The University of Georgia

Center for Agribusiness and Economic Development

College of Agricultural and Environmental Sciences

Flint River Farms Cantaloupe Packing Shed

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Feasibility of a Cooperative Operated Cantaloupe Packing Shed in Bainbridge, Georgia

Introduction

The economic feasibility of cantaloupe packing shed in the Bainbridge, Georgia area is dependent on a host of factors, including wholesale demands on packaged fruit, quantity of cantaloupes and type of packaging. Supply of a consistent quantity and quality affects the feasibility of operating cantaloupe packing shed. This report will review the material needed to operate a packing shed and calculate the breakeven number of cantaloupes needed to make the packing shed sustainable.

This report examines all the relevant economic issues surrounding the likely success of cantaloupe packing shed in the Bainbridge, Georgia area as well as the potential economic return to the community. The report begins by examining post harvest handling of cantaloupes and what the market desires in terms of packaged cantaloupes.

Harvest Handling

Quality in fruit and vegetables must be achieved during production prior to harvesting. Fruit and vegetable quality cannot be attained after harvest, it can only be maintained to a certain degree. Due to this issue many producers and wholesalers quickly remove the product from the field and reduce the field heat. Rapidly reducing heat in produce increases shelf life, maintains freshness, and slows the deterioration process occurring in the produce naturally and helps to ensure safety. Cooling cantaloupes also maintains soluble solids (sugar content) and flavor.

Cantaloupes can be stored for two weeks once their field heat is dropped to 38°F or below. Moisture loss during the harvest and the heat reduction process creates an unattractive appearance but can be controlled by adding humidity into the storage areas. Research done by William Hurst, Extension Food Scientist, at the University of Georgia suggests humidity levels be kept around 90-95 percent. His research also shows that melons stored at 35.6°F or less results in chilling injuries and damages the internal quality. Symptoms of chilling injury include pitting or sunken areas, failure to ripen, off flavors and increased surface decay.

Many different methods exist for harvesting and cooling produce. This report will only investigate the methods commonly used for muskmelons (cantaloupes). The next paragraphs will cover the harvest, cooling and packing of cantaloupes.

Picking melons is a labor-intensive task and requires knowledge of cantaloupes. The melons are selected on the basis of size and color and are then removed from the vine by cutting or twisting. Cantaloupes are typically harvested at ¾ slip to full slip (¾ to all the stem absession area removed), when the fruit will come off the vine with little force. Cantaloupes will

ripen after harvest but the sugar content will not increase. It is important to note that consumer preferences are towards the sweeter melon and anything harvested before ¾ slip will not have the needed sugar content. Depending on the variety the color of the rind will be anywhere from a green to a yellowed color. Most fields will be harvested 10 times over for a two-week period.

Workers place the melons in a wagon, bin or bag and prepare the fruit for traveling to the packing shed. The producers requesting this study use modified peanut wagons and large bins capable of holding 600 pounds of melons. The workers need clear instructions when packing melons on top of one another to avoid putting too much weight on the bottom melons. Pressure bruising, which causes discolored internal flesh, results when cantaloupe are stacked in bulk over six to eight layers deep or when they are transported over rough roads. Too much weight in the wagons and bins crushes and bruises the lower melons and reduces the quality. In addition to the weight problem, keeping the melons in the bins or wagons too long over heats the fruit and causes chemical reactions to occur inside the fruit that begin the deterioration and decay process. It is important to know the optimum number of cantaloupes that can be placed in these transport units before entering into a large-scale operation of packing cantaloupes and keep the transport unit parked in the shade.

Transport to Packinghouse

Six harvest methods were studied by Mongelli and Anthony (1987):

1. bulk trucks with rear ramps
2. bulk trucks with loader
3. low-back bulk truck with rear steps
4. flatbed wagon with baskets
5. flatbed wagon with wooden pallet bins
6. self-propelled moving conveyor and bulk truck

All six harvest methods depend on a worker who determines which melons to pick and which ones to leave for a later harvest. The most common method is for the harvester to place melons into a bag holding 60-70 pounds of fruit when full. The workers carry the full bags to the truck or wagon and walk up a ramp (method 1) or climb up steps (method 3) where they dump their bag into the bulk bin (about 18,000 pound capacity).

Method 2 was similar except the harvester hands the bag to a worker on the truck who dumps the bag. Method 4 used baskets (25 pound) that were carried to a wagon and transported to a packinghouse with 122 baskets per trip (3000 pounds). Method 5 also used baskets that were dumped into pallet bins on a wagon. Method 6 used a self-propelled moving conveyor that transported the hand harvested melons to wagons with bulk bins (18,000).

At the packinghouse the bulk bins were unloaded by driving the truck or wagon onto a sloping surface that inclined to the side. Doors were opened on the side of the bulk bins to allow the melons to roll onto a receiving area. Melons were removed by hand from the baskets used in method 4 and placed directly into shipping containers. The pallet bins in method 5 were

transferred from the wagons to tractor-trailers for shipment to retailers who returned the bins to the packinghouse.

Again the optimum number of cantaloupes per bin or wagon needs to be examined to assist in controlling the descent speed of the melons from the transport bin onto the dump vat. Too many melons will go too quickly and cause bruises when contacting one another, while too few melons will create increased work for the laborers.

Packing

Major operations at the packinghouse include: receiving, sorting, sizing, waxing, packing, grading, cooling, and short-term storage. Receiving facilities should include a shaded area for trucks and wagons waiting to unload to avoid sun scald and increases in temperature that reduce shelf-life and increase cooling costs. Receiving activities can include data collection on the history of the shipment; help unloading the melons, and movement of the melons into the packing area.

Different dumps can be used for the unloading of the cantaloupes, specifically a dry dump or a wet dump. The dry dump's slope should not exceed 10 to 15 degrees. Greater slopes could cause excessive speeds for the nearly spherical fruit. Decelerators can be placed strategically on the dry dump to reduce the speed of the melons but these will have to be replaced often due to wear caused by friction. These decelerators are made from thick plastic and hang down to meet the surface of the dump in a parallel manner. The full length of the side along the trailer or truck must open to prevent bridging of the melons as they roll out. Commercial padding is needed on contact surfaces. A relatively quick conveyor will be needed to remove the melons that have stopped at the base of the dump in order to allow more melons to continue their approach down the dump.

Wet dumps necessitate frequent monitoring for the proper chlorine level (150 parts per million) and water level. The chlorine serves to control bacteria in the water and on the melons themselves. The water level needs to be maintained at the desired depth to control the impact of the melons when entering the wet dump. Again a conveyor system needs to be operating at a quick speed to remove the melons for space control of the load. If too many melons remain in the water bruising will occur with the impact. Research has shown little evidence of a significant quality differential in cantaloupes that were wet dumped versus dry dumped.

After the melons are dumped, either wet or dry, they move via conveyor to a washer. A brush type washer and sprayer lightly remove dirt particles remaining from the field. Market prefers clean melons. The sprayer also needs to be monitored for a chlorine count of 75-100 parts per million.

After the melons pass through the washer and are clean they are transported via conveyor to the sorting and sizing area. The proposed plan is to install an automated sizer. The most common sizer works by the weight of the melons. These sizers sell at a higher price than

ones that work by conveyor systems with openings. When the melon hits the hole if it is small enough it passes through, if not the conveyor moves it to the next opening and so on until it passes through one of the openings. Currently this sizing process is being completed by hand creating a bottleneck in the process. The automated process will allow for a speedier packing line and reduce the bottleneck. Sizes will be separated into three distinct groups and packaged in boxes at 8, 12, or 15 per 40-pound carton or placed in 600-pound bulk bins.

Melons below the No. 2 grade are tossed into a disposal pile. Local livestock farmers use the two's as filler in their feed. This assists the packing shed by reducing the disposal costs and removing the product.

Finally the packed melons are placed into the cooler. The current cooler space is adequate, holding ten truck loads and offers a loading dock in the rear. The only concern about the cooler is the length of time it takes to reduce the melon temperature. Full research has demonstrated that forced air cooling is the best method to reduce melons to 38F within 4 to 6 hours. A room cooler can be modified to forced air using traps, plywood and exhaust fans for a few hundred dollars.

A packing shed does exist in the Bainbridge currently. The local cantaloupe producers have proposed establishing a cooperative and purchasing the packing shed. The shed was examined by Ag Engineers and Ag Economists for its function and profitability. Two major problems were presented to this team, 1) the bottleneck in the sizing operation of the packing line, 2) the dumping system being used. Recommendations by the team included using an automated sizing system and modifying the current dump system. The sizer can be purchased for $35,000 from Brisbane in California. The platform needs to be at a 10-degree angle and padded. The padding suggested should be 2 inches thick and of a commercial quality. Likewise the slopped road at the dump needs to be paved at an angle of 10 degrees.

Another problem expressed by the tentative cooperative was labor. The labor force in the area for melon harvesting consists of migrant labor. To keep the laborers in the area and happy a housing unit will be built to Occupational Safety and Hazard Awareness requirements. The housing unit will hold 16 people and provide a kitchen and laundry facilities.

The cost for all of these improvements as well as the creating a whole new system will be explored in the remainder of this report. All prices are assuming a new operation. A migrant housing unit is also included in the feasibility section of this report.

Market Specifications

Research conducted by the University of California's Vegetable Research and Information Center suggest that cantaloupes on the market should be well-shaped spherical melons uniform with limited obtrusions (bruises, abrasions, scars, and sunscald). Melons should be firm, feel relatively heavy for their size, and show limited signs of stem attachments (3/4 to

full slip). Stems are an indicator of a premature harvesting. According to the Vegetable Research Center the most reliable measure for internal quality is the concentration of soluble solids (sugars).

The grading standards for cantaloupe in the United States are Fancy, No.1, Commercial, and No. 2. The differences in the grades are the exterior appearance and measurable soluble solids. Federal regulations specify 11% sugar for the Fancy grade, 10% for the No. 1s and Commercial grades, and 9% for the No. 2's.

According to the United State Department of Agriculture's Agricultural Marketing Service an inspection plan needs to be in place at packing sheds or wholesale outlets. A sample of 7 cantaloupes is taken from the lot of shipment and tested for soluble sugars. USDA tolerates up to 8% total defects to quality of No. 1's. This includes 6% for serious defects or damage, 4% for serious damage by permanent defects and not more than 2% decay or mold. The No. 2 Grade has slightly higher percentages but for purpose of this study the cantaloupes will be considered No.1 for the retail market. The definitions for the damage categories can be found on the AMS website, www.ams.usda.gov/standards, click under the fresh vegetable icon.

Research completed by William Hurst indicates that cantaloupes produce high levels of ethylene. This ethylene limits the types of other fruits and vegetables that can be co-stored with cantaloupes. It also creates a situation where cantaloupes continue to ripen. Over ripening may be a problem during distribution and short-term storage. Remember that cantaloupes should not be harvested until ¾ to full slip, allowing the sugar concentrations to develop to match consumers' preferences. So harvesting early is not the answer the over ripening caused by the ethylene. Periodic ventilation of the storage room or truck is a low cost method for keeping ethylene, a natural ripening gas.

Conversation with Broker

A lengthy telephone conversation with the current cantaloupe broker provided needed information on quality, quantity, and satisfaction of the purchasers. The broker stated she is satisfied with the quality of the cantaloupes she is currently receiving. However, she indicated the bruising she has observed occurred while the cantaloupes were being placed in bins and that they needed to be handled more gently during this process. Bruising may also result from overloading the bins. Cantaloupes should not be stacked higher than 6 to 8 layers, otherwise pressure bruising occurs. She did indicate that the current facility was fine given the current number of cantaloupes being handled. If the number of cantaloupes were to be increased, the facility would need to be expanded to accommodate the increased number of cantaloupes, i.e., expanding from 250 acres to 350 acres. If an expansion of acres occurred, the facility's cooling space would need to be increased or modified so that the additional cantaloupes could be cooled on site as opposed to being shipped to Indiana for cooling. (One concern of the team was if an expansion of acres occurs cooler may not have the capacity to handle the increased loads.

However, this can be taken care of with forced air-cooling and adding a booster, both are relatively inexpensive.)

Del Monte is currently operating a packing shed in a near-by county and has expressed interest in buying cantaloupes grown in Wilcox County. This may offer a convenient solution to market any additional cantaloupes that may not be moved via the current broker. However, the broker did not indicate that she would be unwilling to purchase additional cantaloupes. On the contrary, she indicated that if additional cantaloupe were available the facility would have to be expanded or she would be required to transport them to Indiana.

The decision to continue growing late season melons lies with the producers. The broker is extremely happy receiving these melons, but indicated it was not a necessity to maintain the current contract. She suggested that a cost benefit analysis be performed to determine whether these melons should be produced. The broker mentioned they would continue to purchase melons even without the late season crop or "if they do not produce late season cantaloupes, it does not mean that I will not be there for them in June."

Cantaloupe Packing Shed Feasibility

This section will explore the components necessary for operating a packing shed in Decatur County, Georgia. The group can purchase an existing shed before repairs or modifications to the packing line, for $275,000. This packing shed can handle the current number of cantaloupes being packed there. The cost data and other numbers were supplied by various private groups, the University of Georgia's Department of Food Science, University of Georgia's Department of Biological and Agricultural Engineering and University of Georgia's Department of Agriculture and Applied Economics. Before the cantaloupes can be sold on the market their breakeven price and units must be established. This allows for a profit/loss margin to be determined.

Equipment Costs

Equipment cost figures came from the Food Science Department at the University of Georgia and various private equipment sales firms. The existing facility already has an operating packing line with conveyors, washer, dump apron, and forklift. However to fix the bottleneck in the packing line automated sizer, a conveyor system and padding for the dump apron will need to be installed.

Fixed Costs

Fixed costs associated with this packing shed include the depreciation on the building, equipment, and interest on the investment funds. The projected fixed costs for this project are $125,675 or $53.78 per 1,000 cantaloupes.

Variable Costs

Variable costs associated with this project include labor, utilities, insurance, repairs, rental agreements, disposal, and operating costs. Operating costs include: boxes, cleaning supplies, and chlorine for the washer. All these change depending on the number of cantaloupes packaged. Positive correlations exist between the cantaloupes and the variable costs. These costs will be discussed in their corresponding sections later in the paper.

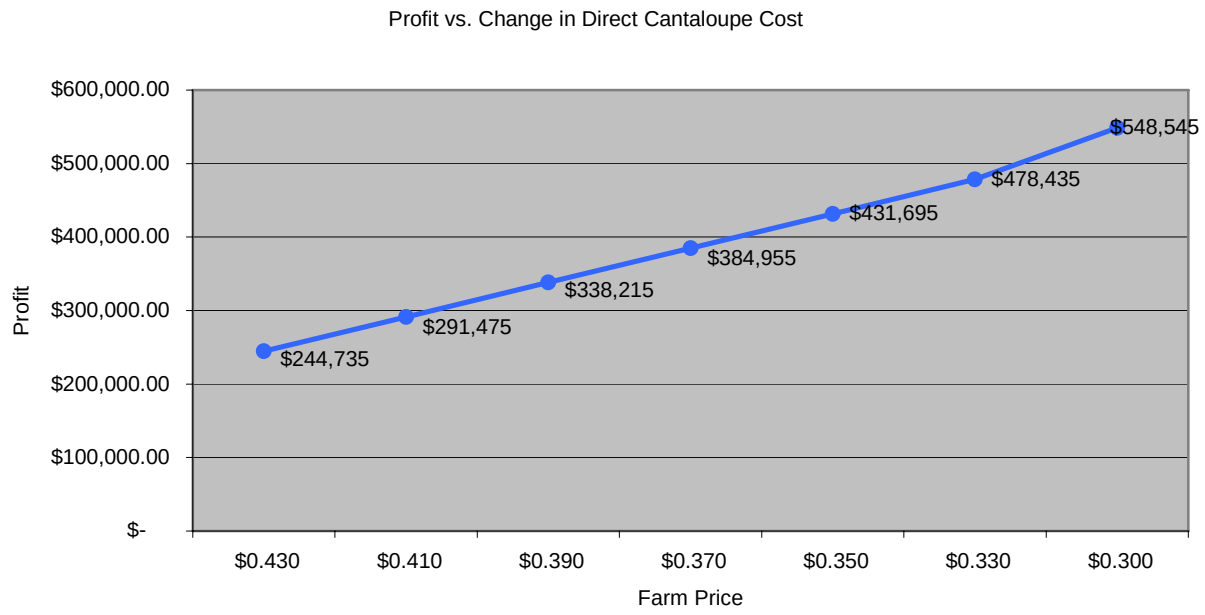
Income

Calculated income came from the estimated number of cantaloupes to be produced multiplied by the sales price per cantaloupes. The packaged price per cantaloupe was given to the researcher by the cooperative at $1 per cantaloupe. The estimated yield is 2,337,000 cantaloupes. This will result in an income of $2,337,000.

Direct Costs

The chart for the direct costs stems from the purchasing price of the produce. The 2003 Farmgate data collected by the Center for Agribusiness and Economic Development estimated the price per cantaloupe to be $.33. Multiplying the expected yield by the farmgate price produces a direct cost of $771,210. A small delivery fee was placed into the direct cost section for those uncertain times when a tractor or truck might break down but the cantaloupes need to leave the field.

Chart 1. Profit versus Change in Price Paid to the Producers.



Direct Labor

Labor cost calculations include the salaried and hourly labor to run the packing shed and cooperative. The labor figures are automatically adjusted with an increase in cantaloupes. The regular hours of operation are 8 hours per day, for 203 days of the season, including three weeks of planting and three weeks post harvest work. The wages for the laborers are calculated as $.06 per cantaloupe multiplied by the expected yield of 2,337,000, resulting in $140,220 being allocated for labor. The researchers understand this appears low, but remember these are laborers cleaning, packing and doing other work, in which they would be paid less in the community. The cooperative manager receives an annual salary of $35,000. This person is responsible for scheduling labor, harvesting, planting, ordering input supplies, and arranging time for the shared equipment. The manager will be the only employee to receive benefits, estimated at $9,800. A bookkeeper will be hired part-time to assist the manager, $7,500 has been set aside for this salary. The other laborers will receive one meal a day for which $7 a meal has been budgeted for in the feasibility study. Migrant housing regulations often require at least one meal to be paid for by the employer. The total labor cost is $209,180.

Other Direct Costs

Other direct costs make up the remaining variable costs. The number of cantaloupes packed affects all these cost. Positive relationships exist among these variable costs. These costs include utilities, repairs, operating materials, and miscellaneous costs. The total for this category is $752,000. The largest component of this cost is the marketing fee of 350,550. The next largest cast was the operating materials, boxes and pallets, totaling $352,350. Waxed boxes were suggested due to the high humidity inside the cooler of 90-95 percent. If the cooperative sells all the cantaloupes in bins then the price will be reduced if and only if the broker returns the bins when the next delivery is scheduled.

Total Cost & Profit/Loss

Adding the variable and fixed costs together gives the total cost of operating the packaging shed during a season at approximately 2.3 million cantaloupes. The total cost figure equals $1,858,565. In order to break even the packing shed needs to sell the melons for a minimum price of $.72 apiece. Half of the total cost comes from paying the producers $.33 per melon. The packing shed earns $478,435 or $.19 per cantaloupe after covering all costs associated with operating the facility. The operating efficiency appears good for an agricultural-based product at 20% but this should increase dramatically if more cantaloupes were processed. This means that for every dollar the packing shed earns $.20 is retained and $.80 covers expenses.

Migrant Housing

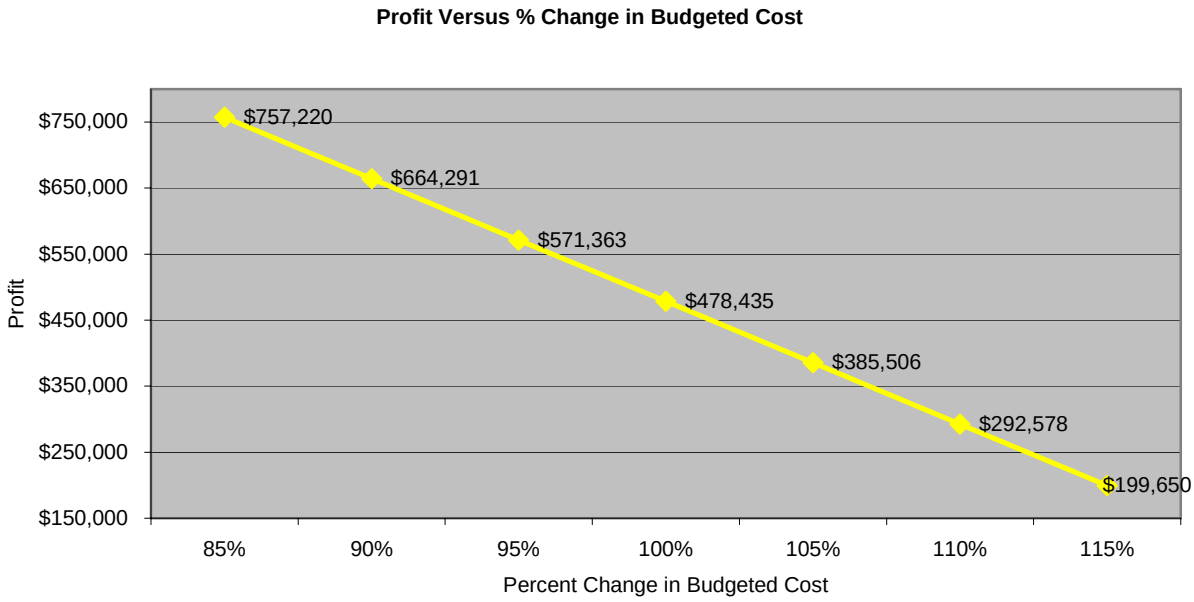
To solve some of the labor issue in the surrounding area the cooperative decided to build migrant labor housing. All requirements by the Department of Labor and OSHA should be followed to ensure limited liability from the government or laborers. Many of the regulations are common sense rules people should easily be able to obey such as, proper drainage on the property, distances away from livestock, cleanliness on the property, protection from the elements, safe drinking water, and proper sewage or septic. Other rules exist and should be followed prior to occupancy. A list of these rules can be obtained by contacting the Department of Labor or Occupation Safety and Hazard Awareness. The estimated total cost for building an all-metal building with bunks, kitchen, 2 bathrooms, and an adjacent laundry facility was approximately $50,000.

Profitability of a Cantaloupe Packing Shed

Profit versus Budgeted Cost

Assuming the figures used in the economic feasibility section are closely related to actual numbers to operate a cantaloupe packing shed, the profitability for will be as follows on the next chart.

Chart 2. Profit versus percent change in budgeted cost.

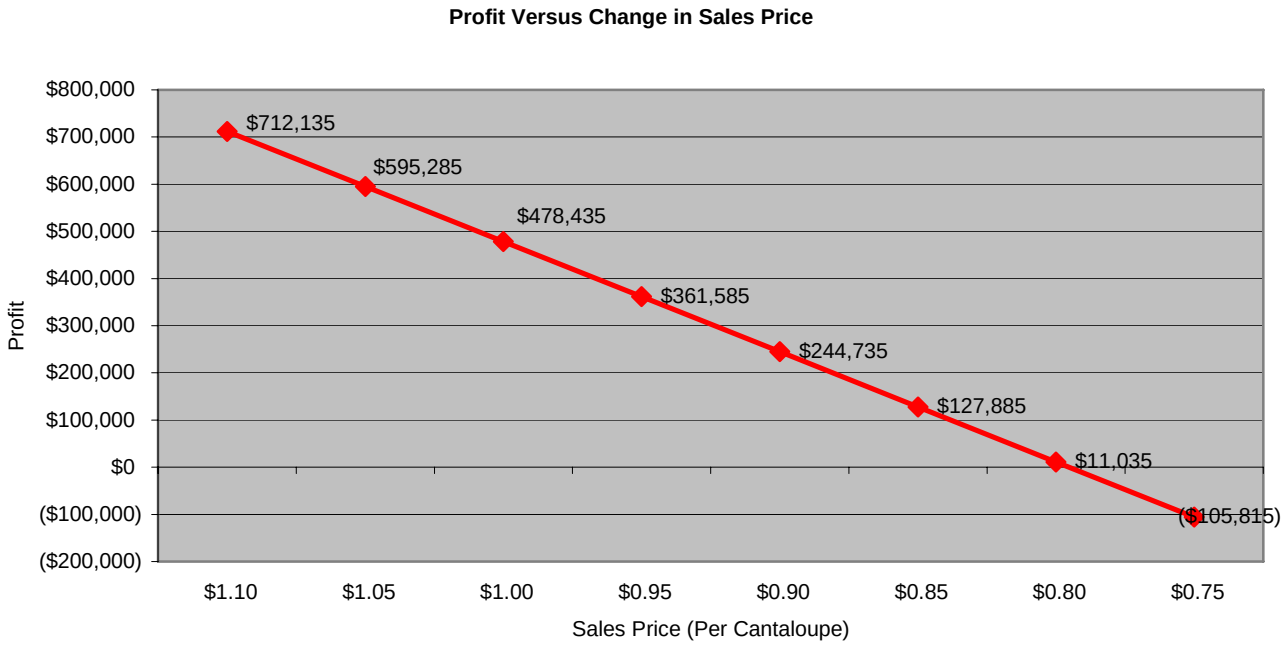


This chart shows that an increase in budgeted cost inversely affects the profit but not significantly enough to abandon the project.

Profit versus Percent Over/Under Estimated Sales Price

This section shows how the change in the broker's buying price affects the profitability of the packing shed. The obvious result is as prices decrease profits decrease, but the graph shows a profit even with a 25% price decrease.

Chart 3. Profit versus change in sales price.



This chart shows that even lowering the sales price by $.25 or 25% the packing shed is still able to make a profit based of the economic feasibility and budgeted cost.

Financing, Operating, and Ownership Arrangements for a Cantaloupe Packing Shed

Presently only one financing and ownership method is being considered for the packing shed in Pineview, Georgia, a marketing cooperative. The main purpose of this packing shed is to provide the local producers with a consistent and stable market for their cantaloupes and bulk buying of input goods and provide a producer owned packing shed.

Cooperatives

A special type of producer cooperative called a "New Generation Cooperative (NGC)" or a "closed cooperative" combines solution to both financing and operations questions. Producers would raise an initial portion of the packing shed's cost through stock or options on

stock sales. Each share of stock would provide the right and obligation to market 100 cantaloupes through the packing shed. The remaining capital could be raised through debt financing. Operation of the packing shed could remain with the producer/owner. Cantaloupes could be priced to the producer through various arrangements including profit sharing of the final product. Any funds generated through an assessment per bin marketed through the packing shed would be used to retire debt and would increase the producer's equity in the operation.

The recommended organizational structure would be a Cantaloupe Packing/Producing cooperative formed as a value-added processing, closed cooperative of defined or selected membership whereby members invest through the purchase of shares of stock. These shares serve as a dual contract. Each producer has both the obligation and the right to deliver to the cooperative. Likewise, the cooperative is obligated to accept delivery given quality standards are met. These delivery rights and obligations are transferable. Each member is still granted only one vote regardless of the number of shares owned.

The basic concept of this new type of cooperative is that producers capture profits that occur beyond the farm-gate by owning and controlling the local businesses that are positioned to earn those profits. The motivation of new generation cooperatives is more offensive than defensive–take control of your own destiny and be proactive rather than reactive. The main emphasis in cooperatives of this type has been on value-added processing, niche marketing, and producer/members viewing themselves as producing a finished food product rather than a raw commodity.

Producers tend to take greater interest in operations developed as a producer cooperative since they are also investors. The typical amount of member equity required is 50-60% of the initial equity needed for the project. This gives potential lenders the security of sufficient producer commitment. Banks for cooperatives have been the primary institutions that help in financing the remaining 40-50% needed by new cooperatives. Many commercial banks are also funding cooperatives. The USDA also has numerous financial programs that can assist cooperatives that meet certain criteria. Credit unions and the Farm Credit System have also actively lent funds to farmers to invest in new cooperatives. Other helpful support systems in the development of these new cooperatives include communities, regional economic development commissions, individual rural electric cooperatives, and university extension services.

New Generation Cooperatives retain many principles of traditional cooperatives such as democratic control through a one member, one vote policy; excess earnings are distributed among members as patronage refunds or dividends; and the board of directors is elected from the membership by the membership. The financing of NGCs allows for all, or almost all, net earnings to be returned to members at year-end since the members invest capital up-front. Future expansion is financed in the same way as original equity: members invest through the purchase of shares. In some instances, preferred shares may be offered to the community or general public. This allows communities to support the project while keeping control in the hands of the members. Some of the advantages of the New Generation Cooperatives include the ability of producers to react quickly to opportunities, the collective response of members to problems or

opportunities, the creation of wealth within a community and local ownership keeps it there, stability for producers and efficiency for the packing shed through the restricted membership, consideration of the interests of the community through a diverse set of stakeholders, and commitment to the quality of the product by both the producers and processor.

One of the keys to success of a New Generation Cooperative is producer commitment. The group of producers must be motivated, determined and committed. Other keys to success include public policy that supports cooperative formation, financial institutions willing to finance the cooperative, and consultant or facilitators to help producer groups through the aspects of the process. These keys to success seem to be evident in Georgia. Georgia Produce Growers must take ownership of the concept and drive the investigation into the possibility of operating a functional value added packing shed in Georgia.

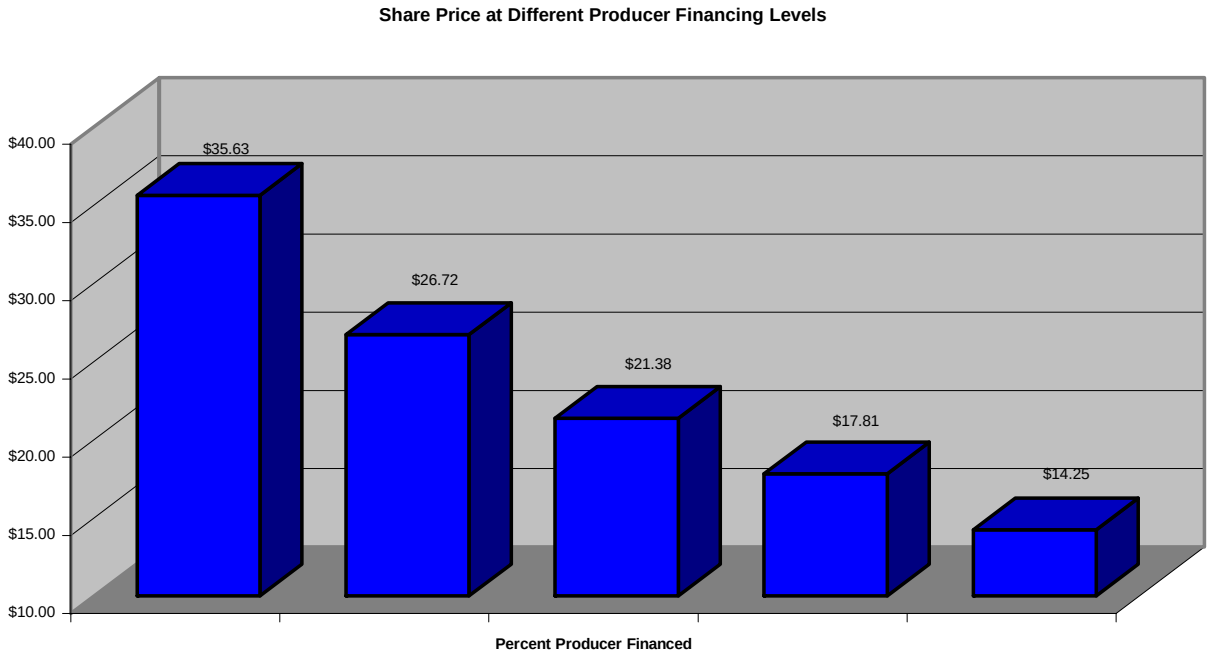
The financing in terms of shares is calculated by taking the total cost divided by the total number of estimated units needed for a standard operating year. This will yield a share price for 100% financing by the producers. If the producers wish to the lower their amount of equity the share prices will drop accordingly to the amount financed outside the operation.

In addition to receiving financing and controlling the supply the cooperative wishes to purchase the needed inputs for producing cantaloupes. The premise is that buying in large quantities will reduce the unit price for the respected inputs. The cooperative would also like to share labor and equipment. This is possible but may become a logistical nightmare for planting and harvesting. It is suggested that one person, either hired or cooperative member, be responsible for scheduling the shared items.

Share Price

The next chart shows the estimated share price at various financing scenarios, 100% producer financing, 75% producer financing, 60% producer financing, 50% producer financing, and 40% producer financing.

Chart 4. Share prices at various financing options.

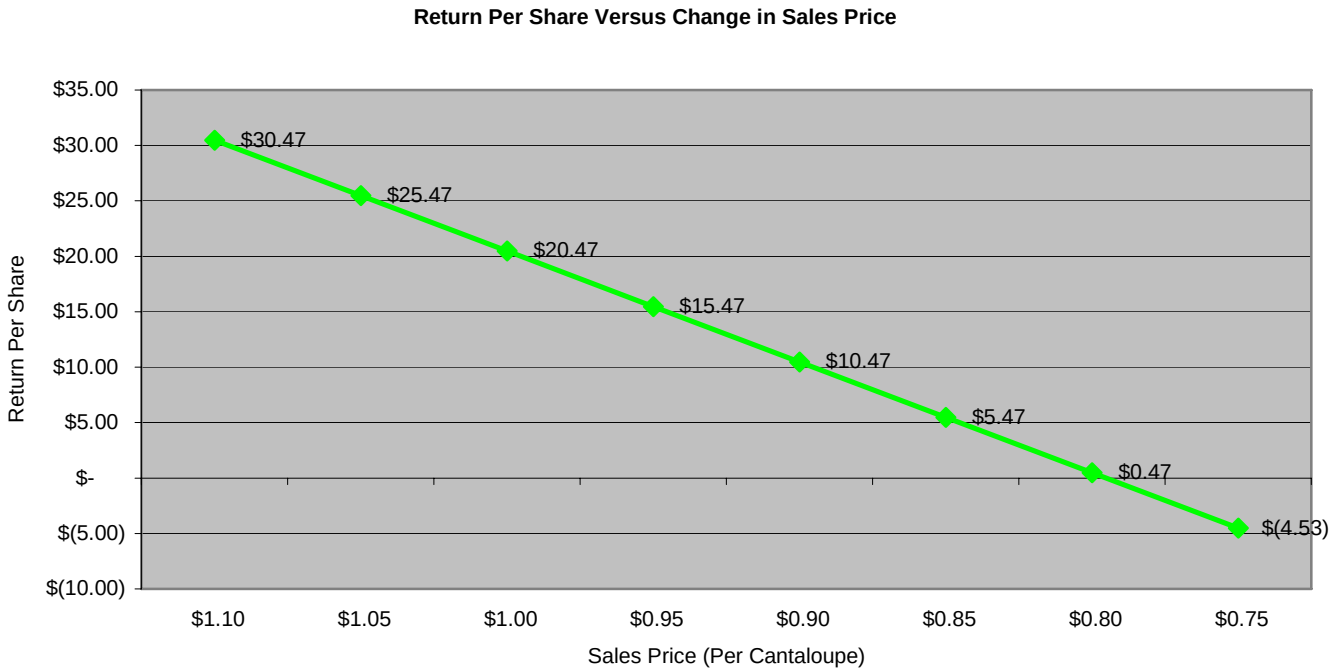


Another option for financing the packing shed is to contact the local development authorities and submit grant request to them and the state. Often the development authorities will assist in part of the grant writing or organizing of application material to be submitted to larger state funds. Currently the Georgia is taking submission for funds through the One Georgia Authority.

Return Per Share

Each share shall receive a portion of the profits. These dividends or profit will occur either quarterly or annually based upon the recommendation of the board of directors. The following charts show returns per share at various sales prices of cantaloupes.

Chart 5. Return per share versus change in sales price.



Impact Analysis

An important part of any feasibility study is the direct and indirect economic effect of the venture on the surrounding community. The effects of the venture will affect retail sales, taxes. To estimate these impacts an input/output model for Georgia was developed with the computer program IMPLAN. This model was then stratified into different categories. IMPLAN works by capturing the relationship between industries in the state and showing the change in one industry in regards to the others. The model also shows changes in output, employment, and the impact on taxes. One limitation to this model is the backwards nature in which it calculates these figures. However, it is estimated this limitation is of minor significance to the overall model.

Assumptions were made before placing the model into the software package on the number of employees, total output, and delivery requirements. These assumptions were a unified decision by a multi-disciplinary team at the University of Georgia. The team perceives these assumptions to be to be a close to reality as possible.

The IMPLAN model run for this packing shed operation is slightly different than a typical IMPLAN model. IMPLAN models run for feasibility studies generally are attempting to show the effect of an entirely new operation or a dramatic change in production. In this case, a packing shed is already operating in Wilcox County, Georgia. The results of the model show this packing operation currently has on the state economy. Thus, it is possible to assert that if this packing shed was forced to close (as is threatened if the co-operative does not materialize), the output, employment and tax benefits shown by the IMPLAN model would cease to exist in

this area. Packing 2,337,000 cantaloupes annually increase total community employment by 34 jobs. These jobs are of various sorts, the direct increase comes from the 18 people hired by the packing shed and 11 jobs are from the increased retail sales in the community. The packing shed currently generates $3.5 million in economic activity in Georgia and a tax increase of $561,112. The additional spending by the packing shed's employees and cantaloupe producers raises the community sales by an estimated $810,343. The indirect spending by the packing shed creates $379,797 being added into the economy. If the packing shed increases the number of acres or yields a new impact model needs to be examined. These figures represent the current impact of the packing shed on the community. The producers wish to buy the packing shed and keep this positive impact in the community.

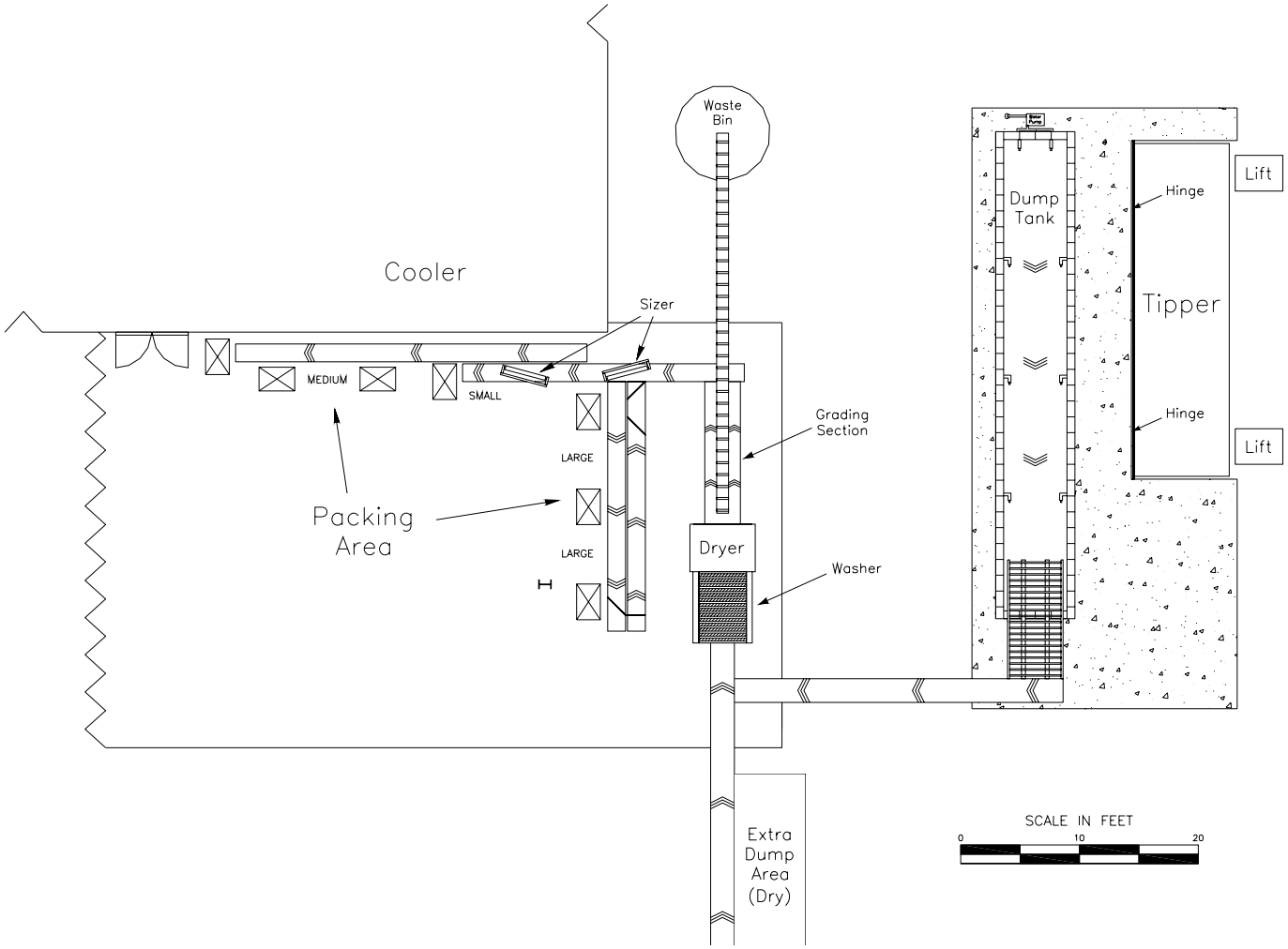
Conclusion

The concept of starting a cooperative to retain some of the value added price and regain the difference between the wholesale price and the farm price allows this packing shed to appear profitable and economically feasible. The producers will receive their production price, reduce their input cost and then share in the profit made by the packing shed.

The economic feasibility of operating this packing shed at profitable level proves to be positive. The cooperative can create wealth and retain ownership of the product one higher level in the value chain. Cooling, washing, and packing cantaloupe appears to be financially feasible based off the budgeted cost associated with this investigation.

Creating a cooperative allows a higher quality product to be marketed by constant attention to quality control within the group. It also allows the producers to receive benefits associated with bulk purchasing and the economies of scale.

Lowering the broker's buying price by 20% affects the profitability of the packing shed in a manner as to reject the proposal of purchasing the operation and financing it through the cooperative.


Waste Bin
Cooler
Sizer
MEDIUM
SMALL
LARGE
LARGE
Packing Area
Grading Section
Dryer
Washer
Dump Tank
Lift
Hinge
Tipper
Hinge
Lift
Extra Dump Area (Dry)
SCALE IN FEET
0
10
20

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