



The University of Georgia

Center for Agribusiness and Economic Development

College of Agricultural and Environmental Sciences

Georgia Economic Losses Due to April 2007 Freeze

**Prepared by:
Archie Flanders, John McKissick, and Tommie Shepherd
Center Report: CR-07-08
May 2007**



Georgia Economic Losses Due To April 2007 Freeze

Executive Summary

Freezing temperatures during April 6-9 have affected Georgia agricultural production. Total state agricultural production value losses are \$257.5 million. Greatest values of loss were reported for blueberries, peaches, and pecans. Blueberries have losses of \$64.9 million, peaches \$28.1 million, and pecans losses are \$26.9 million. Small grains losses are \$19.1 million and livestock grasses total \$47.8 million. The balance of production value losses are for vegetables and fruits. Freezing temperatures are estimated to have total economic output impact losses with a range from \$368.9 million to \$430.4 million.

Georgia Economic Losses Due To April 2007 Freeze

Freezing temperatures during April 6-9 have affected Georgia agricultural production. Greatest losses were to fruits crops that are either complete losses or have reduced yields due to freeze damage. The Center for Agribusiness and Economic Development (CAED) at The University of Georgia estimates total agricultural production value losses are \$257.5 million.

Table 1 shows agricultural commodity totals for production value losses. Total state losses represent a 33% decrease from the normal production value for commodities with reported losses. Greatest values of loss were reported for blueberries, peaches, and pecans. Blueberries have losses of \$64.9 million, peach losses are \$28.1 million, and pecans losses are \$26.9 million. Small grains losses are \$19.1 million and livestock grasses total \$47.8 million. The balance of production value losses are for vegetables and fruits.

Total state losses for commodities are compared to normal production values for commodities with reported losses in *Table 1*. Total losses for reported commodities are greater than 75% of normal production value for peaches, blueberries, and apples. Losses are greater than 30% for small grains, tobacco, livestock grasses, and cantaloupes.

Economic Impacts of Production Losses

Losses reported in *Table 1* are for values of production losses. These losses lead to additional losses as typical economic multiplier effects are not realized in the Georgia economy. Conditions that prevent planting cause a complete loss in economic activity as farmers do not purchase any inputs or services for the crop. Losses that occur at the end of the season are viewed mostly as lost farmer income that is not available as household spending. Losses occurring during the season are a combination of lost production impacts and income impacts. Data is not available to determine at what point production losses occurred. Thus, a range of economic impact losses are estimated that covers unknown conditions of losses from the beginning of the production season through the end of production. Losses occurring at the beginning of the season have greater economic impacts than losses occurring at the end of the season.

Output losses in *Table 2* are the total sales that are lost to the Georgia economy due to the direct losses reported for each commodity. Direct losses for fruits cause total output losses that range from \$155.1 million to \$174.3 million. Direct losses for a combination of hay and pasture total \$47.8 million and lead to total losses in output that range from \$63.0 million to \$80.4 million. Freezing temperatures are estimated to have total output impact losses that range from \$368.9 million to \$430.4 million.

Output losses lead to declining incomes for workers in commodity production industries, as well as those who earn income due to agricultural production. Income losses are the best indicator of lost wealth to the Georgia economy due to the freezing conditions. Labor income impacts in *Table 3* show the income losses for proprietors and employees. Income losses on Georgia are estimated to range from \$90.6 million to \$166.7 million. Employment impacts in *Table 4* represent the number of full-time and part-time jobs that are associated with income losses in *Table 3*. Employment impacts range from 2,572 jobs to 5,694 jobs.

Figures 1-6 show the geographical distribution of losses throughout the state. Figure 1 indicates that all regions were affected, but the southern part of the state was more severely impacted. Production of blueberries, peaches, and pecans are concentrated in southern Georgia.

Table 1. Commodity Freeze Losses

	Loss \$	3 Year Average Value \$	Percent, 3 Year Average	¹ Normal Reported Value \$	¹ Percent, Normal Value
Corn	24,091,288	71,477,000	34	104,795,279	23
Wheat	16,028,688	24,243,333	66	41,376,811	39
Rye	1,942,327	2,746,667	71	3,236,939	60
Oats	1,112,274	2,355,333	47	2,978,318	37
Tobacco	7,196,252	56,280,667	13	11,423,406	63
Hay & Forage	26,676,190	NA	NA	60,892,309	44
Pasture	21,157,220	NA	NA	56,418,821	38
Watermelons	2,739,605	40,853,333	7	15,385,227	18
Tomatoes	1,118,027	65,700,000	2	11,511,904	10
Sweet Corn	9,862,297	65,601,333	15	120,423,422	8
Snap Beans	7,423,708	27,737,667	27	92,846,019	8
Peppers, Bell	637,069	22,920,000	3	2,123,458	30
Cantaloupes	1,972,162	18,351,667	11	5,309,755	37
Squash	1,121,650	41,224,667	3	16,378,196	7
Pecans	26,908,377	75,673,333	36	93,700,357	29
Peaches	28,070,407	31,171,000	90	35,877,367	78
Blueberries	64,872,028	38,455,000	169	75,871,958	86
Apples	4,901,945	2,742,333	179	5,104,018	96
Other	9,694,578	NA	NA	26,344,910	37
Total	257,526,092			781,998,474	33

¹Normal based only on counties reporting losses.

Table 2. Losses and Economic Output Impacts Due to Freeze

	Direct Loss	-dollars- Output Impact Range	
Grains	43,174,577	62,980,541	: 72,483,073
Tobacco	7,196,252	10,497,471	: 12,444,711
Hay/Pasture	47,833,410	62,980,541	: 80,445,707
Vegetables/Melons	25,824,674	37,671,522	: 44,863,675
Pecans	26,908,377	39,252,363	: 45,406,012
Fruits	106,300,988	155,065,656	: 174,322,738
Other	287,814	419,846	: 475,925
Total Losses	257,526,092	368,867,940	: 430,441,841

Table 3. Labor Income Impacts Due to Freeze

	<i>-dollars-</i>	
	Labor Income Impact Range	
Grains	15,465,839	25,602,046
Tobacco	2,577,815	5,481,939
Hay/Pasture	15,465,839	29,359,581
Vegetables/Melons	9,250,821	20,996,127
Pecans	9,639,020	19,177,647
Fruits	38,078,754	65,984,608
Other	103,100	134,756
Total Losses	90,581,188	166,736,704

Table 4. Employment Impacts Due to Freeze

	<i>-jobs-</i>	
	Employment Impact Range	
Grains	439	1,415
Tobacco	73	240
Hay/Pasture	439	694
Vegetables/Melons	263	408
Pecans	274	486
Fruits	1,081	2,446
Other	3	5
Total Losses	2,572	5,694

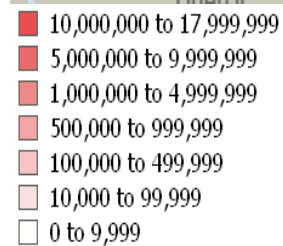
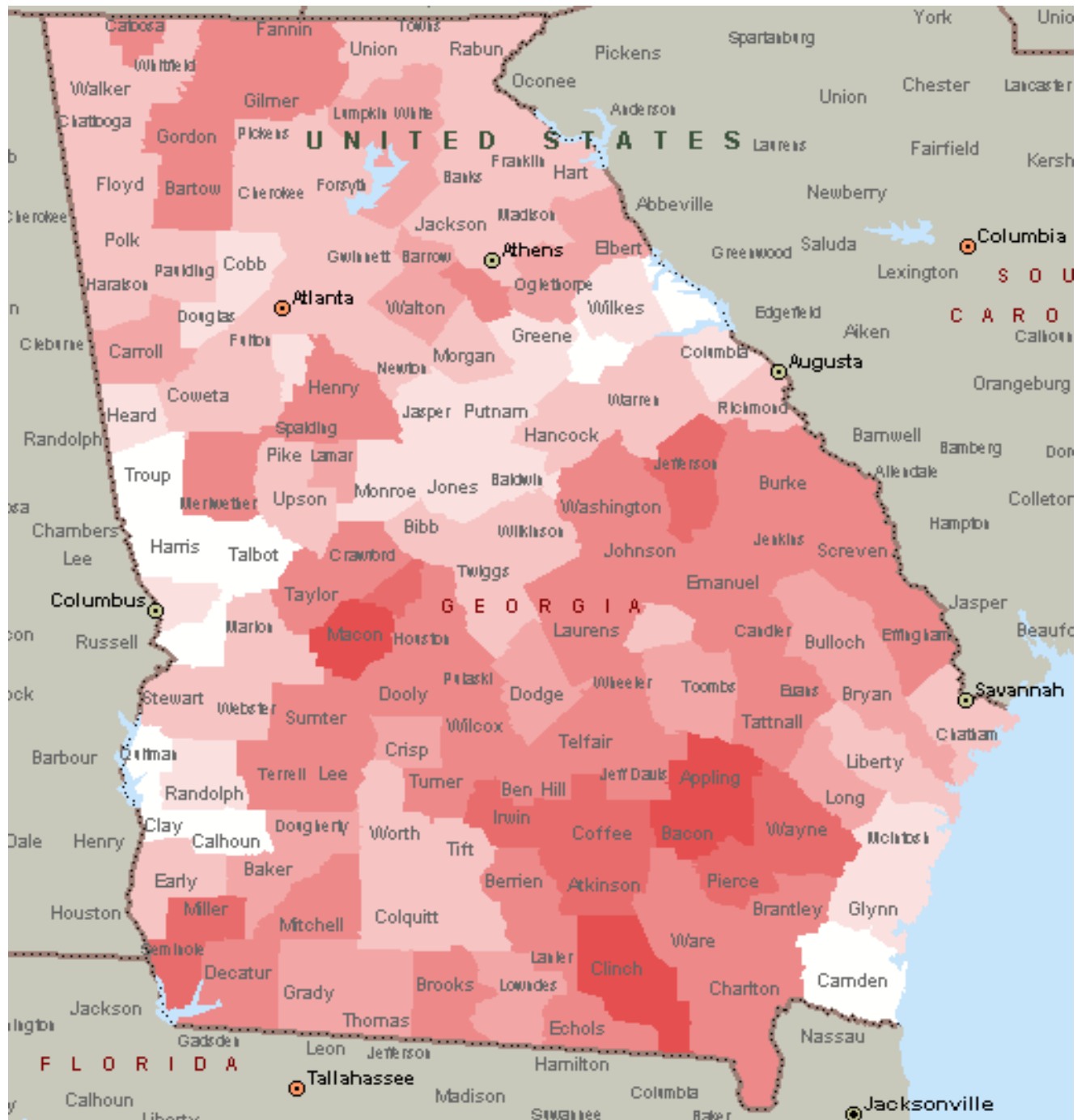


Figure 1. Total Losses (\$)

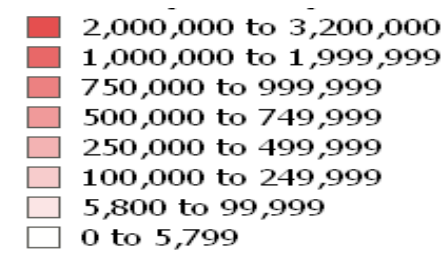
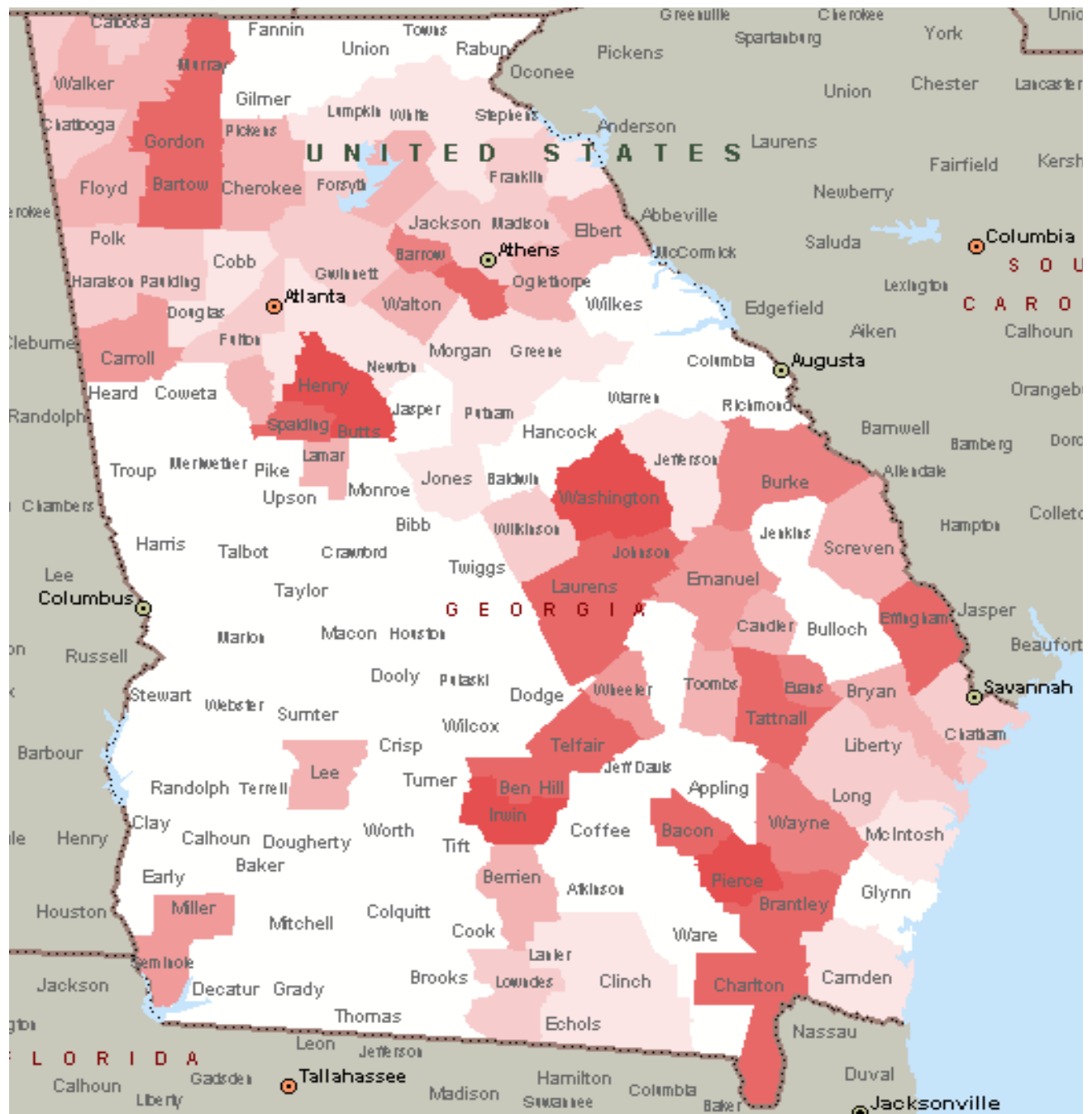


Figure 2. Hay & Pasture Losses (\$)

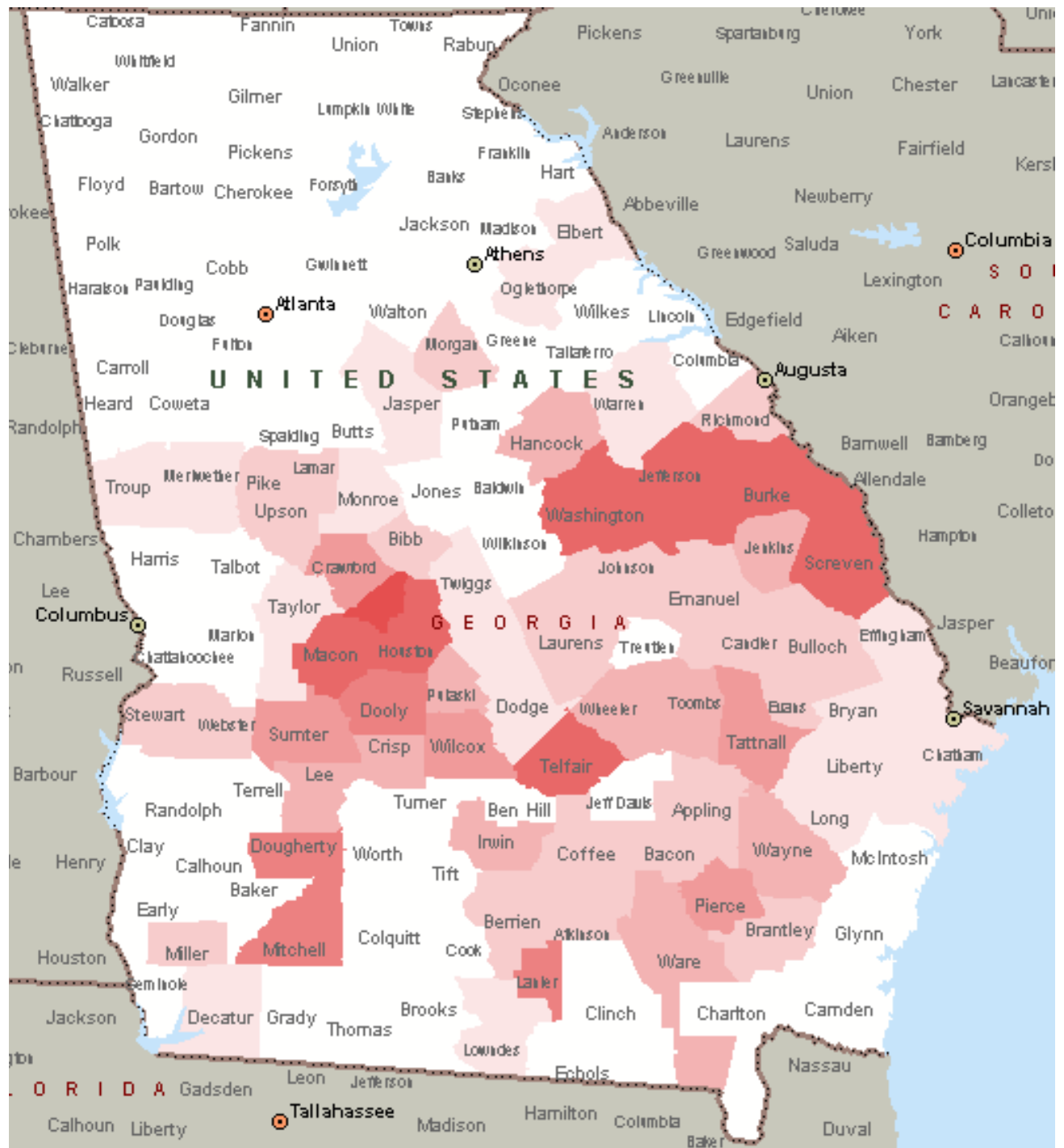


Figure 3. Pecan Losses (\$)

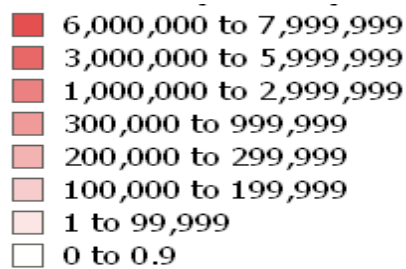
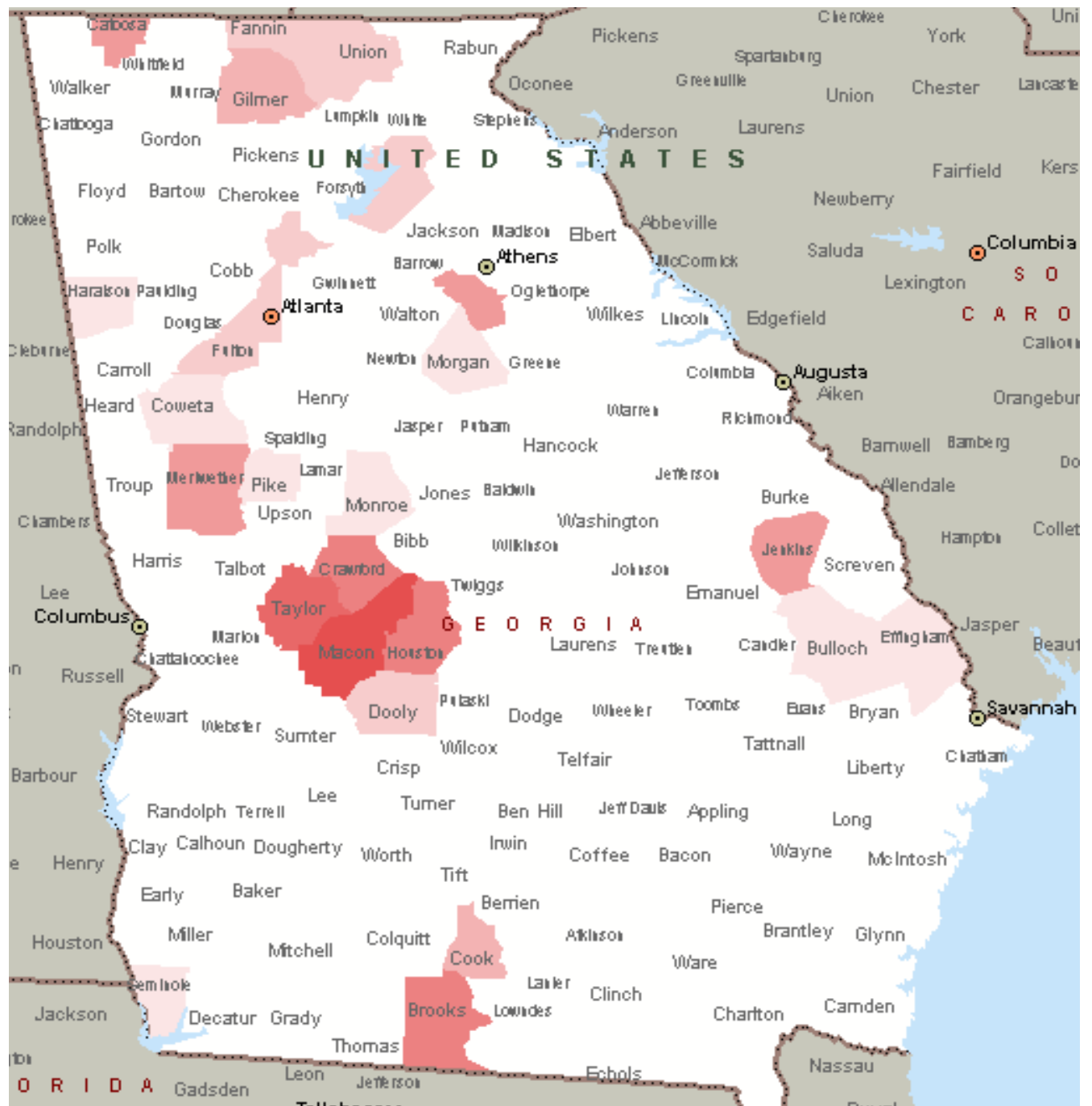


Figure 4. Peach Losses (\$)

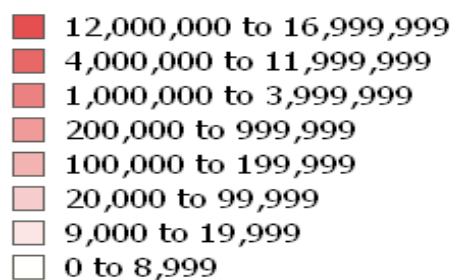
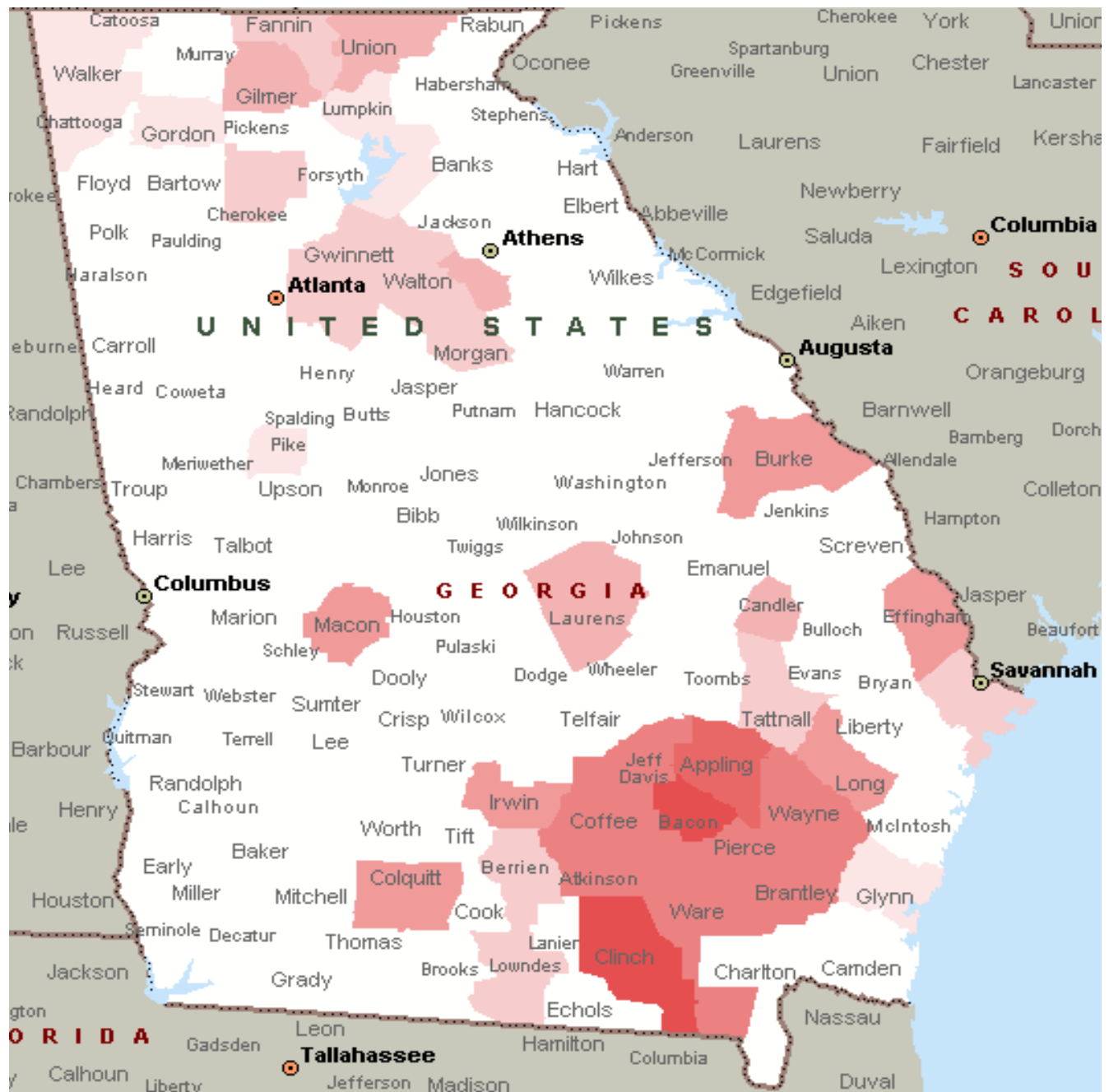


Figure 5. Blueberry Losses (\$)

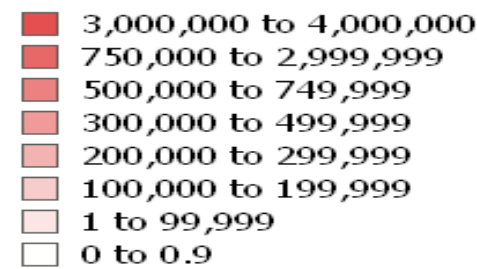
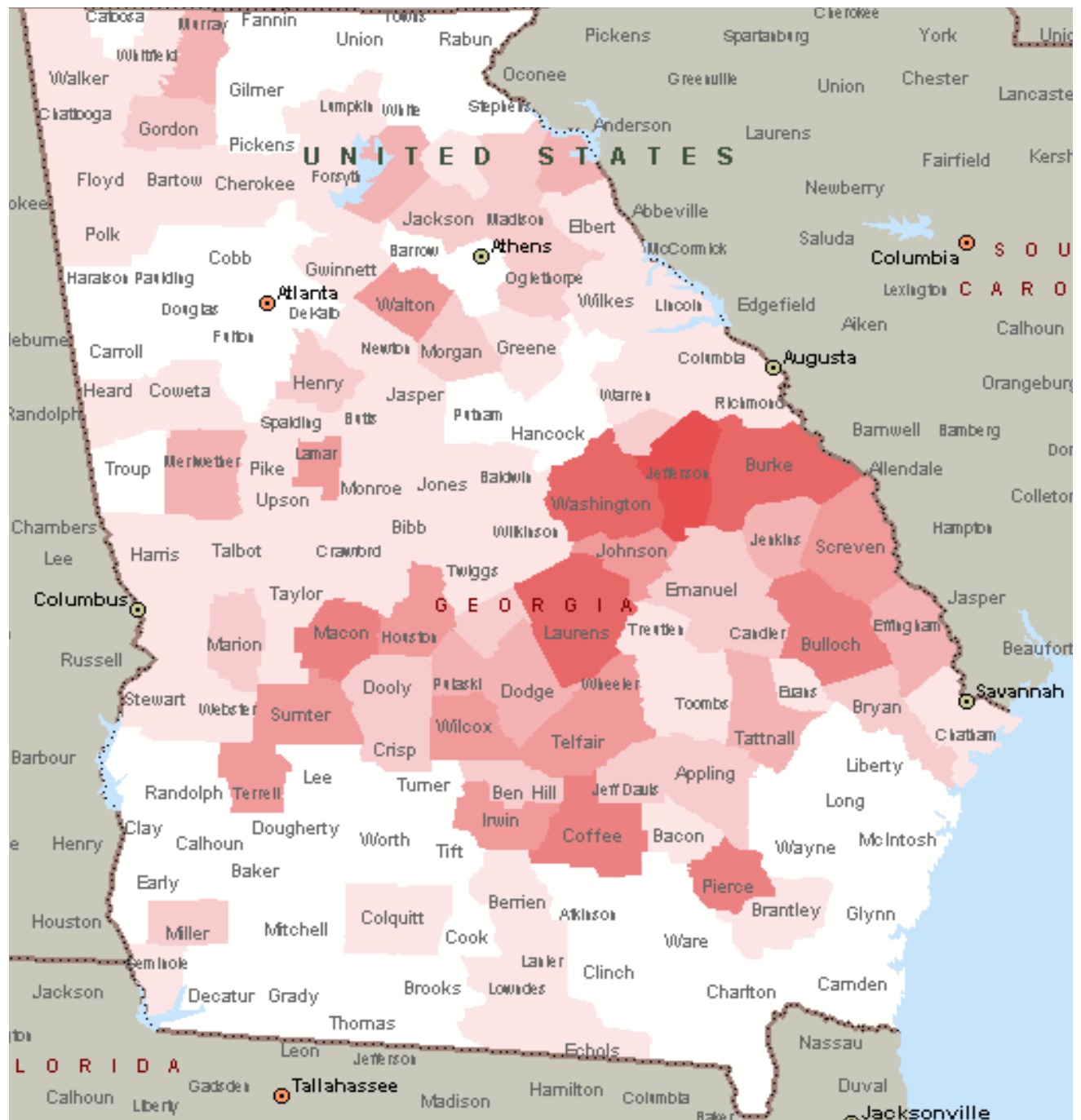


Figure 6. Small Grain Losses (\$)

The Center for Agribusiness & Economic Development



The Center for Agribusiness and Economic Development is a unit of the College of Agricultural and Environmental Sciences of the University of Georgia, combining the missions of research and extension. The Center has among its objectives:

To provide feasibility and other short term studies for current or potential Georgia agribusiness firms and/or emerging food and fiber industries.

To provide agricultural, natural resource, and demographic data for private and public decision makers.

To find out more, visit our Web site at: <http://www.caed.uga.edu>

Or contact:

John McKissick, Director
Center for Agribusiness and Economic Development
Lumpkin House
The University of Georgia
Athens, Georgia 30602-7509
Phone (706)542-0760
caed@agecon.uga.edu

The University of Georgia and Fort Valley State University, and the U.S. Department of Agriculture and counties of the state cooperating. The Cooperative Extension Service offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, sex or disability.

An equal opportunity/affirmative action organization committed to a diverse work force.

Report Number: CR-07-08

May 2007

Issued in furtherance of Cooperation Extension Acts of May 8 and June 30, 1914, the University of Georgia College of Agricultural and Environmental Sciences, and the U.S. Department of Agriculture cooperating.

J. Scott Angle, Dean and Director