began for the next growing season, Associtrus assembled a group of fifty growers to visit Florida and survey the damage. Growers

[491] Hans Krauss, "Abrassucos - mercados interno e externo de sucos cítricos," *Laranja* (1984), 17-18.
[492] "Laranjas," *Estado de São Paulo* (Jan. 4, 1984), 13.
[493] "Os laranjas de ouro," *Estado de São Paulo* (March 10, 1984), 6.
[494] "Os laranjas de ouro," *Estado de São Paulo* (March 10, 1984), 6.
[495] "Citricultores negociam os preços com a Cacex hoje," *Estado de São Paulo* (Jan. 13, 1984).
[496] "Cacex exige que indústria pague mais pela laranja," *Estado de São Paulo* (Jan. 14, 1984).

were impressed by the productivity of the remaining trees – it was always a sore point for São Paulo's growers that Florida's groves were more productive, that is, produced more oranges – but were appalled at what seemed to be extraordinarily high production costs.[497] It would be difficult to overstate Brazil's competitive advantage in citrus during the early 1980s. With wry understatement, Florida Citrus Mutual's Acting Vice President Bobby McKown looked back on two decades of competition to acknowledge that "Brazil has always been our Achille's heel."[498] A quip common among Florida's growers was that "Brazil has a growing area 300 miles wide and as long as from Miami to Canada … and it never freezes."[499] But the biggest advantage that São Paulo State's growers and processors had, in terms of costs, more even than cheap land, was its labor.

By 1984, a majority of São Paulo State's citrus workers were, as in Florida, temporary wage workers, with no landholdings of their own.[500] The tendencies of rural exodus within the state, on the one hand, and migration into the state from Northeast, on the other, only accelerated the trends toward a large work force of non-permanent wage laborers.[501] They lived in housing on the outskirts of the citrus towns that dotted the interior of the state. Many of them were either first- or second-generation migrants from Pernambuco or Ceará, states in the northeast of Brazil, associated historically with sugar and slavery.[502] Because race was – as far as I have seen – not recorded in court documents, economic or demographic surveys of workers, or discussed in Fetaesp's publications, it is difficult for me to arrive at a comprehensive picture of the racial

[497] "Os citricultores visitam Florida," *Estado de São Paulo* (April 24, 1984), 46.
[498] "Director Beats Drum for Citrus," *The Tampa Tribute*, Nov 3, 1997, 18.
[499] "Freeze," *The Pensacola News*, Feb. 6, 1985, 2D.
[500] Simão Pedro Chiovetti, "Reestruturação Produtiva na Agroindústria Paulista e a Luta dos Trabalhadores Rurais Assalariados," *Lutas Sociais*, n. 6 (1999), 151-166.
[501] Almeida, Luiz Manoel de Moraes Camargo. "Novas formas de contratação de mão-de-obra no complexo agroindustrial citrícola paulista." Dissertação, Universidade Federal de São Carlos, 2002.
[502] Maria Aparecida de Moraes Silva, "A coragem, ela vem também da consciência:" entrevista com Padre José Domingos Bargheto," *Áskesis*, v. 3, n. 2, (July-December, 2014), 12-30

demographics of workers, but the dismissive regionalization of their identity was clear. The most common term used for citrus workers during the 1970s and 1980s was "bóia-frias," or "cold lunch," a reference to the meals that workers would take with them to the field in the early morning, which would be, by lunchtime, lukewarm.[503] An early scholar of these workers argued that they functioned as a swelling reserve army of labor, their mobility and their numbers serving growers as a means of depressing wages.[504]

Although, in theory, they were covered under Brazil's Rural Worker Statute – a law passed in 1963 but only selectively enforced under the military dictatorship – which provided for a number of wage guarantees, in practice these protections were frequently disregarded, and access to Regional Labor Courts remained difficult for rural workers into the late 1980s.[505] In practice, the state's rural workers suffered injuries and deaths resulting from employer negligence, wage theft, and lived in a situation of generalized precarity. The "orange road" that ran through the citrus belt was the site of repeated accidents, with careless crew leaders carrying trucks full of workers – crashes with multiple fatalities and injuries were the source of frequent grievance from Fetaesp.[506] Fetaesp and affiliated unions made recruitment drives in the citrus belt, looking to recruit the temporary workers. Though they were optimistic, they recognized that their ambitious goals would be an uphill battle.[507]

The idea that citrus harvesting in São Paulo might be mechanized was dismissed outright by those familiar with the industry and given that the wages were so low and the capital required

[503] The term, which was used popularly and in academic writing, has been largely replaced by "trabalho volante," which is normally, in secondary literature, translated as "temporary worker."
[504] Maria Conceição D'Incao, *O bóia-fria: acumulação e miséria*. Petrópolis: Editora Vozes, 1983.
[505] Angela de Castro Gomes and Fernando Teixeira da Silva, "Labor Courts in Brazil: Their Origins, Challenges, and Expansion," in *Labor Justice across the Americas*, eds. Leon Fink and Juan Manuel Palacio (University of Illinois Press, 2017).
[506] "A Comissão de Inquérito do Volante," *Realidade rural* (Aug. 1981), 3.
[507] "Araraستenta um ambicioso programa de sindicalização," *Realidade rural* (Jul., 1981), 6.

to experiment with harvesting technology so high, there was essentially zero incentive to do so.[508] An article discussing the mechanization of citrus did not refer once to mechanizing the harvest, but instead called for the industry to more fully adopt the use of tractors, tree trimmers, mechanical fertilizer and pesticide sprayers.[509]

The growing number of temporary rural wage workers in São Paulo's interior was not unique or entirely attributable to the growth of the citrus industry. It was driven at least, if not more, by the contemporary growth of the state's sugar industry. Many cane-cutters also worked harvesting citrus, depending on the growing season. And most studies of the "bóias-frias" focus on sugarcane workers, rather than citrus workers.[510] In part, I suspect, this is because it was sugar workers who lit the fuse on the series of strikes throughout the state's interior, which began on May 15th, 1984. But within a day, citrus workers in Bebedouro also began protesting. In discussions of the strikes, historians often lump "cane-cutters and orange harvesters" together, as though both were responding to the same general – and terrible – conditions that they shared.[511] But they articulated different demands based on industry-specific complaints and, when they won contract agreements, these looked very different.

On May 16th of 1984, only months after the Christmas freeze in Florida, the workers of Bebedouro ignited into an all-consuming fire that threatened to spread to the entire countryside. Father Bragheto, who had lived in and around Bebedouro for nearly a decade, was stunned by the sudden urgency and violence of the strike.[512] A radicalized, liberation-oriented Catholic,

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[508] José Graziano da Silva, "Progresso técnico e força de trabalho na agricultura brasileira," Tese, Universidade Estadual de Campinas, 190.
[509] Célio S. Moreira, "Mecanizcação do pomar de laranja," *Estado de São Paulo* (Mar. 10, 1982).
[510] José Francisco Graziano da Silva, *De bóias-frias a empregados rurais: as greves dos canavieiros paulistas de Guariba e de Leme* (EDUFAL, 1997), as well as D'Incao and, more recently, Eaglin and Rogers.
[511] Eaglin, *Sweet Fuel*, ch. 5. Sugarcane workers complaints centered around increasingly pressing demands with regard to the amounts of cane that was expected to be cut by each worker.
[512] It is too easy, especially in this dramatic case, to overstress the role of "spontaneity," as Elio Neves attested, FETAESP and other local unions were organizing workers toward the ultimate conflagration for years.

Bragheto had been attempting to encourage farmworker unionization for years. Just nights before the strikes started, he was at a local union meeting with exactly fifteen workers present. Though decades of organizing laid a groundwork for rural unions in the state, when the strike began, it took on a life, and a ferocity, all its own.[513] Pickets of five-hundred workers formed at the sites where labor contractors picked up workers for the harvest. The picketers blocked the trucks from moving, and when that failed, slashed their tires or hurled rocks at the trucks.[514] The next day, they recruited more workers from Bebedouro, marching through the city.[515] In response, police rampaged through the neighborhoods where the rural workers lived, beating women and children in their homes.[516]

Though the demonstrations – and, even more so, the response to those demonstrations – appeared chaotic and violent, the demands of the citrus workers were clear to everyone involved. São Paulo's Secretary of State, Roberto Gusmão, stated it plainly: "In Bebedouro, the movement could be more aggressive, because workers have been complaining for a long time … and they are not dumb. They know that the price of oranges has doubled [because of the Christmas freeze]." Gusmão continued, noting that growers are "making a lot of money," and so it follows that the farmworkers "also want a piece of the American orange."[517] The president of the Rural Workers Union of Bebedouro echoed this: the harvesters wanted their per box piece rate doubled (or more), to reflect and keep up with the increases in the price paid to growers by processors.[518] Sérgio Stamato, prominent grower and mayor of Bebedouro, acknowledged a year later that

[513] Maria Aparecida de Moraes Silva, "entrevista com Padre José Domingos Bargheto."
[514] "Os boias-frias reunidos em Bebedouro protestam," *Estado de São Paulo* (May 16, 1984).
[515] Ariovaldo Umbelino de Oliveira, "'Aos trabalhadores nem o bagaço:' ou a revolta dos trabalhadores dos canaviais e dos laranjais," *Boletim Paulista de Geografia*, v. 60 (1984): 173.
[516] Oliveira, "'Aos trabalhadores nem o bagaço," 173.
[517] "Polícia ocupa Bebedouro e dispersa manifestantes," *Estado de São Paulo* (May 17, 1984).
[518] "Os boias-frias reunidos em Bebedouro protestam," *Estado de São Paulo* (May 16, 1984).

workers' demands were articulated on the basis of the industry's rising prices—due to the increased market penetration into Florida—that benefited seemingly everyone but the workers.[519]

After little more than a week of strikes, workers in Bebedouro won their terms, and farmworkers, stunned union organizers, and industry representatives gathered into a soccer stadium in Bebedouro to formalize the gains.[520] But the strikes and the organizing did not stop there. It set off a chain reaction, and the following months would see demonstrations in several more citrus towns. They all were premised on the rise in prices due to the freeze and on the pressure exerted by farmworkers. After the end of the strikes, *Folha de São Paulo* noted the "irony" that by publicizing the boom in prices, processors had unwittingly condemned themselves to the strike. If processors refused to share in the bounty, workers could simply cross their arms, and sit out.[521]

More significant than the strikes and season-long agreements won by citrus workers, though, was that the freeze, the labor conflict, and the perpetual conflict between growers and processors finally forced the hand of Cacex to create a new standardized contract to regulate the prices in the industry.[522] In order to circumvent the power of the processors, the price would be set automatically, based on a formula tied to the going price for FCOJ futures on the New York Stock Exchange. Moreover, the processors would be responsible for harvesting and hauling. This was a win for growers, but also one for workers, who would have the ability to hold the large processing companies liable in Regional Labor Courts for violations of their contracts.

While labor conflict dominated news about the citrus industry in Brazil, complaints about competition with Brazil consumed Florida's growers. The Florida Citrus Mutual did not sit idly

[519] "Brazil has advantage in Orange Juice Wars," *Fort Lauderdale News*, May 5, 1985.
[520] Oliveira, "Aos Trabalhadores nem o Bagaço," p. 194.
[521] Oliveira, "Aos Trabalhadores nem o Bagaço," p. 212.
[522] Paulillo, *Agroindústria e citricultura no Brasil*, 22.

by while Florida-based processors imported juice from Brazilian concentrate plants. After the 1983 Christmas freeze and 1985 freeze in late January, the "stiff competition from Brazil" reduced the value of Florida's citrus crop by twenty-nine percent.[523] The FCM decided that they would challenge Brazil's processors in international trade court for "dumping" their supply into U. S. markets, claiming São Paulo's prices were kept artificially low thanks to subsidies from the Brazilian government and that processors were selling concentrate below the cost of production.[524] But this antagonism between major growing regions rebounded into an antagonism within Florida's industry, as a rift opened between growers and processors now in Florida: the latter benefiting from Brazil's bountiful supply while the former pruned away at their frost-damaged trees, hoping they would survive. The processors "want steady supplies and don't much care where they them," while the growers "have had their fill of Brazilian competition." Ultimately, growers hoped to "restore their once-dominant share of the market."[525]

São Paulo's growers watched the case unfold. The cover illustration of trade journal *Citrus*, as usual, provided its own kind of commentary: a peevish cartoon orange, glaring at the reader, drinking a tall glass of orange juice while wearing an absurdly tall Uncle Sam hat, with "the motto of Florida," that "Americans drink American juice."[526] *Laranja & Cia*, the company journal of Citrosuco, was less amused, and addressed the claims head-on. They criticized the United States for its protectionism, taking advantage of its economic weight to punish companies engaged in trade.[527] The claims of dumping, the article argued, were fallacious: prices were decided not by Brazilian processors, but by consumers, the largest of which was the United

[523] Jerry Jackson, "Fruit Crop Value Drops by 29%," *The Orlando Sentinel*, Oct. 3, 1986, C1.
[524] *Frozen Concentrated Orange Juice From Brazil*, Determination of the Commission in Investigation No. 751-TA-10 Under the Tariff Act of 1930 (Washington DC: USITC, 1984).
[525] Mary Lou Janson, "A Cliffhanger in Citrus Story," *The Tampa Tribune* (Dec. 21, 1986), E1.
[526] "Americano Bebe Suco Americano," *Citrus SP*, n. 96, May 1986, cover.
[527] "A Verdade sobre o dumping," *Laranja & Cia* (Ago. 1986), 3-5.

States itself and the price on the international market mirrored that of the price in Brazil's domestic market. In Brazil, too, the dumping case only further fed the conflicts between growers and processors. In a manifesto published in *Estado de São Paulo*, Associtrus complained that in price negotiations, processors would attempt to shift the cost-burden of any dumping-related penalties onto growers, along with costs associated with labor conflict and strikes.[528] Citrosuco's claimed in *Laranja & Cia* that growers' ire was misplaced. The "greatest antagonist" is "precisely not the juice producing and exporting industry," but rather is the governments of the United States and Brazil for their "perverse" tax policy and the growers' own low productivity.[529]

A later investigation in the dumping case by the World Trade Organization found that the Florida Citrus Mutual's claims were, strictly, incorrect, insofar as the lower prices were not a deliberate attempt to undercut prices on the international market but were instead "the result mainly of an exceptional lack of coordination among Brazilian firms."[530] Though the report bears a dramatic subtitle, "The Folly of Unfair Trade Cases," the analysis itself grants that the penalties that were applied to Brazilian concentrate imports by the International Trade Court did "protect orange growers," though it did so at the expense of "the world market."[531]

While Florida's growers attempted to control labor via mechanization but, instead, found a new source of even lower cost labor, São Paulo's growers – giddy from the profits promised by Florida's freezes – found their ostensibly cheap and pliable "reserve army" of labor threaten to undermine the industry.

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[528] "Manifesto da Citricultura," *Estado de São Paulo*, Ago. 2, 1986, 38.
[529] "A Verdade sobre o dumping," *Laranja & Cia* (Ago. 1986), 3-5.
[530] Carlos Alberto Primo Braga and Simao Davi Silber, *Brazilian Frozen Concentrated Orange Juice: The Folly of Unfair Trade Cases* (World Trade Organization, 1991), 2.
[531] Braga and Silber, *The Folly of Unfair Trade Cases*, 2.

CHAPTER 6

"THAT DREAD DISEASE"

Victoria Veridiana Rossetti arrived in Piracicaba in 1937, a city overlooked by a looming red brick sugar mill fed by the surrounding sugar plantations, and cut through the middle by the rock-strewn, rough, mud-colored river that gave the city its name.[532] Piracicaba was the home to the Luiz de Queiroz College of Agriculture (Esalq) of the University of São Paulo, the foremost agricultural school in the country, whose verdant campus stood out against the surrounding remains of the Atlantic Forest, a stronghold of agricultural modernity stamped into the landscape. Rossetti was raised in a family of well-to-do Paulista farmers, Italian immigrants who, on their land in nearby Limeira, grew coffee and citrus, but, as a family, seemed to specialize mostly in growing agronomists: before her, two of her brothers had entered the field.[533] After earning the country's first graduate degree in agricultural engineering at Esalq, Rossetti strung together achievements: an endless series of state grants, fellowships at the University of North Carolina, in Chapel Hill and at the University of California, in Riverside, and, ultimately, a career-long position in the Biological Institute of São Paulo.

It was at the Biological Institute that Rossetti encountered citrus canker.[534] Canker was first found in Brazil in 1957 in a nursery in Presidente Prudente, a town in the far, far northwest of the state, closer to Paraguay than to Piracicaba, and some three-hundred miles from the heart

[532] On Piracicaba's somewhat unusual place in the surrounding, then still-dominant Paulista coffee economy, see Gillian McGillivray, "Café com açúcar: homens, mulheres, e capital nas regiões canavieiras de São Paulo e Rio de Janeiro," in *O rural em América Latina: perspectivas*, edited by Vanderlei Vazelesk Ribeiro and Maria Verónica Secreto de Ferreras (Rio de Janeiro: Fino Traço): 195-222.
[533] "Victoria Rossetti (1917-2010)," *Summa Phytopathologica*, v. 37, n. 1 (2010), 9.
[534] Victoria Veridiana Rossetti, "Autobiografía," unpublished manuscript, 1995, held at the Biblioteca do Fundecitrus, Araraquara/SP, Brazil.

of the state's citrus industry. Among São Paulo's growing class of small farmers and nurserymen were a few thousand Brazilians of Japanese descent: some had the fortune of visiting Japan, with its own small citrus industry, and someone among them had the misfortune of returning to São Paulo with a cutting, or a fruit, carrying the bacteria, *Xanthomonas citri*.[535]

An orange with citrus canker, like one that would have been posted from Presidente Prudente to the Biological Institute in São Paulo and examined by Rossetti, has black, oozing lesions. The branch carrying the orange has lesions, and the tree's leaves have lesions. These lesions begin small and brown, with a "yellow halo," and grow darker, wetter, almost black, becoming craters, where the bacteria lives and thrives.[536] Unlike citrus greening, citrus canker does not need an insect host to travel tree to tree; it will spread from the lesions by wind, or clothing, or most often, will be borne across a grove by a gust during a rainstorm. Grown in a petri dish, *Xanthomonas citri* becomes gelatinous and yellow, a rich yellow-orange that nearly resembles the color of pasteurized orange juice concentrate. Left alone on a tree, after two or three years, the infected tree will begin to drop its fruit early, shed its leaves, skeletal, bare, until finally barren. There was – and remains – no method of guaranteed prevention, and no cure.

The distance of Presidente Prudente from the heart of the state's citrus was a blessing; it limited the spread of the bacteria into the commercial region. Rossetti and the agronomists at the Biological Institute in São Paulo knew that, decades earlier, between 1912 and 1933, Florida's citrus industry had been faced with the curse of canker and had, through a campaign of ruthless eradication, ultimately – totally – rid the state of it. But because of its long absence from the

[535] Celso Ferraz de Oliveira Santos, "Cancro cítrico: Ocorrência no Brasil e seu combate," in *Citricultura Brasileira*, 2nd ed., eds. Ody Rodriguez, et. al. (Campinas/SP: Fundação Cargill, 1991), 793. Santos's account here is especially interesting, as he headed the early eradication efforts in São Paulo.
[536] Takao Namekata, "O Cancro cítrico," in *Citricultura Brasileira*, 2nd ed., eds. Ody Rodriguez, et. al. (Campinas/SP: Fundação Cargill, 1991), 777.

Western hemisphere, the properties of canker, and the potentially industry-destroying danger that it posed, were not well understood. Rossetti applied for and received Brazil's first grant to study canker.[537] And she helped to oversee the eradication campaign that followed in Presidente Prudente. Under the guidance of the Institute, a force of four-hundred state police, in federally owned jeeps and trucks, rolled into the tiny cattle-town and began a campaign of total eradication, modeled on Florida's efforts in the 1910s: nurseries were quarantined, interstate shipment interdicted, and three-hundred thousand plants in nurseries and trees in groves summarily burned.[538]

The plan of "total eradication" cleared most of the municipalities in the region surrounding Presidente Prudente of the bacteria, which were then subject to strict monitoring by the Biological Institute. And the hope of keeping it isolated in the west of the state, far from the commercial citrus-growing regions, was realized. But nevertheless, canker spread southward: first crossing state boundaries, into Paraná and Mato Grosso, and then national boundaries, into Paraguay and the northeast of Argentina.[539] It was clear from the geographical direction of the spread and the relative intensity of the response that the logic of total eradication mapped cleanly onto the logic of business: the regions it spread, further south, and west, were cattle-country, or more sparsely populated, but if a monitored municipality closer to the commercial citrus belt was discovered, the Biological Institute would act quickly and decisively. For twenty years, they managed to largely stem the spread into the state's citrus belt and most productive regions around Bebedouro and Araraquara. But all the while, canker was spreading, becoming endemic, in Paraná, and in the smaller citrus industry of Argentina.

[537] "Victoria Rossetti (1917-2010)," *Summa Phytopathologica*, v. 37, n. 1 (2010), 9.
[538] Celso Ferraz de Oliveira Santos, "Cancro cítrico: Ocorrência no Brasil e seu combate," in *Citricultura Brasileira*, 2nd ed., eds. Ody Rodriguez, et. al. (Campinas/SP: Fundação Cargill, 1991), 794.
[539] Santos, "Cancro cítrico: Ocorrência no Brasil e seu combate," 793.

Rossetti and the other agronomists would spend much of the next two decades studying *Xanthomonas citri* in these isolated areas, sisyphean research on an often shoestring budget. The research did little to abate their fears. No rootstock was resistant, and no spray guaranteed defense. Every variety of lemons, limes, oranges, and grapefruit were vulnerable. As the industry grew in the 1970s, filling out the more and more former coffee land with citrus planting, the specter of an outbreak among the sprawling juice orange-growing groves haunted equally the growers, the owners of the processing plants, and the state's agronomists. In 1974, a federal program, the Campaign for the Eradication of Citrus Canker (CANECC), was established under the Ministry of Agriculture, in theory, easing the burden of separate state entities attempting piecemeal control in São Paulo, Paraná and Mato Grosso. But three years of offering little more than letterhead left São Paulo's growers and processors dissatisfied. Abrasucos and Associtrus, the professional associations of the state's processors and growers, respectively–-whose relationship remained sour after the contract disputes in the mid-1970s–came together in 1977 to mutually fund CANECC, establishing in their processing contracts that for each box sold by a grower to a processor, each would pay an equivalent tax, with the money sent to CANECC to support the efforts. This agreement and the fund it established, the Citrus Defense Fund (Fundecitrus) would set a precedent in São Paulo for close cooperation between growers and processors – if only on this single front.

This chapter details how citrus growers and agronomists in São Paulo and Florida attempted, and failed, to eradicate citrus canker in the 1980s. Florida's eradication effort, which began in 1984, drew on the canker research and eradication strategy adopted by São Paulo's citrus industry and from the experience of canker research in Argentina. In Florida, tensions quickly developed between, on the one hand, the plant pathologists in the USDA and state

extension service, the leadership of the Florida Citrus Commission and the Florida Citrus Mutual–all of whom argued that it was necessary to replicate the ruthless eradication strategy pursued in São Paulo–and, on the other hand, the growers, cooperatives, and members of the Florida Citrus Mutual, who objected to the heavy-handed approach that resulted in the destruction of their crops. These tensions, which broke the decades-long harmony of interests between the state and growers in Florida citrus, swelled into public outrage, legal fights, the burning of twenty million citrus plants, and, ultimately, the political end of the longtime Florida Agricultural Commissioner.[540] At the same time, after decades of eradication and vigilance, canker finally arrived in São Paulo's commercial citrus groves, and while CANECC and Fundecitrus would be submitted to public pressure, the eradication effort bent without breaking the cooperation between growers, processors, and agronomists. My argument is that, in Florida, canker became the issue that catalyzed a breakdown in the "balance of forces" between growers, their representative institutions, and the state.[541] While in São Paulo, these same forces were held together – despite some grower and agronomist dissent – under a hegemonic ideal of modernizing agriculture, in which science and business, the state and capital, interacted seamlessly in an effort to control nature by means of eradication.[542]

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[540] Sara Kennedy, "Florida Still Struggles Over the Citrus Canker," *The New York Times*, July 2, 1989.
[541] On the idea of the balance of forces and hegemony, see Florencia Mallon, "Reflections on the Ruins: Everyday Forms of State Formation in Nineteenth-Century Mexico," in *Everyday Forms of State Formation: Revolution and the Negotiation of Rule in Modern Mexico* (Durham: Duke University Press, 1994), 70: "If we think of hegemony as process, politics at all levels become nested arenas of contestation, where power is being contested, legitimated, and redefined. Some political projects are always winning out over others, some factions are defeating others. The interactions among different political arenas-say, between communities and regions, or between regions and a central state-not only redefines each one internally, but also helps redefine the balance of forces among them."
[542] Though it was canker eradication (the control of nature) that sowed hostility between growers and the state (the Florida Department of Agriculture and the Florida Citrus Commission), they remained wholly unified on another front: the task of securing a labor force, the control of labor. While, in São Paulo, it was the question of labor, and specifically over who would foot the bill for labor costs, that created conflicts between growers and processors and their allies in the state (CACEX), while they remained unified in the control nature.

I develop my argument in conversation with the historiography by environmental and agricultural historians on plant diseases and their exacerbation by the demands of large-scale, modernized agribusiness, and the historiography of state-level agricultural institutions (such as the USDA and cooperative extension services, or Brazil's Ministry of Agriculture and state-owned Brazilian Agricultural Research Corporation) and their often contentious relationships with the farmers that they purported to serve.[543] The historian who has most richly mined the intersection of these historiographies is Claire Strom, who writes about the frontier-South yeomen cattle ranchers who confronted heavy-handed, if necessary, state efforts to eliminate cattle tick by "making catfish bait out of government boys."[544] The endemic disease and the hostility to intervention make for a clear enough comparison with citrus growers. But the long history of cooperation between growers and agronomists in Florida preceding that hostility, and the role of citrus growers not as yeomen or subsistence farmers but as a forward guard of a fully modernized agribusiness make for a compelling contrast.

[543] On tropical diseases and agribusiness, the exemplary works are Steve Marquardt, "'Green Havoc': Panama Disease, Environmental Change, and Labor Process in the Central American Banana Industry," *The American Historical Review*, v. 106, n. 1 (Feb. 2001): 49-80; John Soluri, *Banana Cultures: Agriculture, Consumption, and Environmental Change in Honduras and the United States* (Austin: University of Texas Press, 2005), esp. Ch. 4 and "Something Fishy: Chile's Blue Revolution, Commodity Diseases, and the Problem of Sustainability," *Latin American Research Review*, Vol. 46 (2011), pp. 55-81 and Stuart McCook, *Coffee Is Not Forever: A Global History of the Coffee Leaf Rust* (Athens: Ohio University Press, 2019). I examine contrasts between the tropical diseases they study and citrus canker below. The historiography on the state and its relationship with farmers is enormous. Most relevant here are Wayne D. Rasmussen, *Taking the University to the People: Seventy-five Years of Cooperative Extension* (Ames: Iowa State University Press, 1989), which provides a sanguine account of good intentions and cooperation, usefully contrasted with more critical accounts in Catherine McNicol Stock and Robert D. Johnston, eds. *The Countryside in the Age of the Modern State: Political Histories of Rural America* (Ithaca and London: Cornell University Press, 2001). Critical, too, is Mary Neth's *Preserving the Family Farm: Women, Community, and the Foundations of Agribusiness in the Midwest, 1900-1940* (Baltimore: John Hopkins University Press, 1995), which explores how family farmers resisted the efforts of the extension service to "modernize" their farms.

[544] Claire Strom, "Texas Fever and the Dispossession of the Southern Yeoman Farmer," The Journal of Southern History, Vol. 66, No. 1 (Feb., 2000): 49-74 and *Making Catfish Bait Out of Government Boys: The Fight against Cattle Ticks and the Transformation of the Yeoman South* (Athens: University of Georgia Press, 2009).

Before he was a pariah, Franklyn Ward was beloved. Victoria Rossetti described him as "the nurserymen's nurseryman," one of the greatest in all of Florida.[545] Ward's father, a USDA botanist, moved the family from D.C. to Central Florida in 1917, pursuing in succession two quintessentially Florida occupations: cowboy and citrus grower, before settling on the latter.[546] He opened a citrus nursery along Florida's central ridge, guiding the business into one of the state's largest. When Ward took over the nursery in the 1950s, he threw himself into the industry, which despite its competition, was to him, a "big family," for which he provided the young trees and rootstock that grew into the orange groves that would cover the ridge.[547]

It was a humid late August morning in 1984 that a foreman at Franklyn Ward's nursery brought him a brown-spotted leaf. It appeared on several of the tens of thousands of young trees that lined the nursery.[548] Neither the foreman nor Ward suspected canker. Ward himself was just a little over ten years old the last time it was a live threat to the industry.[549] But it was strange: worth sending, Ward thought, to the state's citrus plant pathologists at the Institute of Food and Agricultural Sciences (IFAS), Florida's cooperative extension service at the University of Florida, just to see what, if anything, it was. It was canker. The response was swift and terrible. Florida's Agriculture Commissioner, Doyle Conner, immediately quarantined all nurseries that had received budwood or seedlings from Ward, and set agricultural inspectors out to examine all of the potentially infected nurseries, across seventeen counties.[550] At Ward's nursery, Conner

[545] Victoria Veridiana Rossetti, "O Cancro Cítrico na Flórida," *Jornal do Fundecitrus*, v. 1, no. 1 (Jan. 1985), 8. *Jornal do Fundecitrus*, cited throughout in various issues, was printed privately for growers and members of Fundecitrus, and is accessible at the Biblioteca do Fundecitrus, Araraquara/SP, Brazil.
[546] Barbara Stewart, "New Life at Ward's Nursery," *Orlando Sentinel*, June 3, 1985.
[547] Stewart, "New Life at Ward's Nursery."
[548] "Canker Confirmed; officials plunge into eradication effort," *Florida Citrus Mutual Triangle*, v. 35, no. 7 (Sept. 14, 1984).
[549] Jon Nordheimer, "Citrus grower praised for not hiding canker," *New York Times*, Sept. 24, 1984.
[550] "Canker Confirmed; officials plunge into eradication effort," *Florida Citrus Mutual Triangle*, v. 35, no. 7 (Sept. 14, 1984).

ordered that the only known cure for canker be applied: fire. All 40-acres of the nursery were set aflame by "workmen"–state prisoners working under the direction of extension service employees–with a butane gas burner.[551] Ward was devastated: "I can't tell you how bad I feel about letting him down. People came to me because we had a reputation and, God Almighty, now it turns out I sold them diseased trees and now they're going to suffer because of me."[552]

Growers pointed fingers, and one target was obvious: some speculated that it was brought in from São Paulo. "It could have been brought in from Brazil. Some people even think there may have been sabotage involved. We may never know. Probably won't."[553] One thing was certain. The discovery of canker could not have come at a worse time. The freezes that had driven the industry further south down the central ridge, the spine of Florida, had driven groves into ever wetter, more humid landscapes. The surest way for canker to spread was borne on rain, or even dew, or the moisture that clings to trees, and the sweat to workers and nurserymen, from a lesion to a wound on a branch. And the newer groves, planted after the December 1983 freeze, were especially vulnerable. The freezes also had driven the first wedge between growers and processors. To meet demand, the largest orange juice processors and distributors in Florida forsook Florida's growers, and began, for the first time, to import from São Paulo, even despite the tariff raised against Brazilian orange juice, a practice decried by the editor of the Florida Citrus Mutual's [the largest grower association] newsletter as, "stupid, immoral, and treasonable."[554] Cold and competition gave growers enough to worry about. One said, when

[551] "Canker Confirmed; officials plunge into eradication effort," *Florida Citrus Mutual Triangle*, v. 35, no. 7 (Sept. 14, 1984).
[552] Nordheimer, "Citrus grower praised."
[553] Robert Delaney, "Bailey: Florida citrus industry can survive adversity," *Florida Today*, November 4, 1984.
[554] *Florida Citrus Mutual*, v. 30, no. 25 (January 17, 1980).

asked about canker: "we're not concerned about canker because, basically, we're wiped out… if a person is dead and you run over him with a train, it doesn't make a difference."[555]

Ward's nursery was located in what was now the heart of the industry. And from his nursery, it spread: within a month, five nurseries with infestations were identified.[556] The state did what it does best: formed agencies, drew up guidelines and procedures, appointed temporary official positions. The Citrus Canker Eradication Project was to be a joint venture between Florida's Department of Agriculture and the USDA, with county-level offices of inspectors, pathologists, and fieldworkers. It would be advised by the federal Citrus Canker Task Force, pathologists, and the state Citrus Canker Technical Advisory Committee, also pathologists, from IFAS. Federal employees descended on Central Florida, to staff offices and to begin, within moments of arriving, entering nurseries, groves, and knocking on doors of homes with orange trees in their yard.[557] Before long, the Citrus Canker Eradication Project was more simply the Citrus Canker Project, and by October of 1984, just two months after the discovery of canker at Ward's nursery, the Project had everything in order: "stationary with letterhead" printed and "yellow identification badges" assigned.[558] They had a clear enough set of tasks. First, they needed to determine how many, and which, nurseries and groves had received stock from Ward's nursery, immediately issue quarantines and arrange to have them burned. Second, they needed to begin the more arduous task of identifying, house by house, any possible canker on residential, rather than commercial, citrus trees. The State Legislature reaffirmed Doyle Conner's authority and the police power granted to the Citrus Canker Project. Individual growers feared the worst,

[555] Charles Thursday, "Brazil rushes to fill gap left by Fla.'s calamities," *Baltimore Sun*, October 7, 1984.
[556] "Five nurseries canker-infected; Conner to give eradication orders," Florida Citrus Mutual Triangle, v. 35, no. 8 (Sept. 21, 1984), 1.
[557] Bob Balgemann, "Commuters left domestic duties behind," *The Tampa Tribune*, Oct. 1, 1984.
[558] Balgemann, "Commuters left domestic duties behind."

waiting for the call informing them their nursery or grove would be destroyed. "Between this and the freeze, nothing has ever worked out in this business."[559]

Pathologists, police, and prisoners arrived at Alan Sweet's nursery, after Project officials traced rootstock there back to Ward's nursery. Doyle Conner issued the order: Sweet's acreage, too, had to be burned. The pathologists were there to confirm the presence of the disease. The police, to enforce a strict quarantine around the nursery: no one in or out, unless approved and disinfected. The prisoners, to perform the hard labor of uprooting and finally burning the trees. Sweet did not welcome the opportunity to be selfless. It was necessary for the industry, perhaps, but it was a tragedy and an outrage to Sweet. He was unconvinced that his nursery was infected and incensed that it would be destroyed without a promise of compensation. Moreover, the stock he bought from Ward was approved by the state's Department of Agriculture: how is he to blame, he pleaded?[560] After a small forty-five-dollar purchase from Ward's, Sweet was now set to lose hundreds of thousands of dollars. "When I woke up this morning, I knew everything was gone. I was hoping it wasn't time to get up."[561] He was not alone. After Sweet, the Adams nursery—three million plants across sixty acres—burned.[562] After that, the Hutchinson nursery: four million, three hundred thousand trees.[563] Like dominos, nursery after nursery fell, amounting to more than forty before the end of 1986. And that year, the industry's worst fears were realized: canker was finally found in a commercial grove, not just in a nursery.[564] It was a grove along the Gulf Coast of Florida, near Tampa, in Manatee County. Then, in another grove,

[559] Susan Hemmingway, "Spraying should help contain canker, chairman of advisory committee says," *The Tampa Tribune*, September 22, 1984.
[560] Ward Sinclair, "Florida officials begin burning growers' canker-infested trees," *Washington Post*, September 22, 1984.
[561] Joseph B. Treaster, "A citrus nursery begins to go up in smoke," *New York Times*, September 22, 1984.
[562] Mary Anne Rhyne, "Officials confirm citrus canker at nursery near Haines City," *Tallahassee Democrat*, August 17, 1985.
[563] *Florida Citrus Mutual Triangle*, January 3, 1986.
[564] *Florida Citrus Mutual Triangle*, June 12, 1986.

in Palmetto County. Worse still, the canker that was discovered in the Manatee and Palmetto County groves was different. It was not the same strain of canker discovered in the nurseries. It was more virulent. They also realized: more familiar. It was, in fact, the exact strain—"Canker A"—that Florida's growers fought and eradicated decades ago. Where did it come from? And what did this mean for the "nursery type" canker discovered earlier? The infestation was far in advance of anything Project officials expected to find.

While incensed growers in Florida placed blame on São Paulo as the source of the canker outbreak, agronomists in both states looked to each other for shared lessons in combating the spread. Victoria Rossetti wrote the first analysis of the situation in Florida for the periodical established by Fundecitrus. In contact with IFAS plant pathologists and with the stack of issues of *Orlando Sentinel* that she used to follow every step of canker's spread through the state, she analyzed the disease, how it compared to São Paulo's experience.[565] Rossetti noticed strange characteristics of the canker found in Ward's nursery. It did not look like the canker she was familiar with from decades of battling it in São Paulo. The lesions were less dark, smaller, the halo lighter. Although she deferred to the IFAS pathologists, who found the *Xanthomonas* bacteria in the lesions, she weighed the possibilities that this was a different strain of canker: an insight that would prove to be correct. And in late September, a little over a month after the discovery of canker, Rossetti received journalists, growers, and plant pathologists from Florida at the Biological Institute in São Paulo, who were desperate for any insights into how the spread had been contained in her state. She offered them the guidelines established by CANECC: quarantine, copper sprays to slow the transmission of the bacteria, and a radius for tree removal and burning of 150 feet around a discovered infection. It was the latter point that distinguished

[565] Victoria Veridiana Rossetti, "O Cancro Cítrico na Flórida," *Jornal do Fundecitrus*, v. 1, no. 1 (Jan. 1985), 8

São Paulo's eradication guidelines: such a large eradication radius was controversial but, Rossetti thought, necessary.

Florida's canker response was built on the example of São Paulo's, using the same eradication radius and premised on the same underlying thought: the only solution to canker was to root it out where it appeared. Even before canker appeared in Ward's nursery, Florida agronomists visited São Paulo, planning for the worst, and left impressed by coordinated effort.[566] But there was another example that interested Florida's plant pathologists, if only as a vision of the worst possible scenario. In the 1960s, canker had spread slowly south from Presidente Prudente into Argentina, finally into the small commercial groves in the provinces of Corrientes and Entre Rios. They did attempt, at first, to eradicate it. But a failure of grower buy-in to the program, a lack of resources to inform growers of the symptoms and dangers of the disease, and the haphazard, widely spread-out nature of the industry in Corrientes all contributed to a total failure. Canker became endemic. The researchers were appalled. The spread was so rapid and so total that it seemed impossible it would not swallow Argentina's industry whole.[567] Rather than eradicate the disease, a distant dream by that point, IFAS and Argentine scientists collaborated on methods of controlling it, by alternating tree plantings between citrus and non-citrus trees, and with the use of copper sprays. There seemed to be a clear alternative: become overwhelmed, as in Argentina, or hyper-vigilant, as in São Paulo. The severity of the problem in Argentina gave the sense that foregoing eradication would be far too costly. The success of eradication in containing canker, in keeping it out of the commercial region in the north of the state, gave the sense, the hope, that it was possible.

[566] "FCC Sending Plant Pathologist to Brazil for Canker Check," *Florida Citrus Mutual*, v. 30, no. 25 (January 17, 1980).
[567] Bob Bobroff, "Scientists warning growers of dangers of citrus canker," *Orlando Sentinel*, September 24, 1978.

As canker spread in Florida and left a path of burned nurseries in its wake, dissent began to foment among growers. Publicly, the Florida Citrus Mutual, the industry's trade association, remained unwavering in its public support for Doyle Conner's strategy of eradication. The Mutual affirmed that it has "been in full support of efforts to eradicate canker … and remains supportive of the Citrus Canker Project," because—quite simply—"canker must be eradicated in order to protect the well-being of the Florida citrus industry."[568] Internally, though, the Mutual had complaints and attempted to move the Project in directions more immediately amenable to the group's members. After a court decision ruled that destroyed nurseries and groves must be compensated in full by the Project, worries grew about costs. The Mutual warned its members that, in light of the extravagant costs of reimbursing growers and of continuing to staff and fund the Project, Florida's state legislature was "looking for the industry to fund a major portion, if not all," of the Project.[569]

At the same time, the USDA—citing its own lack of funds—decided to quit its joint-partnership in funding the program. Doyle Conner was appalled by the USDA's decision. In a letter to the House Budget Committee, he asked how, "at this time of unparalleled strain on the agricultural system," the federal government could leave the state government to fund the program.[570] The numbers were striking: the eradication program had cost seventeen million dollars, ten of which were paid by the federal government. Despite pleas from the industry, they dropped their funding.[571] Who, then, was going to pay for the program? The industry compromised: they agreed to pay one-third of the cost of the program by means of a self-

[568] *Florida Citrus Mutual Triangle*, June 27, 1986.
[569] *Florida Citrus Mutual Triangle*, February 7, 1986.
[570] *Impact of the President's 1987 Budget (Field Hearings)* (Washington: U. S. Government Printing Office, 1986), 490-491.
[571] *Florida Citrus Mutual Triangle,* February 14, 1986.

imposed tax on each box sold of citrus—"self-imposed," that is, through the Florida Citrus Commission, so, mandatory for all growers. The other two-thirds of the Project's funding would come from the state's general revenue. That is, mostly, taxes.[572]

Growers within the Mutual also chafed against some of the specific rules and regulations that had been imposed by the Project, by the USDA, and by the citrus industries of other states, such as Texas and Louisiana. In particular, they resisted the attempt by the USDA and other citrus-growing states to restrict the sell and transport of fresh Florida citrus to those states. It was, on those states' part, a perfectly reasonable precautionary measure. For the Mutual, it was odious: and they initiated lawsuits against both Louisiana and Texas on behalf of Florida's fresh fruit growers.[573]

In the literature on what Soluri called "commodity diseases," the focus is primarily on how agroecological catastrophe follows directly from the logic of capital accumulation. Monoculture farming–a single crop grown at a large-scale for commercial gain–in bananas, coffee, or in cotton, or in fish-farming, created a perfectly vulnerable host for viruses or bacteria, that spread quickly from plant to plant, farm to farm. Agronomists working to "modernize" farming contribute to this by creating single varieties of the crop that are fit to this logic, high-yield and resilient for transport, reliant on regular fertilizing, irrigation, weeding, but that are often otherwise exceptionally prone to disease. Constant pesticide and herbicide use has the perverse effect of creating more virulent and resistant strains of diseases. In some cases, as James Giesen details in the case of boll-weevil in cotton, the threat of disease is used to justify a regime of agricultural modernization that removes tenant farmers and centralizes land ownership.[574] In

[572] *Florida Citrus Mutual Triangle*, February 21, 1986.
[573] *Florida Citrus Mutual Triangle*, February 21, 1986.
[574] James Giesen, *Boll Weevil Blues: Cotton, Myth, and Power in the American South* (Chicago: University of Chicago Press, 2011).

most cases, it was ultimately workers who suffer most from this regime: the deadly task of herbicide application falls to the farmworker, or the tenant farmer. None of this is false, exactly, in the case of citrus canker. The planting of acres of perfectly aligned groves inevitably hastened the spread of canker. But unlike the Gros Michel banana and the Panama disease that essentially eliminated it, citrus groves are comprised of many varieties of citrus–a single tree in Florida will have as many as four different varieties of orange, with different resistances and characteristics–and canker is equally deadly to any of them, to *any* variety of citrus. As residents of citrus-growing counties in Florida and municipalities in São Paulo learned, a small backyard grove was as vulnerable as a commercial crop. And because there was no pesticide or herbicide that would effectively halt the disease, there was not an unusual burden on workers, short of the annoyance of changing gloves, sometimes clothes, before entering a new grove.

The conflict that arose from citrus canker followed a slightly different logic than the commodity diseases normally studied. Rather than exacerbating a conflict between subsistence farmers and the state, or plantation owners and workers, canker left the citrus industry in Florida divided amongst itself: its representative institutions, such as the Florida Citrus Commission, the Department of Agriculture, and the Mutual, who sought to do what was best for the "industry as a whole," and individual member growers, who, simply, did not want to have to bear the personal costs of an eradication effort deemed necessary for the survival of the industry as a whole.

Five years before Franklyn Ward discovered canker in his Polk County nursery, it made its long-dreaded appearance in the northern tip of São Paulo's citrus belt, in 1979, in the town of Monte Alto, no longer confined to neighboring states or countries. The discovery was announced in the industry's principal trade journal, "after 22 years of the campaign to keep citrus canker at

bay, this evil again threatens São Paulo's groves."[575] CANECC, funded since 1977 by a self-imposed tax on boxes of citrus organized by Fundecitrus, snapped into action, with the established plan of eradication and quarantine. Demonstrating the equal susceptibility of all citrus to canker, the grove that was infected, in this case, were Galician limes. With tractors and chainsaws, CANECC targeted the municipality's lime trees, and the growers' whose trees were not torn down were prohibited from shipping or selling their fruit. The quick, two-month eradication effort in Monte Alto succeeded, and canker did not travel any further down the citrus belt – *yet* – but the state agronomists realized that they were now fated to play a game of "whack-a-mole" with canker. It was never going to be eliminated entirely from the state – it was already endemic in the west – but they proved that following their method could prevent it from spreading further when found, if it was found soon enough.

And so the agronomists in CANECC became convinced that the fundamental issue was less potential hostility from growers than indifference, or ignorance of the threat canker posed.[576] Ensuring that all of the state's growers were knowledgeable enough about the symptoms and danger of canker would be the key to quick identification and eradication. Lecturing throughout the state, in every town that dotted the citrus belt, CANECC agronomists told gatherings of growers that "cancer and canker are synonymous," that like cancer, the offending disease must be extirpated totally.[577] The Ministry of Agriculture weighed the question of compensation for growers. There was a concern, on the one hand, that without adequate compensation, growers would be incentivized to simply hide the discovery of canker; on the other hand, there were limits to the funding the Ministry had to provide to affected growers, and a more cynical concern

[575] *Citrus/SP*, April/May, 1979, 1.
[576] Santos, "Cancro cítrico: Ocorrência no Brasil e seu combate," 813.
[577] "Cancro cítrico: Esta ameaça agora ficou mais séria," *Citrus/SP*, April/May, 1979, 19.

that it would lead to a fraudulent "canker industry," of deliberate infections in immature groves allowing for a quick payoff.[578]

Over the next five years, isolated cases of canker infection broke out in the citrus belt but in each case, they were identified and eliminated quickly enough to prevent it spreading, from becoming endemic. The most alarming outbreak came in 1983, in Araraquara, the site of the processing plant of Cutrale, the state's largest grove owner and processor. It had spread from Presidente Prudente, through Araçatuba – a primarily sugar-growing city – toward Ribeirão Preto and Rio Claro. Mapped out, the spread was both north and south, inching gradually closer to the heart of the commercial citrus growing region, Araraquara and Bebedouro.[579] When it finally arrived, CANECC and Fundecitrus sprung to action: infected groves were eradicated, vehicles leaving and entering near groves were sprayed, workers made to wash their hands in antiseptic iodine alcohol, and the movement of nursery trees was effectively stopped.[580] Two hundred infected trees detected in a grove of 170,000: isolated and destroyed.[581] Part of Fundecitrus's effort was to go grove to grove, farm to farm, throughout the region, not only giving lectures to groups, but meeting with individual grove owners and grove managers: telling them how to effectively monitor, detect, and control the disease.[582]

The campaign did not always proceed smoothly. Agronomists were appalled to find canker among trees in Tabatinga, a small town neighboring Araraquara. There small growers predominated, with 700 farms closely bordering each other, without any fences or natural barriers to prevent the disease spreading from grove to grove.[583] It would be costly for growers to

[578] "Cancro cítrico: Esta ameaça agora ficou mais séria," *Citrus/SP*, April/May, 1979, 23.
[579] "Laranja," *Estado de São Paulo*, Oct. 12, 1983.
[580] José Roberto Ferreira and Valderi dos Santos, "Combata o Cancro Cítrico," *Estado de São Paulo*, Oct. 19, 1983.
[581] "Laranja," *Estado de São Paulo*, Oct. 5, 1983.
[582] Jornal do Fundecitrus 9/86
[583] "Foco de Cancro Cítrico descoberto em Tabatinga," *Estado de São Paulo*, May 13, 1984.

invest in prevention and both the national and state canker campaigns struggled to maintain adequate funding. And, occasionally, there would be real legal obstacles. A grower in Araraquara who had already lost more than five hundred infected trees to the eradication campaign filed with a local judge asking for an injunction against CANECC and Fundecitrus before they were able to finish the job, with another 4,000 set to be burned.[584] The judge granted the injunction, delaying a furious CANECC for ten days. Both entrances to the grove were blocked, preventing any oranges from leaving or entering the farm. The state attorney's office in Araraquara moved to have the injunction overturned and produced evidence that the grower himself had agreed to the measures earlier that month. After the delay, the eradication went forward.

For agronomists tasked with preventing its spread, grower reluctance or indifference posed as great a threat as canker itself. When reporting on canker, Fundecitrus's newsletter took two different tones: corrective hectoring towards growers' they considered too lax in their response and instructive praise for the growers and municipalities taking what they considered to be adequate action. The officers in Araraquara tasked with immediate response complained how "despite all the prevention and awareness campaigns, very few have actually taken effective measures to prevent the disease from entering their groves."[585] Fundecitrus's incoming president complained three years after the first outbreak in Araraquara that growers there still underestimate the gravity of the situation.[586] The June, 1986 issue ran with an illustration on the cover of an anthropomorphized orange, eyes closed, tears streaming down its face, with a gun held to its head: "Russian roulette." Growers, the accompanying article went, were risking their

[584] "Juíz proíbe combate ao cancro cítrico," *Estado de São Paulo*, April 26, 1984
[585] "Sentinelas da Citricultura," *Jornal do Fundecitrus* (April, 1986).
[586] Jornal do Fundecitrus 4/86

livelihood – and presumably, the lives of their oranges – by ignoring the dangers posed by canker.[587] At the same time, laudatory articles on exemplary growers and town officials across the citrus belt were run in nearly every issue. Olímpia, northwest of Araraquara, was praised for hosting a Disinfection Station in the courtyard of its city hall building at the initiative of its mayor, requiring all agricultural vehicles to pass through – more than two dozen vehicles per day.[588] A grove in Viradouro, a town neighboring Bebedouro, employed extra workers to inspect trees and disinfect equipment. The Fundecitrus agronomist noted the expense; the grower responded that "if it produces the desired outcomes, I do not consider it expensive, I think it is necessary."[589]

Some smaller growers who lost parts or all of their grove to eradication occasionally took to the newspapers to complain, but even the complaints that were printed were fairly muted. Eradication was not compensated, by federal law. Growers who lost their groves were taken to be responsible for their own losses: they allowed the disease to spread among their trees, and so they were made to bear the cost of their destruction. One wrote that the government's decision (meaning here, CANECC's decision) to eradicate his groves was "correct, maybe necessary to combat citrus canker" but that it came at an incredible cost for smaller growers like himself.[590] For some of his groves, it was their first production year after "four or five years" of growing, all "uprooted, without compensation."[591] Rather than demand full compensation, the grower more meekly asked for special financing for replanting at lower interest rates. Meanwhile, larger

[587] "Roleta Russa," *Jornal do Fundecitrus* (June, 1986), 1.
[588] João Francisco Kapp, "Olímpia: um exemplo a ser seguido," *Jornal do Fundecitrus* (March 1987), 2.
[589] Joaquim Moreira Filho, "Fazendo São Paulo: Um exemplo em prevenção ao cancro cítrico," *Jornal do Fundecitrus* (Jan. 1985), 7.
[590] "A erradicação de árvores," *Estado de São Paulo*, Nov. 16, 1985.
[591] "A erradicação de árvores," *Estado de São Paulo*, Nov. 16, 1985.

growers in Araraquara echoed Fundecitrus's complaints in print; that other growers were too slow to follow their advice.[592]

The whack-a-mole method, with its stringent eradication requirements, the tireless efforts of Fundecitrus, the buy-in among larger growers and (sometimes reluctant) acceptance among smaller growers, did, more or less, work. Infections in the most productive areas of São Paulo's citrus belt were kept at a sustainable level: the disease did not disappear, but neither did it spread beyond the control of Fundecitrus and the state agencies to manage it. That is, until the middle of the 1990s.[593] The control of nature seems, like clockwork, to result in an ironic unwinding of that control. The citrus leafminer, a tiny moth native to Asia, first appeared in São Paulo's groves in 1996. When the moth burrows into the leaves of young trees, it exposes the internal tissue; the resulting lesions offer an entrypoint for canker bacteria. The numbers of infected trees went from relatively stable to ballooning beyond control within three years.

Victoria Rossetti's early recognition that the canker running amok in Florida's nursery appeared different than the canker she was familiar with proved prescient. Plant pathologists were troubled by the discovery that it was a different strain, and some suggested that despite its rapid spread, it was less dangerous. The discovery that the strain of canker active was different in the state did not bolster the willingness of growers to support the Project. If anything, it sowed seeds of doubt. Had state plant pathologists identified a new strain of canker? Or had they simply misidentified innocuous brown spots on nursery trees? But skepticism of the Project was not primarily fed by scientific considerations. It was much simpler: grove owners and nurserymen did not want their groves put to the torch. Methods, messages, and money were all questioned and criticized, in the media, and soon, in court. This basic critic bled into increasingly fervent

[592] "O governo interfere e aumento o conflito," *Estado de São Paulo*, Oct. 10, 1985.
[593] Ubiratan Amorim, "Cancro cítrico avança nos pomares," *Estado de São Paulo*, July 8, 1998, G3.

public disavowals of the heavy hand of the Project, which critics now alleged had abused its police powers in search of a goal, eradication, critics now alleged was impossible. One grower, Jim Griffiths, representing the "rationally self-interest individual grower" as well as one could hope, said it simply: "no one can touch me." "People can swear at me, but no one can touch me. So if I don't like what Doyle Conner is doing, I tell him."[594] And he did *not* like what Doyle Conner and the project was doing. He urged destruction to stop immediately. Growers could, and should, simply learn to live with canker.

But even the most critical growers continued to act in ways that evinced a fear of canker. When the research director of IFAS proposed that a canker research facility be built in the citrus belt, growers balked. No one was willing to have it built near their groves or nursery, putting them at risk of exposure. One grower posed the problem perfectly: "…the canker program, everybody is in favor of eradication, but most everybody wants to continue doing business as he always did."[595]

And as the crisis of canker unfolded stateside, both proponents and critics of the eradication program invoked the efforts and experiences in Argentina and São Paulo to lend support to their positions. In 1984, there were two models: one of failure, Argentina, and one of qualified success, São Paulo. Within two years these models took on new normative valances. While Argentina was initially cast as nothing less than the most catastrophic failure imaginable in dealing with canker, it was now held up by those—such as grower Jim Griffiths—as the wisest solution. Let canker run endemic. It will anyway. Much worse is the wanton destruction of property by the state. Argentina's industry had invested heavily in copper sprays, which did have a meaningful effect on preventing the spread of canker, and in the planting strategies to

[594] Mary Lou Janson, "Another canker strategy," *The Tampa Tribune*, May 31, 1987.
[595] *Florida Citrus Mutual Triangle*, April 4, 1986.

prevent transmission.[596] Griffiths drew the comparison: "we've made a monster out of citrus canker," but "the Argentines are living with canker… very successfully."[597] The question was control—"living with it"—or eradication. Was the latter feasible: technically, financially, politically? Supporters of eradication drew very different conclusions from the Argentine example. "A trip to canker-infected portions of Argentina and São Paulo has convinced the scientist in charge of the state's canker research program that Florida must eradicate its canker infection."[598] IFAS supported this by means of a cost-analysis of the Argentine method of control, finding them prohibitively expensive.[599] Doyle Conner remained steadfast in his support of eradication, even admitting it could appear like "overkill syndrome."[600] With "underkill," he argued, "you don't get a second chance." "As far as Conner is concerned, there is no choice but to rid Florida of canker."[601]

As successful as Conner's "overkill" may have been in destroying trees, it was far more successful in making enemies. Though the state moved early to allow compensation payments to be made to nurserymen and growers who trees were destroyed, the payments were late in being distributed.[602] And when they did finally arrive, many found the amounts to be wanting—and took Doyle Conner and the Florida Department of Agriculture to court. Mid-Florida Growers and Himrod & Himrod Citrus Nursery were two of the first groves destroyed, having bought rootstock from Ward's nursery.[603] The plaintiffs argued—and the Florida Supreme Court agreed—that "the law simply says you cannot appropriate private property for the public good

[596] "Nursery owner wins canker case," *The Tampa Tribune*, January 8, 1988.
[597] Jerry Jackson, "Argentine lesson: Learn to live with citrus canker," *Orlando Sentinel*, May 24, 1987.
[598] *Florida Citrus Mutual Triangle*, February 15, 1985.
[599] *Florida Citrus Mutual Triangle*, April 11, 1986.
[600] Janson, "Another canker strategy."
[601] Janson, "Another canker strategy."
[602] *Florida Citrus Mutual*, January 3, 1986.
[603] Mary Lou Janson, "State loses canker battle in court," *The Tampa Tribune*, January 22, 1988.

without paying for it." While "state officials may have done what they felt was the right thing… they violated the constitutional rights of a large number of people," argued the nursery owner. The debate was not over the destruction of infected trees, whose commercial value—on account of being infected—was zero. The debate was over the extent of the destruction of healthy trees. But in the case of Mid-Florida and Himrod & Himrod, no canker was found. They were all healthy trees. But canker was, per the "overkill" method of Conner, assumed to be there, because of the rootstock they had ordered from Ward. Conner stressed in response, "in an eradication program you have got to deal with exposed materials, or you don't eradicate."[604] Conner did what he could: he appealed the ruling, all the way up to the Supreme Court of the United States.

The lawsuits poured in. Between 1984 and 1987, the Citrus Canker Project ultimately destroyed, partially or completely, forty-one citrus nurseries. By 1988, forty nurseries had filed suit against the state.[605] The "rash of lawsuits" was supported, ultimately, by SCOTUS, which in 1988 "let stand [the ruling regarding Mid-Florida and Himrod & Himrod] that Florida must compensate nursery owners who were required to destroy healthy citrus plants that were feared to be exposed to citrus canker."[606] The Project and the State of Florida fought to limit their liability for damages. Growers, already "bitter from the beginning about the mass tree burnings," found this even more galling. One grower, John Whitaker, another victim of Ward's nursery, said forthrightly: "They sacrificed us for economics, pure and simple, so the big boys in the industry could keep shipping citrus… I don't believe they'll ever get anyone in the industry to go

[604] Janson, "State loses canker battle in court."
[605] Richard Danielson, "State hit with outbreak of suits based on citrus canker burnings," *Tampa Bay Times*, October 13, 1988.
[606] Danielson, "State hit…"

along with any kind of eradication program" again. As for himself, he "will never obey another court order without a shotgun to force [him]."[607]

In May of 1988, a panel of state and USDA pathologists reviewed the now four years' worth of research conducted on the strain of canker found first in Ward's nursery and then in nurseries across the state.[608] With "remarkable unanimity," researchers agreed that there was "no positive evidence" that might "suggest that the [nursery strain] pose[s] a threat of significant losses or reduction in quality to bearing citrus in groves."[609] The USDA affirmed that what was found in Ward's nursery was a "leaf spotting disease," something "separate and distinct" from canker.[610] Within three months of the report, all restrictions on nursery strain canker were lifted in Florida. In a retrospective article, *The Tampa Times* ran a story with its all-bold headline all but gloating: "Researchers: citrus canker did not exist."[611]

Understandably, tides turned against Conner and the entire idea of eradication quickly. As he put it, "we're dealing with legalistics now, not control of canker."[612] In a last effort to rally support for the eradication effort, Conner asked the Florida Citrus Commission and the Florida Citrus Mutual to prepare a statement reaffirming their position. The Mutual offered a brief, muted show of support and reprinted, in full, Conner's letter asking them for the statement. It was a cruel reversal. But what seems to have been forgotten was that, at the same time the seemingly harmless nursery strain was discovered, Canker-A, the genuinely harmful strain, was also found, in groves in Manatee and Palmetto County. Had that been a misidentification, too? No. But with the tides turned, swimming back toward eradication—while arguably still urgently

[607] Jerry Jackson, "Lessons of canker fight costly for state, growers," *Orlando Sentinel*, July 10, 1989.
[608] *Florida Citrus Mutual Triangle*, May 20, 1988.
[609] *Florida Citrus Mutual Triangle*, May 20, 1988.
[610] Rodgers, "Researchers."
[611] David K. Rodgers, "Researchers: Citrus Canker Did Not Exist," *The Tampa Times*, Jan. 20, 1989, 1-B.
[612] Gaynell Terrell, "Lawsuits, economics changing how Florida handles canker outbreaks," The Tampa Tribune, December 25, 1988.

necessary—was unfeasible. The currents were too strong. And in November 18, 1988, more Canker-A was found in a grove in Palmetto County. Another virulent, quickly spreading case. Conner, still wincing from the damage to his credibility, balked at doing what he knew was correct: ordering the grove burned.[613] Instead, he suggested that the grove merely be defoliated, acknowledging that it was a "calculated risk." But given the legal situation, "a cautious approach is necessary." The USDA disagreed and overrode his order: the grove was burned.[614]

Conner was adrift. He was not sure what to do about the nursery strain: on the one hand, he had tied his political fortunes to its eradication. But all evidence pointed now to its fundamental harmlessness. It was, at worst, cosmetic. It was, pathologists had argued, probably not even a strain of "canker" at all. He asked the agencies under the umbrella of the Project to vote.[615] Should it continue to be designated as canker? "The Special Task Force on Citrus Canker voted to quit designating the nursery strain as a form of citrus canker on Wednesday, only to have the Advisory Committee Thursday unanimously recommend against a name change. All members of the Task Force are also members of the larger Advisory Committee, so several of those members changed their votes overnight."[616]

The entire fiasco—the failed eradication, the leaf-spotting, the lawsuits—would be the end of Doyle Conner's long career in politics. He announced his resignation, "voice breaking with emotion," in August of 1989.[617] The Mutual offered warm, if brief, goodbyes, recognizing him as a steadfast friend of Florida citrus.[618] And Franklyn Ward: how had he fared the last few years? After "three or four weeks just feeling awful about everything and wondering what I was

[613] *Florida Citrus Mutual Triangle,* November 18, 1988.
[614] *Florida Citrus Mutual Triangle,* December 16, 1988
[615] *Florida Citrus Mutual Triangle,* February 3, 1989.
[616] *Florida Citrus Mutual Triangle,* February 3, 1989.
[617] Bill Cotterrell, "Doyle Conner calls it quits," *Tallahassee Democrat*, August 10, 1989.
[618] *Florida Citrus Mutual Triangle*, August 11, 1989.

going to do," Ward set up reopening his nursery, from scratch. After four years, he succeeded; he also succeeded in convincing his daughter to take over the industry. Asked if that would have happened if it had not been for canker, Ward said, "Yes. Maybe that's the lesson. If you look for it, there's a lot of good, even in bad."[619]

[619] "Franklyn Ward," Orlando Sentinel, April 17, 1988.

CONCLUSION

Hilario Barajas was born in 1950 in the deepest south of Texas, in the town of Rio Hondo in the Rio Grande Valley and grew up between Mexico and the United States. A child of farmworkers, he would say he was born with "politics in [his] blood," implanted there when father, at the age of twelve, was drafted into Pancho Villa's army in the Mexican Revolution. Hilario was twelve, too, when he decided he would be "some kind of rebel." He had just discovered that, despite spending much of his childhood in Mexico and attending school there, he was born in Texas and was therefore an American citizen. As soon as he learned, he wanted "to fight for his rights" and "wanted to do something." At first what he did was cross back and forth alongside his brother in order to find work in the United States as a farmworker. Working as a minor, he traveled, riding – standing – in the back of a truck from Texas, going north to Wisconsin, Michigan, Maryland, "all of the states." Between age twelve and fifteen, in the middle of the 1960s, two things happened that would shape the direction of his life: he met Maria, the self-described "sheltered" daughter of the crew leader driving the truck, and he heard about the United Farm Workers. He heard about the union, saw the news, saw a march in Wisconsin, but was kept from the movement by the constant migration and by the work he did in order to support his family.[620]

In 1971, Hilario was working in Florida, picking oranges, when he met an organizer from the UFW. He said he signed the petition as soon as it was offered to him. When the contract was signed, Hilario said "it was beautiful, we learned what a union was." Both Hilario and Maria

[620] All the quotes above come from an interview with the author, December 18, 2019, conducted in Auburndale, FL.

became deeply involved in the union. Hilario took part in the negotiating committee after the first three-year term expired in 1975. Coca-Cola initially refused to negotiate, according to Hilario, because their "$1,800 lawyer" was not interested in sitting down with a group of lifelong farmworkers to hash out details. Arrested in front of Coca-Cola Foods' headquarters in Auburndale and arrested again at Coca-Cola's headquarters again in Atlanta, Hilario was emboldened. After the contract was re-signed in 1975, Hilario was involved in every aspect of the union: on the grievance committee and the head of the "ranch committee" (the local branch of the wider Florida Division), while Maria worked administering the union's statewide medical plan.[621] His tendency to "make some trouble" continued with him throughout the decade he would spend in the union. Coca-Cola complained that he was a "general trouble-maker" with an "insubordinate attitude."[622] In addition to settling grievances between workers and the company, he was involved in grievances himself. One sticking point was over the right-of-access of UFW organizers going into the groves to speak with workers, which – despite being enshrined in the contract – the company routinely violated, when foremen refused to allow them into the groves.[623] In 1980, a dispute arose between Spanish-speaking workers and a company foreman over the count of the oranges harvested. Hilario intervened, translating for the workers. The foreman demanded that the workers hand over the cards the company used to keep track of the number of oranges. Hilario instead took the cards, insisting that they would be used as evidence in a grievance. It would be the last grievance that he took part in. The union, he thought, was "going to die." Leadership in California rejected his ideas to do "something big," such as joining

[621] Interview with the author, Hilario and Maria Barajas, December 18, 2019.
[622] "Arbitration and Grievance: Coca Cola, Winter Haven- Reprimand of Hilario Barajas; 1980," Folder 10, Box 17, UFW Florida Boycott Records.
[623] "Lawsuit, Trespassing; 1975-1976," Folder 7, Box 6; "Arbitration: Reprimand of Hilario Barajas, Coca Cola vs. UFW; 1979-1980," Folder 23, Box 13; "Arbitration and Grievance: Coca Cola, Winter Haven, Reprimand of Hilario Barajas; 1980," Folder 10, Box 17, UFW Florida Boycott Records.

with farmworker organizers in the midwest to foment a national movement, or even redoubling efforts to organize citrus workers at companies other than Coca-Cola in Florida. And Coca-Cola complained to UFW leadership that they could "not survive" wage hikes for their workers. Not because they could not afford it – they continued to make a profit – but because of mounting pressure from other growers in the state, whose wages were driven upward by the union's continued presence.

So in 1981, Hilario and Maria left the UFW to help found a new organization, called Centro Campesino. In Hilario's vision, it would be built on two pillars: helping farmworkers afford housing and ensuring that farmworkers knew their legal rights. They purchased mobile homes with fundraised money and sold them to farmworker families, asking for a monthly payment of $100. He specifically did not seek to help UFW members with these benefits, because "they were doing good over there," looking instead to offer them to "other people in the community." Although Hilario retained an ideal of "organizing people," Centro Campesino functioned essentially as "a service center," geared toward helping immigrants with problems largely outside of the workplace. It was, in some respects, a realistic change in focus. In the 1980s and 1990s, the population of immigrants in Central Florida grew significantly, and with the UFW weakened, there appeared to be little chance of a renewed effort to fight and win collective bargaining agreements with growers.

Tirso Moreno was recruited into the UFW by Valentin Barajas, the brother of Hilario, in 1976.[624] After nearly a decade working in the union's Apopka field office, in the far north of Florida's citrus industry, Tirso too became dissatisfied with the union's inability to expand beyond its single contract or to serve the community of all of those who were not covered under

[624] Tirso Moreno, interview with the author, May 19, 2021.

its generous contract. “I was not happy with just serving the membership over there,” he would explain. He took a position in 1983 with the Archdiocese of Orlando’s farmworker ministry, in order to “see if I can do some organizing around the farmworkers community.”[625] From there, he founded his own advocacy group, the Farmworker Association of Florida (FAF). In addition to running PEP Labor Crews – the labor contractor run by farmworkers themselves – FAF offered “a credit union,” “association-run groceries,” and “a Mexican restaurant in Apopka.”[626] FAF was also a lobbying group, particularly around the use of pesticides in agriculture. Like Centro Campesino, though, it was not a labor union. For Hilario and for Tirso, a labor union seemed unable to respond to the pressing problems in the communities in which they lived.

In Florida, the UFW was an unusual outpost amid a much larger group of non-unionized workers, who faced steadily declining real wages throughout the 1980s.[627] In São Paulo, between 1985 and 1995, citrus farmworkers seemed to be in the middle of a perfect storm of events that would shift momentum in their favor: a growing industrial and rural labor movement in the state, the end of the military dictatorship in 1985, the formalization of rights in the 1988 Constitution, and the expansion of Regional Labor Courts throughout the interior. Citrus farmworkers were emboldened to organize in rural worker unions and to take to the Regional Labor Courts to enforce their rights and the terms of harvesting agreements made between their unions and the juice processing companies.[628]

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[625] Karen Branch, “Advocate honored for aiding farmworkers,” *The Miami Herald* (July 5, 1993), 5B and Tirso Moreno, interview by Laurie Sommers, Apopka, Fla., March 6, 1998, Last Harvest Documentation Project, UA 22-12, Box 14, Valdosta State University.
[626] Karen Branch, “Advocate honored for aiding farmworkers,” *The Miami Herald* (July 5, 1993), 5B
[627] Marshall Barry, *The Adverse Impact of Immigration on Florida’s Farmworkers* (Center for Labor Research and Studies, Florida International University, 1989), 5.
[628] For the increasing number of strikes year-over-year in the period, see issues of Boletim DIEESE. For an overview of Brazil’s Labor Courts, see Angela de Castro Gomes and Fernando Teixeira da Silva, “Labor Courts in Brazil: Their Origins, Challenges, and Expansion,” in *Labor Justice across the Americas*, eds. Leon Fink and Juan Manuel Palacio (University of Illinois Press, 2017).

Under the standard contract established in 1985, processors were expected to buy oranges "on the tree" from growers, and so provide the transportation, hauling, and harvesting needed to get them to the processing plants. This direct link between employee and employer opened the processing companies to legal liability in the Labor Courts, which workers and their advocates seized upon. This did not entirely prevent the processing companies from attempting to hide behind labor contractors and subcontractors. But Labor Court judges were rarely fooled and case after case documents Court's effort to demonstrate a joint-employer relationship between these harvesting contractors and the juice processing company. The most common reasons farmworkers would take their employer to court was over wage theft: the company's failure to pay for holidays, time in transit, the thirteenth month salary, or failure to properly notify an employee being terminated. A worker would take a complaint to a local Conciliation and Judgement Board (JCJ). A judge would attempt to reach a verbal settlement with the parties. Failing that, they would rule on the merits of the case.

The records from the labor courts that dotted the citrus belt in São Paulo attest to the renewed militancy of the moment. Workers showed up with their labor contracts signed between the processor and Fetaesp and would demand that the companies honor them or the federal labor law. In individual cases, workers would often settle or win. Ivone Quitêrio, an employee of Cargill Citrus, was reimbursed for only one hour of the three she had to travel, the court decided in her favor and demanded that she be reimbursed.[629] Maria de Lourdes Lopes da Silva traveled a similar distance, beginning her day at 6:30 AM and ending it when she was dropped off at her home at 7:30 PM, worked without a break, and ultimately was dismissed without cause. She settled for a month's salary.[630] Strikes in January 1990 (one week), in October 1993 (eleven

[629] Pr. No. 385/90., CMAC, TRT-15.
[630] Pr. No. 485/90., CMAC, TRT-15.

days), and in August of 1994 (eighteen days) demonstrated a continued effort to force employers' to honor both the union harvesting contracts and the federal labor laws.[631]

All of this would be undermined in 1995. It began in 1990, when Florida's industry had begun to recover both its productivity and profitability from the devastation of the early 1980s freezes. When this happened and global supply increased, international FCOJ prices began to fall. The prices offered to São Paulo's growers on the basis of the NYSE numbers for FCOJ fell below production costs, and fell to the lowest they had been in decades.[632] In 1994, Associtrus took the juice processing companies to court, alleging that their economic concentration and the standard contract unfairly disadvantaged São Paulo's growers.[633] What they hoped for was a renegotiation of the standard contract with terms more favorable to them. What happened instead was that the federal regulatory agency that decided the case – the Administrative Council for Economic Defense, or CADE – did away with the standard contract or any mediated negotiation altogether. Growers protested the decision by gathering in the thousands to block the access roads to processing plants, but it did not amount to much.[634]

Growers were left to face the even more highly concentrated processing firms on their own terms. Processors took advantage of the opportunity to arrange their contracts such that they were no longer responsible for harvesting and hauling costs. Growers, struggling with low prices, now were expected to handle labor recruitment as well. For workers, the situation was worse still. A small change in the federal labor law (CLT) made in December of 1994 allowed for the creation of "worker cooperatives" that did not have joint-employer status with the firms that

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[631] Boletim DIEESE, Feb. 1990, Nov. 1993, Sept. 1994.
[632] Silva, José Francisco Graziano da, et. al., *A crise do complexo citrícola paulista: uma proposta não excludente* (São Paulo: Diretório Regional do PT, 2000), 6.
[633] Silva, *A crise do complexo citrícola paulista*, 7.
[634] "Citricultores bloqueiam indústrias de suco em SP," Estado de São Paulo (Jul. 5, 1996).

employed them, shielding the latter from legal liability and from burdensome contracts with actual labor unions. It was little more than a rebranding of labor contractors.[635] Though these "false cooperatives" were challenged – and ruled illegal – in a series of Labor Court decisions, it proved incredibly difficult to functionally eliminate them.

In 1994, Coca-Cola sold off its Minute Maid groves, finally ending the remarkable but long-hobbled contract with the United Farm Workers.[636] Two years later, they sold their two processing plants: one of them to Cutrale, one of the two largest processors in São Paulo. Cutrale's entrance into Florida's industry was preceded by Cargill and followed by Citrosuco and Coinbra.[637] The "Big Four" processors were "sinking millions into Florida's juice-processing industry" and "as a result of their buying binge of Florida juice plants" processed "nearly one of every three oranges grown in Florida."[638] The intrusion into Florida's industry was met with trepidation from growers, who would have to negotiate with processors that brought with them a reputation for hard bargaining. Florida Department of Citrus economist Phil Lesser predicted that "companies with processing plants in both Brazil and Florida will assert the choice of making that juice where it happens to be cheaper. So if Florida growers ask for prices 'out of alignment' with world OJ prices," the processors can simply use concentrate from São Paulo.[639] Though their initial purchases were just processing plants, the Big Four also looked to invest in groves, at the same time that they were radically expanding their grove operations in São Paulo. A Tampa Tribune article described the mood within Florida's industry as both like "an old horror movie," in which "they fear their creation will destroy them" and meetings as like "a wedding reception

635 Silva, *A crise do complexo citrícola paulista*, 22.
636 "Grove Sale Deals Blow to Labor," *The Orlando Sentinel* (February 14, 1994).
637 Silva, *A crise do complexo citrícola paulista*, 12.
638 "Multinationals' march into state worries growers," *The Miami Herald*, July 6, 1998, 20.
639 "Multinationals' march into state worries growers," *The Miami Herald*, July 6, 1998, 20.

where the in-laws realize they're stuck with one another."[640] One Florida processor said simply, "we have to go to meetings with them, serve on boards with them."[641]

However reluctantly, what began as two distinct citrus industries became a single citrus industry, spanning Florida and São Paulo, with global markets, and a labor force recruited from Mexico, Central America, and the Caribbean. This dissertation has attempted to explore "the South's history … not merely in the context of the United States, but alongside the people of the world."[642] Specifically, the citrus industry offers a case in which the history of the globalization of the post-Jim Crow cannot be understood either as a story of "humble immigrants," or of "mighty corporations," but of the interaction between the two. And any question of distinctiveness is further complicated when precisely what makes the citrus industry profitable is the imposition of a kind of uniformity: first in the design and artificiality of the groves, then in the process of turning countless oranges into identical units of concentrate. The competition that shaped both Florida's and São Paulo's industries drove this imposition of uniformity. Higher labor costs in one region hurt the profitability of those growers and processors, which made a peripheralization of the Florida labor force an attractive option, that is, to force Florida's citrus harvesters closer to a wage rate comparable to São Paulo's. In both states, growers and processors utilized increasingly similar forms of independent labor contracting to push down labor costs and avoid liability, used research – agronomic and economic – from the other, and approached their tree maintenance and disease prevention in increasingly similar ways. The question of distinctiveness, the question that drove C. Vann Woodward both to understand the South and to understand its place in a broader global history, is not one with a fixed answer, and

[640] "Florida citrus growers have had the U.S. market to themselves," *The Tampa Tribune*, Jun. 7, 1999, 11.
[641] "Florida citrus growers have had the U.S. market to themselves," *The Tampa Tribune*, Jun. 7, 1999, 11.
[642] Tore C. Olsson, "The South in the World since 1865: A Review Essay," *Journal of Southern History*, v. 87, no. 1 (Feb. 2021) 108.

understanding the South in a global perspective requires understanding how distinctiveness is made and unmade, in groves, in hiring halls, in agricultural experiment stations, and in executive offices.

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