Marketing methods used by growers in today's fruit market

By Robert A. Morris

INTRODUCTION

Florida citrus growers have a number of methods they can choose for marketing processed fruit. These methods focus primarily on fruit quantity and pricing. Fruit quantities are determined by box contracts and production contracts. Box contracts specify the number of 90-pound weight-equivalent field boxes to be delivered, whereas production contracts specify all, or a specified percentage, of the fruit harvested in a defined grove.

The major risk of box contracts to the seller is inaccurately estimating the amount of fruit to be sold, which may subsequently require finding a second buyer for any extra fruit produced if the processor the contract is with will not take the extra fruit, or purchasing additional fruit to meet the contract's requirements. In order to purchase fruit, the grower would need a valid fruit dealer's license. If a supply-reducing freeze reduces the fruit produced in the seller's grove by more than was committed under the box contract, the seller couldn't deliver the required amount of fruit, and probably couldn't buy the extra fruit required because it would not be available in the freeze-impacted environment. However, a force majeure provision in the contract would protect this seller, but since it is a box contract, only by the percentage reduction in the state's crop. Thus, if the statewide reduction in orange production was 20 percent, and this seller's grove lost more than 20 percent of its fruit, the seller would be required to deliver that additional amount to fulfill the box contract.

Many box contracts are marketed by intermediate handlers, or "bird dogs," that in turn offer production contracts to their growers and sell to numerous processors, thereby reducing the risk of inaccurately estimating the fruit produced by any one grower. In fact, this ability to offer growers production contracts and processors box contracts is a key service provided by bird dogs.

Production contracts carry the risk of the buyer incorrectly estimating the amount of fruit purchased, which is one reason large processors/marketers have field buyers who develop expertise in estimating fruit production. Large processors also seldom cover 100 pecent of their needs with production contracts prior to the start of harvesting, and can thus make adjustments during the processing season. Prices for fruit sold to processors are usually on a delivered-to-processing plant basis, where the grower pays the hauling costs. In some cases, prices may be on a roadside basis, where the price is specified loaded onto a truck at the grower's grove and the processor pays the hauling cost.

Fruit pricing for the majority of Florida citrus marketing transactions can be categorized into four mechanisms:

1. **Cash Market**
   - Making an outright sale of the fruit at an agreed upon price.
2. **Reference Pricing Mechanism**
   - Receiving a fruit price based on the market price of comparative products and/or in comparative markets.
3. **Participation Program**
   - Receiving a fruit price based upon the average selling price of the final product from the fruit over a specified period of time.
4. **Multi-Year Contracts**
   - Three-to-five year contracts with guaranteed minimum floor prices to help reduce price risk.

CASH MARKET PRICING

About 20 percent to 30 percent of Florida's processed oranges are sold on the cash market (**Table 1**). Cash market fruit is typically sold by forward contract. The spot cash market was popular a number of years ago because of its perceived flexibility by smaller growers. At the present time, however, virtually no fruit is sold on the spot cash market, although the Florida Citrus Processors Association (hereafter referred to as the canners) average cash price is still reported as a spot and contract combined price.

Forward contracting entails the grower agreeing in advance of harvest to deliver fruit to a buyer at an agreed upon price. The contract date could be only a few weeks prior to that particular grower's harvest, or it could be many months or a year prior to the start of the harvesting season. Forward contracting for processed fruit at an agreed upon price is usually box contracts. Cash advances of $.50 to $1.00 per box are sometimes made by the buyer at the time the forward contract is signed, although the trend has long been away from cash advances since processors prefer not to be in the lending business. When cash advances are made at all in today's fruit market, it is mostly by bird dogs and this is increasingly rare. Also, the bird dog frequently charges interest at the prime rate until the fruit payment is made and the debt paid back out of the fruit proceeds. If a freeze or endemic citrus greening makes Florida oranges as scarce as they were in the 1980s, cash

Table 1. Florida Oranges Sold on the Cash Market

Season	Total Oranges Processed (Thousand Boxes)	Oranges Sold on Cash Market (Thousand Boxes)	Portion Sold on Cash Market	Price $/LB. Solid
2008/09	155,103	27, 813	17.9%	1.00
2007/08	166,009	43,015	25.9%	1.40
2006/07	123,224	46,933	38.1%	2.14
2005/06	142,165	48,242	33.9%	1.33
2004/05	142,836	39,038	27.3%	.91
2003/04	233,804	57,544	24.6%	.71
2002/03	194,579	38,034	19.5%	.94
2001/02	221,843	40,494	18.3%	.84
2000/01	213,635	35,967	16.8%	.76
1999/00	224,289	49,144	21.9%	.91

Includes oranges sold on the combined spot and contract cash market. Oranges sold on multi-year contracts and participation programs are not included.

Source: Florida Department of Citrus, Florida Citrus Processors Association. Statistical Summary, Various Seasons, Lakeland, Florida advances may become more prevalent again. However, the trend toward larger growers has resulted in fewer growers needing cash advances to help cover working capital needs.

The advantages of forward contracting cash prices are that the grower is more involved in the pricing decision; it can provide lead time to help make a decision between fresh and processed markets; it assures the grower a home for his or her fruit at a known price; and the grower receives 100 percent of revenue at fruit delivery, which benefits cash flow. The disadvantages of forward contracting without a price rise to market provision are that there is a loss of income if prices improve after the contract is signed, and the tendency toward box contracts makes it more difficult to deliver the contract specifications for fruit volume, although forward cash contracts between growers and bird dogs may tend toward production contracts which avoids this issue. Volume ranges in box contracts between growers and processors also helps alleviate this problem. Most importantly, it is almost impossible to know the true competitive value of fruit months in advance of harvest; thus forward cash contracts foster a win/lose mentality where the grower feels like the winner if prices drop after the contract is signed, and the processor feels like the winner if prices subsequently increase.

REFERENCE PRICING MECHANISMS

A reference price is the price of the same or a similar commodity in another market. It provides a measure of relative value. Reference prices are often used as the basis for a buyer and seller agreeing on a price. For example, if a grower and processor agree to a fruit price equal to the season average of spot and contract cash prices for oranges used in frozen concentrated orange juice (FCOJ) and single strength orange juice (SSOJ) as collected from members of the Florida Citrus Processors Association and published by the Florida Department of Citrus (canner's average price), they have used this canner's average price as a reference price.

Other reference prices used for the purchase and sale of Florida oranges include prices from Florida Citrus Mutual's Weekly Market News Bulletin, and bulk concentrate prices less a processing cost discount. The canner's average cash fruit price represents the average cash prices paid by virtually all Florida citrus processors. Prices are divided into spot prices, contract prices, and the average of all spot and contract prices. Intermediate and multi-year contract prices that are also published usually haven't been finalized when the spot and contract prices are published, and can take more than one season to become finalized. Thus, they are usually not included in the canner's average price calculations to buy fruit except from a historical perspective.

Cash market prices that are agreed upon during or immediately following one season to price fruit for the next season may not reflect competitive fruit prices during the season the fruit will be delivered. This is because there can be a carryover effect of supply and demand effects from the season the price was negotiated into the season the fruit will be delivered. To solve this problem, a couple of seasons ago the Florida Citrus Processors Association began reporting to the Florida Department of Citrus a post-estimate canner's average price by variety. Pre-estimate fruit was priced on the basis of the canner's average cash price before the Agricultural Statistics Service's October Florida citrus crop forecast/estimate, and post-estimate fruit was priced after the October citrus crop estimate. The result is that there are two cash market prices published now — one that represents the season weighted average of pre-estimate and post-estimate cash prices, the same as before, and another that represents only post-estimate prices. After the October estimate, pricing decisions are based on a better knowledge of fruit market conditions and prices more accurately reflect true supply-and-demand conditions.

The canner's average cash prices are published weekly throughout the fruit harvest season, then a "Final Report for Season" published by August following the season shows season average prices. Season average prices for a number of years are also published several months following the season in an Annual Statistical Summary. An important advantage of the canner's average cash fruit price as a reference price is that it is another major alternative to other pricing mechanisms for pricing oranges and thus somewhat reflects growers' opportunity cost (income foregone from the next best alternative). Although it is published weekly, fruit should not be priced on it weekly because the fruit price in any given week may reflect a mix of fruit purchased before and after the October estimate as well as fruit purchased that week and so does not provide a useful measure of the weekly price of fruit. Disadvantages are: 1) the fact that it reflects a residual market that can underprice fruit during surplus and overprice it during scarcity (which is a processor disadvantage); 2) the cash market can be thin enough sometimes that the lack or presence of one major buyer can create price variations to the true value of fruit; and 3) the canner's average cash price only reflects seven or eight months of fruit market prices rather than year-around prices.

Growers selling fruit on a canner's average reference pricing mechanism typically receive a fruit payment advance of 75 percent to 80 percent of the processor's estimated final price at the time of fruit delivery, with the balance paid after the canner's average price is known for the season. Growers with floor priced contracts receive a fruit payment advance of the higher of the floor or 75 percent to 80 percent of the estimated price at fruit delivery.

The Florida Citrus Mutual Market News Bulletin contains weekly market fruit price quotes (commonly referred to as Mutual's mostly) for the varieties of citrus fruit being marketed during the time the bulletin is released. Processed oranges and grapefruit are based on a survey of Florida citrus processors in order to determine what they are paying or are willing to pay for additional fruit purchases. It shows price ranges for contract purchases, and is published once a week on Mondays by Florida Citrus Mutual. Advantages are that it is a good approximation of industry citrus fruit demand for unsold supplies and that it gives the flexibility to price weekly, monthly or for an entire season. Its key disadvantage is that it only reflects demand for unsold fruit, not actual weighted average fruit prices. However, as a barometer of changes in weekly fruit supply and demand, and as a reference price for the value of unsold fruit, Mutual's weekly quotes are a useful and valuable tool.

Using the concentrate prices less a processing cost discount to derive a fruit price is not nearly as popular as it once was. The only contract being used to price fruit based on concentrate prices represents only a small percentage of Florida's oranges. The mechanism computes the monthly average price paid by the processor for USDA Grade A 65 degree bulk concentrate over a defined 12-month period, December through the following November. This 12-month average bulk concentrate price less a processing cost charge net of by-product returns (this cost discount net of by-product returns is about $.17 to .20 per pound solids) gives a base fruit price. In order to pay a premium for Valencias, early/mid oranges are priced at 95 percent of the base price and Valencias are priced at 105 percent of the base price. When their fruit is delivered, 80 percent of this estimated price is advanced to the growers. The balance of the fruit payment is made in December, following the calculation of the prices. For long-term contracts, the processing cost discount is adjusted annually for inflation using the producer price index. In months where no bulk concentrate is purchased by the processor, the daily average closing price for the near-term month FCOJ futures contract is used.

Bulk orange concentrate is bought and sold year-round on a worldwide basis and thus reflects competitive bulk juice values on a year-round basis. It costs about $.15 to .25 per pound solids to process oranges into bulk concentrate, depending on plant economies and how byproducts are treated. Thus it is fairly straightforward, or transparent, to relate orange prices to bulk concentrate prices. This pricing mechanism adapts easily to provide premiums for Valencias, it is not a residual market and thus does not overprice or underprice during market extremes, and since FCOJ futures prices are published daily and are highly correlated with bulk concentrate cash prices, growers know how their fruit values are behaving and can more easily project and budget future fruit revenues. The main disadvantages to the concentrate-based pricing mechanism are that price is determined by world supply and demand rather than the specific actions of a processor/marketer or grower, and FCOJ futures prices often trade at a discount to bulk concentrate prices.

PARTICIPATION PRICING MECHANISMS

Participation pricing mechanisms emerged from deferred pricing in grower-owned cooperatives, where groups of growers invested capital to build fresh packing and/or processing facilities to extend their fruit production into control over packing or processing and marketing the final product. When cooperative members delivered their fruit, they were paid only a portion of estimated returns. All fruit of the same variety and utilized in the same end product was pooled together and sold over a defined marketing period, where revenues and costs were accumulated. At the end of the pool's marketing period, grower members were paid the balance due them based on the net revenues of the pool less the price advanced at the time of fruit delivery.

This type of deferred payment removed much of the risk of paying more for the fruit than the revenues returned from the sale of final products, and it fit well financially with grower-owned cooperatives where all proceeds were distributed back to member/owners. Cooperatives used to be a popular and viable way for growers to market participation fruit for processing. However, there are currently only two grower-owned citrus processing cooperatives, and only one of these processes and markets oranges. The other no longer has a processing plant and thus contract or toll processes its grapefruit.

Figure 1. Key Elements of a Fruit Participation Price Formula

Juice Sales Revenue; less
Distribution Costs; less
Finished Goods Warehousing Costs; less
Packaging Costs; less
Work-in Process Bulk Juice Inventory Costs; less
Processing Costs; less
G&A; less
Percentage of Sales as Profit =
Fruit Participation Revenue/Pounds of Solids in Participation Pool =
Fruit Participation Price Per Pound Solids
Fruit Participation Price Per Pound Solids; less
Advance at Time of Fruit Delivery =
Balance Due Grower

Notes
(1) Growers are advanced 75 percent to 85 percent of the estimated participation price at the time they deliver their fruit. The balance is paid after the marketing period, when the participation calculation is completed.
(2) Bulk processors with a participation program follow the same principle as this example, but do not have costs or deductions for finished goods warehousing or packaging.
(3) The above calculations are often performed separately covering different marketing periods for Early-Mids and Valencias.
(4) For grower-owned cooperatives, there is no profit deducted as this is returned to grower-owners as a return on their plant investments.

The volatile nature of fruit prices and inherent commodity price risks led private fruit processing companies to modify cooperatives' deferred pricing into participation contracts. These contracts enabled processors to pay for their fruit after selling the final product, thus eliminating the risk of buying in a high-priced fruit market during the season and selling into a lower-priced juice market at a later date.

Participation programs with private firms differ from those with cooperatives in that growers do not own the processing or packing and marketing facilities. Thus profits are kept by the firm rather than returned to growers. The price growers receive for their fruit under private firms' participation contracts are computed with a formula based on the firms' juice sales revenue less applicable costs and a profit margin as described in **Figure 1**. The grower receives an advance payment at the time of fruit delivery of 75 percent to 85 percent of the estimated participation price calculation, and receives the balance of the fruit returns after the participation price is calculated, which can be several months to more than a year after fruit delivery. Some participation programs make several smaller, more frequent fruit payment advances at and following fruit delivery. For example, one participation program pays an initial advance at the time of fruit delivery, others the following October and December, with the balance paid the following February.

Participation fruit is usually production contracts. Consequently, firms rely heavily on their fruit buyers working closely with growers to develop accurate production estimates to help balance the firms' sales with estimated fruit purchases, and to keep the fruit harvesting and plant receiving process working smoothly.

Advantages of participation programs include: 1) providing the grower a consistent home for fruit with a capable marketer; 2) the grower is no longer concerned with timing fruit deliveries to get the highest price since prices are determined over an entire marketing period spanning a number of months to a year; and 3) growers can benefit from relationships with processors/marketers in terms of keeping abreast of market developments, salvaging fruit after a freeze, etc.

Disadvantages of participation programs are: 1) that a grower turns over all marketing and pricing decisions to the processor; 2) a grower is the residual claimant of value and thus bears all risks of price swings; and 3) a grower must wait until the end of a specified marketing period to receive the final 20 percent to 25 percent of his or her fruit price.

Participation programs were very popular in the Florida citrus industry from the 1950s onward, accounting for about 60 percent to 75 percent of the fruit bought and sold. However, in recent years, participation has become much less popular, and currently represents less than 25 percent of the fruit traded. A likely reason for this decline in participation programs is the lack of transparency of participation pricing mechanisms as compared to reference pricing mechanisms. Participation mechanisms use a firm's juice selling prices to arrive at a fruit price. Although these are audited for accuracy, they are still confidential and not published or made available to growers. This makes them much less transparent than a reference pricing mechanism, which uses published prices to arrive at a fruit price.

MULTI-YEAR CONTRACTS

The principal characteristic of multi-year contracts is that they contain pricing mechanisms that entail the buyer covering price risks for the grower as an inducement to obtain their fruit, particularly when fruit is scarce. Multi-year contracts typically have a term of three and sometimes five years, and are popular in the citrus industry. The same pricing mechanisms described in this paper can and are used in multi-year contracts. However, reference pricing is by far the most prevalent, using the canner's average or post-estimate canners average price.

The main distinguishing characteristic of a multi-year fruit contract is the existence of a floor price, which is the contract's price risk-covering component which guarantees a grower a minimum price for his or her fruit. This floor price will usually provide for the grower to receive the higher of the floor or the canner's average price. Typically, only the brands can offer floor prices because it requires the strength of their marketing program to cover the risk of floor prices. Some bulk processors offer floors, but only when their branded customer provides a juice contract that covers the risk of these floors.

Floor prices are negotiated between buyer and seller, although buyers typically offer floor prices that growers then accept or reject. Floor prices may be as low as below $1.00 per pound solids, or much higher, as happened in the 2006/07 season when floors of $1.50 to $1.70 per pound solids were part of multi-year contracts. These extremes in floors reflect the general industry's expectations about long-term fruit price levels. In an environment of abundant fruit, floor prices will be relatively low because expectations are for low fruit prices. Conversely, in an environment of expected scarce fruit, floor prices will be much higher because future prices are expected to be higher. In some cases, a floor-priced contract may also have a ceiling price,

Figure 2. Important Elements of a Processed Fruit Contract

1. Fruit purchaser should hold a valid fruit dealers license. This helps to ensure that the purchaser has the ability to pay for the fruit.
2. Verify that the person you are dealing with is an agent for the buyer.
3. In box contracts, the number of boxes should be specifically defined. In production contracts, the exact location of the grove or groves from which the fruit will be harvested and the percent of fruit in the grove covered by the contract should be defined.
4. Contract should specify how the grower will be paid, i.e., per pound of juice solids, per gallon of juice, etc.
5. Make sure the fruit varieties covered by the contract are specified.
6. Specifications for brix and ratio that differ from the USDA minimums should be reasonably achievable.
7. Contract should specify the fruit location the price is based on. For example, loaded on a truck at roadside near grower's grove, delivered to a plant, etc.
8. The exact date or dates when payments will be made should be specified.
9. Cash contracts should specify the exact price or prices.
10. Participation contracts should specify the beginning and ending dates of each pool, define and describe the elements of the pricing formula, and define what returns, if any, will be provided from sale of byproducts.
11. Reference pricing mechanisms should specify the reference price that is used, the period of time it covers, and if the reference price is not a fruit price, how it will be converted to a fruit price.
12. If the contract has a price rise provision, make sure it describes how the rise will be determined.
13. If a grower receives a cash advance before final payment, the contract should specify how and when the advance will be deducted from the final fruit price and payment, and what interest rate, if any, will be charged for the cash advance.
14. Contract should specify either a fruit picking and delivery schedule or how and when the parties will develop a picking and delivery schedule.
15. If the contract provides picking and hauling services, the rates or how the rates will be determined should be specified.
16. The accounting of harvested fruit should be summarized with field tickets and online scale tickets with USDA inspection certificates.
17. The contract should have a force majeure provision so that in the event a freeze, fire, storm, drought, labor shortage, or any other cause beyond either the grower's or buyer's reasonable control interrupts their business to the extent that the affected party can't perform all of its obligations under the contract, then to that extent, the party so affected will be excused from performance. This provision should also provide for the grower to refund any applicable cash advances for undelivered fruit to the buyer. For growers with box contracts, force majeure provisions should specify how the state total crop reduction will be used to determine the amount the grower is excused from delivering to the buyer.
18. Where applicable, provisions for the buyer to deduct and pay, on the grower's behalf, citrus advertising taxes, and other applicable taxes and fees, should be specified.

Developed from: (1) Interviews with Florida fruit processors and buyers.
(2) Information provided by Florida Citrus Mutual.
(3) Ten-plus years experience buying fruit for branded juice marketers and a large bulk processor

which is the maximum price a grower can be paid for the fruit under that contract in any single season while it is in effect.

Trade-offs can sometimes be negotiated where a grower receives a higher floor price in exchange for a lower ceiling. Also, a grower may sometimes get a higher floor if the grower agrees to give up some of the price rise, say the first $.05 per pound solids above the floor, or if the grower agrees to 95 percent of the price rise above the floor. In these types of agreements, buyers and growers are sharing risks with respect to future uncertainty in market prices.

POTENTIAL ISSUES FOR THE FUTURE

Florida citrus growers currently have several options available for pricing their fruit. In order of amount of fruit purchased and sold, reference pricing, including multi-year contracts with floor prices ranks first, followed by cash sales, toll processing, and finally, traditional participation. All involve trade-offs between risk and gain. Today's pricing mechanisms are increasingly more transparent and easy to track and verify than was the case a decade or more ago. However, as the industry moves into the future, a number of questions become apparent.

1. If a cure for greening is not found in the next five to 10 years, the number of processors will likely decline as fruit production declines. What impact will fewer processors competing for fruit have on fruit prices and/or pricing mechanisms?

2. Will new pricing mechanisms emerge that reward growers for minimizing the impact of greening on their production and/or culling greening-infected fruit in the field?

3. Will long-term (10 to 15 year) fruit contracts return as a way to lock up scarce fruit supplies?

4. Will floor prices and/or pricing mechanisms be designed to ensure that growers can cover the costs to battle greening and also make a competitive return on their investment?

The answers to these and as yet unknown questions and challenges, and how those who commit the capital and take the risks to bring fruit to processors and juice to consumers will meet those challenges, will help shape the future of the Florida citrus industry.

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