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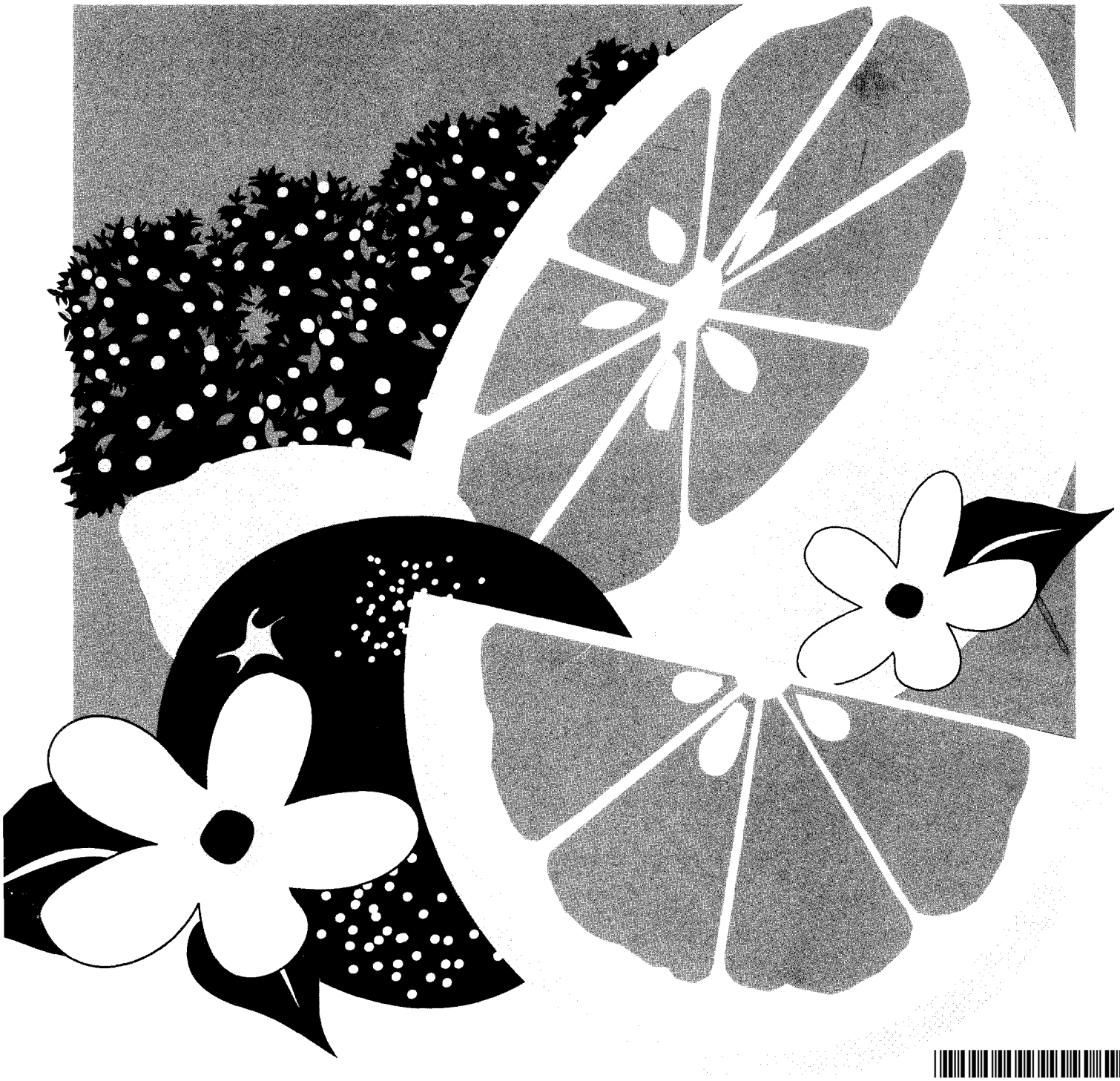
Cooperatives in the U.S.-Citrus Industry



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Abstract

Cooperatives in the U.S. Citrus Industry

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Citrus is one of the leading fruit crops produced in the United States. Cooperatives play an important role in the handling and marketing of both fresh and processed citrus products. This report examines the development and position of cooperatives in the citrus industry, their functions and operating practices, and the impact of changes in production practices and industry structure on cooperatives.

Cooperatives range from small, local fresh packinghouse associations to large cooperative federations with comprehensive marketing and sales programs in both fresh and processed markets. Cooperatives are among the leading marketers in all producing areas, and are the dominant marketing organization in California and Arizona. Citrus cooperatives use the pooling method to market and allocate returns. This cooperative practice of averaging price and sharing risk is commonly used by some private citrus firms as well, reflecting the inherent volatility of citrus production.

Keywords: Cooperative, grove, grower-member, fresh citrus, processed citrus, frozen-concentrated orange juice, packinghouse, processor, marketing federation, sales agency, marketing agreement, pooling, grove care, freezes, box, eliminations.

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Preface

This report describes the position and functions of cooperatives in the U.S. citrus industry. It is the first known detailed examination of its kind on citrus cooperative activities and operating practices.

The report is intended as a reference for cooperative managers and members, professional advisors, and anyone involved in professional activities or research in the citrus industry.

In addition to published information, much of the report is based on interviews, phone conversations, annual reports, bylaws, marketing agreements, and other documents voluntarily provided by those cooperatives participating in the project. The author thanks all of those who supplied information for this report.

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Highlights

Cooperatives have long been a major influence in all citrus producing areas of the U.S. From the harvest and handling of raw citrus for fresh and processed uses to comprehensive marketing programs that are among the largest citrus marketers, cooperatives are active in all stages of the market channels for citrus. Highlights of cooperative activity in citrus include:

- Cooperatives are one of the primary ways growers gain ownership and control in a fresh packing, processing, or marketing operation.
- The majority of citrus cooperatives are fresh packinghouses.
- Cooperative federations-cooperatives as members-are in both fresh and processed citrus.
- There are eight cooperatives with processing operations. The largest is Citrus World, Inc., a federated cooperative with packinghouse-either cooperative or grower-owned privates-members as an outlet for their eliminations.
- Cooperatives market the majority of citrus produced in California and Arizona. The leader, by far, is Sunkist Growers, Inc., a cooperative with more than 5,500 grower-members.
- The largest marketer of fresh Florida citrus is Seald-Sweet Growers, Inc., a cooperative representing 15 packinghouses.
- Most cooperative packinghouses provide a full range of services for grower-members-grove care, harvesting, and hauling. This enables smaller growers to achieve the economies of scale necessary for efficient citrus production.
- The citrus industry is becoming more global in scope and citrus production is projected to increase worldwide. Cooperatives are tied to domestic production, meaning their presence is directly linked to the continued viability of U.S. citrus production.

Cooperatives in the U.S. Citrus Industry

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For most of the past 20 years, citrus has been the leading fruit crop, in terms of dollar value, produced in the United States. Domestic citrus production is concentrated in Florida, California / Arizona, and Texas. California and Florida are the major producers.

Nearly 75 percent of the world's citrus supply is grown outside the U.S., but because production is spread across so many countries, the U.S. is considered a major citrus producer.

Whether in fresh or processed forms, the vertical system moving citrus to market is an array of interdependent markets, exchange mechanisms, and organizational structures. One of the most significant and highly visible organizational structures are cooperatives found at all levels of the citrus industry.

In recent years, the citrus industry has witnessed substantial structural changes due to weather conditions, disease, imports, and concentration. In addition to the general status and operations of citrus cooperatives, this report will look at the dynamic changes occurring in the industry and the impact on cooperatives and their grower-members.

The information presented in this report was gathered from three types of sources: 1) interviews and phone conversations with cooperative management and members; association, Government, and university staff members; and various industry experts; 2) written information supplied by cooperatives such as annual reports, bylaws, and marketing agreements; and 3) trade publications, newspapers, books, and research reports.

This is the first comprehensive description of citrus cooperatives of its kind because little has been published on the subject. Much of the information had to be collected first hand.

While it was not feasible to contact all cooperatives, the author met and / or had phone discussions with at least one cooperative considered representative of each type of organizational structure or functional area, such as packinghouse or processor. Some noncooperative firms were also contacted to further frame the role of cooperatives in the industry.

Use of phrases like "most cooperative packinghouses..." represent conclusions arrived at through the synthesis of information from a variety of sources. The author is solely responsible for all data or statements not attributed to a source.

CITRUS INDUSTRY OVERVIEW

The term "citrus" represents a number of different products and product forms. Oranges, grapefruit, and lemons are the major citrus crops, with lesser production in tangerines, limes, and an increasing variety of specialties. Oranges account for more than 80 percent of the world's citrus supplies. Citrus is consumed as fresh fruit or in products that use citrus. Juice, by far, is the leading processed form. Processing also generates a number of byproducts such as food additives, cattle feed, and cosmetics.

The use of citrus depends on the type, variety, and geographic region. For instance, most California oranges are navels grown for fresh markets. Conversely, most Florida oranges are round or "juice" oranges and grown especially for processing. In all areas, citrus of unacceptable quality for the fresh market is usually diverted to processing.

Until the early 1950s, most citrus was consumed in fresh form. The advent of processing technologies led to major changes in the use of citrus. Today, most citrus consumed in the U.S. is in

processed form, principally as frozen concentrated orange juice (FCOJ) and single strength juices. The development of processing technology prompted much structural change worldwide within the citrus industry.

World Citrus Trade

While citrus is produced worldwide, only a few countries provide all of the commercial export supplies. During the 1980s, the United States, Brazil, Spain, Italy, Japan, South Africa, Israel, Egypt, and Morocco accounted for more than 70 percent of all commercial production. While the U.S. and Brazil are by far the largest producing countries, their presence in the world market is primarily in processed citrus products.

Processed Citrus

More than 40 percent of world citrus output is processed. Brazil and the U.S. account for more than 90 percent of the supply. Citrus growers in the two countries are concentrated in the states of Sao Paulo and Florida, respectively. In most other countries that produce citrus juice, the processing sector is essentially a residual outlet to the fresh market.

The international market for citrus juices has grown substantially this past decade, fueling Brazil's growth in citrus production. During the 1980s Brazil surpassed the U.S. as the leading citrus producing country. More than 80 percent of Brazil's production goes into processing and more than 90 percent of it is exported in bulk containers as frozen concentrated orange juice (FCOJ).

The U.S. is the major destination of Brazilian FCOJ, which is then reconstituted into retail frozen concentrate or ready-to-serve juice. Brazil has made little or no effort to establish an identity for its juice. Most is reconstituted into a brand label of the processing firm or a private label for retail food chains.

At one time, the lesser quality Brazilian juice had to be blended with U.S. domestically produced oranges. As the Brazilian industry matured, so did the quality of its juices. Much of the imported concentrate can now be reconstituted without blending with domestic juices.

While Brazil exports most of its citrus production as processed products, the U.S. exports relatively little. With U.S. exports of processed citrus generally accounting for less than 10 percent of domestic supplies, its major role in world processed citrus markets is as an importer.

Florida has almost 90 percent of domestic juice orange supplies, so it is the most sensitive area to juice imports. The periodic freezes, like those Florida experienced in the 1980s, allowed Brazilian production to expand as imports were needed to fill gaps in supply. In recent seasons, imports accounted for almost 50 percent of U.S. FCOJ supplies.

FCOJ imports have mixed effects on the U.S. citrus industry. Florida citrus producers lost market share and price leadership to Brazilian imports. Increased imports limited the ability of Florida processors to exercise price leadership, and alternate sources allowed juice manufacturing to occur outside of Florida. Florida is no longer the primary supplier of orange juice to U.S. markets. An increasing volume of juice is imported bulk and reconstituted nearer the consuming areas.

The availability of alternate sources during freeze years, however, also benefited the domestic industry, including Florida producers. Without foreign supplies, orange juice prices would have risen high enough to possibly force consumers out of the market. Given the frequent freezes in Florida during the 1980s, the long-term effects could have been quite serious if consumers had permanently switched to other juices.

More importantly, imports allowed processing plants to continue operating at efficient levels, including several Florida processors that began importing FCOJ. Without foreign supplies during local crop shortfalls, many Florida processors would have shut down and permanently lost market outlets for Florida citrus growers.

Fresh Citrus

The United States and Brazil, although by far the major citrus producers, are less important in fresh citrus markets than in the processed markets they dominate. Together, they account for less than 40 percent of the world's fresh oranges, with most of their fresh production consumed domestically. In sharp contrast (table 1), all the other major citrus

producers are fresh-market oriented. Fresh exports are less than 10 percent of world orange production. Brazil exports little fresh citrus, with the U.S. only slightly higher, approaching 22 percent for fresh oranges and 45 percent for fresh grapefruit. Spain exports more than 50 percent of its fresh oranges. Israel, South Africa, and Morocco rely mostly on fresh exports because supplies greatly exceed domestic demand. Italy is an exception. It exports less than 10 percent of its fresh citrus.

When ranking the countries by fresh exports, Spain, Israel, South Africa, and Morocco all rank above the U.S. as a world market supplier of fresh oranges. Since 1979, U.S. fresh orange exports declined by more than 20 percent while overall world trade in fresh oranges increased.

Although Florida supplies less than 20 percent of U.S. fresh oranges, the freezes of the 1980s put upward pressure on domestic citrus prices, and limited both the ability or desire to move more oranges to export markets.

U.S. fresh orange exports to Canada and Europe declined, while others, particularly Spain, gained market share. U.S. exports to the Far East markets have grown slightly. Most come from California because of its Pacific Rim location and fresh-market orientation.

Fresh grapefruit exports, almost 30 percent of world production, are a more significant market outlet than oranges, of which less than 10 percent are exported. Although grapefruit is less than 10 percent of world citrus production, fresh grapefruit exports are an important market for U.S. producers. Grapefruit is about 50 percent of U.S. fresh citrus exports. It is one reason why grapefruit represents almost one-third of U.S. citrus production.

The U.S. is by far the world's dominant grapefruit supplier. It has almost 50 percent of the trade. Fresh grapefruit trade has grown steadily during the past decade, particularly in the Far East where U.S. exports have increased more than 100 percent since 1980. The U.S. share of the European market is also much larger for grapefruit than oranges because Europe's main orange suppliers, Spain and Morocco, produce little grapefruit.

Table 1- **Major citrus producing country's share of orange production used for fresh consumption.**

Country	Percent Fresh
Brazil	16
U.S.	19
Spain	93
Italy	79
Israel	76
Morocco	92
South Africa	77
Greece	80

Source: "The Citrus Industry," Ward 8 Kilmer.

U.S. Citrus Production

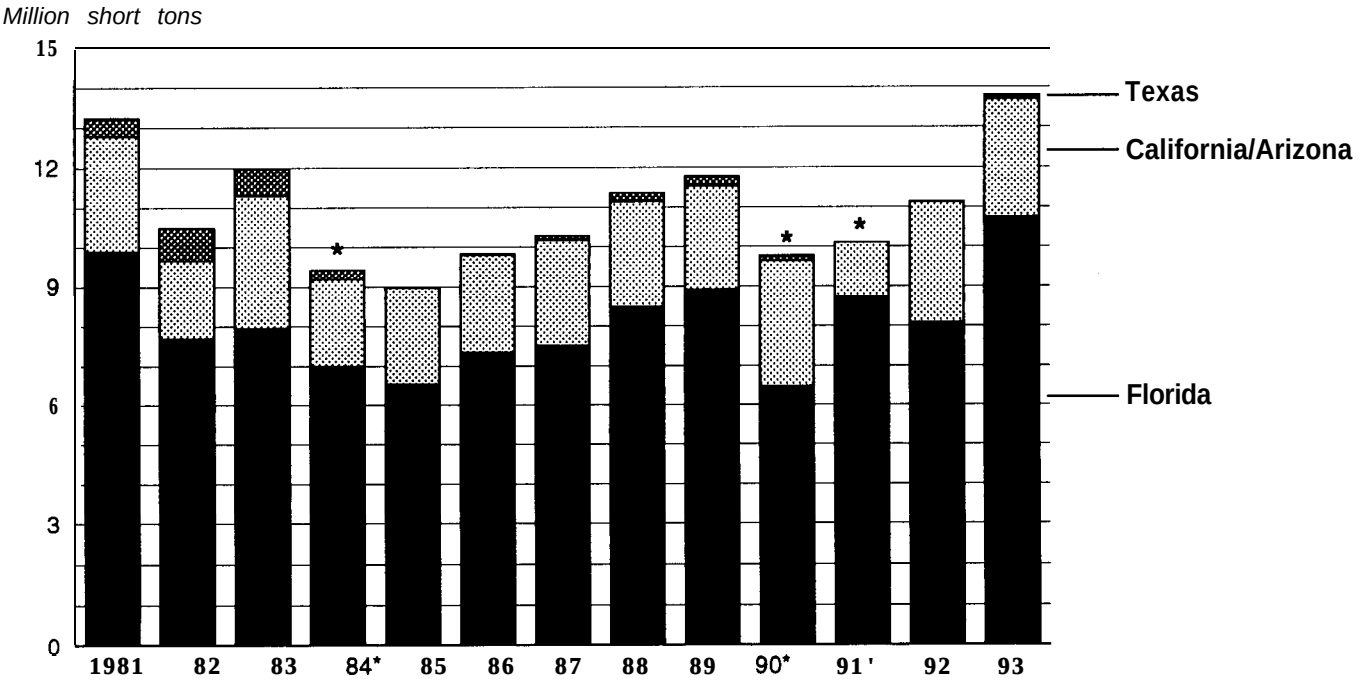
Oranges and grapefruit are the predominant citrus crops, accounting for about 90 percent of U.S. production, with lemons, tangerines, and specialties comprising the rest. Because the market structure and production units for the other 10 percent are essentially the same as the minor citrus crops, the balance of the report will focus on oranges and grapefruit.

U.S. production is concentrated in Florida, California/Arizona, and Texas. Florida, by far the leading State, usually accounts for more than 70 percent of all U.S. citrus supplies (figure 1). California/Arizona is second and Texas, the smallest. The majority of U.S. citrus-more than 75 percent of orange and 50 percent of grapefruit production-is processed.

Although oranges and grapefruit are sold as fresh or processed in all States, each is identified with specific products. In the U.S. citrus industry, Florida means "processed," California means "fresh," and Texas means "fresh grapefruit" (figures 2 through 7). While Florida is by far the leading orange producer, most of its production is processed. In Florida, the leading fresh grapefruit producer, more than half of its grapefruit production is processed. California is by far the leading fresh-orange State. Texas has relatively little orange production, but is a significant fresh-grapefruit producer.

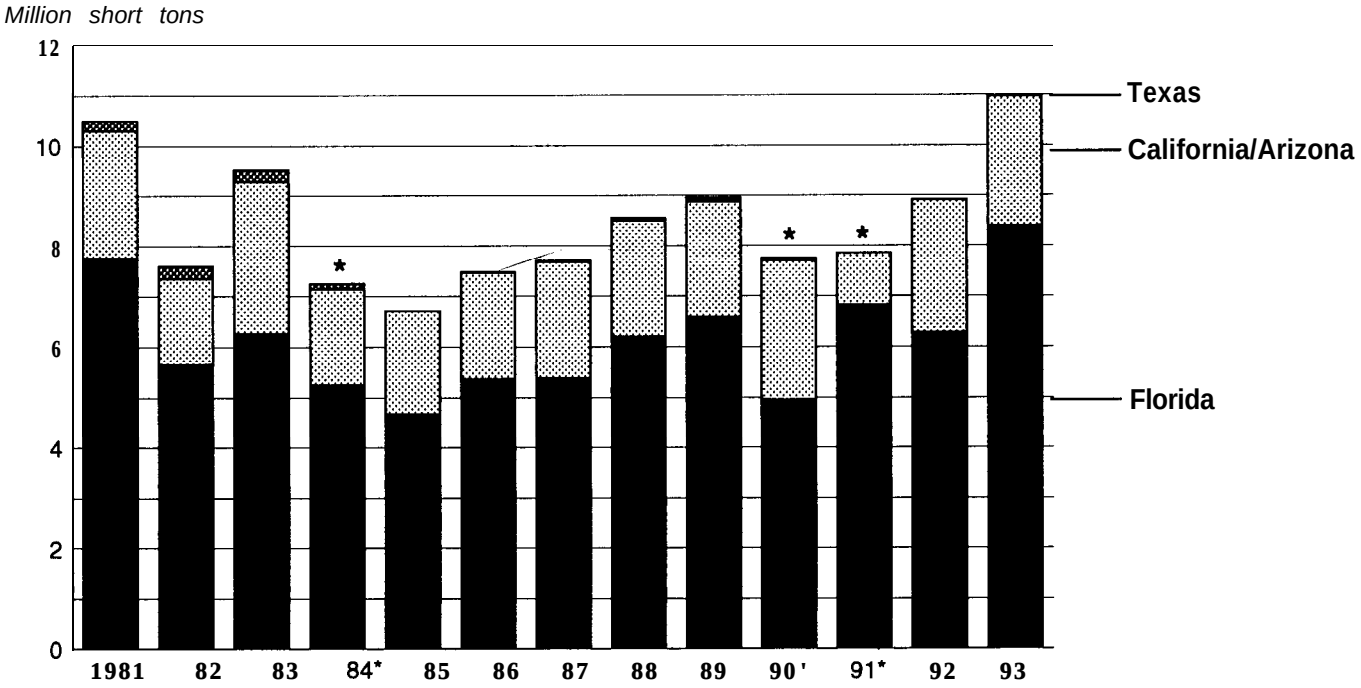
Figures 6 and 7 show the relative importance of fresh versus processed production by the per-

Figure i-Total Orange and Grapefruit Production by State, 1981-93



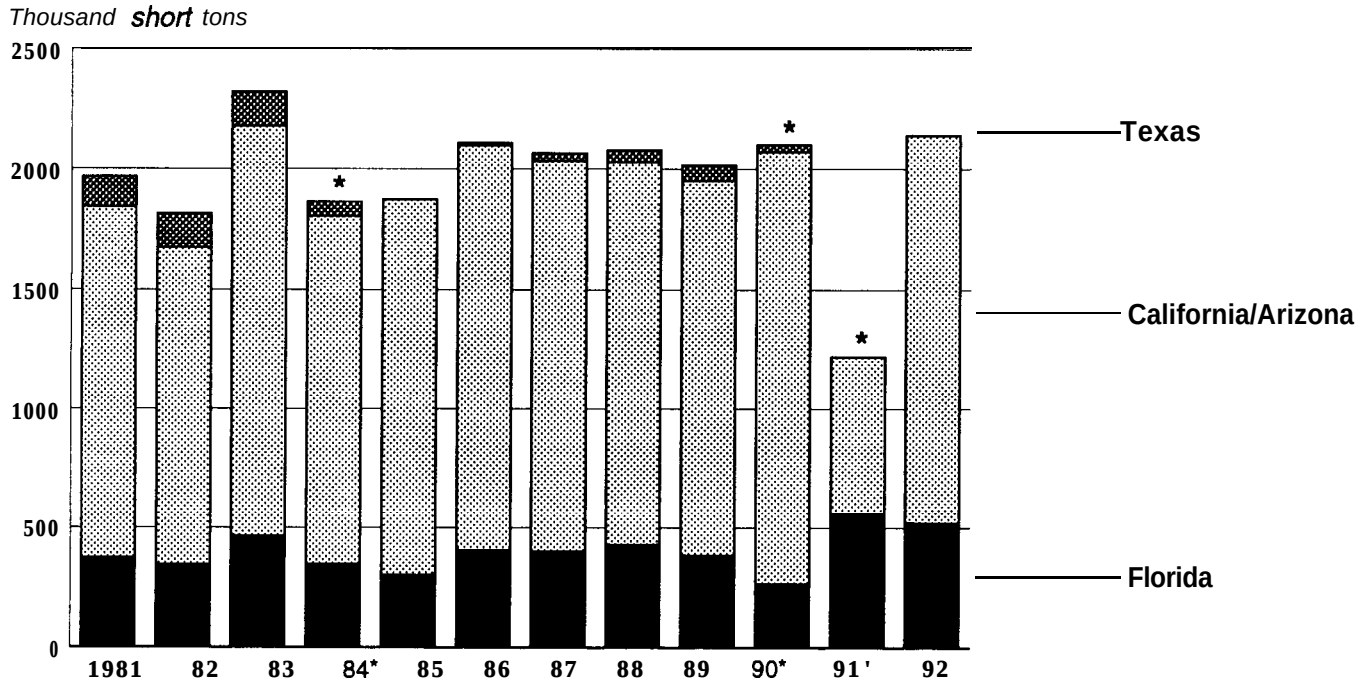
• *Major freeze years*
Source: Fruit and Tree Nuts Situation and Outlook, Economic Research Service, U.S. Department of Agriculture.

Figure 2— Orange Production by State, 1981-93



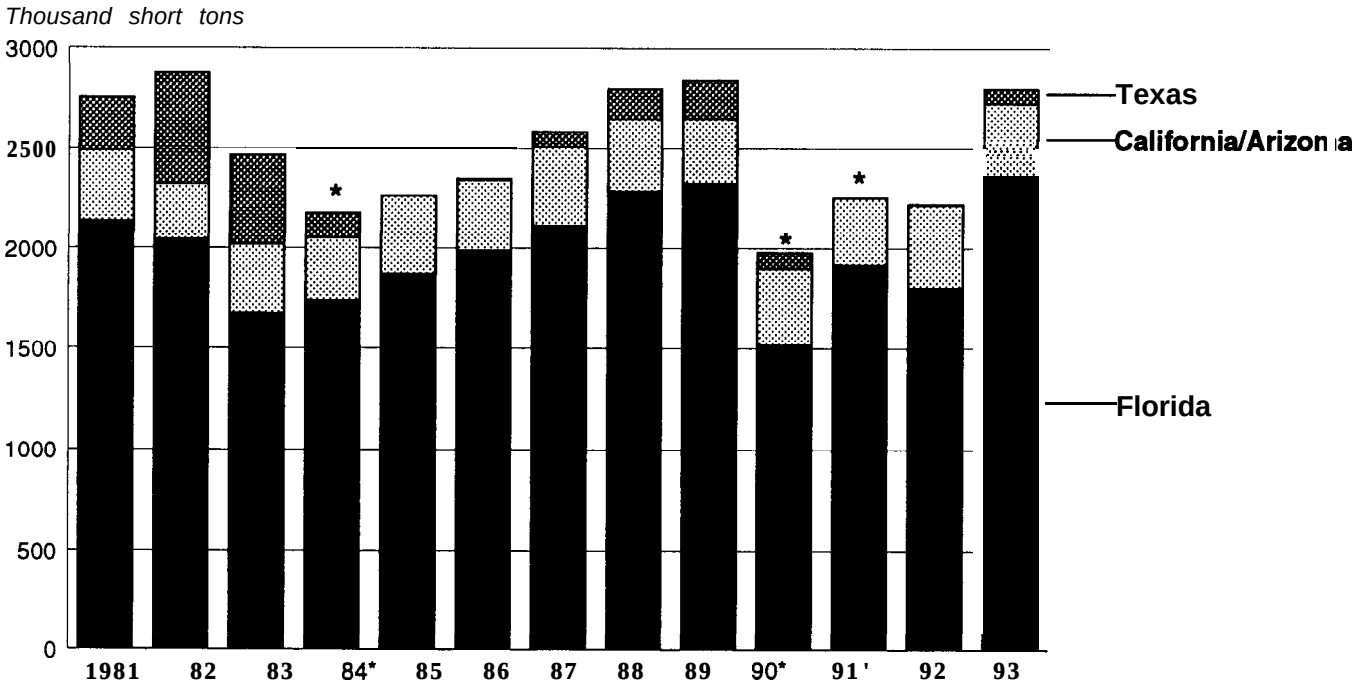
• *Major freeze years*
Season begins previous November for California/Arizona, October for Florida and Texas.

Figure 3— Fresh Orange Production by State, 1981-92



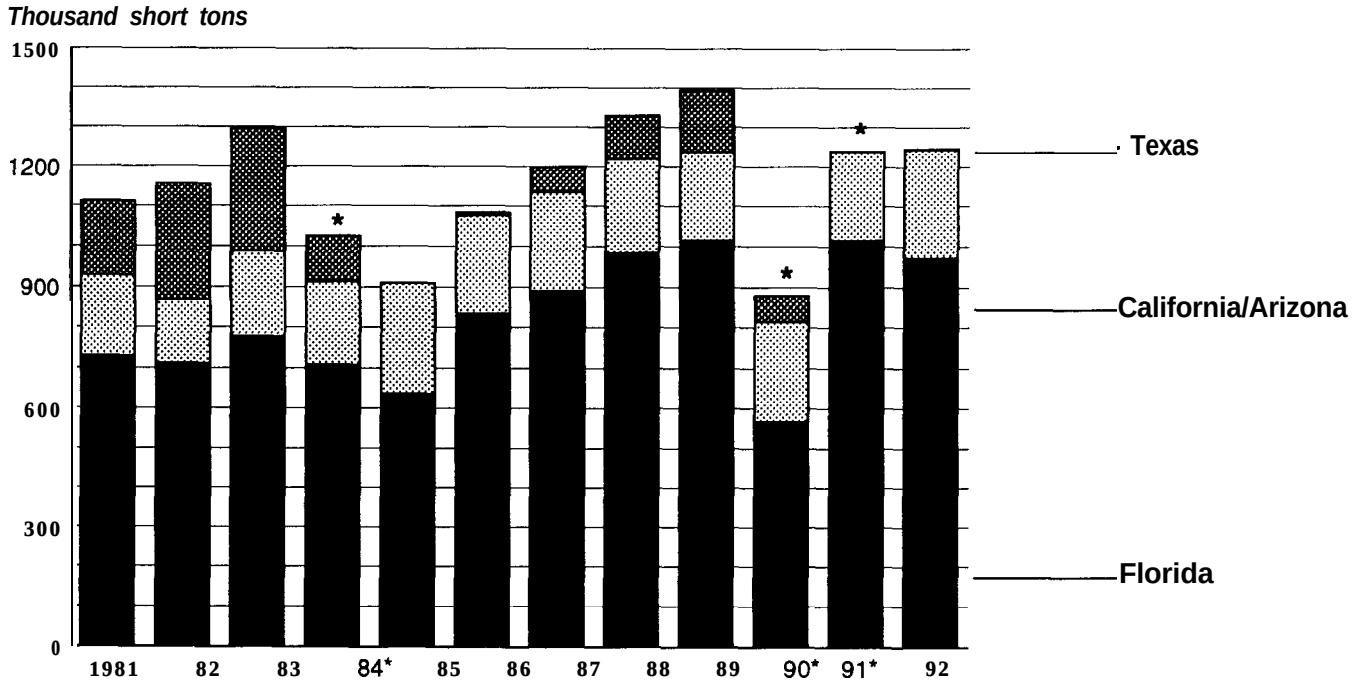
• *Major freeze years*
Season begins previous November for California/Arizona, October for Florida and Texas.

Figure 4— Grapefruit Production by State, 1981-93



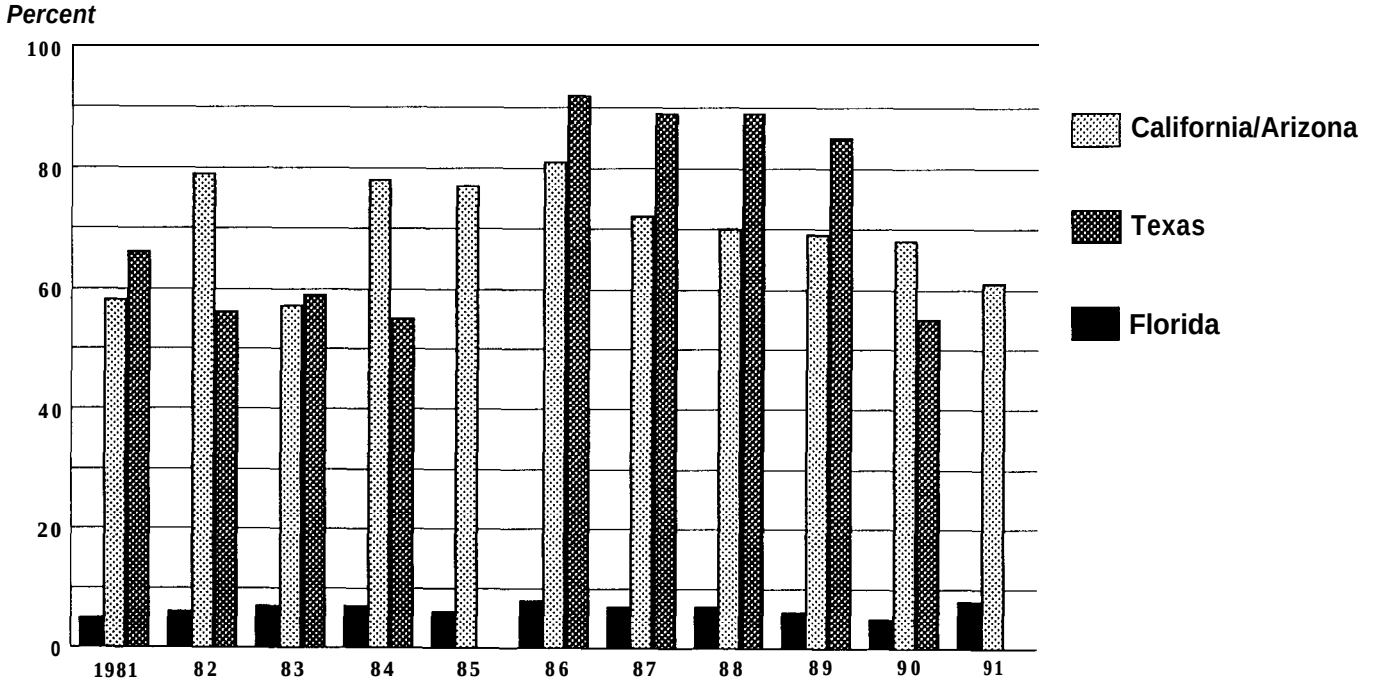
• *Major freeze years*
Season begins previous November for California/Arizona, October for Florida and Texas.

Figure 5— Fresh Grapefruit Production by State, 1981-92



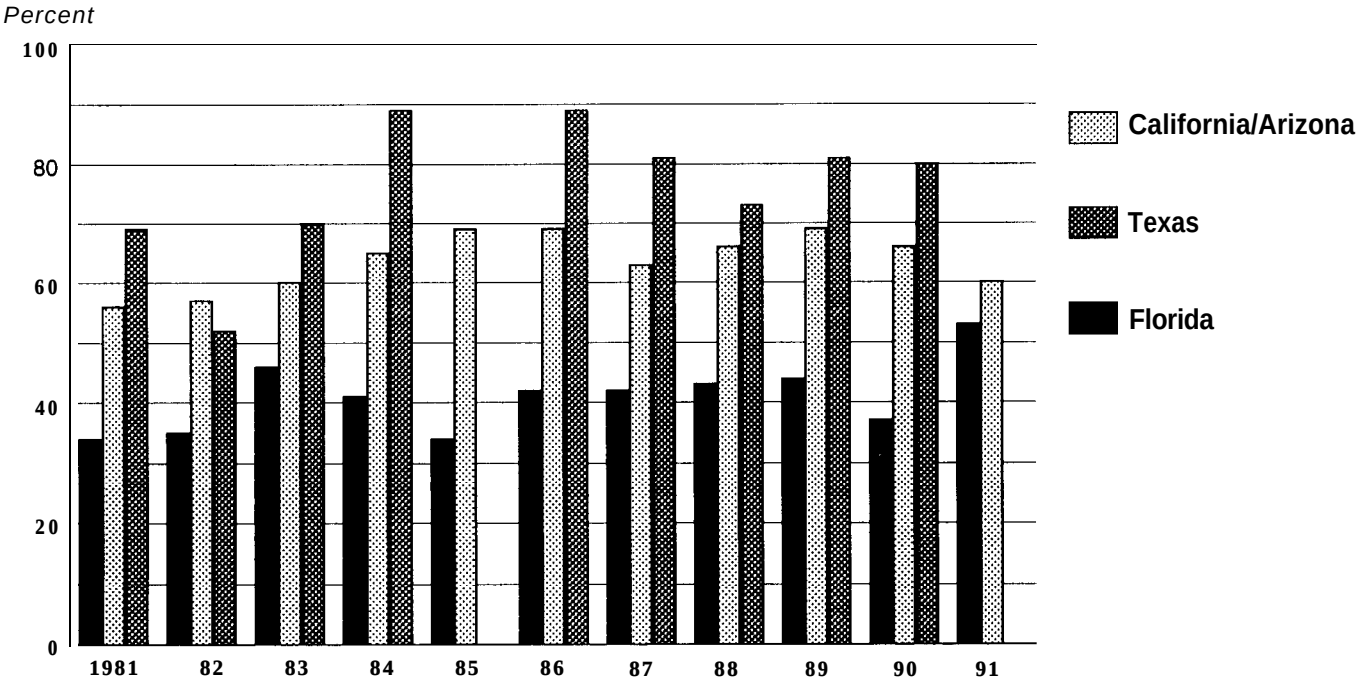
* Major freeze years
Season begins previous November for California/Arizona, October for Florida and Texas.

Figure 6— Percent of Orange Production Sold Fresh by State, 1981-91



Source: USDA/National Agricultural Statistics Service.

Figure 7— Percent of Grapefruit Production Sold Fresh by State, 1981-91



Source: USDA/National Agricultural Statistics Service.

centage of orange and grapefruit production sold fresh from each State. Florida is heavily skewed towards processing, California is mostly fresh, and most Texas production goes the fresh route.

Plants, equipment, and even citrus varieties are fairly specific to either fresh or processed uses, so the relative position of each State in fresh or processed markets remains the same regardless of the fresh/processed price relationships.

Structurally, Florida lacks the capability to shift the majority of production to fresh markets. California is similarly hampered on the processing side. In the short run, however, supply shocks and the resulting price changes can cause citrus supplies to be shifted between fresh and processed markets. In particular, freezes can have a profound effect on the marketing mix of fresh and processed citrus supplies.

Effects of Freezes

While weather-induced supply shocks are common to much of production agriculture, citrus is especially vulnerable to the devastating impacts of freezes. U.S. citrus production only occurs in the semi-tropical climates of Florida, southern and central California, the Arizona desert, and extreme southern Texas because citrus trees are sensitive to cold weather. Still, even these areas have experienced freezes. Since 1990 alone, freeze-induced shortfalls in supply have occurred in Florida, California, and Texas.

Freezes have a dual impact on citrus production-damage to the crop still on the trees and damage to or total loss of the trees themselves. The immediate impact of a freeze depends on the amount of fruit still on the trees and the level of damage. Normally, citrus can be "stored" on the tree for many weeks, allowing the marketing season to be spread out over a few months. However, after a freeze, the fruit is usually harvested as soon as possible. Fresh packinghouses and processing plants normally run around the clock. Harvesting is speeded up to salvage fruit before it rots from freeze-damage.

Prices in fresh citrus markets generally climb faster after freezes than processed markets because freeze-damage fruit is often unacceptable for fresh uses. Freeze-induced reductions in processing supplies are mitigated by fruit diverted from fresh markets. Also, imports of juice-concentrates are more readily available than fresh imports.

Where a freeze occurs directly determines the

relative impact on fresh and processed citrus prices. Fresh markets would be most affected by a freeze in California, while the processed markets would be hurt most in Florida.

Freezes can also have a profound impact on future citrus production to the extent that trees are damaged or even killed. Even if the damaged trees are replaced, there is a 3-to 5-year lag between planting time and the bearing of saleable fruit.

Freezes have different effects on structure of firms and their ability to survive in Florida, California, and Texas. Texas freezes are the most devastating and complete. While Texas independents could market Mexican or Florida fruit, cooperatives have few options in sourcing fruit in the short run or diversifying acreage bases in the long run. After tree-killing freezes, most independent Texas shippers could shift to handling other commodities. But citrus cooperatives do not have this option.

Although not as severe as in Texas, freezes also constrain Florida and California cooperatives. Formed to market the production of a specific set of growers, cooperatives have less flexibility than noncooperative citrus handlers in sourcing fruit. While many cooperatives market nonmember fruit, nonmember business is limited by law to no more than 50 percent of the cooperative's volume.

Market Channels: Fresh and Processed

Citrus market channels are defined along fresh and processed product lines. Fresh citrus is essentially consumed in the same form as harvested, so appearance and condition can be the most important marketing aspect. Most activity in preparing citrus for the fresh market is in the sorting and grading of citrus packed with like-quality fruit.

This occurs at the first stage of the market channel. So there are few intermediary activities or firms between the packing operation and the retail or wholesale outlet. Most fresh citrus is shipped directly from the packinghouse to the buyer's store or warehouse. As a perishable commodity, the functions and stages between the packinghouse and the consumer are primarily dedicated to maintaining product quality and delivering fruit in a timely manner.

There is much less concern about the appearance of raw citrus used in processing. Most of the less-than-acceptable-appearing fruit is diverted to processing. Citrus intended for processing is commonly graded and valued based on internal quality tests that determine the amount of juice the raw citrus will produce.

Processing transforms raw citrus into a variety of products-primarily juice. Not only is the raw citrus appearance transformed, but also the quality of juice and juice products can be changed through blending. By combining citrus juices with sweeteners or other juices, many different juice products can be created. So the functions and stages of the processed citrus market, particularly at the first level, are involved primarily in transformation activities. Most value is added in fresh marketing during the grading and packing functions. On the processing side, most value is added after the sorting and grading functions.

While many processed citrus products are made into their final form at the first-handler level, a significant exception is the bulk distribution of concentrated juice to be reconstituted into the finished product elsewhere. Bulk shipments, along with the ability to store processed citrus products for long periods, allows firms to enter processed citrus markets without being in citrus producing areas. These "reconstituter" firms have gained an increasing share of the citrus juice business. For the purpose of this report, a "processor" is located in the citrus producing areas and actively involved in handling and processing raw citrus.

Although some market both, most citrus industry firms market either fresh or processed products because of differences in the technical and facility requirements for each product. Processing facilities require far greater investments and much larger quantities of raw citrus to operate at efficient levels than a fresh packinghouse.

Accordingly, processors are fewer in number and generally larger than fresh marketers. For example, while almost 90 percent of Florida citrus goes to processing, there are more than four times as many fresh marketing firms than processors.

CITRUS COOPERATIVES AND OPERATING PRACTICES

Cooperatives of varying size and operations market citrus from all producing areas of the U.S. From the initial harvest and handling of raw citrus to the comprehensive marketing programs that are among the largest citrus marketers, cooperatives are active in all stages of the market channels for citrus. But, cooperatives are only one marketing option available to citrus growers. This section will look at how cooperatives operate and compare them with other organizations and coordination mechanisms in the citrus industry.

Grower-First Handler Coordination

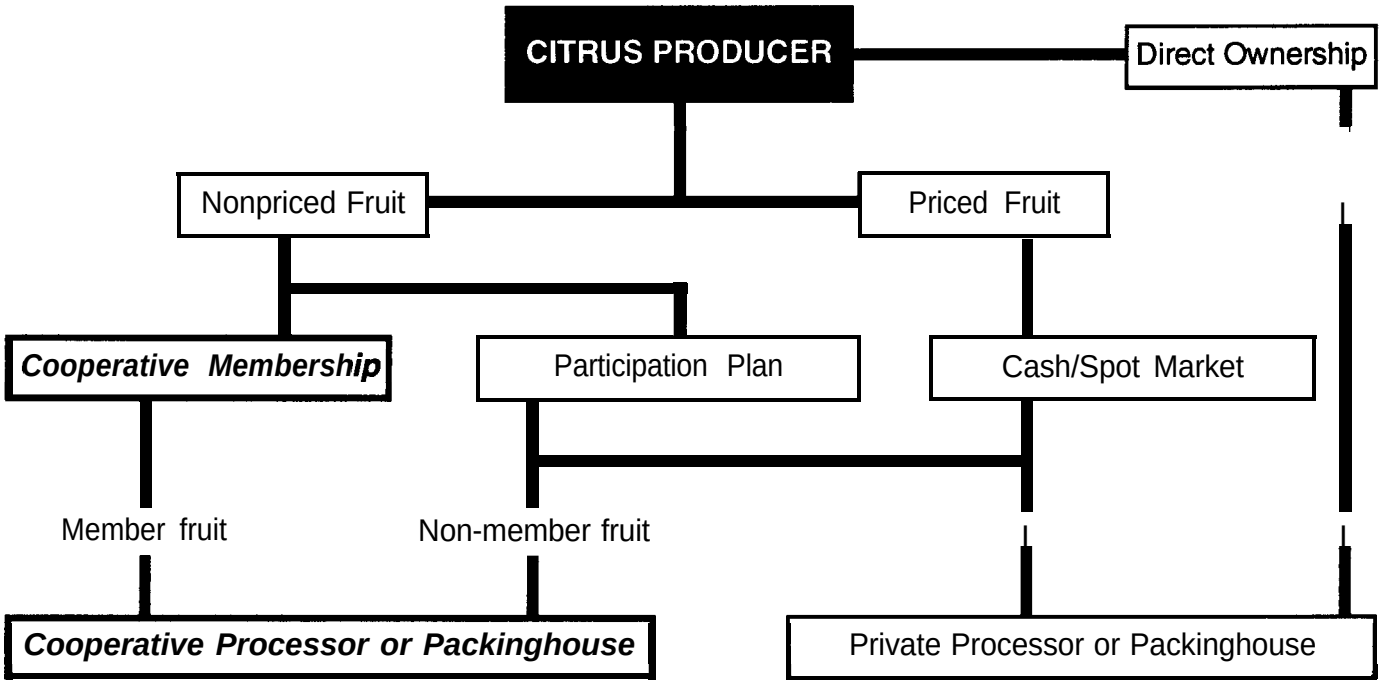
In the first stage of the market channel, raw citrus is harvested and delivered from the grove to either fresh marketers or processors. Regardless of product form or firm size, the coordination mechanisms are essentially the same. As a grower-owned organization, the majority of cooperative activity is in the grower-first-handler stage.

At the first-handler level, the marketing channels contain a range of coordination mechanisms broadly classified by three categories (figure 8). At one end is the open or "spot" market. Fruit is priced at the time of harvest or delivery. The key distinction about the spot market is that the fruit is not committed to a buyer until harvest.

Fruit committed before harvest is usually done under contract, the second category of exchange mechanisms. While some contracts may specify a given quantity of fruit to be delivered, the more common type is the "production" contract where buyers take delivery of all the fruit produced from a given grove. Price may be specified in a "cash buying" contract or determined after harvest in a participation contract.

In participation contracts, both the buyer and seller receive a predetermined percentage of the fruit sales based on the net price received for the fruit. This type of contract allows the sharing of price risk between the buyer and seller in the often-volatile citrus markets.

Figure 8— Exchange Mechanisms Between Citrus Producers and Packinghouses or Processors



Participation contracts are similar to the pooling methods used by cooperatives in marketing members' fruit and distributing returns. Participation plans are usually offered by private firms, but some cooperatives use them to market nonmember fruit under what are known as account sales. Within the season, member and nonmember fruit is treated the same. However, nonmembers carry a greater long-term risk in that cooperative membership means a guaranteed home for member fruit. In years when member fruit is sufficient, nonmembers may be forced to the riskier cash market. The third category of coordination is achieved through ownership or vertical integration. This combines two or more stages in a marketing channel within a single governance structure where coordination is by administrative direction. The degree of integration varies by commodity. The extension of ownership is mainly forward from the farm into the marketing channel toward the consumer.

Agriculture, in general, has little backward integration with food marketing or processing firms owning farming operations. Citrus is an exception. Considerable integration exists in both directions-backward with fresh marketers and particularly processors owning citrus groves, and forward with citrus producers having ownership in one or more stages of fresh marketing or processing channels. Cooperatives a common form of forward integration.

What Is a Cooperative?

A cooperative is a distinct business organization common to agriculture, including citrus. In forming an agricultural cooperative, a group of farmers agree to collectively market their products or provide some other needed service. This requires relinquishing some control over their products to a central organization.

The benefits of producers collectively marketing their products versus each doing it individually are that they: (1) fulfill the need for, or replacement of, a marketing service not available, (2) improve grower's bargaining position with buyer's because more production is controlled by a single seller, (3) facilitate economies of scale in handling and processing, (4) provide for better servicing of large buyers by pooling smaller quantities of product into larger lots for more economical sourcing and shipment, and (5) reduce price risk for the individual grower by spreading it over a larger number of units.

Like corporations, cooperatives are privately owned businesses and nearly all are incorporated. Cooperatives perform many of the same functions as any other business. Both citrus cooperatives and investor-owned firms (IOFs) have comparable facilities and operations, and are subject to the same competitive factors and industry regulations. In marketing their fresh citrus or processed products, both IOFs and cooperatives use comparable distribution channels, sales contracts, and marketing strategies. Where cooperatives and IOFs differ is in their internal operations and organizational framework.

Cooperatives are unique due to their owner-patron relationship, and further differ from IOFs in the manner and philosophy by which they operate. Cooperatives return net income to producer-users or "patrons" while other businesses return net income to investors. This user-benefit principle of cooperatives is followed in distributing returns to members based on their use or patronage.

In a citrus cooperative, this means the proportion (prorata share) of fruit the member markets through the cooperative. If members supply 10 percent of the cooperative's business volume, they receive 10 percent of the returns.

Two other principles distinguish cooperatives from other businesses-the user-owner and user-control. By law, agricultural cooperative ownership is limited to entities defined as farming operations. Those who use the cooperative own and finance it. Control, therefore, is in the hands of those who own and use the cooperative.

Other Types of Ownership

The counterpart to cooperative ownership of fresh marketing or processing facilities are IOFs—individual owners, partnerships, or corporations.

A number of citrus firms are owned by growers. Typically, they are larger commercial operations or family partnerships. Many own packinghouses and processing facilities.

From a cooperative standpoint, the distinction of a grower-owned firm from other IOFs is important. A number of these farming operations can legally become a member of a cooperative. Many are in fresh marketing organizations such as Sunkist Growers, Inc., Sherman Oaks, CA, or Seald-Sweet Growers, Inc., Vero Beach, FL.

Organizational Structures

Citrus cooperatives can be classified by three organizational structures: centralized, federated, or mixed. Essentially, they denote two different levels of activity.

On the first level is the grower-cooperative relationship where the members of a centralized cooperative are the individual growers. Control and volume flow directly from the members to the cooperative, and services and patronage refunds flow directly back to the members.

On the next level, two or more centralized cooperatives are united in an organization called a federation, or cooperative of cooperatives. Service and patronage refunds flow from the federation to the member cooperatives who then return them to their grower-members. A mixed membership is comprised of individual cooperatives and growers as direct members.

All three types of cooperative membership structures exist in the citrus industry. The most common is the centralized organization, primarily the cooperative packinghouse. These cooperatives will form a federation for two purposes. In a federated fresh marketing agency, the output of a number of packinghouses is combined under a single sales agent to enhance coordination and market power. The second is the federated cooperative processor which often handles eliminations from the fresh packinghouse.

The mixed structure is created primarily under two scenarios: 1) a large grower with its own fresh packinghouse that becomes a direct member of a federated fresh sales or processing agency along with local cooperatives, and 2) the Sunkist arrangement where, in addition to membership through a cooperative packinghouse, individual growers became direct members when using a private packinghouse.

Governance and Ownership

Control of cooperative management and operations begins with the articles of incorporation and bylaws. These documents determine the rules to follow in managing ownership and distributing net income. Because members determine the content of the legal documents and elect the board of directors, they control ownership and net income distribution. Members may at times vote on cooperative policies and major operating decisions, but most policy decisions are delegated to the board.

Governance of the cooperative is primarily through the elected board of directors, regardless of the organizational structure. In a centralized cooperative, the board is elected directly by the members. In a federation, the member cooperatives and grower-owned firms elect, or rather designate, the directors. Membership in a citrus federation is much smaller than in a centralized structure, so it is practical for each federation member to have a director on the board. A member may appoint either a grower, or as more often the case, someone from management to the federation board.

The Sunkist system is slightly different. The Sunkist board of directors is elected at the district exchange level (See section on the Sunkist system). Acting as a form of districting, all local cooperatives and individual growers in Sunkist must be a member of a district exchange. Each exchange elects at least one director-a grower or a management representative-to the Sunkist board.

Deciding who may vote, how many votes each person may cast, and other features of the voting system represent the method of control. Most cooperatives are purely democratic institutions. Each member has a vote-one-person, one-vote in most cases-regardless of the investment in the cooperative. Some cooperatives have an unequal or "proportional" voting system based to some degree on the relative volume marketed through the cooperative. However, the total amount of votes a member can have is usually restricted by the use of volume increments-l vote for each additional "X" units, etc., with a limit on the total.

On the other hand, voting in an IOF is based on the relative amount of equity or shares of common stock owned, usually with no voting limit.

Although both cooperatives and IOFs can have proportional voting, the number of votes in a cooperative is based on the proportion of usage, not equity.

Marketing

In forming a citrus marketing cooperative growers agree to collectively market. Cooperatives also affiliate with other cooperatives to jointly market fresh fruit and/or process fruit not suitable for the fresh market. They are known as "eliminations" from the packinghouse. The relationship between the local cooperative and the federated cooperative is essentially the same as that between the grower and the local cooperative.

However, the agreement between a local and federated cooperative may be for a more specific purpose, and not as comprehensive as that between the grower and the local cooperative. One agreement may only cover eliminations from a packinghouse, while another may merely be an agreement to act as a sales agent for a per-box fee.

Fresh Marketing

The first stage of market channel for fresh citrus is the packinghouse (house). Fruit is harvested and shipped to houses to be assembled, washed, graded, and packaged for the fresh market. Growers own most of the fresh packinghouse operations, either as a grower-owned IOF or as a cooperative. Most citrus cooperatives are in this first stage of the fresh market and known as local packinghouses. Many are linked with other local houses and grower-owned IOFs in a cooperative selling exchange-one of the ways packinghouses market their fresh fruit.

Packinghouses sell their fruit through three mechanisms: in-house sales force, outside private sales agency or broker, or as a member of a cooperative selling exchange. Also, a combination of these mechanisms may be used, such as an in-house staff for domestic sales and a private broker for export markets.

Cooperatives integrate the farthest into the market channel through the centralized packinghouse that employs its own full-line marketing program. Another example is the cooperative selling exchange, representing the interests of a number of citrus growers and packinghouses under a single sales program. Although the smaller packinghouses would seem the most likely users of a cooperative selling exchange, some smaller cooperatives do their own marketing and selling. Conversely, the cooperative sales exchanges have some of the biggest packinghouses in their respective States as members.

In representing the interests of many growers and packinghouses, the cooperative sales exchanges have traditionally been the most widely recognized cooperatives marketing fresh citrus in their respective States. All of today's citrus-producing States have federated sales exchanges. They are discussed further in the section on cooperative marketing in specific States.

Processing

The plant is the first stage of the market channel for processed citrus products. Raw citrus is assembled, sorted, and processed into a variety of product forms. Raw citrus is delivered to the processor via two routes: 1) varieties direct from the grove intended for processing, and 2) fruit considered unsuitable for fresh markets (eliminations). Most processing cooperative activity is where cooperative packinghouses-sometimes with grower-owned houses-will form a cooperative for their packinghouse eliminations.

For cooperatives in both fresh and processing, such as Sunkist, processing is mostly a residual operation to fresh marketing. While processing cooperatives obtain fruit direct from member groves, at times in substantial amounts, the intent in forming the cooperative was for packinghouse eliminations. Even in Florida, where most citrus is processed, few cooperatives were originally formed to process fruit directly from the grove.

There are no cooperative selling exchanges for processed products-processors as members-like those in fresh citrus marketing. Also, there is limited use of private sales organizations to market processed products to the primary markets. Most processors, including cooperatives, maintain a sales staff for retail outlets such as chain stores and large independents, and institutional outlets such as food service. Particularly for branded products and pri-

vate labels, most arrangements are directly between the retailer and the processor. Brokers may service some markets, particularly secondary markets such as schools and exports, but this is usually done in coordination with the in-house sales staff.

Cooperatives in Citrus Markets

Figure 9 overviews the position of cooperatives in the market channels for citrus from grower to consumer. As grower-owned organizations, most cooperatives are directly involved in the first stage of the system: handling of raw citrus for either fresh or processing. The major exception to this is the cooperative sales exchange where their members own the packinghouses and physically handle the product.

Cooperative activity declines after the first-handler stage. While larger cooperatives are active in most stages of the marketing channels for citrus, in general, noncooperative brokers, sales agents, further processors, reconstituters, and retailers/wholesalers perform more of the functions as product moves closer to the consumer.

Marketing Agreements

Although membership is voluntary, cooperatives generally use legal devices such as bylaws, articles of incorporation, and membership agreements. The membership agreement or contract is often referred to as the marketing agreement. These are common tools with fruit and vegetable cooperatives, including those in citrus.

While IOFs use written contracts to buy fruit, the marketing agreements used by cooperatives are unique because the cooperatives are owned by and operated for their member-patrons. Each grower-member's financial well-being depends in part on the performance of other grower-members. Marketing agreements ensure compliance of grower-members with their obligations to the cooperative, as well as its obligations to them.

Orderly marketing requires a degree of control over the product by the selling agency, or in this case, the management staff of the citrus cooperative. A marketing contract or agreement transfers some decisionmaking from individual growers to the cooperative. The mutual agreement requires the member to market products with the cooperative, and obligates the cooperative to obtain the best possible price for those products.

There are two general types of marketing agreements: 1) a contract specifying a purchase of quantity X at price Y, called a purchase-and-sell contract because it requires the cooperative to purchase product outright from the member; 2) an agency contract specifying the cooperative to act as sales agent for the member. Most marketing agreements used by citrus cooperatives are of the agency-contract type. Price is rarely determined prior to delivery. Instead, the cooperative acts as the member's sales agent. In most cases, the amount a member receives is determined after the fruit is sold. Most agreements call this payment method "pooling," a distinct cooperative practice in citrus marketing (see pooling section).

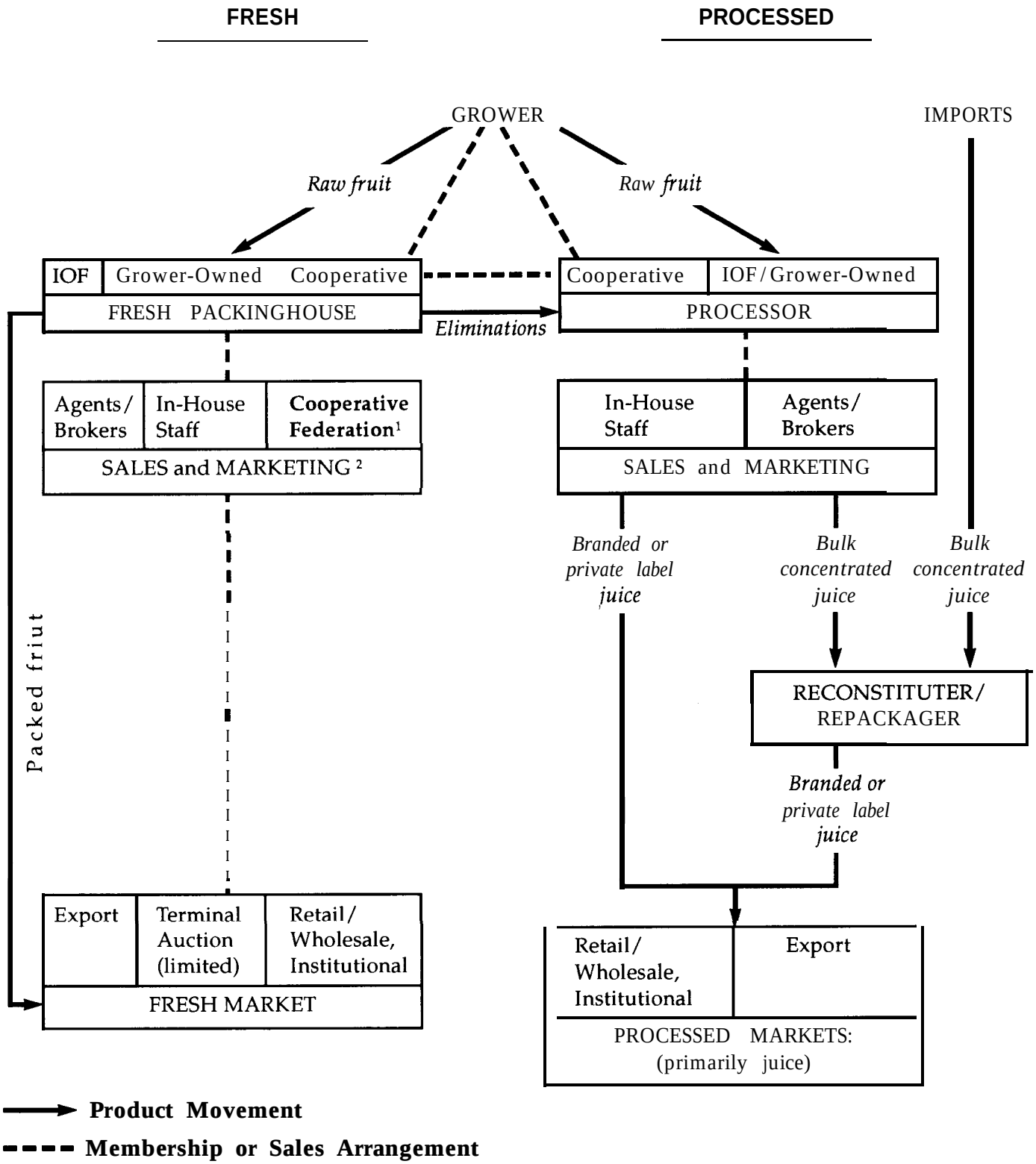
Typical Provisions

These provisions are typically found in the marketing agreement between the citrus growers and their cooperatives:

1. The percentage of products the member must market through the cooperative. Cooperatives frequently require members via the membership agreement to deliver all their production. This, however, is the exception among citrus cooperatives. Most citrus marketing agreements allow members to specify the amount of product they will make available to the cooperative-either per-box, or more commonly, all the production from the designated groves. Most citrus growers belong to only one cooperative although they aren't restricted from joining others.

2. Description and location of citrus groves covered by agreement.- Whether members are required to deliver all their production or only that from specific groves, marketing agreements usually require members to at least describe the location of the groves and the varieties produced in each. Some contracts also ask the grower to estimate the number of boxes per grove or the number of trees to assist the cooperative in calculating the potential volume.

Figure 9— **Cooperatives in Primary Market Channels for U.S. Citrus**



[1] Only cooperative and grower-owned packinghouses can be members of a cooperative federation. Some federations market both fresh and processed product.

[2] Some packinghouses use only one type of sales arrangement, while others might use multiple arrangements, such as in-house for domestic sales and a broker for exports.

3. Acknowledgement of grower-member's requirement to deliver the fruit specified in the agreement and the cooperative's authority to market the fruit. Generally, the cooperative is given the right to pack, process, and market all the fruit pledged by the member. With a fresh packing cooperative, agreements often give it the right to determine whether a member's fruit will be marketed in fresh or processed form as determined by the grade and standards policies. As a practical matter, it is far easier for the grower to allow the cooperative to market the packinghouse eliminations.

4. The length of time the agreement is in force. Most citrus marketing agreements are renewable annual contracts unless terminated in writing by either the member or the cooperative. Usually, the agreement specifies a date by which either the member or association can terminate their agreement for the coming season. Causes justifying termination are outlined in the marketing agreement or the cooperative's bylaws.

5. Authorizing capital retains to finance cooperative. The prime source of equity capital for most citrus cooperatives is through deductions from member payments. They are called per-unit retains because the amount members provide in equity capital is based on their patronage with the cooperative, usually on a per-box basis.

While different terminology describes the way retains are accounted for-written notices of allocation, common stock, capital equity credits, and certificates-the intent is the same. Each member has a separate account recording the amount of his/her equity contributions.

For citrus cooperatives, the most common method of patronage-based financing is through a revolving fund plan. Ideally, as new volume-based retains are accumulated, older money is revolved to the members. For example, the cooperative may declare that all money retained in a certain year, usually the oldest, will be returned to members who contributed in that year. There is no interest earned on the per-unit retains. While a regular revolvement is ideal, citrus production is prone to severe supply shocks from freezes that can delay scheduled revolvements.

Because the money used to revolve old equity is from the volume-based retains of the current year, reduced citrus production limits the cooperative's ability to revolve old equity. Because of the fiscal hardships caused by freezes over the last two decades, some cooperatives have not revolved funds for 20 years or more.

The amount of the retain is determined by the board of directors. Per-unit retains are at-risk funds. Although the members expect their retains to be returned after a period of years, the cooperative usually has no obligation to return them. The bylaws typically leave the decision on revolving up to the board. If the revolvement period is expressly stated in the contract or bylaws, however, this then becomes a debt for the cooperative.

6. Penalties for noncompliance and description of damages. A cooperative's board of directors may act against the grower for reasons usually outlined in the bylaws or marketing agreement. The most common breach of contract relates to the nondelivery of fruit by the member. Most agreements cite liquidated damages as an appropriate remedy for nondelivery. Actual damages are difficult or impractical to calculate in this event, so the marketing agreement generally specifies a formula for computing the liquidated damages.

For example, one cooperative assesses the member 25 cents per box for all citrus not delivered as required by the agreement. Other agreements are less specific, saying the damage amount is to be determined after a hearing with the board of directors.

Some marketing contract provisions allow for nondelivery for reasons beyond a grower's control, such as Government rules and regulations, wars, fires, labor disputes, and Acts of God. In practice, these provisions are mostly found in agreements where the grower is responsible for harvest and delivery. An Act of God clause releases the grower from liability in the event of freezes. The clause makes the marketing agreement an acceptable risk to both citrus growers and cooperatives in a federation.

7. Control of product quality and quantity. In addition to marketing decisions, most agreements give citrus cooperatives considerable control over product quality and quantity. The marketing agreement gives the cooperative the right to allocate fruit to different uses based on quality, or reject it if not meeting minimum standards. Where growers arrange their own grove care and harvesting services, few provisions address specific production practices to achieve a specific quality. Rather, quality is addressed when graded and sorted at delivery.

Cooperatives often extend control over product quality by providing grove care and management services to members. For the grower who uses these services, a separate document may cover the grove care arrangement. In some cases, cooperatives require members to use these grove care and harvesting services. In most instances, members are charged the actual costs for grove care and harvesting services instead of on a patronage or prorata basis.

Both fresh packinghouses and processing plants need considerable coordination of product deliveries with facility operations, so most agreements also give the cooperative control over the timing and amount of harvest and delivery. Decisions regarding harvesting and hauling services are directly controlled by the cooperative. If the grower is responsible for harvest and delivery, the agreement will often state the time and place as stipulated by the cooperative.

8. Method of Payment. A key provision in any marketing agreement regards payment, yet the wording of this provision is usually simple and straightforward. In short, the cooperative agrees to return to the members, after deducting appropriate expenses, the proceeds from the sale of their fruit. The citrus cooperative agreements seldom list a specific price and instead use pooling, a practice common to fruit and vegetable cooperatives.

Pooling

Although each citrus cooperative develops its procedures for operating pools, many share the same characteristics. Central to pooling is averaging costs and returns for a defined quantity of fruit (pool contents). It is a delayed-payment plan. Exact returns to members are not determined until after all their fruit is sold. Once fruit has been received, graded, and put into a specific pool, members' fruit is commingled and sold with others. All pool fruit then is considered to be sold at the same time. No distinction is made for the actual price received for a specific unit of product.

A member's participation in a pool is determined at delivery, when fruit is sorted and graded into different pools. Members share in the proceeds from the sale of the pool's contents based on their contributions. When all or most of the product has been sold, the pool is closed.

The estimated value of any remaining inventories is combined with actual sales to reach a total value for the pool. Operating and administrative expenses are allocated to each pool and subtracted from gross sales. The net proceeds are then divided by total pool quantity to get an average price paid for the pool's contents. Any excess over previous payments is then distributed to members on the basis of their prorata contributions to the pool.

Although the average price is not known until the pool closes, members are usually paid an initial advance upon delivery. Interim payments also are made as some of the product is sold out of the pool. Once the pool closes, a final payment-or adjustment-is made. If the pool value is positive when closed, the member receives a prorata share. Conversely, a negative pool value calls for a repayment by the members based on the difference between amount paid in the interim and the amount actually owed at closing. The per-unit retains are usually accounted for in the final adjustment to the pool.

Seasonal pools are common among citrus cooperatives. The pool contains all fruit from a particular variety during a given growing season. Nonseasonal pools divide a season's production into specific time periods, such as weeks or months. Time-segmented pools are used only in fresh marketing. Pools are also segregated by grade, variety, and usage. Each category constitutes a separate pool. Fresh packinghouse cooperatives usually have a fresh and processed pool for each variety.

Reflecting the characteristics affecting the way

a product is sold, the basis of payment usually differs between fresh and processed uses. Fruit in a fresh pool for a given variety is largely rated on exterior factors-size, color, texture, scars and bruises, etc. Different fresh grades, and hence pools, reflect these appearance factors.

The industry standard for fresh citrus sales is the box, a legally defined term reflecting the average weight by variety in a given box. Returns from the sales of a given variety are accumulated and recorded by the cooperative on the basis of box equivalents. In turn, the member's participation is based on number of boxes delivered to each fresh pool.

Appearance means little for processed citrus pools. The value of processed citrus is based on internal quality, most commonly pounds of solids. A load of delivered citrus is tested for the pounds of solids. This is then used in a formula ultimately reflecting the amount of juice the raw citrus will produce. Total pounds of solids are calculated by multiplying the test results by the boxes for each grower's fruit. Although returns may be converted into box equivalencies, payments to growers are ultimately based on the total pounds of solids they have delivered.

The decision on which pool to participate in, at least by variety, is first determined by what the grower chooses to plant-fresh or processing varieties. Growers determine the pools in which they plan to participate when they designate production from particular groves for marketing through the cooperative. However, once harvested, decisions on pool participation are made by the cooperative.

When received by the cooperative, the fruit may be allocated to premium or lesser grades based on quality factors. For a fresh packinghouse, fruit considered unsuitable for the fresh market is sent to a processor, who, in turn has the ultimate decision in grading and making pool allocations.

Generally, a pooling policy accompanies the marketing agreement describing, in varying degrees of specificity, the operations of the pool. The bylaws and other guidelines will also address pooling procedures. Wording in a typical pooling policy is shown in table 2.

While the policy itself is relatively simple, the accompanying general guidelines and the cooperative bylaws address the pool operations in greater detail. Some cooperatives choose to put more detail on procedures to be used-grading and testing

Table 2— **Pooling Policy illustration.**

COOPERATIVE PACKINGHOUSE
Pooling Policy: 1990-91 Season

All fruit shall be pooled by variety, by bloom (early or late), by weight, and on a "seasonal" basis.

The term "seasonal pool" shall mean the period of time from the harvesting of the first box of a variety until the last box of said variety is harvested.

Weight per box by variety shall be credited as follows:

Oranges, Temples, All Tangelos	- 90 pounds
All Grapefruit	- 85 pounds

There shall be a *fresh fruit pool* and a *processing fruit pool* established for each variety. Pools will be based on the fresh fruit care program and the processed fruit care program (general guidelines) developed by management in conjunction with the production committee of the board.

The following 1990-91 pools shall be established:

Oranges	Grapefruit
Hamlin Orange Pool	Red and Pink Seedless Grapefruit Pool
Midseason Orange Pool	White Marsh Seedless Grapefruit Pool
Navel Orange Pool	White Seeded Grapefruit Pool

In fresh pools, total receipts from all fresh fruit, by variety, shall be combined with the total receipts from the processing plant for eliminations of the same variety. These combined total receipts shall be divided by the total boxes harvested of said variety. Each grower shall receive the same price, less individual grower's picking and hauling expenses.

In the processing pools the total receipts from the processing plant for all fruit, by variety, shall be divided by the total boxes harvested of said variety. Each grower of said variety shall receive the same price delivered in, less the individual grower's picking and hauling expenses.

In the case of a freeze, the board of directors may change the pools in accordance with the cooperative's bylaws.

fruit, calculation of payments, and expense allocation. Pooling is a marketing mechanism designed at the discretion of the cooperative. While the specific policy wording varies in complexity, basic operations of the pool are essentially the same.

Table 3 shows a citrus pool used by a fresh packinghouse, the most widespread type of citrus cooperative. The packinghouse is also a member of a cooperative processor, another common occurrence. There are three pools in the example-fresh, eliminations from the packinghouse, and fruit harvested for direct shipment to processing.

In this example, the cooperative harvests and delivers members' fruit going direct from the grove to the processing facility. Payments by the processor are received by the cooperative and returned to the member in the same manner as other pools. The processor-direct fruit is not assessed a capital retain to illustrate that the financing of a cooperative's assets is allocated to the member fruit using those assets.

In this case, the capital retain is for the packinghouse operations, although the processor-direct fruit could be assessed a retain to capitalize the cooperative's direct grove-to-processing operations. For growers who harvest and deliver grove-direct fruit, the pooling arrangement and the payments would be between the grower and the processor.

Most citrus cooperatives calculate returns on a per-box basis, and deduct pool operating expenses and capital retains from the final payment. In table 3, operating expenses reflect that different pools can have different operating costs. Fruit in particular pools may have different expected values due to differences in the advance and interim payments. Also, the operating expenses may or may not be assessed in the same amounts, as is the capital retain, although it is more commonly assessed in the same amount per box.

For federated citrus cooperatives, pooling and the methods used are similar to those between the grower and the local cooperative. Whether a cooperative is a sales exchange or federated processor, member packinghouses receive a share of the proceeds based on their prorata share of each pool. In turn, the proceeds from the cooperative exchange are returned by the packinghouse to its members based on their prorata share of the cooperative packinghouse's contribution to either the sales exchange's fresh pools or the processor pools. These pooling methods are repeated at the cooperative first-handler level, be it based on boxes packed or pounds of solids. Specific pooling practices of individual cooperatives are overviewed in Part II of this report on cooperative operating practices.

Pooling practices of cooperatives are called participation plans by IOF packinghouses and processors. Under a participation plan, growers are assured a home for their fruit, which is especially beneficial should there be a freeze or large surpluses. Also, the grower does not have to be concerned about the risk of day-to-day price fluctuations. However, in participation plans, no retained earnings are returned to the grower. Growers have no equity or ownership in the packinghouse or processing plant, so no per-unit retain is deducted for capital financing. Also, the marketing decisions are made by the firm's management. Growers seldom influence pricing policies as they would in a cooperative.

While participation plans are identified more with IOFs, citrus cooperatives use them in marketing nonmember fruit, sometimes called account sales.

Nonmember Business and Account sales

By legal definition, cooperatives are limited in the amount of their nonmember business. As an operating policy, most cooperatives would prefer to market only member-grown fruit. But in certain instances, nonmember business is a necessary strategy in the efficient operation of the cooperative. Although the most immediate and simplest form of marketing nonmember business is through cash buying, the more common way is through participation plans called account sales.

Citrus cooperatives use account sales for both short-and long-term scenarios. Account sales are used long term to recruit new members, so their use as a regular practice is justified. In the account sale arrangement, nonmember fruit is pooled with members, allowing prospective members to assess the cooperative's performance on a first-hand basis. In the short term, account sales can be an important

Table 3— **Illustration of citrus pool calculations and pooling plan.**

	Fruit Pools Deliveries (No. of boxes)			
	Fresh	Eliminations	Processor Direct	Total Boxes
	2,000	1,000	1,000	4,000
Average price	($/box)			
to the pool	$10.10	$7.10	$7.00	
Payments:				
Advance payment	2.00	2.00	2.00	
Interim payment	1.00	1.00	1.00	
Deductions:				
Operating expense	3.00	2.00	1.00	
Capital retain	.10	.10		
Adjustment:				
Net final payment	$4.00	$2.00	$3.00	

Member Payments		
	Calculation	*Amount*
Payment:		
Advance	4,000 boxes X $2.00 =	$8,000
Interim	4,000 boxes X 1.00 =	4,000
Final-Fresh	2,000 boxes X 4.00 =	8,000
Final-Eliminations	1,000 boxes X 2.00 =	2,000
Final-Process Direct	1,000 boxes X 3.00 =	3,000
Total		$25,000

Average price received: $25,000/4,000 boxes = $6.25 box

Returns to processed product pools--eliminations and direct-are first determined by the returns to different processing grades as established by the processor. The packinghouse cooperative receives a gross payment from the processor. This is then paid to the grower-member on their prorata share of each pool.

stopgap supply in the event of a freeze. However, while significant volumes of nonmember fruit are at times necessary in the freeze-prone citrus industry, there can be limits on the amount of nonmember business a cooperative can transact.

DEVELOPMENT OF CITRUS COOPERATIVES

Cooperatives have a long history in the citrus industry. Cooperative fresh packinghouses were formed in the 1880s by California citrus growers. Florida growers followed a few years later. The rise of these cooperatives coincided with the blossoming cooperative movement in agriculture that spanned a period from the 1880s into the 1930s. Many cooperative packinghouses in California and Florida were formed during this period. The first one in Texas began in the 1930s, about the time citrus developed commercially in Texas.

Initially, cooperatives were formed to assemble raw citrus for more efficient shipments to the fast-growing population centers in the eastern U.S. As merchandising practices changed and the scope of citrus markets grew, the local cooperative packinghouses were limited in their ability to provide marketing services on a national level. Many found it advantageous to form a marketing federation to service a growing market more efficiently and effec-

tively. The first such organization is today's largest citrus marketing cooperative, Sunkist Growers, Inc. With an organizational structure known as the Sunkist system, it has long been the leading marketer of California and Arizona citrus. Due to its long history and influence on other citrus producing areas, discussion on the origins of cooperative activity in citrus begins with the story of Sunkist.

Origins of Sunkist System

Sunkist was originally known as the California Fruit Exchange (The Exchange). Although formally incorporated in 1905, it is rooted in the unstable market conditions for California citrus arising in the late 1800s. The completion of transcontinental railway connections with eastern markets in the late 1870s and 1880s allowed California's citrus industry to grow beyond the limitations of local fruit consumption and become a major supplier of fruit to the swelling population of the East coast.

During these early days, fruit was marketed by buyers rather than growers. The buyer struck a set price with the grower, and assumed all responsibility for picking, packing, shipping, and marketing the fruit. The system of dealer purchase initially returned profits to both growers and dealers. Both the supply of citrus and distribution of fruit increased among eastern markets.

As they became more complex, business became less profitable and more uncertain. Buyers lacked a coordinated system for distributing fruit. Some areas received too much fruit and others too little. This created such an unstable market that dealers could not risk paying growers an acceptable price.

The increasing uncertainty in marketing California citrus led shippers to turn to handling fruit on commission. Some growers tried to circumvent these western shippers by consigning fruit directly to merchants in eastern markets. This disorganized market frequently resulted in market gluts, delays, and losses to growers. Maintaining fruit quality was difficult. Fruit deteriorated in transit because available refrigeration was inadequate and rail service unreliable. Prices already low because of oversupply and uneven distribution couldn't absorb further reductions demanded by buyers for poor quality fruit.

A series of disastrous seasons during the 1890s became known as the "red ink" years. Growers often netted less than packing, transportation, and marketing expenses. The distribution system had serious weaknesses: Shippers sent fruit with no knowledge of how many carloads others were sending to the same cities; markets were overlooked and price cutting forced competitors from some areas; and producers couldn't reach markets in smaller cities to develop consumer demand, and were usually serviced by jobbers and wholesalers in larger cities with irregular supplies at relatively higher costs. Under these conditions, growers decided to create better distribution methods and began organizing to improve marketing.

California citrus growers' first attempt to jointly market fruit was in organizing the Orange Growers Protective Union of Southern California in 1885. The union sent staff to eastern markets to oversee distribution of member fruit, but did not require stockholders to use its buying, selling, and shipping services. The union lacked organization and coordination, and after a few years ceased to operate.

Three other organizations attempting to harmonize grower and packer interests were formed about the same time, but also failed. Attempts to merge grower and packer interests proved difficult, so efforts were then directed toward building a grower organization.

Grower-owned cooperatives first appeared in California in the late 1880s. Records show the first strictly cooperative association was the Pachappa Orange Growers Association near Riverside. Fruit was packed under contract until 1895, when the association acquired a packinghouse to handle member fruit.

Contracts drawn by this organization requested that growers deliver all fruit to be graded, packed, and sold on a variety pool basis. Two important aspects of cooperative citrus marketing, pooling and centralized selling, were already present by the 1890s in California.

About the same time, two other new cooperative associations were formed: Claremont California Fruit Growers Association and the Redlands Orange Growers Association. Claremont

and Pachappa associations were among the first to join today's Sunkist organization. Redlands operated since 1893 as an independent local unit selling its own fruit until joining Sunkist in 1929.

In 1893, 60 orange growers met in Los Angeles to organize a marketing cooperative based largely on the principles adopted by the Claremont and Pachappa associations. They proposed eight districts with local associations organized within each. Each association was to pack its own fruit and establish a purely local brand. Fruit picking was prorated among grower-members so all would have an equal chance for delivery. Sales orders for fruit were likewise prorated among associations to keep fruit moving proportionately.

The proposal established central district business offices open to all managers of associations in the district for handling telegrams and correspondence. Also recommended was an executive committee consisting of one member from each district to handle matters affecting the overall association. During the summer of 1893, growers established district and local associations, approved organization and marketing plans, and appointed the executive board of the Southern California Fruit Exchange.

Although the exchange made a successful start both in sales returns and reducing incidental costs, the portion of California oranges marketed within the organization dramatically declined from 89 percent in 1895 to 37 percent in 1896.

Various factors contributed to this decline. Growers, inexperienced in business, hired equally inexperienced managers for their associations and exchanges. The executive board was not always advised of shipments by exchanges, so competition existed between exchange fruit in eastern markets. Growers found the new organization was no panacea for all marketing ills, so many turned to selling fruit outside the cooperative.

Growers were also discouraged by the experiences of consignment sales and began to insist on an f.o.b. market (price includes delivery and loading costs). However, when the exchange began establishing a twice-monthly f.o.b. price for oranges, fruit sold outside the exchange was uniformly quoted and sold slightly under exchange prices. Consequently, fruit sold f.o.b. California was often rejected in large volumes on arrival at terminal markets.

In 1895, a plan to strengthen the exchange sales program was developed, primarily to address the marketing problems in eastern markets. The Southern California Fruit Exchange became incorporated. Agents were appointed to handle sales in eastern markets. The exchange began to show steady growth, both in quantity of shipments and percent of total industry crop handled. This stability was threatened, but not overturned, by the failure of a new organization, the California Fruit Agency.

After a large crop in 1902-03, competition intensified between the exchange and independent shippers. A proposal was made to join these previously antagonistic groups into a single sales agency that would control 90 percent of the crop. This was intended to eliminate cutthroat sales methods and duplicate marketing efforts. In 1903, independent shippers formed the California Fruit Agency, combining the Southern California Fruit Exchange and California Citrus Union. This agency relieved some immediate problems, but ultimately the two groups did not work well together.

Disagreement between exchange and union representatives would likely have led to a dissolution of the agency anyway, but another year of poor returns was the ultimate factor. Large crops in Florida and California made for lower prices in 1904. Added to these problems were the antagonism and ill will of fruit brokers whose business was greatly impaired by the formation of the agency.

Marketing conditions were so bad the exchange was threatened with disruption. Many members dissatisfied with the agency arrangement felt their directors had not consulted with the local associations. In not doing so, they violated the principle of local democratic control, a basic tenet of exchange philosophy. It is doubtful exchange members would have become reconciled to the fruit agency even under favorable market conditions. The agency agreement was dissolved in 1904, and the exchange operations returned to their original form.

In 1905, the exchange's basic cooperative principles were reaffirmed with the formal incorpora-

tion of the California Fruit Growers Exchange. It recognized the organization's broadening role in the marketing of California citrus. The corporate name was changed to Sunkist Growers, Inc., in 1952 to more definitively associate the registered Sunkist trademark with the organization.

Impacts of Sunkist's Early History

A telling lesson from the early days of Sunkist was the difficulty of combining a grower-oriented organization with a group of independent brokers. The California Fruit Agency would have been illegal under the Capper-Volstead Act-only agricultural producers allowed as members-enacted in 1922. The strain of divergent interests between brokers and citrus growers under a single organization led to its demise. A policy of increasing grower returns was at odds with the interests of the independent broker, particularly in the prevailing cash-marketing environment of the time.

Brokers were interested in buying fruit at the cheapest price to boost their returns, resulting in correspondingly lower returns for the grower. Although a market structure of many independent brokers competing with one another for a grower's fruit would be a healthy one, a single organization of both parties to stabilize the market would not.

In successful cooperatives, member interests and interests of the business operation are the same. Sunkist, like many other marketing cooperatives-ocean Spray, Welch's, and Sun-Maid-markets a single commodity for members who usually grow only that commodity.

Also, these cooperatives represent large shares of their respective markets-nearly 50 percent. Having a larger share of a commodity's production increases the effectiveness of a cooperative. This effectiveness is reflected in the increasing share of growers as cooperative members.

However, Sunkist rose out of early unstable times in the California industry and owes its initial success to its specific focus. Citrus growers collectively marketed their fruit. Both the decisionmaking and accrued benefits were vested solely in the grower-members.

The early success of the Sunkist system spawned interest among citrus growers in both California and Florida. The cooperative activity in these States prior to Sunkist was confined mostly to the picking and packing of fruit at the packinghouse.

Sunkist represented the needed transformation of citrus cooperatives into active marketing agents for their members. Its success validated the role of cooperatives in marketing. With it came the interest of others to become more active in marketing.

California In California, the Mutual Orange Distributors was formed in 1906, the forerunner of Pure Gold, Inc. Pure Gold was organized as a nonprofit agricultural cooperative with the same marketing focus as Sunkist. Pure Gold was much smaller than Sunkist and therefore structured a little differently. With only a handful of packinghouses, Pure Gold did not need district exchanges to coordinate sales and shipping. In effect, Pure Gold was the combination of Sunkist's central organization and district exchanges.

By 1920, Sunkist and Pure Gold were marketing almost 73 percent of California/Arizona citrus. Their share steadily increased thereafter to almost 95 percent in 1933. At this time, Sunkist's share was about 85 percent and Pure Gold's share 10 percent. Sunkist's share declined to about 60 percent in 1991, and Pure Gold exited the industry completely in 1989 when the Arlington Heights Citrus Company, the last remaining component of Pure Gold, affiliated with Sunkist.

The decline of Pure Gold is rooted in two major factors in the history of the California/Arizona citrus industry: 1) the relative ease that packinghouses could affiliate and disaffiliate with Sunkist and Pure Gold, and 2) the subsequent ability of marketing agents to enter the market in competition with both cooperatives. Since their formation, both Sunkist and Pure Gold operated as "open membership" cooperatives. Any qualified grower could join and take advantage of marketing services. Qualified packinghouses could easily join either organization. Either cooperative or licensed private packinghouses would qualify. Membership agreements were of indefinite duration and could be terminated at the end of each year.

Subsequently, every packinghouse affiliated with Sunkist or Pure Gold was a potential competi-

tor in that each could drop its affiliation and market elsewhere. Often, a disaffiliating house would affiliate with the other cooperative. There was a fair amount of movement between the two cooperatives, and neither experienced significant long-term declines in volume until the 1970s.

However, the ultimate decline of Pure Gold reflected not only the mobility of packinghouses facilitated by the open-membership policies of the citrus cooperatives, but also changing industry conditions.

The ease of exit and entry meant other marketing firms could enter the industry in two ways: 1) Sunkist or Pure Gold member packinghouses striking out on their own in the marketing phase of the business, or 2) a marketing firm could buy new supplies without the cost of constructing a new packinghouse by enticing a Sunkist or Pure Gold member to affiliate with it. Both cooperatives served as a major source of packinghouses for commercial citrus marketers.

As industry conditions changed with the segmentation of markets (exports, specialty varieties, and rising foreign competition), opportunities increased for firms that could meet specific niche markets. Firms such as Sun World, Mendelson-Zeller, and Dole entered the Cal/Arizona citrus industry largely by acquiring or affiliating with Sunkist or Pure Gold houses.

As marketplace competition intensified, both Sunkist and Pure Gold lost market share. By virtue of its larger size and superior marketing and distribution systems, Sunkist maintained its dominance with more than 60 percent of the production into the 1990s. On the other hand, Pure Gold found the scope of its activities gradually diminishing. It folded in 1989. The ability of member houses to easily exit Pure Gold for "greener pastures" likely contributed to its decline.

Florida Sunkist's rise in the early 1900s spawned two reactions from the Florida citrus industry: 1) competing in terms of addressing the presence of Sunkist in the East, and 2) imitating Sunkist's success and applying it to marketing Florida citrus.

Prior to the advent of California citrus in the late 1800s, Florida supplied most of the citrus consumed in the eastern U.S. More than 75 percent of the population at that time lived east of the Mississippi. This represented the bulk of Florida's out-of-state shipments.

As California interests led by Sunkist began shipping to eastern U.S. markets, their presence did not go unnoticed among Florida's citrus growers and shippers. Cooperative packinghouses were already playing a role in Florida citrus at that time, so Sunkist's federated marketing system sparked further interest among Florida cooperatives and their members.

Prior to the 1909 Florida Orange Growers convention, a group of 46 growers and businessmen traveled to California to study the California Fruit Growers Exchange. The group recommended that Florida citrus growers create a similar organization to develop unified marketing procedures to maintain supplies and prices at beneficial levels for both the consumer and the grower.

About 100 growers gathered on June 1, 1909, to form the Florida Citrus Exchange, the first organized effort for marketing fresh Florida citrus. In 1969, the exchange's name was changed to Seald-Sweet Growers, Inc., to identify the organization more closely with its leading brand name.

Like Sunkist, the local cooperative packinghouse was the primary component of Seald-Sweet's federated-type organizational structure. However, unlike Sunkist, Seald-Sweet did not need to establish district exchanges as an intermediary with the local packinghouses.

Florida growers did not face the same conditions as those in California. They were not as removed from one another and had better roads and communication lines to link them. Florida packinghouses could contact the central exchange more readily and coordinate shipments more easily than their California counterparts.

In effect, the central Seald-Sweet organization could fulfill both the marketing and information dissemination functions of Sunkist Central and the sales function of the district exchanges. Also, as Sunkist grew to handle a much larger volume supplied by members spread over a larger area, it necessitated continuing the decentralized system of district exchanges.

Seald-Sweet, Florida's first federated marketing cooperative, quickly established a reputation for innovative marketing techniques. By 1912, it began the first national advertising and merchandising program sponsored by any segment of Florida's citrus industry. By the 1930s, Seald-Sweet created an international division for exports to Europe, and in later years the Pacific Rim. Exports grew to be a major portion of the cooperative's business. Nearly one-third of its cartons were shipped to export markets by the 1980s.

Seald-Sweet became a major marketer of Florida citrus, but never achieved Sunkist's large market share. Different historical conditions prompted each organization's development. They were reinforced by Florida's structural differences, which worked against a broader representation of Florida citrus by Seald-Sweet. In being much closer to the eastern markets, there was less impetus to coordinate the long-distance rail shipments. Individual shippers in Florida could more easily coordinate shipments and market product themselves.

After the advent of citrus processing, processed sales steadily grew to almost 90 percent of citrus grower sales. With the fresh market becoming basically a residual one to the processed, poor fresh market conditions did not cause the same concerns as in a similar situation in California. Cooperative membership is generally most popular in times of poor market conditions. Given that, less reliance on fresh citrus markets means less grower stress from a depressed fresh market. This translated into less overall demand for a broad, "Sunkist-type" system in Florida.

Even though Seald-Sweet and Sunkist became competitors in the citrus markets, and the California Fruit Growers Exchange was aware of the possibility when they met with the growers interested in establishing a "Sunkist" in Florida, a spirit of cooperation has prevailed between them. At times, the two buy and sell each other's fruit-Sunkist sells Florida grapefruit in Japan and Seald-Sweet sells Cal/Arizona grapefruit in Western Europe.

Current Sunkist System Structure

Sunkist structure has changed little during the intervening years-a marketer of citrus products in a federation of both citrus growers and cooperative packinghouses tied by contractual agreements. The Sunkist system is a "pyramid" linked by contractual agreements between three distinct levels: the packinghouse, the district exchange, and Sunkist Growers, Inc.

The packinghouse is the basic unit of Sunkist's structure. Most grove care, harvesting, and packing functions are coordinated by the individual packinghouse. The grower has the exclusive right to decide what varieties and how much to plant. Decisionmaking on fruit harvesting and hauling usually passes to packinghouse management.

Sunkist growers can obtain the services of a packinghouse either through membership in a local cooperative packinghouse or by agreement with a commercial packinghouse. At one time, commercial packinghouses could be members of Sunkist. But, Sunkist reorganized in response to a 1968 Supreme Court ruling that said this did not comply with Section I of the Capper-Volstead Act.

Commercial packinghouses could still be used by growers, but legal ties were changed. They were no longer allowed membership or legal interests in Sunkist. Commercial packinghouses wishing to remain with Sunkist had to sign an exclusive licensing agreement to pack only the fruit of Sunkist members and comply with Sunkist standards and regulations. Sunkist, in turn, agreed to market all fruit from the commercial house just like cooperative houses. Known as licensed or agency packinghouses, their legal relationship with Sunkist changed little. About one-half of those handling Sunkist member fruit are licensed packinghouses.

In 1968, each Sunkist grower had to be a member of Sunkist Growers, Inc., constituting one of the contractual agreements of the Sunkist system. Before then, growers would only have to become a member of a cooperative packinghouse to be considered a Sunkist member. Another set of contracts link growers, packinghouses, and district exchanges. All packinghouses, in either their membership (cooperative) or licensing (commercial) agreement, are required to market their fruit through a district exchange.

Growers become members of a district exchange in two ways: membership in a local coop-

erative association that in turn is a member of a district exchange; or growers, who because they use a licensed packinghouse, become direct members of the district exchange. The cooperative packinghouse has a membership agreement with both a district exchange and Sunkist Growers, Inc. District exchanges, in turn, sign membership agreements with Sunkist. The license for the commercial packinghouse is simultaneous with Sunkist Growers and the district exchange.

District exchanges are organized as nonprofit cooperatives controlled by boards elected by the cooperative associations and direct grower-members of the exchange. District exchanges do not physically handle the fruit. Instead, they are a mechanism for collecting and disseminating information between Sunkist Central and the local packinghouses, and for coordinating sales orders and shipments.

Another district exchange function is in governance of the Sunkist system by acting as a form of districting through which control of Sunkist Growers is allocated. District exchanges elect the directors to the Sunkist board. Each director represents a specific district exchange. Each district exchange is entitled to one director on the Sunkist board, with additional directors for specified percentage increases in their share of Sunkist's volume. Local association and direct grower-members of the district exchanges elect the director(s) representing the exchange on the Sunkist board.

Sunkist's *Contractual Relationships* Figure 10 outlines the structure of the four main levels of the Sunkist system: the grower, packinghouse, district exchange, and Sunkist Central. Here is a recap of the contractual relationships within the Sunkist system:

1) All growers are direct members of Sunkist Growers, Inc., to ensure compliance with the Capper-Volstead Act.

2) All growers must be affiliated with a district exchange in either of two ways. One is through membership in a local association, which in turn is a member of the district exchange. The other is the grower, who, by using a licensed packinghouse, becomes a direct member of the district exchange.

3) The licensed packinghouse signs a simultaneous licensing agreement with the district exchange and Sunkist.

4) All district exchanges and local associations sign membership agreements with Sunkist.

5) All agreements within the Sunkist system are for 1 year and renewed automatically unless terminated by either party.

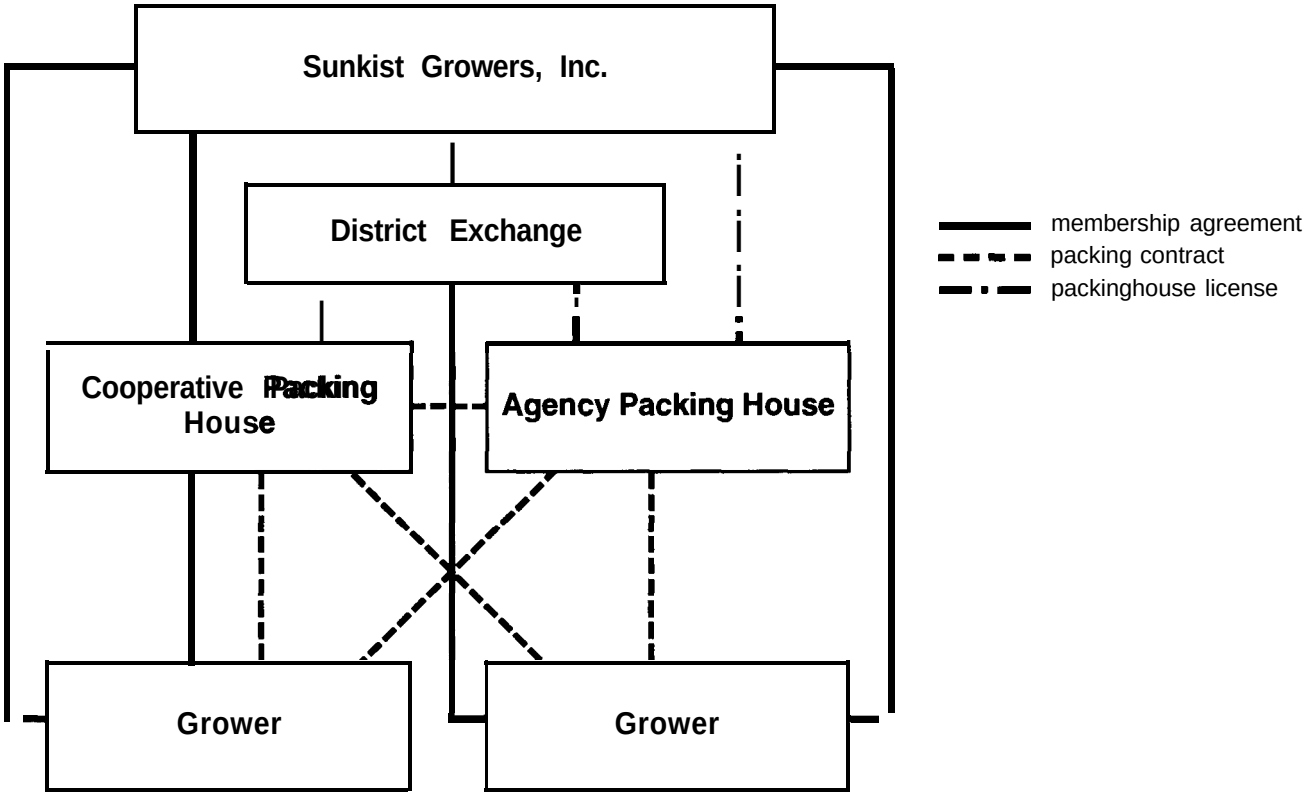
Selling Relationships Within the Sunkist system, the selling and decisionmaking relationships are different between fresh and processed product marketing. In processed products, Sunkist Growers owns the processing facilities and makes all decisions on processed product pricing and marketing. Under either their membership or licensing agreements, packinghouses must deliver all fruit for processing to Sunkist, and Sunkist is obligated to market it all.

All processed pool costs are deducted from the gross revenues, with the net proceeds returned to members on their prorata share of deliveries to processing. With a single processed products pool, ownership of facilities, and complete control over marketing, Sunkist Central operates like a typical centralized cooperative in marketing processed products.

Where the Sunkist organization is more unique among cooperatives is in the decentralized aspects of its fresh citrus marketing operations. Sunkist Central owns and operates relatively few assets used to prepare fresh fruit for market in the Sunkist system. Fresh fruit is shipped directly from the packinghouse to the buyer. Neither the district exchange nor Sunkist Central handles the physical product. Costs of operating the packinghouse to sort, grade, and pack fresh fruit to Sunkist's standards is borne at the packinghouse level.

By its agreements with the local associations and district exchanges, Sunkist Central has sole responsibility for selling fresh fruit, maintaining foreign buyers, receiving and distributing to exchanges the receipts from fruit sales, establishing grades, organizing advertising and promotion programs, and regulating the use of trademarks and patents. Sunkist Central also determines the

Figure 10— **Membership and Contractual Relationships Among Participants in the Sunkist System**



method of transporting fresh citrus and the packing materials to be used.

Proceeds from fresh fruit sales are returned by Sunkist Central to the district exchanges after deducting assessments for marketing, advertising, and capital funds. These assessments are based on a fixed per-carton amount determined at the beginning of each season. They cover costs of maintaining corporate headquarters and sales offices, marketing and advertising charges, and other operating expenses. Unused funds are refunded to the district exchanges at year's end.

Expenses incurred by district exchanges are deducted from funds distributed to the local packing units. The packing units-either cooperative or licensed-distribute returns to growers according to their prorata share of shipments to a particular pool, after deducting packinghouse expenses allocated to the pool.

Local associations and district exchanges are not permitted to solicit business from the trade or correspond with any buyer to promote the sale of their fresh fruit. Sunkist Central is the exclusive selling agency and solely responsible for issuing all price and other terms of trade quotations to buyers. However, the most unique part of Sunkist's decentralized structure is that the decision on what prices are acceptable to members is not controlled by Sunkist Central, but rather delegated to the packinghouse and district exchange levels of the system.

Sunkist Central's bylaws state that each member-grower and local association delegate to its dis-

trict exchange "the right to determine to what markets it shall ship, where its fruit shall be sold, and with the exception of auctions, what price it is willing to receive." [1]

Moreover, local associations "reserve the right from time to time to terminate this delegation and to exercise said rights for such period as they may deem proper or to redelegate said reserved rights to said district exchanges." Ultimately, the local association has the final say in determining what prices are acceptable.

Here's how Sunkist markets fresh fruit and delegates the right to determine an acceptable price works. Buyers place orders with one of the Sunkist's sales offices maintained around the U.S. All orders are relayed to Sunkist Central, and then to all district exchanges simultaneously If an order does not specify a particular packinghouse, the order is communicated to all houses and awarded to the first to accept.

Some offers are neither house-specific nor completely open, so the district exchange plays a more active role in allocating sales opportunities in an equitable manner among the various houses. Typically, an order identifies fruit from a particular packinghouse. The appropriate district exchange relays the order to the specified house. The house decides whether or not to fill the order or make a counter offer. Packinghouse replies, as required, are relayed to Sunkist Central's sales office through the district exchange. Both offers and counteroffers are at prices set in a scale by Sunkist Central.

Key to pricing of Sunkist fruit is the scale listing f.o.b. prices buyers must pay for a particular size and grade of each variety of fruit. Some differences can exist in prevailing prices for fruit from various growing areas and for brands within an area. Sunkist Central sets scale prices by analyzing data on demand conditions, supplies of competing fruits, and supplies of fruit available for shipment from the packinghouses. Of prime importance is the latter: packinghouse supplies of fresh fruit based on floor counts.

Each packinghouse communicates to its exchange the amount of fruit by variety and grade that it will have available for shipment on the following day. This information is collected by the district exchanges and passed along to Sunkist Central. Scale prices are adjusted to assure an orderly flow of fruit at the best possible prices in a competitive marketplace without accumulating excessive inventories.

A single or several district exchanges in any particular area may set their own scales based on more localized supply or quality factors, although all price quotations must be issued through Sunkist Central. However, these are set prices to be communicated as such through the sales offices, and not negotiated independently between the packinghouse and buyers. In any case, while the packinghouse has the right to determine if it will fill an order, control over setting a price is precluded by Sunkist's Central complete authority over issuing of price quotations and contact with buyers.

Another aspect of the decentralized nature of Sunkist's structure is the competition created between packinghouses when Sunkist Central disseminates at the same time open-buying offers to all district exchanges. Unlike a centralized or closely coordinated federated cooperative where orders are filled at the discretion of central management, Sunkist packinghouses vie with one another for many of the orders placed with Sunkist.

With prices set by Sunkist Central and each packinghouse responsible for its own costs, houses in a sense compete with one another based on operating efficiencies. For a given sale, net returns and hence the house's willingness to take an offer may depend on its packing costs. Also, the ability to be a buyers' designated house creates competition among Sunkist houses to be acknowledged in the trade for quality and consistent service.

Overall, competition between packinghouses benefits the Sunkist system by creating the incentive for individual packinghouses to become more efficient. This market-based competition would not occur in a more centralized organization where decisions are made by management fiat and all facility costs are pooled and shared as a single expense.

[1] Sunkist Growers, Inc., bylaws, Sec 9.4(a)

COOPERATIVES IN MARKET CHANNELS

As a form of vertical integration, cooperatives are one of the primary ways growers gain ownership and control in a marketing operation. From the grower-first handler level, cooperatives have extended their operations in varying degrees to include more functions in the marketing channel.

California/Arizona Fresh Citrus Markets

More than 90 percent of California/Arizona citrus is marketed as fresh fruit. Processing is mostly a residual market. Between the Sunkist organization and the few cooperatives not affiliated with Sunkist, the cooperative share of California/Arizona citrus represents the largest single area of cooperative activity in the U.S. citrus industry. In 1992, cooperatives marketed more than 80 percent of California's citrus. After the demise of Pure Gold, some of its packinghouses joined Sunkist. That left Sunkist as the sole federated cooperative sales agency in California/Arizona. [2]

As the dominant marketer of California and Arizona citrus, Sunkist is the clear leader in pricing and marketing. Competing marketers regard Sunkist as the price leader, tend to follow its prices, and seldom establish prices without first referencing Sunkist's prices. [3]

After a series of closures, acquisitions, and changes in affiliations, the other major players affiliated with California packinghouses are Dole and Sun World. Both are multi-product produce marketers. Packinghouses not affiliated with one of these marketing agents are considered independent. They used either their own in-house sales staff or the services of any of a number of brokers operating in that market. The predominance of cooperatives in Cal/Arizona citrus is evident (table 4).

As of 1993, Sunkist was by far the dominant marketer of Cal/Arizona citrus with 60 of the 108 packinghouses in California and Arizona. Although only half of its packinghouses are cooperatives, the growers using the noncooperative houses are direct members of Sunkist, and together, participate equally in the cooperative marketing of citrus.

In addition to representing more than 55 percent of the packinghouses, Sunkist marketed more than 65 percent of California/Arizona fresh citrus in 1992. Sunkist, on a per-house basis, is above the average in terms of volume. Although an average volume for each house is a soft number because of freezes and the ability of growers to easily change house affiliations, packinghouses affiliated with Sunkist (table 5) are among the larger houses in California and Arizona.

Paramount Citrus Association, for example, is a licensed packer, a recent addition to Sunkist, and the single largest grower of Cal/Arizona citrus. Another Sunkist member is Limonera, one of California's older citrus cooperatives and one of the larger lemon houses in the industry.

Table 5 shows the distribution of cooperative packinghouses among the sales agents. As expected, the large majority-30 of 35-are affiliated with Sunkist. Most noncooperative packinghouses are owned by the larger growers, such as Paramount Citrus. These large growers can vertically integrate

Table 4— **California citrus marketers and packinghouses represented, 1993.**

Sales Agent	Number of Packinghouses	cooperative Packinghouses
Sunkist	60	30
Sun World	8	4
Dole	7	0
CCOGC	4	0
Independent	29	1
Total	108	35

Source: California Citrus Mutual

[2] Central California Orange Growers Cooperative (CCOGC) is like a federation. It has four separately owned packinghouses. CCOGC coordinates the collection and dissemination of marketing information for its members, but is not a sales agency. Each packinghouse member has a marketing and sales program.

[3] Mueller, W., Helmberger, P., Paterson, T., The Sunkist Case, 1987.

Table 5— **California/Arizona packinghouses and their affiliations, 1993.**

Sales *Agent*	*Packinghouse*	*Cooperative*	*City*	*Varieties*	
Sunkist	Exeter Citrus Assn	C	Exeter	OT	O=Orange
Sunkist	Fillmore-Piru Assn	C	Fillmore	OG	T=Tangerine
Sunkist	Grand View Heights	C	Terra Bella	OTG	G=Grapefruit
Sunkist	Ivanhoe Citrus Assn	C	Ivanhoe	OTG	L=Lemon
Sunkist	Klink Citrus Assn	C	Ivanhoe	OTL	
Sunkist	Limonera	C	Santa Paula	OTGL	
Sunkist	Lindsay Fruit Assn	C	Lindsay	OG	
Sunkist	Magnolia Citrus Assn	C	Porterville	0	
Sunkist	Marlin Packing	C	Yuma, AZ	OTGL	
Sunkist	Mesa Citrus Growers	C	Mesa, AZ	OTGL	
Sunkist	Mission Citrus	C	Yuma, AZ	OGL	
Sunkist	Ojai-Tapo Citrus Assn	C	Somis	OG	
Sunkist	Orange Cove-Sanger	C	Sanger	OTL	
Sunkist	Orange Cove-Sanger	C	Orange Cove	0	
Sunkist	Orange Heights Orange Assn	C	Corona	OGT	
Sunkist	Paloma Citrus Assn	C	Visalia	0	
Sunkist	Porterville Citrus Assn	C	Porterville	0	
Sunkist	Redlands Foothills Groves	C	Redlands	OG	
Sunkist	Santa Paula Orange	C	Santa Paula	OG	
Sunkist	Saticoy Lemon Assn	C	Santa Paula	L	
Sunkist	Sierra Citrus Assn	C	Lindsay	0	
Sunkist	Sierra Vista Packing	C	Orosi	0	
Sunkist	Strathmore Cooperative Assn	C	Strathmore	0	
Sunkist	Strathmore Packinghouse Co.	C	Strathmore	0	
Sunkist	Sunland Packinghouse Co.	C	Porterville	OTG	
Sunkist	Tulare County Lemon Assn	C	Porterville	L	
Sunkist	Ventura Pacific	C	Montalvo	L	
Sunkist	Villa Park Orchard	C	Orange	OTG	
Sunkist	Yorba Orange Growers Assn	C	Anaheim	0	
Sunkist	Yuma Mesa Fruit Growers	C	Yuma, AZ	OTGL	
Sunkist	Baird-Neece Packing		Porterville	OT	
Sunkist	Baker Bros		Woodlake	0	
Sunkist	Blue Banner		Riverside	OGT	
Sunkist	Coachella Valley Citrus		Thermal	OTGL	
Sunkist	Gillete Citrus Co		Dinuba	0	
Sunkist	Golden State Packers		Woodlake	OT	
Sunkist	Golden Valley Citrus		Strathmore	0	
Sunkist	H & R Citrus		Orange Cove	OT	
Sunkist	Harding & Leggett, Inc.		Orange Cove	OLT	
Sunkist	Hillside Lemon Growers		Lindsay	LT	
Sunkist	Kaweah Citrus Assn		Lemon Cove	0	
Sunkist	Kaweah Citrus Assn #2		Orange Cove	OT	
Sunkist	Lawson Packing		Orosi	0	
Sunkist	L.V.W. Brown Estate		Riverside	OTG	
Sunkist	Mckinney Packing Assn		Orange Cove	0	

Continued

Table 5— **California/Arizona packinghouses and their affiliations, 1993. (Continued)**

Sales *Agent*	*Packinghouse*	*Cooperative*	*City*	*Varieties*	
Sunkist	Millwood Farms		Orange Cove	OT	O=Orange
Sunkist	National Orange co		Riverside	OG	T=Tangerine
Sunkist	Oxnard Lemon Co		Oxnard	L	G=Grapefruit
Sunkist	Paramount Citrus Assn		Oxnard	L	L=Lemon
Sunkist	Paramount Citrus Assn		McFarland	OT	
Sunkist	Paramount Citrus Assn		Visalia	OT	
Sunkist	Production Farm Mgmt		Glendale, AZ	OTGL	
Sunkist	Royal Citrus		Riverside	OG	
Sunkist	Royal Citrus La Vern Div		Riverside	L	
Sunkist	Stark Packing		Strathmore	OTG	
Sunkist	Sun Pacific Shippers		Exeter	0	
Sunkist	Tempe Packers		Tempe, AZ	OTGL	
Sunkist	Tri County Citrus Assn		Orange Cove	OT	
Sunkist	Ventura County Fruit Growers		Fillmore	OG	
Sunkist	Visalia Citrus Packers		Visalia	OT	60 Houses
Independent	Sunny Cove Citrus Assn	C	Orange Cove	OT	
independent	Cal Valley Citrus		Lindsay	0	
independent	Bee Sweet Citrus		Fowler	OGT	
Independent	Cecelia Packing		Orange Cove	OT	
Independent	Rancho Del Sol		Yuma, AZ	OTGL	
Independent	DiMare Company		Indio	OTG	
Independent	Cinco Packing		Kingsburg	OT	
Independent	Eco-Farm Citrus		Orosi	OGTL	
Independent	Tom Wilson		Riverside	0	
Independent	Ecology Sound Farms		Glen Avon	0	
Independent	Mountain Grove Citrus		Phoenix, AZ	OTGL	
Independent	Premier Packing		Bakersfield	OTG	
Independent	Rancho Santa Madre		Valley Center	OTG	
Independent	Sun & Citrus, Inc.		Indio	OTG	
Independent	Sequoia Orange Co		Exeter	OTGL	
Independent	J.C. Packing		Dinuba	OTGL	
Independent	Tri Citrus		Porterville	OT	
Independent	Nash De Camp Co		Porterville	OL	
Independent	Airdrome Orchards		San Jose	OL	
Independent	J.B.J Ranch		Corona	OG	
Independent	Associated Citrus		Yuma, AZ	OTGL	
Independent	Lemon Twist Ranch		Fallbrook	OGL	
Independent	Wileman Bros & Elliott		Cutler	OT	
Independent	Kings River Packing		Sanger	OL	
Independent	Natural Choice		Thermal	OTGL	
Independent	Rainbow Valley Orchards		Rainbow	OTGL	
Independent	SunWest Fruit Co		Parlier	0	
Independent	Valley Cove Ranch		Springville	0	
Independent	Pandol Bros		Orosi	0	29 Houses

Continued

Table 5— **California/Arizona packinghouses and their affiliations, 1993. (Continued)**

Sales Agent	*Packinghouse*	*Cooperative*	*City*	*Varieties*	
Sunworld	Corona College Hgts	C	Riverside	OTGL	O=Orange
Sunworld	Corona College Hgts	C	Riverside	OTGL	T=Tangerine
Sunworld	Irvine Valencia Growers	C	East Irvine	OG	G=Grapefruit
Sunworld	Orland Orange Growers Assn	C	Orland	0	L=Lemon
Sunworld	Desert Valley Citrus		Indio	L	
Sunworld	Empire Fruit Co		Queen Creek, AZ	OTG	
Sunworld	Johnston Farms		Edison	0	
Sunworld	Sun World, Inc.		Coachella	OTG	8 Houses
Dole	Buenaventura Lemon		Saticoy	L	
Dole	Earlibest Orange Assn		Exeter	OTG	
Dole	San Joaquin Citrus		Clovis	OT	
Dole	Central Valley Citrus		Terra Bella	OT	
Dole	E.T. Wall co.		Riverside	OTG	
Dole	Dole Citrus		Yuma, AZ	OGL	
Dole	Redlands Heights Citrus		Mentone	OGT	7 Houses
CCOGC [1]	Cal-Citrus Packing		Lindsay	0	
CCOGC	Western Sierra Packers		Terra Bella	OTL	
CCOGC	Suntreat Growers		Lindsay	0	
CCOGC	LoBue Brothers		Lindsay	0	4 Houses
	107 Packinghouses				

[1] CCOGM = Central California Orange Growers Cooperative is a federated cooperative organization with the growers as direct members and the packinghouses privately-owned. CCOGC's primary function is to share information and coordinate shipments with their collective supplies. Source: California Citrus Mutual

into the packinghouse operation unilaterally by virtue of the scale of their production. As packinghouse operators, these grove-owning operations look to Sunkist for the same marketing benefits as cooperatives representing smaller growers.

Four of the five non-Sunkist cooperative packinghouses are affiliated with Sun World. The largest is Corona College Heights, Riverside, CA, ("Corona") which recently absorbed the Arlington Heights Citrus Co. when it decided to leave Sunkist. Corona had been with Sunkist until 1980 when it left to join Sun World. Exports are a major emphasis of the marketing programs of Corona and Sun World, accounting in some years for more than 60 percent of Corona's volume.

The one cooperative packinghouse not affiliated with any of the sales agents listed in table 5 and therefore considered independent is the Sunny Cove Citrus Association, Orange Cove, CA. Sunny Cove was at one time a Sunkist member until it had to foreclose. Eight Sunkist growers, who left to do their own marketing, bought and renovated the idle packinghouse to be operated as a cooperative. Sunny Cove has used a combination of sales agents and brokers for their marketing. As of 1991, Sunny Cove had 52 members.

Florida Fresh Citrus

Florida's fresh citrus volume is small compared with processing. Less than 10 percent is sold fresh. Florida with more than 70 percent of U.S. citrus production still accounts for more than 4.0 percent of U.S. fresh sales. Cooperatives are present in all phases of Florida fresh citrus along three organi-

zational types-individual packinghouse, centralized cooperative owning multiple packinghouses, and federated central selling exchange.

In terms of numbers, the fresh packinghouse represents the largest segment of cooperative activity in Florida citrus. Thirteen of the 19 citrus cooperatives market fresh fruit. The individual or local cooperative packinghouse has a long history of local growers forming and operating a packinghouse to market their fruit.

Cooperative packinghouses were active from the late 1800s, coinciding with the rise of a commercial citrus industry in Florida. Until the commercial development of citrus processing in the late 1940s, all Florida citrus was sold fresh. Many of the citrus packinghouses were formed before then-Haines City Citrus Growers Association in 1909, Waverly Growers Cooperative in 1914, Lake Wales Citrus Growers Association in 1914, Dundee Citrus Growers Association in 1924, and Mt. Dora Growers Cooperative in 1936.

By 1992,118 packinghouses were operating. Sixty houses had more than 95 percent of the total shipments. Although only 16 of the 118 packinghouses were cooperatives, all were among the top 60 houses shipping fresh Florida citrus. Although cooperatives often serve the smaller growers, their houses often rank as sizeable commercial operations.

Many of Florida's smaller packinghouses are in the gift-fruit or roadside stand business. They tend to be fairly low-volume operations. The range in house volumes can be considerable. In 1992, 33 houses shipped more than 1 million boxes of citrus while 14 houses sold less than 1,000 boxes.

Unlike California, where most of the cooperative packinghouses are affiliated with Sunkist, Florida cooperatives are less identified with a single marketing organization. Table 6 lists the top 10 marketers of Florida citrus for 1991-92 and the number of packinghouses they represent.

Of the 10 marketers listed, 5 are cooperatives. Seald-Sweet and Florida Fresh are federated marketing agencies, and Ocean Spray Cranberries, Dundee Citrus, and Haines City are centralized packinghouse operations. Although Seald-Sweet was the largest single marketer of fresh Florida citrus, its share of the top 10 sales was less than 27 percent, substantially less than Sunkist's dominant 70 percent in California. Florida fresh packers tend to be more independent and competitive than those in California.

In addition to these cooperatives in table 6, those in table 7 are the others active in fresh Florida citrus and the types of marketing organizations, if any, they are affiliated with.

At one time, all packinghouses in table 7 were members of Seald-Sweet. As with Sunkist in California, the mobility in marketing affiliations has allowed the individual packinghouse to easily move among marketing organizations.

Table 6— **Top 10 marketers of Florida citrus, 1991-92.**

Firm	Number of Houses	Volume[1]	Avg per House
		million boxes	
Seald-Sweet Growers	15	15.0	1.0
DNE World Fruit Sales	8	14.5	1.8
Dole Citrus	4	6.2	1.5
Florida Fresh Citrus Sales	5	6.2	1.2
Ocean Spray Cranberries	3	3.6	1.2
A. Duda & Sons	2	2.5	1.25
Minton Sun	2	2.5	1.25
Lykes Pasco Packing	1	2.4	2.4
Dundee Citrus Growers	1	2.0	2.0
Haines City Citrus Growers	1	2.0	2.0
Total	42	56.9	1.4

[1] Projected or actual, 1991-92. Source: The Packer

Table 7— **Florida fresh citrus cooperatives and marketing affiliations, 1992.**

Cooperative	Marketer
Mt. Dora Growers Cooperative	Seald-Sweet
Hunt Bothers Cooperative	Seald-Sweet
Winter Haven Citrus Growers Assn	Seald-Sweet
Winter Garden Citrus Growers Assn	Seald-Sweet
Mims Citrus Growers Assn	Seald-Sweet
Oslo Citrus Growers Assn	Seald-Sweet
Waverly Growers Cooperative	DNE World Fruit Sales
Golden Gem Growers, Inc.	Independent
Lake Region Packing Association	Independent
Lake Wales Citrus Growers Assn	Independent

Fresh Texas Citrus

Texas citrus production is concentrated in a four-county area along the Rio Grande Valley. Although orange trees were present by the early 1880s, the commercial citrus industry did not develop until the 1920s. Aware of the California and Florida cooperative citrus exchanges, Texas growers formed the Rio Grande Valley Citrus Exchange (Texsun). Exchange members were concentrated in four south Texas counties, so there was no need for a system of district exchanges like Sunkist. The exchange performed all marketing intelligence and selling functions.

Although starting out in fresh fruit packing, this organization moved into the processing business in the 1930s, and exited fresh packing completely in 1951. After a series of freezes in 1949 and 1951, Texsun changed its form of organization from cooperative to IOF.

In the mid-1960s, after the Texas industry rebounded from the freezes of 1949 and 1951, four cooperatives formed the Texas Citrus Exchange (TCX) to operate similarly to the Florida and California groups. At its peak in the mid-1970s, TCX represented all Texas cooperatives and handled more than 40 percent of the State's citrus production (fresh and processed). Largely because of the disastrous freeze of 1983, TCX's membership fell to two cooperative packinghouses by 1988. Edinburg Citrus Association, the oldest and largest, is today the dominant member of TCX with more than 80 percent of its member volume.

Fresh markets for Texas citrus have always been characterized by a number of independent handlers. Even though TCX members had more than 30 percent of fresh citrus sales in the 1970s, there were more than 20 different marketers or shippers of Texas citrus. The severe freezes of the 1980s reduced the number of marketers of Texas citrus, cooperative or otherwise.

Cooperative Processing

The level of cooperative activity in citrus processing basically coincides with the changes in processing technologies and consumption patterns. Before World War II, most citrus was consumed fresh. Processing was mostly a residual outlet for citrus not suitable for the fresh market. Processing was limited to single-strength canned products. Volumes were small relative to fresh markets.

For example, although most of Florida's citrus is now processed, in 1931 less than 10 percent of its citrus-mostly grapefruit-was processed. By the mid-1940s, the development of the procedure for concentrating orange juice had revolutionized the industry. The introduction of frozen concentrated orange juice (FCOJ) started the steady shift from fresh to processed products. In the mid 1960s, consumption of fresh and processed citrus (single-strength equivalent) was about equal. Since then, fresh consumption has remained fairly constant while consumption of processed citrus products increased. By 1992, almost 50 percent of Florida's grapefruit and more than 90 percent of its oranges were processed.

With the advent of FCOJ came significant changes in the structure of citrus markets. The processing of concentrated orange juice required greater investments in plants and equipment compared with a fresh packing operation. Both the capital to build the facilities and the volumes of fruit to operate them efficiently predicated a pooling of resources greater than those needed to operate a fresh packinghouse.

Therefore, instead of fresh packinghouses adding a processing facility, most processors were either an aggregation of fresh packinghouses or food manufacturing firms with the financial resources that allowed them to enter the processing business. This is evident in two of the brand names most identified with processed citrus products—Minute Maid and Tropicana-which are owned by large beverage manufacturers, Coca-Cola, Inc., and Joseph Seagrams Co.

With the rise of the processed citrus sector came a change in the dominant players in citrus marketing. The processor has become the most powerful player in the vertical market channel.

Rise of Citrus Processing Cooperatives

The most common way for cooperatives to enter citrus processing was by cooperative packinghouses joining to operate a common processing facility. Processing provided an outlet of economic

value for the previously worthless packinghouse citrus (eliminations) not suitable for the fresh market.

For some cooperatives, packinghouses already united for fresh marketing such as Sunkist and TCX, processing was a natural extension of their marketing operations. The cooperative processors not arising from an existing fresh marketing organization either were new federations of cooperative packinghouses or were formed by individual growers, primarily grower-owned packinghouses.

The level of cooperative processing in different production regions largely reflects the relative importance of processing and the existing structure for fresh marketing. Within the California/Arizona market, Sunkist's share of the processing market is even greater than its share of the fresh market—more than 70 percent. Many nonSunkist packinghouses send fruit for processing through Sunkist on a nonmember basis.

In Florida, the smaller share of processing by cooperatives, less than 30 percent, reflects the greater independence of marketing firms and the variety of their arrangements. However, the cooperative share of Florida's processing sector is somewhat smaller. Florida is so dominant in processing, that its cooperatives process much larger volumes than their counterparts in other States.

Florida Processing Cooperatives

In comparing the cooperative fresh marketing activity in California and Florida, the development of a cooperative marketing exchange in Florida was based on Sunkist's experience in California. However, where Sunkist ventured further into the processing sector to become the dominant player, Seald-Sweet remained strictly a fresh marketing cooperative. Although some Seald-Sweet members joined with other packinghouses to form a processing cooperative, Florida's cooperative processing volume is spread among a number of organizations.

As in the fresh market, there is no dominant processing cooperative. Unlike the relatively fragmented fresh market, however, Florida's processing markets are dominated by a few privately owned firms. In 1992, the two largest processors, Coca-Cola and Seagrams, had more than 50 percent of Florida's processed citrus market. However, cooperatives represented at least 50 percent of the remainder. Even though individually dwarfed by the two giants, as with the fresh packinghouse, cooperative processors tend to be above average in size.

Most Florida processing cooperatives were formed specifically for that purpose. At one time, Florida had more than 50 processors. By 1992, there were only 27, a trend consistent with the increasing consolidation and concentration of ownership of citrus processing facilities. Although the exact number of processing cooperatives that have exited the industry are not known, their rate of attrition is considered comparable to that of private firms.

Of the 27 processors, 5 are grower-owned cooperatives (table 8). Of these, only Golden Gem Growers originated as a fresh marketing operation. When Golden Gem was formed in 1947, its fruit was processed by another cooperative, B&W Canning. By 1958, Golden Gem had grown to such a size that B&W could no longer handle the fruit, so Golden Gem constructed its own processing facility. Subsequently, B&W sold its processing facility to a private firm.

In the 1960s, Golden Gem began a cooperative selling arrangement for processed products called Citrus Central. Other members included Silver Springs Citrus Cooperative, Bordo Citrus Products (a cooperative), and Plymouth Citrus Products Cooperative.

Citrus Central was a sales agent for the processed products of it's members, with the members doing all their processing and packaging. The only jointly held asset for the marketing operation was an office. Citrus Central was eventually dis-

Table 8— **Florida citrus processing co-ops, 1993.**

Cooperative	Fresh Marketers
Citrus World, Inc.	No
Golden Gem Growers, Inc.	Yes
Ocean Spray Cranberries, Inc.	Yes
Silver Springs Citrus Cooperative	No
Winter Garden Citrus Products Cooperative	No

Source: Florida Citrus Processors Association.

solved; Golden Gem and Silver Springs conducted their own processed-product marketing; and Bordo Citrus and Plymouth Citrus folded.

Related to the Citrus Central marketing arrangement was ownership of a can manufacturing operation by its members. The canning cooperative supplied packaging materials to the members, and although it long outlived the marketing operation, it was recently sold to a private firm.

All the other cooperatives in table 7 were new processing ventures, although the members were involved in some form of fresh marketing. Most packinghouses were either cooperatives or privately owned by growers. They could legally join to form a processing cooperative. The first was Citrus World, Inc., Lake Wales. Today, it is the largest cooperative citrus processor in the U.S.

Citrus World was formed in 1933 by cooperative packinghouses in central Florida as an outlet for eliminations from their fresh packing lines. The original organization was called Ridge Citrus Canners and later the Lake Wales Cooperative Cannery. As membership grew, its name was changed to the Florida Citrus Canners Cooperative in 1943 and Citrus World in 1969. As the share of Florida's citrus going to processing grew, Citrus World received more fruit directly from grower-members of the packinghouses that was grown specifically for processing. Today, Citrus World processes the citrus from more than 50,000 acres into a range of products. Orange juice in either single-strength or frozen concentrate are the predominant forms.

In 1948, Winter Garden Citrus Products Cooperative was formed by two cooperative packinghouses and six citrus grove owners. One of the fresh packinghouse members closed after the severe freezes of the 1980s. Winter Garden began more as a direct entrance by citrus grove owners into processing and less as an outlet for packinghouse eliminations like Citrus World.

Silver Springs Citrus Cooperative was started in 1966 when a group of about 10 growers purchased an idled plant to be operated as a processing cooperative. In 1992, three grower-members remained. Some operated fresh packinghouses and some were grove-owning direct members.

Ocean Spray Cranberries, Inc., is a relatively recent and unique cooperative entry into citrus processing. Noted as a cranberry processor, Ocean Spray expanded into a growing fruit juice market by blending cranberry and other fruit juices, one of which was grapefruit. In 1976, Ocean Spray added grapefruit growers as members of the cooperative. As the relationship grew with its grapefruit growing members, Ocean Spray extended citrus operations into the fresh grapefruit business. Today, Ocean Spray is the leading processor of Florida grapefruit and operates one of the largest fresh grapefruit packinghouses.

Another cooperative, known as the Florida Orange Marketers (FOM), operates in the processing industry. FOM does not own a processing facility, but instead supplies the Coca-Cola Company. Coca-Cola owns multiple processing facilities and requires tremendous volumes of citrus. To guarantee the necessary volumes, Coca-Cola uses a dedicated supplier arrangement with FOM to act as a collector and "pooler" of fruit.

California Processing Cooperatives

Although the volume of California and Arizona citrus going to processing has risen in recent years, processing is still a secondary market due to the relatively low volumes compared with the fresh market. Evidence of the secondary market stature for processing is that few oranges or grapefruit are grown for processing in California.

Conversely, most Florida citrus production is intended for processing. Florida citrus is more suitable for processing, and comprises more than 80 percent of U.S. citrus production going to processing. Due to lower costs of production and proximity to major market areas, Florida quickly became the center of citrus processing.

Correspondingly, the returns and volumes needed to efficiently operate a processing facility were much more difficult to bring together in California than in Florida. So, the level of all processing activity, cooperative or private, has been much lower in California than in Florida. Of the eight processing facilities operated by the two largest processing firms, only one is in California.

As with the fresh market, the story of coopera-

tive processing in California begins with Sunkist. The first lemon processor was the Exchange By-Products Company organized in 1915 in Corona, CA. These facilities were owned by lemon packinghouses in the Sunkist organization.

As early as 1931, Sunkist affiliated with a cooperative processing company, the Exchange Orange Products Company. These plants were gradually expanded. They eventually supplied 75 percent of the lemon oil and 45 percent of the orange oil used in the U.S. However, the consumption of processed citrus did not take off until the introduction of FCOJ after World War II. So the volume of citrus processed into oils was still low compared with fresh. Because growing costs were higher in California and Arizona, and its citrus did not yield as high quality a product as in Florida or Texas, frozen concentrate could not by marketed nationally at competitive prices. While the production of concentrated citrus juices in Florida and Texas increased in the 1950s, Sunkist had a hard time marketing processed products.

Unable to market a frozen concentrate, Sunkist shifted emphasis to supplying citrus concentrates and other products as ingredients to food manufacturers. To ensure a more efficient use and coordination of the Exchange Orange Product and Exchange By-Products plants, the two firms were merged into Sunkist in 1958. Sunkist membership began to spread with the northward expansion of production in California. A processing plant was built in Tipton to handle that production. Today, Sunkist has two processing facilities, one at Tipton and another in Ontario, where Exchange Orange Products had a plant.

In recent years, Sunkist has looked to increase its sales of processed products. Still mostly a residual usage for fruit not suited for the fresh market, yearly processing volumes can vary, ultimately depending on fresh market conditions. However, Sunkist has begun to take a more active posture in processed product marketing, including consumer-packaged products.

The change from mostly bulk product and private-label packing to more direct consumer marketing was precipitated by a couple of factors. New processing technologies allowed Sunkist to greatly improve the flavor of its juice products, especially those using navel oranges, the most common variety in the Sunkist system.

Also, they began putting the "Sunkist" brand name on single-strength and concentrated orange and grapefruit juice products that benefited from its name recognition. Although always an important source of income for its members, processed product marketing is increasingly important to Sunkist.

Because Sunkist is such a wide-ranging organization in California and Arizona citrus, at times some of its members have operated their own processing facility. One such is the Paramount Citrus Association, California's largest citrus growing operation and a recent addition to Sunkist. Paramount has a plant in Visalia for both citrus and noncitrus canned and frozen juices and blends. The decentralized nature of Sunkist's governance system allows members to arrange for their own processing arrangements, although most members send their processed fruit through Sunkist.

Given Sunkist's large membership, there has been little other cooperative activity in processing. The one significant cooperative processor is the California Citrus Producers, Inc., (CCPI) Lindsay, CA, formed by some members of Pure Gold. With three packinghouses versus the 60-plus supplying Sunkist, CCPI has a relatively small share of California's citrus processing volume. It is only in bulk and private label packing.

Texas Processing Cooperatives

Citrus processing in Texas began as a single-strength juice operation in the 1920s. Cooperative processing had its roots in the Rio Grande Valley Citrus Exchange (Texsun), a fresh marketing cooperative. In the 1930s, the exchange saw a need to keep low- grade fruit from the markets so that better grades would bring higher prices. In 1935, the exchange rented a small building in Weslaco and installed juicing equipment. By 1937, it was the largest grapefruit juicing plant in the world. The Texsun label became nationally known.

Texas suffered a series of freezes in 1949 and 1951. Unable to obtain much fruit outside its membership, Texsun was forced to permanently close

its fresh fruit operations. It decided to change the form of its organization from a cooperative to a corporation. This was done so the exchange, then known as Texsun Corporation, could purchase fruit from any sources, including Florida.

As of 1992, the Texsun label was owned by Sundoor Brands, a subsidiary of Proctor & Gamble. After series of severe freezes in the 1980s, Sundoor Brands idled its facility. No longer a cooperative tied to Texas citrus production, the Texsun brand juices were packaged at facilities in other States using Florida or imported supplies.

Since the change of Texsun's operating status, cooperative processing in Texas has been limited to a single venture. Although Texsun exited the fresh marketing business in 1951, four of its cooperative packinghouse members survived. In 1968, they formed another central selling exchange called the Texas Citrus Exchange (TCX) to market fresh and processed citrus. TCX had no processing facility and contracted with Texsun Corporation for its processing. In 1971, TCX constructed a new processing facility in Mission. Eventually, TCX became one of the two largest processors of Texas citrus, comparable in volumes to Texsun.

Recent disastrous freezes that essentially wiped out Texas citrus for a number of years altered the operations of Texas citrus processors. TCX is now the largest processor in Texas, even though it, too, must rely on significant amounts of nonmember business.

The effects of freezes, along with desire of Texas growers to market as much citrus in the more lucrative fresh markets, will continue to be a limiting factor in the construction of the costly processing facilities in the future. For the foreseeable future, TCX will have more than enough capacity to meet the needs of its members.

Processed Citrus Markets

Two types of firms market processed citrus products: those in citrus-producing areas that actively buy and process raw fruit and those that purchase bulk citrus juices to be repackaged or reconstituted into consumer products. All eight processing cooperatives process raw fruit, as do the firms selling the majority of the processed citrus products. As a grower-oriented structure, cooperatives compete not only in selling processed citrus, but also with processors for buying raw product in their regions.

While cooperatives are active in processing citrus in all producing areas, none are dominant like Sunkist in fresh markets. Other than Sunkist, the other fresh citrus marketers are relatively free of branded marketing and extensive advertising and promotion. Conversely, the processed citrus sector, particularly in the single-strength and frozen concentrated consumer packages, contains some of the largest food and beverage manufacturing firms.

If measured in terms of volume, sales, market share, net worth and asset ownership, and advertising, the processor is the most powerful participant in citrus marketing. Some of these large food manufacturing firms dwarf the cooperatives in the industry.

While Sunkist processes most of California citrus, it has a relatively small market share because of California's minor role compared with Florida. Moreover, the largest U.S. citrus processing cooperative, Citrus World, Inc., is still somewhat smaller than the two largest processing firms, Seagrams (Tropicana) and Coca-Cola Foods (Minute Maid). These firms handle the majority of domestically processed citrus. An estimated 25 other processors (8 cooperatives) have the rest.

Table 9 shows the position of cooperatives compared with other processing firms in terms of volume and number of facilities. Product volumes are the units of processed products sold by a processor in either frozen or canned form. Confidentiality and the lack of detailed data on each processor require the use of a range of volumes published in the 1993 "Directory of Canning, Freezing, and Preserving Industries."

Private processors from Florida are used for comparison because they dominate the processing industry and because the two California processing cooperatives already have more than 75 percent of California/Arizona processing volume. For some private processors, it is difficult to assess their approximate positions in citrus processing because they marketed a wide variety of juice products, and were therefore not included. Chief among these

would be Dole and Juice Bowl Products. Even so, the majority of domestically processed citrus is by the processors in table 9.

For processors other than Coca-Cola or Seagrams, cooperatives are among the larger operations in terms of the volume classifications presented. While 6 of the 25 Florida processors are not listed because of insufficient data, most are smaller than those in table 9.

Table 9— **Selected citrus processors, factory numbers, and volume ratings in the 1993 Directory of Canning, Freezing, Preserving Industries.**

Processor	Frozen	Canned/Glass	Factories
"Big Two" [1]			
Coca Cola	AAAA [2]	AAAA	5
Tropicana	AAAA	AAAA	2
Cooperatives			
Citrus World	AAAA	AAAA	1
Golden Gem	AAAA	N/A	1
Sunkist	AAAA	AAA	2
Ocean Spray	AAA	N/A	1
Silver Springs	AAA	AAA	1
Winter Garden	AAA	N/A	1
Texas Citrus Exchange	AAA	AAA	1
California Citrus Producers	B	N/A	1
Florida Privates			
Lykes-Pasco	AAA	AAAA	1
Erly Juice	AA	AAAA	1
Citrus Hill	AA	AAA	2
Sun Pure	AAA	AA	1
Adams Packing	AAA	N/A	1
Caulkins Indiantown	AAA	N/A	1
Alcoma Packing	AA	N/A	1
Orange-Co	AA	N/A	1
Citrus Service, Inc.	A	N/A	1
Indian River Foods	A	N/A	1
Lakeland Citrus Exchange	B	N/A	1
Holly Hill	C	N/A	1

[1] "Big Two" of Coca-Cola(Minute Maid) and Tropicana are segmented because of their large share of the citrus processed in the U.S.-more than 50 percent. Although other processors are classified in the same ranking, Coca-Cola and Tropicana volumes are significantly higher.

[2] AAAA is the highest rating, AAA the next, and so forth, with C being the lowest volume category. AAAA = volume of more than 5 million cases canned, and more than 100 million pounds frozen, C = less than 250,000 cases canned, less than 5 million pounds frozen.

Product Forms

Citrus is processed into a variety of forms, primarily frozen concentrates, canned single strength, and chilled single strength. The leading product form, FCOJ, accounts for more than 60 percent of Florida's 1991-92 processed production. Chilled orange juice (COJ) was the next with 28.7 percent, followed by frozen concentrated grapefruit juice (FCGJ) at 6 percent, and chilled grapefruit juice (CGJ) at 2.1 percent. Canned single-strength juices, once the only form of processed citrus, has long been declining in importance, now at only a 1.4 percent share.

Orange juice has by far the largest share of the processed citrus market, more than four times that of grapefruit juice products. In Florida, orange juice accounted for more than 90 percent of processed production.

While FCOJ is still the leading processed product, chilled orange juice has been increasing its share of the market. The premiums introduced in the mid-1980s have become increasingly popular. Unlike the traditional chilled products reconstituted from concentrate, the premium product has been processed little, save pasteurization.

Citrus is a relatively fragile product to process, so the premiums achieve a higher level of quality and taste than the concentrates. The increase in chilled orange juice's share of Florida's processed orange production, from 13 percent in 1986 to 28 percent in 1992, is due largely to the growth in premiums. Cooperatives are active in processing and marketing of citrus in all product forms (table 10).

Brands and Labels

When marketing under their own labels, cooperatives are competing with the national brands, medium-sized processors with regional or packer brands, and the private labels. The Minute Maid and Tropicana brands of orange juice are the top two in market share. Another national brand, Citrus Hill, was launched by Proctor & Gamble in the early 1980s. Though backed by their considerable resources, Citrus Hill lagged far behind the

other two national brands. Dissatisfied with its performance, in late 1992 Proctor & Gamble closed its Florida processing facilities and discontinued the brand.

For the leading product categories, FCOJ or chilled orange juice, no cooperative has what can be termed a national brand.
While Sunkist recently launched retail packs of chilled and frozen concentrated products for domestic markets bearing its name, for now it remains in relatively narrow distribution. In grapefruit juices, Ocean Spray has a nationally recognized brand, but lacks a frozen concentrated grapefruit juice. Ocean Spray is recognized more for its blended juice products and "cocktails" than for the common forms-concentrated, chilled, or canned forms-of citrus.

Cooperative brands are more regional in nature. They tend to be marketed only in certain areas with limited distribution, and receive much less advertising and promotion support than national brands. In some cases, they receive no advertising support, and are marketed more like a private label.

Minute Maid and Tropicana branded products are in many forms, while cooperative brands are limited to specific forms. For example, while Citrus World markets citrus in the same product forms as the national brands, its Florida's Natural and Donald Duck labels are only in chilled juice and FCOJ, respectively. TCX's Big Tex and Texas Star labels are the leading cooperative brands for Texas citrus, but are not in the leading product form—frozen concentrate. Table 11 shows some of the better-known labels of processing cooperatives.

If not marketing under their own label, cooperatives market processed product in either of two ways: processing and packaging for other firms under a private labeling arrangement or bulk to be further packaged and marketed by other manufacturers.

Private labels are products processed for a specific customer in a package bearing the cus-

Table 11— **Selected labels of citrus processors.**

Cooperative	Brands or Labels
Citrus World	Donald Duck, Florida's Natural, Blue Bird
Golden Gem	Golden Gem, Sunbright
Silver Springs	Silver Springs, Lifeguard
Winter Garden Citrus Products	Whole Sun, Sunshine State
Texas Citrus Exchange	Big Tex, Texas Star
Sunkist	Exchange, Pure Gold

Source: 1993 Directory of Canning, Freezing, and Preserving Industries and Florida Citrus Processors Association.

Table 10- **Cooperative processors and juice product types, 1992.**

	Product					
Cooperative	FCJ	Own Label [1]	Canned	Own Label	Chilled	Own Label
Citrus World (FL)	X	X	X	X	X	X
Sunkist (CA)	X	X	X	X	X	X[2]
Golden Gem (FL)	X	X				
Silver Springs (FL)	X	X	X			
Ocean Spray (FL)	X	X	X	X		
Texas Citrus Exchange	X	X	X	X	X	
Winter Garden (FL)	X	X				
California Citrus Producers	X					

[1] "Own Label" means cooperative packages some product under a label owned and marketed by the cooperative.
[2] For export.
Source: Florida Citrus Processors Association Membership Directory, and 1993 Directory of Canning, Freezing, and Preserving Industries.

tomer's label. Usually these labels are owned by retail grocers for sale in their stores. They are common in all food products. In orange juice, private labels are especially important.

In 1991, less than 44 percent of FCOJ was sold by the national brands, leaving 56 percent to the regional and private labels, with the private labels getting the majority. Private labels are successful because the retailer owns the brand, sets the prices on all products, and allocates the shelf space. In addition to their private label(s), the largest grocery chains usually carry only the two national brands and one regional brand, if that.

Private labeling represents a significant part of cooperative processing volume. In some cases cooperatives such as CCPI package only under a buyer's private label. Although private labels typically bring smaller margins than branded ones, private labeling is attractive to cooperative processors because the sales volume is obtained without the advertising and promotion expenses needed to support a branded product. Given the costs of marketing and promoting a brand to compete with the likes of Coca-Cola and Tropicana, private labeling will continue to be an important outlet for cooperative processors.

Bulk Product

In addition to packaging products themselves, citrus processors, including all cooperatives, sell bulk product to be packaged by another firm. Much of this is frozen concentrates to be repackaged for retail sale. In Florida for 1992, about 50 percent of bulk concentrate was reprocessed into FCOJ, 28 percent reconstituted into chilled products, and the balance either exported (2.8 percent), reconstituted into canned (2.5 percent), or not identified (11.3 percent). Texas and California processors also move significant quantities of bulk-processed product. Although the exact numbers are not known, they are considered small compared with Florida.

The share of FCOJ sold in bulk has been increasing, due mostly to the role of the reconstituting operations. Reconstituters buy bulk concentrate to be repackaged for retail and institutional sales. Often, these reconstituters are already in the beverage manufacturing business, such as dairies or full-line juice companies like Veryfine or Everfresh. The scope of the reconstituter is seen in the more than 120 firms listed in the 1992-93 canners and freezers directory as marketing a processed citrus product.

Reconstituters present an interesting situation to the citrus processor as both a customer and competitor. On one hand, they are a customer of the processor and in some cases the only one. On the other hand, reconstituters package and market products that compete in the market with similar products from the processor. The more a processor markets in retail packages, the more they compete with the reconstituter in the retail markets.

While the percent of their volume sold bulk to reconstitutors varies among processors, and hence the reliance on them as a customer, the supply side competition is more evenly felt in the form of imported citrus concentrates. Most imported juice is in bulk form to be reconstituted. Imports give the reconstituter an alternative to using domestic processors. Use of imports has increased to the point where Florida processors are no longer the primary suppliers of juice consumed in the U.S. Imports have a major impact on domestic citrus, particularly for cooperatives tied to processing member production.

THE ROLE OF COOPERATIVES

Cooperatives have long had a significant role in the production and marketing of citrus in the U.S. At a minimum, cooperatives play a fundamental role in providing services to citrus growers and coordinating the production, harvesting, and handling of their citrus. In addition, cooperatives have a role in the operation and performance of citrus markets by being a viable marketing alternative for growers. The following sections will look at cooperatives from the perspective of the citrus grower, and at the effects cooperatives have on the behavior and performance of the marketplace.

The Citrus Grower

Citrus growers form or join cooperatives to address a set of commonly felt needs and achieve a set of desired benefits. Cooperatives play key roles for their members.

Home for Their Product

All citrus cooperatives offer members a guaranteed home for their production. The nature of cooperatives means the production of any member, regardless of size, must be marketed in the same manner. For the smaller citrus growers, who lack the resources to operate their own packinghouse or directly invest in a processing facility, cooperatives are often the best way for them to gain access to stable markets. Co-ops have a large percentage of small grove owners as members because they provide a guaranteed home for members' products.

For citrus in particular, flexibility in marketing options is limited. The perennial nature of citrus production means the grower is making an investment in a crop that does not provide an economic return for 5 or more years. As a cooperative member, the grower also is fairly well assured of a home for future production.

In theory, marketing agreements allow the cooperative to revoke a grower's membership. In practice, however, this rarely occurs, and only in cases of member noncompliance or behavior detrimental to the cooperative. In short, once committed, members have a home for their production until they choose to cancel or change their marketing agreement.

Citrus is a perishable crop. Once harvested, it must be immediately moved to the processor or packinghouse. In big crop years, there can be more fruit than available packing or processing capacity. After a freeze, much fruit must be harvested at the same time, further straining facility capacity that could leave some fruit unsold. Membership means not only that the cooperative must accept and market all the members' fruit, but also the interests of members come before those of nonmembers.

While contracts with IOFs can also secure a home for their product, grower interests may be subordinated to those of management or shareholders. Conversely, in addition to securing a home for their product, cooperative members acquire ownership in the organization that handles and markets their citrus. With ownership comes a measure of control over the decisions and operations directly having an impact on the economic viability of their production.

Ownership and Control

Cooperative ownership is represented by equity investment, and control by voting rights. Growers control the decisions affecting the handling and marketing of their production. Interests of the member are paramount to all others. Authority for establishing policies is vested in a board of directors chosen from the membership.

IOF shareholders are interested in the highest returns on their investments, which may or may not correspond to maximum returns to citrus production. For a citrus grower contracting with an IOF, the policies affecting the price received is determined by policies aimed at maximizing shareholder equity, not the citrus grower. Some of these policies may run counter to the interests of the citrus grower. In cooperatives, growers can ensure the organization's policies are aimed at achieving top returns from members' product.

Citrus cooperatives are democratically controlled-typically one-member, one-vote-regardless of the amount of equity they have in the cooperative. Even in cooperatives with proportional voting, the number of votes a member can have is limited. Stockholders control an IOF. The number of votes are determined by the number of shares a stockholder holds. There is no limit on the number of shares a stockholder may own.

Economies of Scale and Coordination

Cooperatives seek to achieve economies of scale that allow individual growers to own and control their marketing facilities and operations. As the fixed costs of the facility, equipment, and management are spread over an increasing number of growers, the average cost of these services to each grower decreases. Many growers cannot feasibly operate their own packinghouse, let alone a more costly processing facility.

Related to economies of scale is the role cooperatives play in coordinating the production, harvest, and delivery of member fruit. While sales functions are common to most cooperatives, citrus cooperatives are among the most active in agriculture in terms of services provided to coordinate member activity.

Coordination is facilitated by the marketing

agreement. Individual citrus growers turn over decisionmaking to cooperative management on harvest, delivery, grading, and pooling. By coordinating the amount and timing of the harvest, citrus cooperatives can more precisely schedule packing and processing operations. Facilities can be operated at minimum cost. Coordinating production and harvesting practices gives cooperative management the flexibility to better match member fruit with buyer needs.

Comprehensive Marketing Organizations

In addition to pooling resources to achieve economies of scale in marketing citrus, cooperatives have another role to play. Cooperatives offer citrus growers the unique ability to gain access and a measure of control in a comprehensive marketing organization without requiring significant new investments. In addition to being a major domestic and export marketer of fresh and/or processed products, cooperatives such as Sunkist and Ocean Spray bring the benefits of national brands, multi-product marketing, and price leadership.

In Sunkist, citrus growers have created the leading marketer of fresh citrus. Sunkist also is a price leader-growers enhance their ability to move from the traditional position of price taker to having more say in the price received. Sunkist maintains market share via a worldwide network of sales offices supported by a full range of advertising and promotion programs. Sunkist also makes significant investments in research on production and handling practices and developing new products.

The Sunkist name is so valuable that significant nonmember income is generated through product-licensing royalties around the world. This nonmember income helps defray operating costs.

In Ocean Spray, Florida citrus growers gain access to a leading juice marketer. Ocean Spray markets a variety of branded juice products, and gives grapefruit growers a measure of price leadership and greater control over their returns. The cost to individual growers of developing and maintaining a national brand would have been prohibitive. The lesson of Proctor & Gamble exiting the citrus industry after spending millions of dollars in developing and promoting a national brand speaks volumes to the difficulty of achieving a large market share.

While other cooperatives are smaller than Sunkist or Ocean Spray and lack a national brand, they do have full-scale marketing programs and a measure of market presence. Seald-Sweet, Florida's leading fresh marketer, is known to buyers around the world. One third of its cartons are exported. Seald-Sweet's marketing expertise is evidenced by the range of commodities handled-apples, lemons, limes, Honduran melons, and Vidalia onions-that generate significant nonmember income.

TCX, the leading marketer of fresh grapefruit from Texas, has a name widely recognized by wholesale and chain store buyers. TCX also is a major marketer of juice products, particularly grapefruit.

Access to these and other marketing cooperatives offers increased returns and a degree of income stability. Branded retail products, or leading names in the wholesale trade, often bring a price premium. A diverse marketing mix and a degree of price leadership can bring more income stability to the member. These factors are part of the reduced risk role cooperatives play for citrus growers.

Reduced Risk

Many growers produce only citrus and tie substantial income risk to the fortunes of a specific crop enterprise. Citrus is prone to wide swings in supply and price, so year-to-year income can widely vary. The extension of the citrus production operation into fresh packing or processing via cooperative membership can stabilize income. Profits from the processing or packing operation are often higher when production is high and raw citrus prices (and profits) are low. Thus, the total profit from production and processing may be more stable than the profits from only one activity.

Growers gain because risks are spread across the entire cooperative membership. The most overt reduction of risk comes from pooling. No single grower has to bear the full brunt of day-to-day price fluctuations.

With a seasonal pool, these fluctuations are averaged over an entire season. With the impacts of dual fresh and processed usages, imports, and

futures markets, there would be considerable risk in determining the best day to market fruit at a given price. Members avoid having to deal with the daily machinations of citrus markets.

In cooperatives, members are compensated if they have a production shortfall or their fruit does not get harvested, most often because of freezes. Most citrus cooperatives allow the board of directors to alter pooling plans to address freeze-related problems. Under one freeze contingency, the member is paid on pre-freeze estimates of what would have been produced, particularly in cooperatives where the member relinquishes control over harvest. Although cooperatives try to balance the harvest among members, invariably some will have less harvested and bear greater freeze-induced losses compared with others who had more fruit harvested. In the interest of equity, the returns to harvested fruit are pooled with the unharvested or damaged fruit. Each member's prorata share of the returns is based on his or her pre-freeze estimates of production.

Risk sharing can also have negative aspects. There may be a tendency for adverse selection-the most likely persons to participate in a cooperative pool may be the poorest risks. A second problem is called the moral hazard-averaging reduces the incentive for individual growers to do their best.

Grove Care and Harvesting Services

Many citrus cooperatives provide services beyond packing, processing, and marketing such as grove care and harvesting. This is especially important for small growers who lack the resources to provide their own services. This is why smaller growers may constitute the bulk of the membership.

Some citrus cooperatives provide all the services needed to produce, harvest, deliver, and market citrus. This facilitates absentee ownership, a phenomenon more common to citrus than other agricultural industries. Tax laws for many years have favored investments in citrus production. Many grove owners were not owner-operators and need grove care and harvesting services. The interaction of absentee owners with the cooperative can be little more than "a check in the mail."

Adopting Freeze-A version Production Practices

No citrus producing state is completely free from the damaging effects of freezes, so the continued improvement and adoption of freeze-aversion production practices is needed for the long-term survival of many growers. In providing grove care and supply purchasing services, cooperatives are well suited to assist growers in developing and implementing the most effective freeze-aversion practices.

Mitigating freeze damages begins with production practices. The first is with the type of citrus tree to be planted. The scion and rootstock influence a citrus tree's cold hardiness. Most cooperative grove care services begin at the first stage of production-advice on varietal selection and planting practices, and in some cases purchasing new trees. Since the freezes of the 1980s, Florida cooperatives, in particular, have encouraged members to use new, cold-resistant citrus varieties.

Cooperatives also are encouraging freeze-aversion practices in new or replanted groves. Denser plantings have been found to reduce the effects of freezes. So most new citrus acreage, particularly in Florida and Texas, is more densely planted than was customary a decade or two ago.

Once planted, another major practice is the use or nonuse of irrigation to minimize freeze damage. Reduced irrigation at certain times of the year induces dormancy and increases cold hardiness. During a freeze, microsprinkler irrigation provides cold protection by insulating the tree (ice remains at 32 degrees Fahrenheit). Microsprinklers are widely used, particularly in central Florida. Growers replanting freeze-damaged groves have taken advantage of the newer practices that best minimize the effects of future freezes.

But the adoption of new technologies, varieties, and production practices, while designed to minimize the effects of freezes, can never completely eliminate the damage caused by future freezes. In the northern half of Florida's citrus producing area, the center of cooperative activity, freezes are still accepted as inevitable.

The impacts of freezes are usually felt by all members of a local cooperative, so the continued

use of risk-sharing mechanisms is an important way to minimize the effects on any one grower. Risk sharing and equitable treatment are fundamental to cooperative operating practices that attract citrus growers. Continued use and refinement of freeze contingencies in cooperative pooling plans are important services to members-particularly the smaller ones with limited resources-in mitigating freeze losses.

Residual Market Outlet

Fresh packinghouse cooperatives provide a residual processing outlet for member fruit considered unsuitable for the fresh market. All cooperative packinghouses sell and deliver member fruit to the processor because it is impractical to return the fruit to the member for marketing.

Citrus World was created by packinghouses specifically as an outlet for their eliminations. Although Citrus World now processes significant amounts of fruit direct from the grove, its major role is still to serve as the only outlet for eliminations from member packinghouses. Many of these packinghouses will also arrange for harvesting and hauling member fruit direct from the grove to Citrus World.

Supply Cooperatives

Citrus cooperatives have also created or affiliated with other cooperative organizations for specific needs or services. The most common are those formed to buy supplies and materials for both members and the cooperative.

The major citrus supply cooperatives are the Fruit Growers Supply Company, Sherman Oaks, CA, and the Highlands Exchange Service Cooperative (HESCO), Waverly, FL. Each is the largest supplier of citrus production and processing supplies in its respective State.

Formed in 1907 by the members of the California Fruit Growers Exchange (now Sunkist Growers, Inc.), Fruit Growers Supply Company (FGS) is a cooperative supply corporation. Its members are the growers and local packinghouses shipping fruit through the Sunkist system. FGS is not a division of Sunkist, but a separate entity owned by Sunkist members and closely affiliated with Sunkist. FGS and Sunkist share nearly the same board of directors and board officers. Sunkist packinghouses are not required to join FGS, but must do so to secure its services. Most Sunkist packinghouses are members of FGS. Sunkist has the large majority of California and Arizona's citrus production, so FGS is by far the single largest provider of production and packinghouse supplies.

FGS supplies members most of the materials needed to grow, harvest, package, and deliver citrus. These supplies are provided to members at cost. FGS also provides the technical support in the design and use of different supplies.

Under the FGS membership agreement, the packing unit agrees to purchase all containers required in harvesting, storing, and packing its citrus. The purchase of all other items is voluntary.

As a source of raw material for its box and carton supplies, FGS owns sawmills, manufacturing plants, and more than 350,000 acres of timber. This makes FGS one of California's leading timber companies. Its timber sales are the primary source of nonmember business.

The Highlands Exchange Service Cooperative (HESCO) was formed in 1972 from the merger of Highland Crate Cooperative and the Exchange Supply and Service Cooperative. HESCO is the largest supply cooperative in Florida's citrus industry.

Among the 49 members of HESCO are all 18 of the Florida citrus cooperatives. Others are grower-owned packinghouses or processors or grove care/production operations. Although most HESCO members are in direct competition with one another in citrus marketing, they accept the cooperative model for buying supplies at the best possible cost.

Initially, HESCO was primarily a corrugated box broker for its members. Since then, HESCO has diversified to offer members a variety of products, including materials for fresh packinghouses, can cases, agricultural chemicals, production and harvesting equipment, and fuel and lubricants. HESCO also operates a wholly owned subsidiary, Highland-Exchange Petroleum Supply Company (HEPSCO), which supplies fuel to HESCO members.

Purchasing and Developing Groves

Some cooperatives, in response to competition and declining membership bases, implemented different mechanisms to assist growers. As a way of retaining and/or increasing acreage, some cooperatives take an active role in the financing and development of citrus groves by existing or prospective members. Some offer only real estate advisory services, while others purchase and develop new groves to be sold to members or operated by the cooperative until a member acquires them.

At times, a cooperative will form a wholly owned subsidiary to provide real estate services for members. If some growers can't purchase the minimum acreage required to participate in a development, a cooperative joins the development as an agent on behalf of its members. This allows smaller growers to unite to meet the minimum acreage requirements and purchase smaller, more economically feasible parcels.

Cooperatives are also active in rehabilitating and replanting members' freeze-damaged groves by providing management services and assisting with financing.

In some instances, this included seeking aid available to growers from the Federal Government in the event of tree-killing freezes. The cooperative represents growers in sourcing the funds and preparing the necessary paperwork. Some cooperatives also worked with Farm Credit Services to obtained low-interest financing for grower-members' grove rehabilitation.

Citrus Market Channels

Cooperatives also influence the performance and behavior of citrus markets. Some roles are rooted in general theories of cooperative behavior. Others are endemic to the citrus industry.

Allegiance to Growers

An advantage for cooperative members is that the cooperative owes its allegiance to the grower. A cooperative is dedicated solely to marketing the crop of its members. Further, most citrus cooperatives deal exclusively in citrus. Their members benefit from this specialization.

By contrast, a number of private citrus firms are considered beverage or juice "manufacturers," or fresh produce "marketers." Some of these are large, diversified food marketers such as Coca-Cola, Seagrams, Dole, and Sun World. Citrus is only one of many commodities they process and market, and they are often free to procure raw citrus from any domestic or foreign source. The net result is they are not exclusively tied to the citrus grower, as in the case of a cooperative. Their allegiance is to the shareholders who care little whether the highest returns come from apple or orange products.

While these firms may be concerned with the fortunes of their citrus products, their first interest is in selling produce or juice products. This continues throughout the market channel. Wholesalers and retailers have a choice in the types and volumes of products they will market based on their relative returns.

In a marketplace where most organizations are concerned with returns to a set of products that may or may not include citrus, the role of looking out for a grower's citrus is often left to cooperatives. In noncooperative arrangements, the grower has no say in the decision on how much citrus, if any, is in the firm's marketing mix. In owning and controlling their cooperative, growers directly allocate resources and marketing programs exclusively committed to selling citrus.

Ease of Entry/Exit

Grower entry/exit affects cooperatives at two levels-citrus production and the cooperative operation. Small or absentee citrus growers are attracted to cooperatives because of their full line of services. This means initial investments can be limited to the land purchase. The machinery and equipment for grove care and harvesting are provided by the cooperative. Investors need not be actively involved in citrus production.

Cooperatives make it easier for growers to enter or exit citrus production. A barrier to entry can also be a barrier to exit. Agricultural economic theory holds that the more specific the assets are to a farming enterprise, the more difficult it becomes to exit.

Citrus production requires investments in

assets (specialized facilities and equipment) with little value outside of citrus production. Therefore, the best use of the assets is in citrus production. By joining a cooperative, growers not only avoid having to make investments in personal facilities and equipment, but also reduce the cost of exiting citrus production.

The issue of entry/exit into or from cooperatives is also important. Members may exit to market elsewhere after their yearly marketing agreement ends. Also, growers only commit specific acreage to cooperatives. Most growers have access to multiple packinghouses within economical shipping distance. Most marketing agreements allow growers to ship fruit to more than one agent, including other cooperatives, although multiple cooperative membership isn't common.

Although member equity is typically not rebated when leaving the cooperative, a key point is that the equity is not lost. Old member equity is revolved back at the same rate as that of existing members. With revolving periods of 20 or more years, many revolvement payments go to older members or their estates. However, voting privileges are lost upon exit, so growers with large amounts of equity have the proclivity to remain with the cooperative to maintain a measure of control over the policies affecting their equity.

There are few barriers for the cooperative packinghouse wishing to enter/exit a fresh marketing organization. Packinghouse agreements typically allow them to exit the federation in any year, just like contracts they have with their growers. Combined with the relatively low asset requirements of a federated marketing agency and low investments required of members, entry/exit to or from a fresh marketing federation is relatively easy.

Packinghouse Mobility In a federated marketing structure such as Sunkist or Seald-Sweet, most assets needed to harvest and pack fresh citrus are provided by the member packinghouses. The federated cooperative itself requires few assets and only limited investment from members.

In arrangements between cooperative packinghouses and private marketing agencies, the packinghouse also provides most of the assets needed to prepare fresh fruit for the market. The net result is that cooperative packinghouses can change marketing affiliations with little or no new investments. The process of changing affiliations is called packinghouse mobility.

For Sunkist and the California/Arizona citrus industry in general, there has been a high degree of packinghouse mobility in addition to the declining number of packinghouses and increased average house size. From 1960 to 1980, 53 packinghouses operating independently or affiliated with other marketers joined Sunkist. On the other hand, 44 packinghouses left Sunkist to join another organization. Nine went to Pure Gold, the other federated marketing cooperative. Five later returned to Sunkist.

Further evidence of low-entry barriers in the Sunkist system is in it serving as a major source of packinghouses for competitors. In 1980, 24 of the 43 packinghouses affiliated with Sunkist's competitors either were acquired from Sunkist or voluntarily disaffiliated. For example, 7 of Pure Gold's 12 packinghouses were originally affiliated with Sunkist.

Today, there are still many examples of packinghouse mobility in California/Arizona citrus. For example, Paramount Citrus Association was first a Pure Gold member, then an independent marketer, and recently joined Sunkist. Another ex-Pure Gold member, Arlington Heights Citrus Company, joined Sunkist for a few years, and now is affiliated with Sun World after being acquired by Corona-College Heights.

Florida packinghouses also can easily change their affiliations. Many cooperative packinghouses that were members of Seald-Sweet now market independently (such as Golden Gem) or are affiliated with a private sales agency (such as Waverly).

However, there has not been the movement in and out of Seald-Sweet on the order of Sunkist. Somewhat smaller in size, Seald-Sweet also has a smaller share of Florida's fresh citrus market. Market share is spread out among the many marketing firms or independent packinghouses. The fresh market is a relatively small part of Florida's citrus production, so poor fresh market conditions will not cause the same level of reaction as in California/Arizona.

The structural characteristic of packinghouse mobility makes for intense competition between marketing organizations, and compels the cooperative federations to compete vigorously with rivals to maintain their packinghouse members.

For Sunkist in particular, is the high degree of mobility evidence of its efficiency or inefficiency? Packinghouses leaving or joining Sunkist feel they have gained from the move. Both could be right, depending on the different circumstances each faces.

Entry is easy, so some packinghouses will change affiliations based on short-run conditions, particularly given the price volatility of citrus. Overall, the ability to change packinghouses points to cooperatives having a broader role in market discipline.

Market Discipline

The ability to change marketing affiliations points to the broader role of cooperatives in addressing either the failure of market conditions or in keeping a market disciplined.

With cooperative membership being widely available, citrus growers have a viable alternative to poor marketing conditions arising from the unfair trading practices of buyers. Indeed, many fruit and vegetable cooperatives, including citrus, were formed to improve the bargaining position of growers facing high-handed and unfair buying tactics. In a cooperative, production is pooled under a single seller. Buyers cannot play one grower against another. Cooperatives provide a form of discipline in the market by forcing firms to deal with growers in a fair manner. This concept of keeping buyers honest stems from the belief that cooperatives are a competitive yardstick.

Citrus growers can use cooperatives as a yardstick to measure the performance of firms marketing their fruit. Cooperative membership provides insight into what is reasonable for both its members and others. Moreover, ease of entry/exit and the ability to belong to more than one cooperative allow growers to compare the performance of cooperatives. The performance of private firms is similarly kept diligent because growers can readily compare packinghouse returns. This competition for fruit favors the citrus grower.

Summary on Cooperative Roles

Cooperatives play a significant role for citrus growers along two levels. At one level are the efficiencies and economies of scale achieved in pooling the fruit of many individual growers in an organization.

Cooperatives are unique because growers have direct control over their operations. In doing so, they set policies that assure a home for their production and spread risk across many growers. Many cooperatives also provide the complete range of production and marketing services, including supplies. Growers can achieve significant cost savings by purchasing supplies and services from the cooperative. Growers reduce costs through efficiencies gained in the close coordination of harvest and delivery with facility and buyer needs. Gains from efficiencies accrue to the cooperative member.

At another level, citrus cooperatives play an important role in the marketing channel. They provide grower access to the resources and marketing skills of a comprehensive marketing organization. In some cases, these organizations are the leading citrus marketer in their respective product lines, and are often at the forefront in developing new markets for citrus and citrus products.

As a result of direct ties to U.S. citrus growers, cooperatives more than most marketers look out for the fortunes of U.S. citrus production in the marketplace. Cooperatives also play a key role in disciplining market behavior. The ease of entry into a cooperative, and the ability to compare returns from both private firms and cooperatives, facilitates their ability to discipline the market.

FUTURE ISSUES

Cooperatives face the same issues as any other citrus marketing firm. Domestic citrus consumption-both fresh and processed-has plateaued during the past decade. Periodic freezes and resulting price increases partially reduced demand. Competition is also growing from an increasing variety of other fresh fruits-kiwi, mangoes, etc., and varieties of juices and juice products-blends, cocktails, etc.

For cooperatives, however, the issue goes beyond the overall demand for citrus to the

demand for citrus produced by a specific set of growers: their members.

Cooperatives are directly tied to domestic citrus production. The continued viability of domestic citrus production is fundamental to the future of citrus cooperatives. Like the rest of agriculture, cooperatives and their members face general concerns over pesticide use and food safety, complying with environmental regulations, water availability, and land-use restrictions. Issues specific to citrus cooperatives and the industry are along two levels: 1) those affecting the structure, location, and scope of U.S. citrus production, and 2) those affecting the continued profitability of U.S. citrus production.

increasing Production Capacity

Freezes hit all producing areas in the past decade, including tree-killing freezes in Florida and Texas. Florida alone had seven freezes during the 1980s. But the U.S. citrus industry has more than recovered. Production capacity will increase through the 1990s. Most growth occurred in Florida due to greater than expected replanting, rehabilitation of freeze-damaged groves, and new acreage being brought into production, particularly in southern Florida.

Most of the new and replanted acreage adopted the freeze-aversion practice of higher density plantings. As a result, the number of citrus trees in Florida increased to a record 92 million in 1992, almost double the level of 1986. A large portion of Florida's acreage is nonbearing. A recent USDA survey showing only 56 percent of the surveyed acreage had trees of bearing age.[4] The Florida Department of Citrus estimates an increase of 160 million boxes of oranges/grapefruit in 1990 to more than 250 million boxes by 1995.

Total U.S. citrus production is expected to increase from current levels by about 75 percent into the next century, with virtually all of that growth in Florida. Texas is rebounding from devastating freezes in 1983 and 1990, but production may never return to pre-1983 levels. California production, with the exception of the 1990-91 freeze-damaged crop, has been relatively stable. Other than increased yields achieved through better production practices and denser replanting of old groves, California's production is expected to be fairly stable into the next century.

Worldwide, citrus production is expected to increase due to freezes and higher prices in the 1980s that prompted expanded plantings in the U.S. and encouraged new plantings throughout the world. Worldwide growth in the 1990s is expected to jump 50 percent from levels in the 1980s.

Impact on Cooperatives

Increasing production capacity has a mixed impact for citrus cooperatives. Negative pressure on price for citrus and citrus products would result from increasing worldwide production, given current levels of demand. U.S. per-capita consumption of citrus products declined in the past decade, partly because of the periodic freeze-induced price increases.

However, while lower prices increase demand, this demand is "inelastic," as is the demand for most agricultural products. Lower prices have a greater effect on reducing grower returns than on increasing consumer demand. Thus, the per unit returns for growers will usually be much lower for a large crop than for a small crop.

Market outlook for citrus products through the year 2000 suggests low prices, so the emphasis will increasingly turn to more aggressive marketing programs and efficient cost-cutting measures. More cost-efficient practices will become essential for cooperatives in maintaining grower returns in the face of downward pressure on price and increasing competition from lower cost producers on the world market.

Positive for cooperatives is the potential for increased membership and volume from the expanding production capacity.
Cooperatives are totally dependent on U.S. citrus production, so greater domestic capacity increases the acreage and volume available for cooperative membership.

Also, the negative effect of lower prices will be dampened by a general citrus industry condition:

[4] USITC Publication #2615, Industry and Trade Summary: Citrus Fruit, p. 1, March 1993.

cooperative membership increases in periods of increased supplies and lower prices, and decreases in corresponding periods of decreased supplies and high prices. The projected increase in supplies limits the upside potential of speculating in the cash market and increases members' risk of not having a home for their product. Periods of low prices raise the value of shared price-risk through participation plans and a guaranteed market, both of which are cornerstones of cooperative marketing arrangements.

A caveat to the potential for increased cooperative volume is the changing scale and location of domestic citrus production occurring along with increasing production capacity. In some areas, production is shifting away from areas of traditional cooperative membership. The scale of many new grove operations is greater than the typical cooperative member-the small grower. The changing scale and location of production have been especially important to Florida cooperatives, although cooperatives in other areas are also experiencing the impacts.

Shifting Production

Florida citrus production has gradually shifted southward as citrus growers seek to escape freeze-prone areas. In California, urban pressures caused a long-term shift of citrus production to the central valleys further north and desert areas in southeastern California and northeastern Arizona. Texas citrus production remains along the southernmost edge of the State. With no room to move further south, there have been changes in the size and type of citrus operations.

The changing location and scale of production have a direct impact on cooperative membership. In particular, for the individual cooperative packinghouse or processor, shifts in the location of citrus groves can reduce their traditional bases of membership. Even if the shifting grove is owned by a member in the cooperative, it may be less cost effective to provide the same range of services to more distant groves.

With shifting production has come an increase in the average size of operations, mirroring the general trend in agriculture towards fewer and larger farms. The increasing scale of citrus production reduces the share of acreage owned by the traditional cooperative member.

Many cooperative members own small groves or are passive investors, attracted by the services and economies of scale offered by the cooperative. While the citrus industry still has substantial numbers of passive investors and small growers, more citrus acreage is coming under control of the larger, more self-contained farming operations. Expansion into new production areas in Florida is led by the larger operators.

Florida

Two phenomena are occurring in Florida. First, exiting growers are selling their farms to others, effectively increasing the average size of grove operations. Secondly, Florida's citrus production is shifting southward (figure 11). Groves abandoned because of susceptibility to freezes were replaced with new acreage planted further south. Combined with greater than expected rehabilitation of groves in the central part of the State, by the 1993-94 season, Florida will surpass prefreeze production levels.

Substitution of southern for northern acreage represents trends in both the movement away from the traditional area of cooperative membership and the smaller groves of the traditional cooperative member. A recent USDA survey indicated more than 70 percent of them had less than 50 acres. But the economics of production in southern Florida—higher land preparation costs-dictate larger holdings.[5]

U.S. Sugar, a recent entrant into citrus, owns almost 20,000 acres of citrus groves in southern Florida, with an additional 3,000 acres in retention ponds alone. On the other hand, Waverly Growers, located in the northern production area and one of the State's larger cooperative packinghouses, has less than 6,000 acres of citrus groves averaging less than 30 acres per member.

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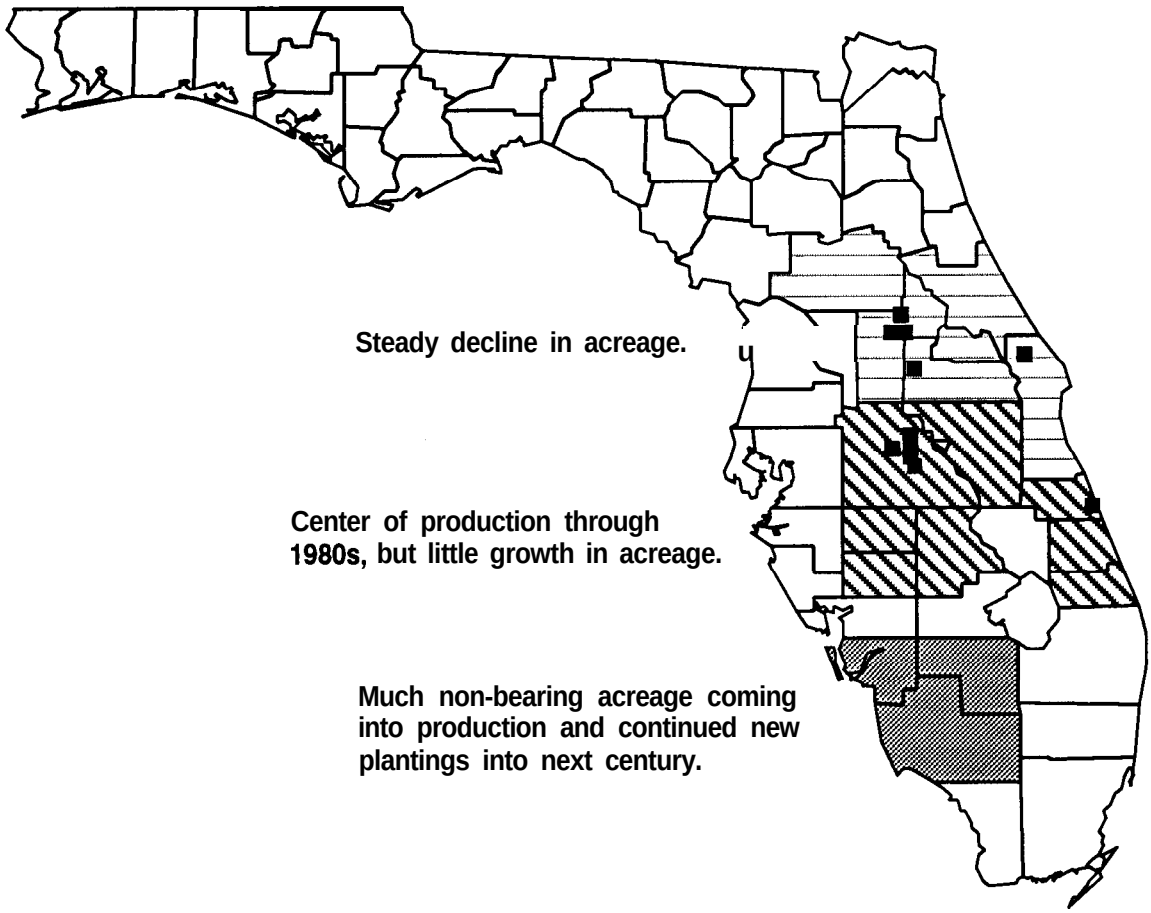
[5] See "Economic Comparison of Southern and Northern Citrus Production in Florida" from the proceedings of the Florida State Horticultural Society, 102.27-32. 1989.

Figure 11— **Trends in Florida Citrus Acreage Into the 1990s, and Location of Cooperatives**



Black square denotes cooperative locations.
Based on tree survey by Florida Agricultural Statistics Service.

Environmental issues, particularly water availability and the Everglades, may slow or even limit further southward movement of citrus acreage. In any case, there are different economic costs of producing citrus in northern Florida versus southern Florida. The relationship of these costs, combined with weather considerations and risk, will continue to determine the location of Florida citrus production.

It is common in Florida for many privately owned packinghouses or processors to own extensive acreage, effectively shrinking the pool of acreage available for cooperative membership. Already facing declining member bases, cooperatives were forced to become more aggressive in recruiting and/or retaining member acreage by becoming a partner in the financing and development of new groves or in rehabilitating damaged groves.

New Grove *Development* Through either outright ownership or joint venture, many of Florida's citrus cooperatives own and operate citrus groves.

In 1983, Citrus World began the first of three grove development projects, each organized as a

separate cooperative comprised of individual growers. Citrus World acquired the land, developed the groves, and offered them for sale to its growers or interested investors.

The first project, known as Cooperative Producers, Inc., was in Hendry County and totaled more than 3,600 acres spread throughout the membership of Citrus World. The Ranch One Cooperative project was completed in 1988 with more than 3,100 acres in Collier County. The third project, C-3, will have more than 2,280 acres in Lee County. More than 9,028 acres were sold to more than 101 growers investing in these three projects.

Some of Citrus World's members also increased acreage by starting their own grove development programs. Waverly Growers, for instance, created partnerships with its grower-members for purchasing groves. One large grove owned by a long-time member of Waverly was offered for sale. The acreage was much larger than what the typical Waverly member could purchase, so it was unlikely any one member could purchase a grove of this size. Moreover, Waverly felt a person purchasing a grove of this size would not continue with the cooperative.

To facilitate the purchase, a new entity was created combining the interests of 14 Waverly members. By pooling member resources, Waverly retained a significant part of its acreage base.

The examples of Citrus World and Waverly show how cooperatives, at either the federated or local level, can play a role in creating the economies of scale necessary to develop groves. The ability of cooperatives to assist members in developing new groves will play a large role in maintaining membership bases, particularly as production shifts to southern Florida.

Recruiting New Members Although cooperatives had a role in developing new citrus groves in southern Florida, most acreage is being developed by the larger, more self-contained joint-ventures or farm management groups. While these entities are not the typical cooperative members (they provide their own grove care, harvesting, and management services), there is little fresh packing or processing capacity in southern Florida.

Currently, most fruit is transported northward to facilities in central Florida, creating an opportunity for cooperatives to develop relationships with growers in southern Florida needing a marketing outlet for their product. However, as facilities are built in southern Florida, acreage available for cooperative membership may shrink because facilities likely will be built by the larger operators who are not typical cooperative members.

An example of an investor-owned-firm integrated development in southern Florida is Dole Citrus, a division of the Dole Food Company. Dole Citrus, in a joint venture with Hancock-Fidelity Citrus, Ltd., is building a packinghouse in Hendry County The Dole house, one of the largest in Florida, in its first phase can produce more than 3 million cartons. A second phase would double that capacity.

Dole's entry in southern Florida underscores the need of cooperatives facing a declining member base to aggressively pursue new acreage. Florida cooperatives need to recruit the large grove owner by being more flexible in the range of services offered. Some cooperatives offer contracts for specific packing and marketing services as a way to tailor services to the larger grower who needs fewer services.

Grove Rehabilitation and Replanting Freezes caused growers to abandon many citrus groves in northern Florida. But, in central Florida-traditional base of cooperative membership-many damaged groves were rehabilitated and/or replanted by citrus growers.

Assisting growers in rehabilitating groves is an important function for many citrus cooperatives. Some worked with creditors for loan programs to help growers finance the large up-front costs associated with replanting a citrus grove. Although some cooperatives have successfully expanded their service areas, rehabilitating or replanting of freeze-damaged groves remains the chief way to keep members.

Golden Gem Growers, Inc. A good example of how a cooperative adjusted to a series of damaging freezes and eroding member base is Golden Gem Growers, Florida's largest citrus cooperative.

Before the freezes of 1983 and 1985, most of Golden Gem's acreage was in northern Florida. Figure 12 shows Golden Gem's member acres declined sharply from around 24,000 in 1983 to 2,400 acres after the 1985 freeze. Given the bleak outlook, Golden Gem took these steps to maintain operations while rebuilding its membership base:

1) Reduced costs and sought nonmember fruit through account sales or participation plans to keep facilities operating and cover fixed costs. Risky cash buying was avoided. Other procurement options served recruiting better because they were similar to member arrangements.

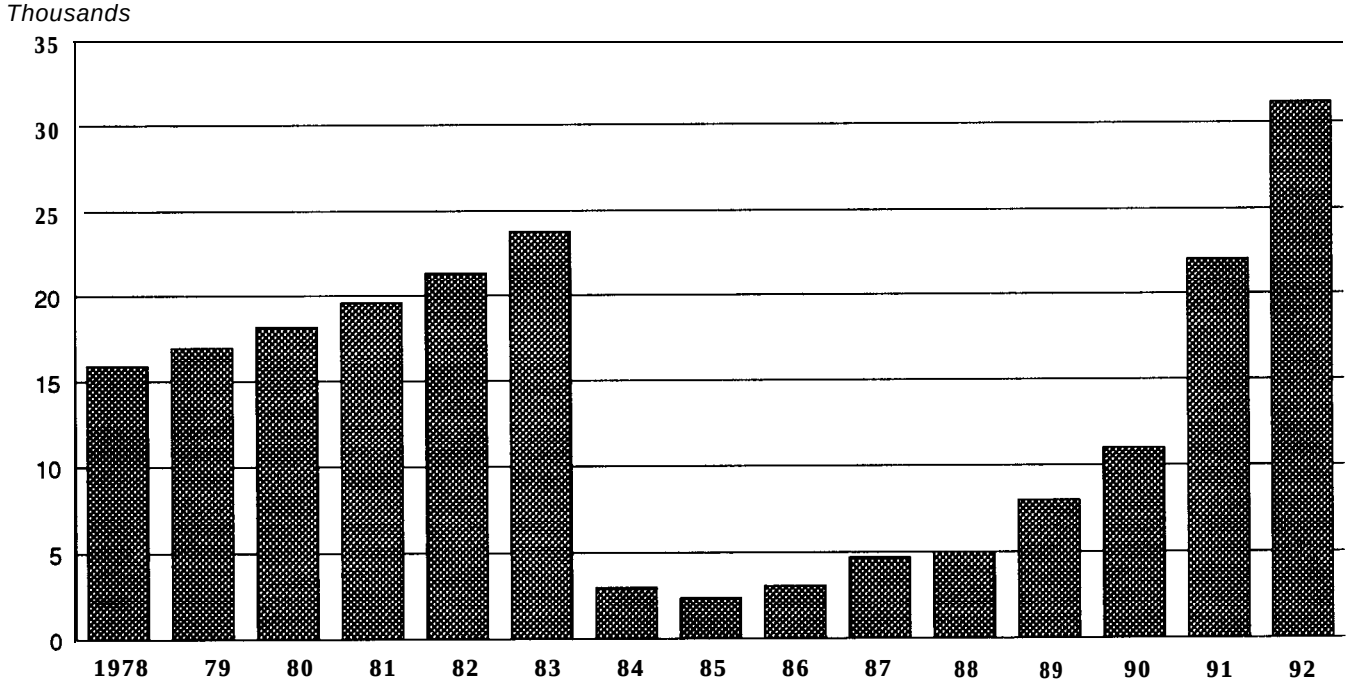
2) Rebuilt member acreage by providing grower-members technical guidance and grove-care services to rehabilitate and replant freeze-damaged groves.

3) Encouraged adoption of freeze-aversion production practices, such as denser plantings, use of more cold-hardy varieties, and micro-jet sprinkler irrigation.

4) Offered a choice of marketing agreements, including an accelerated payment option. This was designed to meet the cash flow requirements of members incurring heavy expenses in grove rehabilitation or purchasing young groves with light crops and large front-end cash-flow requirements. The accelerated payment option also helped recruit new members, particularly those with newly developed groves.

5) Attracted new members with flexible marketing agreements allowing them to select the services they wanted from Golden Gem. This was especially important in recruiting larger growers who provided their own grove care and hauling services. Members could contract for either fresh or processed fruit, or both.

Figure 12— Golden Gem Growers Member Acreage



Source: Citrus Industry magazine.

6) Expanded member recruitment on a statewide basis.

7) Continued use of contingencies for freezes in pooling policies where grower-members are paid on pre-freeze production estimates. These actions serve as both a risk-sharing mechanism to limit the number of members exiting citrus production, and as a recruiting tool for the more risk-averse grower.

Golden Gem increased membership both from greater than expected replanting of member groves and from significant numbers of new members from areas outside their traditional member base. Combined with the widespread adoption of freeze-aversion production practices, the long-range impact of the 1989 freeze was much less than from earlier freezes.

Golden Gem acreage increased to an all-time high of more than 31,000 acres in 1992. Moreover, this acreage is spread across 27 counties-11 counties have more than 1,000 acres each. Most member groves are now either south or west of Polk County. Years ago, 90 percent were north of Polk County.

California

There has been a more gradual change in the scale and location of citrus production in California. Instead of freezes accelerating the southward movement of acreage like in Florida, the steady urban sprawl and rising land prices over several years made for a more gradual movement of citrus acreage out of southern California into the valleys of central California and the desert areas of California and Arizona (figure 13). Production has been established in central California and Arizona for many years. Although it is still declining near the urban areas of California, acreage has not been "replaced" on the scale to which new acreage in southern Florida replaced smaller groves abandoned in the north.

California has had fewer devastating freezes than Florida, as verified by a recent USDA survey. While only 56 percent of surveyed orange acres in Florida had trees of bearing age, 96 percent of the orange acres in California had trees bearing fruit. California cooperatives not only had more stable supplies, but members did not have to bear the loss of income and expenses of rehabilitating and replanting groves. Overall, although the scale and location of citrus production in California have changed during the past 50 years, these changes have had less of an impact on cooperatives than in Florida.

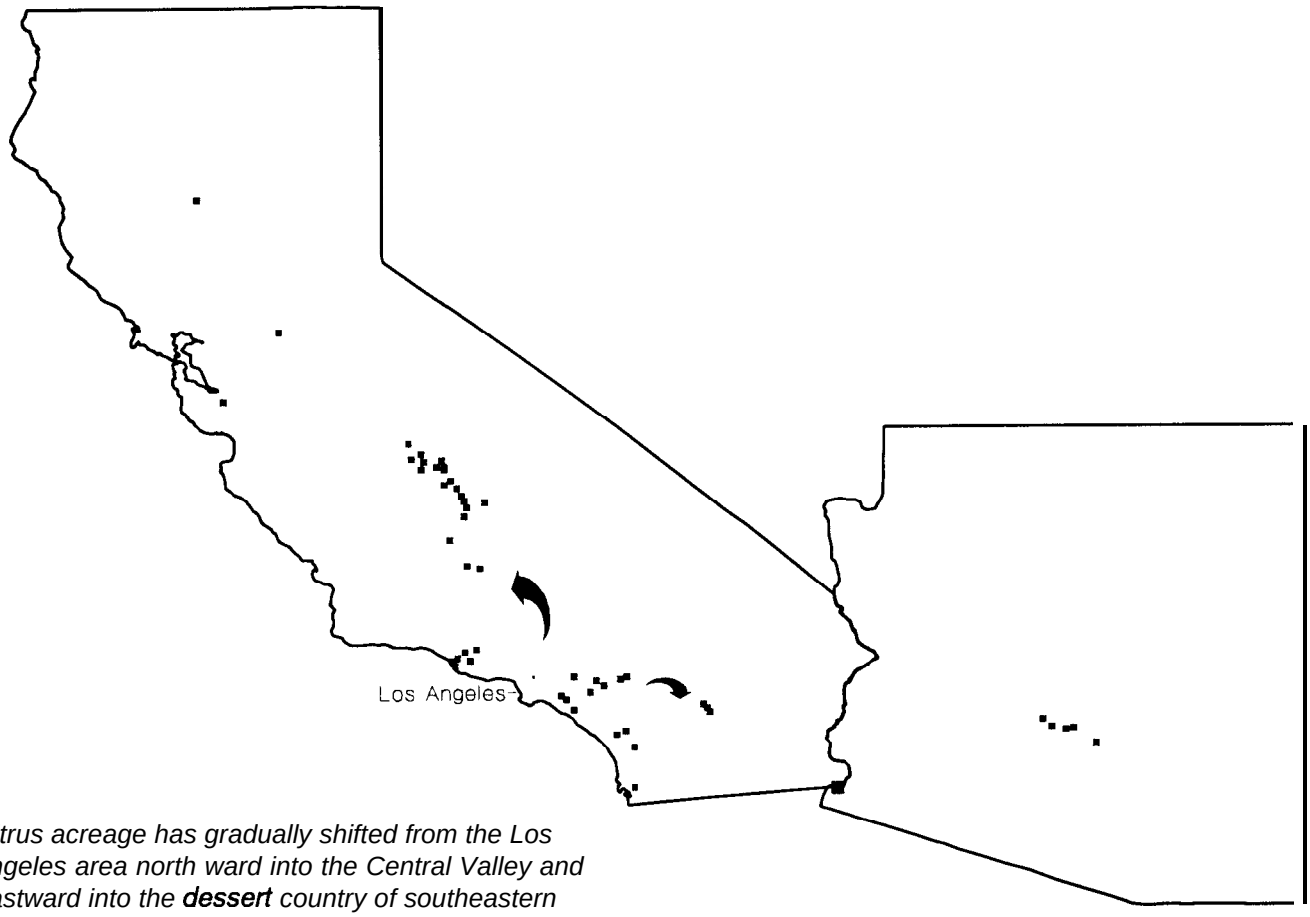
At Sunkist, the long-term shift in citrus production in California and Arizona had relatively little effect. As a marketing and sales agency, Sunkist can provide essentially the same level of service regardless of where the citrus production occurs. Sunkist packinghouses are found in all production areas of California and Arizona. Membership has generally kept pace with shifts in production areas.

The Sunkist system of district exchanges facilitated the spread of production in California and Arizona. The exchanges allowed sales to be coordinated between packinghouses spread over a wide area, and served as communication links between the growers and Sunkist Central at a time when roads and communications were still relatively primitive.

The role of Sunkist in developing and expanding the citrus industry in California and Arizona also laid the foundation for competition from other firms in the future. As Sunkist led the expansion in citrus production by increasing the profitability to not only citrus growers but also to all firms in the citrus industry, new entrants were attracted into citrus marketing. The challenge to Sunkist's membership base came from other firms enticing citrus growers away, particularly the new grower. Competitors offered financing assistance in purchasing and developing citrus groves. This led Sunkist to take a more active role in citrus real estate.

New Grove Development In response to declining member acreage and increased competition from other fruit marketing firms offering financing to citrus growers, Sunkist in 1988 created a subsidiary called Sunkist Real Estate, Inc. It attracts investments to citrus production, mostly through loans made to existing members or prospective members. It is operated at no cost to Sunkist members. In addition to real estate advisory services and short-term bridge financing for members, Sunkist Real

Figure 13— Location of Packinghouses in California/Arizona, 1992, and Long-Term Trends in Production



Citrus acreage has gradually shifted from the Los Angeles area north ward into the Central Valley and eastward into the dessert country of southeastern California and Arizona.

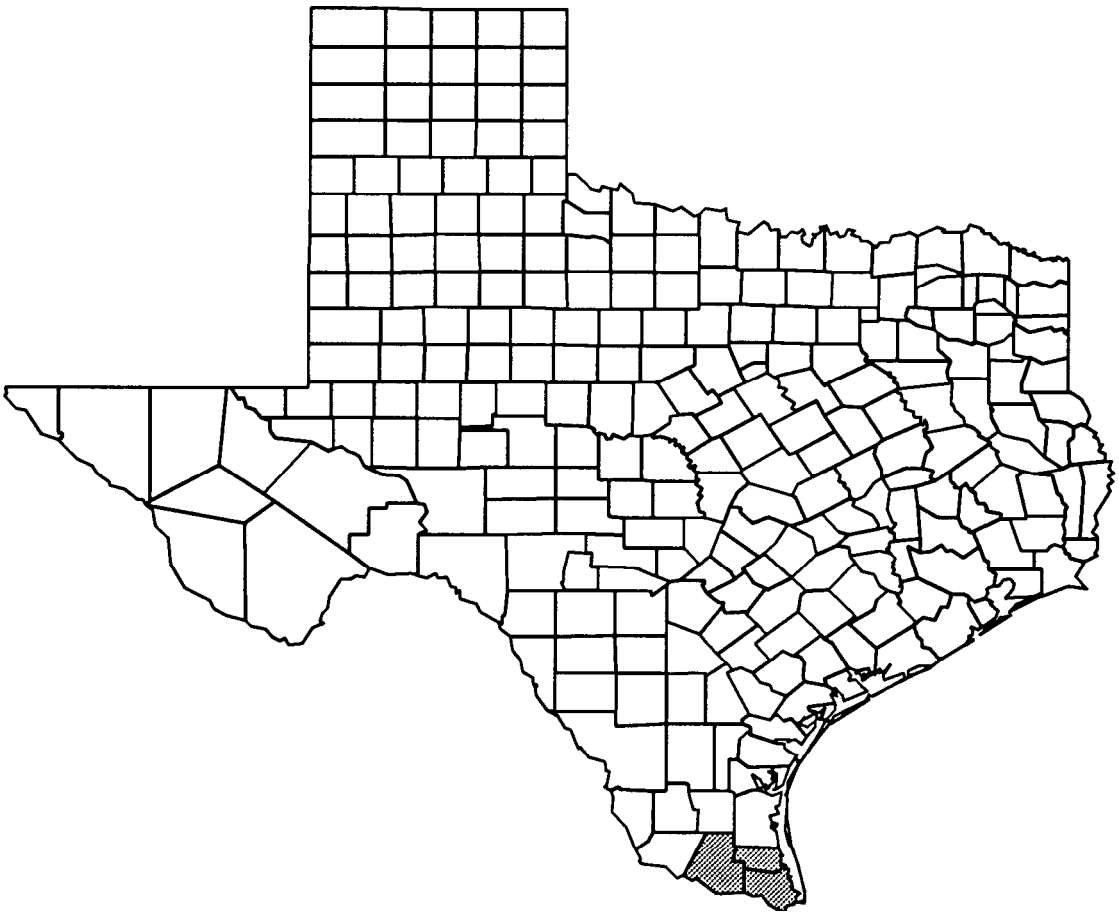
Estate bylaws allowed it to purchase and operate existing groves for delivery of fruit through Sunkist. The intention would be to ultimately sell these lands to other members as a way to retain member acreage. As a recruiting tool for new members, non-members may borrow money from Sunkist Real Estate if they join Sunkist Growers. Although bylaws permit it, Sunkist Real Estate does not actively develop new groves, i.e., buying land and planting trees to be sold at some future date.

Texas

Until the 1980s, Texas had significant numbers of absentee owners. They were a staple of cooperative membership-some having more than 50 percent. The effects of freezes, combined with tax code changes unfavorable to citrus investments, caused many to exit citrus production in Texas. However, some of the remaining growers purchased and replanted many of the idled groves. After years of no commercial production in 1990-91 and negligible amounts in 1991-92, Texas re-entered citrus markets in 1992-93. The 1.5 million boxes of grapefruit and 450,000 boxes of oranges were still less than one-third of prefreeze levels, but Texas production rebounded better than expected and should continue to increase as replanted trees come into bearing.

The immediate future and continued viability

Figure 14— **Texas Citrus Production Area**



of citrus cooperatives in Texas depends on how many members replant their freeze-devastated acreage. More importantly for the long run, cooperatives need to attract new members and offer more flexible services.

Because citrus production in Texas is already hugging its southern border (figure 14), cooperatives may need to look at nonmember fruit business from Mexico. Foreign growers may become members of U.S. cooperatives.

Changing Market Structure

Cooperatives often have been formed by growers as a response to adverse or changing market conditions. They and their growers will continue to face a changing market structure and accompanying challenges and opportunities.

Facility Capacity and Specialization

The capacity for packing fresh citrus is dictated not only by the number of packinghouses, but also the volume of citrus that equipment can handle. The trend toward increasing packinghouse capacity was brought on by more efficient equipment and technology. Competitive pressures require continual upgrading of packinghouse facilities to remain economically viable. Moreover, idled packinghouses quickly become obsolete and are unlikely to reopen.

During the late 1980s, Florida cooperative packinghouses were concerned about reduced member volume and the prospects of significant excess facility capacity Although some houses closed, the post-freeze recovery and expansion of citrus acreage in Florida eased concerns about capacity. Moreover, forecasts for increasing production into the next century raise the issue of having enough packinghouse or processing capacity. In 1992, Golden Gem Growers-one of the cooperatives hardest hit by the 1980 freezes-stopped accepting deliveries of some varieties of fruit during the season. However, the outlook in terms of adequate supplies to operate existing cooperative facilities is positive.

As citrus varieties increase, so will the need for more specialized facilities. In fresh packing, each variety must be run separately through a packing line, making it increasingly difficult for a single packinghouse to handle all types of citrus. Some varieties need unique types of handling and packing equipment.

Also, growing export markets are requiring more specific product characteristics and different types of packaging. Increasing market segmentation is creating opportunities for packinghouses to specialize their packing operations.

In Florida, Haines City Citrus Growers Association (HCCGA) installed a packing line customized to handle tangerines. Ocean Spray packs only fresh grapefruit, with most of it exported. In California, a Sunkist-affiliated house has opened a packing facility dedicated to specialty types of citrus such as Mandarin oranges and grapefruit-type varieties such as pummelos. Separate packing lines will be custom made for each type or variety. Specific picking crews and custom-grading equipment will be used to achieve maximum operating efficiency. Corona-College Heights normally packs most of its white grapefruit for export to Japan. For cooperative packinghouses, particularly those with lower volumes, the need to update and specialize operations will increase as markets become more specific and competition intensifies with increasing supplies and declining prices.

On-Farm Packinghouses

Another structural issue for cooperatives stems from the on-farm packinghouse-large citrus-growing operations that include a fresh packinghouse. Grower-owned packinghouses have long been common to citrus. The growth in size will challenge the grove owner(s) to finance and supply their own packinghouses. This brings a mix of impacts for cooperatives.

On one hand, not only do grower-owned packinghouses compete with cooperatives in marketing fresh citrus, they also compete for growers by providing grove care, harvesting, and packing services.

However, these grower-owned packinghouses are also a source of membership and volume for the cooperative federations. As agricultural producers, the grower-owned packinghouse can be a member of a federated agricultural cooperative, and most citrus marketing federations count some as members.

Marketing Federations

If the trend toward more individual grower ownership of packinghouses continues, demand for services from a cooperative will shift towards the sales and marketing functions of a marketing federation. While grove care, harvesting, and packing services will continue to be important cooperative functions, the share of citrus production from members needing these services will decline with the growth in self-contained grower-owned packinghouses. However, given that these packinghouses can be members of a cooperative marketing federation, the share of potential production to be marketed in a cooperative structure will be much less affected.

In each of the citrus-producing regions, marketing federations -principally Sunkist in California, Seald-Sweet in Florida, and the Texas Citrus Exchange-will continue to play a dual role of providing marketing and sales services to individual growers and bringing a more orderly and better coordinated system to citrus markets. The coordinating and stabilizing attributes of cooperative marketing federations should become more valuable as production capacity increases and mar-

kets become more prone to intense and inherently destabilizing price competition. Federated cooperatives such as the Central California Orange Growers were formed in response to the ruinous price competition felt to exist between the members.

Marketing federations also help growers and their cooperatives to address another structural issue-increasing concentration of the food industry into the hands of fewer and larger processing, marketing, and retailing firms. As there are large numbers of citrus sellers compared to fewer and often much larger buyers, power in the marketplace can be skewed considerably towards the retailing sector.

Under the Capper-Volstead Act, a group of growers and/or grower-owned packinghouses could immediately combine to increase their market share. Market share translates into market power. Because marketing federations typically require relatively little new investments-most assets are owned by the members-, they offer considerable potential for citrus producers and packers to achieve a measure of market power.

Globalization of Citrus Trade

One of the clear changes in the market structure for citrus is the increased globalization of citrus markets. Historically, the U.S. citrus industry has been domestically oriented because of high transportation costs, high perishability, and high tariffs between countries.

Until recently, frozen juice consumption was limited mainly to the U.S. and Canada, although there was some trade in fresh and canned citrus. In the early 1980s, changes began to take place in world trade. Brazil substantially increased its citrus plantings for export markets. Many developments were joint-ventures in other countries by U.S. citrus and beverage companies searching for foreign sources and year-round supplies. Trade in fresh citrus also increased because of increased demand, increased supplies, better transportation, and lowered trade barriers.

By the 1990s, the U.S. citrus industry had changed substantially to one increasingly integrated with international markets.

The increased globalization of citrus trade has both positive and negative impacts on different segments of the citrus industry. Overall, processors have generally gained the most by having foreign sources and lower prices, particularly in times of domestic shortfalls. Also, steady growth in foreign demand has benefitted growers and organizations in fresh marketing channels.

The one segment hurt has been growers producing for processed markets and processors who rely primarily on domestic supplies. As an organization of citrus growers, cooperative processors are particularly susceptible to increased imports of citrus juices, particularly FCOJ.

FCOJ and Imports

By far the largest category of citrus imports consisted of FCOJ-$293 million or 64 percent of the $459 million in total citrus fruit imports in 1991. However, FCOJ imports were 90 percent higher in 1990 due to the late-1989 deep freeze in Florida that greatly reduced the 1990 orange juice crop. Resulting higher prices allowed imports into the U.S., primarily from Brazil, to overcome the cost differentials created by the ad valorem tariff and higher transportation costs. Conversely, in years of higher Florida production citrus prices decline and imports are at a relative disadvantage.

As marketers of domestic citrus, Florida cooperatives and their members are especially concerned about increases in FCOJ imports. While increasing domestic production will lower prices and reduce the need for imports, it also reduces grower returns. Also, in times of reduced domestic supplies, the price increases that growers would enjoy are mitigated by the ready availability of imports.

Of particular interest to Florida producers is the North American Free Trade Agreement (NAFTA), primarily the U.S.-Mexican component. Florida producers fear eased trade restrictions will allow Mexico to use its advantage of lower wage rates and fewer regulations to boost exports of citrus products, primarily FCOJ, to the U.S. Lowering tariffs on Mexican FCOJ would give Mexico a substantial advantage over Brazil, currently Florida's chief competitor.

The early effects of NAFTA will be minimal because Florida citrus producers vigorously sought and received exemptions to NAFTA. There is an extended phaseout period of tariffs (15 years) on Mexican FCOJ imports. While it may take many years and significant capital investments for Mexican supply and quality to approach that of Florida, the Mexican production potential is there. In 1991, the number of newly planted trees equaled the number of bearing trees.

Another issue for citrus cooperatives is the increasing role of reconstituting operations in marketing citrus juices. At one time, most FCOJ imports were by Florida processors. Freezes and resulting price rises, combined with the ability to import FCOJ in large bulk tankers-like with oil—spawned the development of large tank farms outside Florida to be nearer the consuming areas. These importers either package the FCOJ into retail-sized containers, or ship the FCOJ in bulk to repackagers such as dairies or grocers.

While most cooperative processors ship FCOJ in bulk, and reconstituters have become increasingly important markets, many importers come to rely on Brazilian FCOJ and have located near ports of entry to reduce transportation costs. Both foreign and domestic supplies of FCOJ are projected to increase, so the market for juices from concentrate will be increasingly competitive for cooperative processors that must rely on domestically produced citrus.

Exports

While the large majority of U.S. citrus imports is juice, the bulk of citrus exports are fresh product. In 1991, U.S. exports of fresh citrus topped $613 million while exports of citrus juice reached $231 million. Fresh grapefruit was the single most important export, followed by fresh oranges.

Cooperatives are among the major exporters of U.S. fresh citrus. Most exporters are located near the producing areas of Florida and California. In California and Arizona, Sunkist led expansion of exports, particularly in the Pacific Rim of Asia. In 1991, exports to Japan accounted for 20 percent of all Sunkist revenues, and Hong Kong and Taiwan are steadily increasing their purchases.

Corona-College Heights, with Sun World as its marketing agent, regularly exports more than half its production. As the largest cooperative packinghouse outside the Sunkist system, Corona-College Heights is California's leading packinghouse exporter of grapefruit.

In Florida, Seald-Sweet exports are one-third of its volume. Most of it is grapefruit. A relatively small percentage of Florida's oranges are exported. Florida fresh grapefruit is the single largest U.S. citrus export item in terms of value. More than half of Florida's grapefruit is exported, with Ocean Spray the the leading cooperative exporter.

For cooperatives, expanding fresh grapefruit export markets represents one of the more positive impacts from the globalization of citrus trade. Combined with the demand for specialties and California/Arizona oranges, exports of fresh citrus are clearly the most optimistic part of world trade as viewed by the citrus growers and citrus cooperatives.

Labor

Labor is an increasingly important issue in the citrus industry, in terms of both costs and availability in the face of increasing production. Even though many mechanized and automation technologies have been adopted, some parts of the citrus industry remain labor intensive. Of the three general segments of the industry-production, harvesting, and use (fresh packing and processing)—harvesting is the most labor intensive.

Most fruit is picked by hand because mechanical harvesting systems are not yet cost effective or efficient. Even so, the highest variable cost to citrus growers was labor associated with the harvesting and hauling of fruit-about 40 to 50 percent of the variable cost.[6/] Because labor costs for U.S citrus growers are higher (sometimes substantially higher) than in most other citrus producing countries, U.S. cooperatives and their grower-members are at a competitive disadvantage to foreign producers.

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[6] USDA Farm Costs and Returns Survey, 1988-89 season.

Widespread mechanical harvesting would be most applicable to fruit destined for processing. Mechanical harvesting would be less suitable for the delicate handling and selectivity required for fresh market fruit. In either use, most advances in harvesting efficiency have been in the technologies and practices that increase the efficiency of hand harvesting.

Labor availability and costs (wages, benefits, and regulations) are expected to become increasingly critical to domestic citrus production. Through the pooled resources of many growers, cooperatives offer to growers of all sizes the ability to more efficiently source and employ labor.

Marketing Orders

Federal marketing orders cover fresh citrus produced in California-Arizona, Florida, and Texas. Each order is defined by area and variety, such as California-Arizona navel oranges or Texas oranges and grapefruit. All affected growers for a region and commodity defined by the U.S. Secretary of Agriculture vote on Federal marketing orders. Each order is administered by a committee of growers and handlers that recommends policies to the Secretary of Agriculture, and oversees those approved for the order.

Federal orders for citrus include provisions for grades and standards, research and market development programs, and volume management and marketflow. All Federal citrus orders have provisions for research and market development activities and/or grades and size standards. Some have a form of volume regulation known as shipping holidays and prorate.

Prorates used for California-Arizona citrus are among the more controversial aspects of citrus marketing orders. Prorates define the maximum volume of fruit that can leave the order area within a week. This volume is then allocated on a prorata basis among all packinghouses in the area. The primary purpose of prorate is to prevent excessive supplies from building up at the wholesale and retail markets. Fresh citrus is perishable and excessive supplies could lead to quality deterioration, which can damage short-term prices and long-term consumption behavior.

Sunkist is considered a strong supporter of prorate, which fits well with its coordinated marketing system. Prorate opponents claim it unfairly restricts their ability to market fruit. Some opponents filed lawsuits against the U.S. Department of Agriculture (USDA) challenging prorate. The department initiated enforcement actions against those packinghouses violating the prorate provisions.

In May 1994, Secretary of Agriculture Mike Espy terminated the Federal marketing orders for California/Arizona navel and Valencia oranges, citing the division and turmoil existing in the California/Arizona citrus industry. While marketing orders are still supported as an effective tool benefiting both farmers and consumers, the USDA felt it should remove itself while the industry sorts out its differences.

In 1994, the effects of the prorate suspension on cooperatives in California are still uncertain. To ensure an adequate supply of citrus and to hedge against weather-caused shortages, the citrus industry has overplanted. Thus, there is an oversupply in most years. Proponents say prorate helps keep this supply from causing fresh citrus prices to plummet or soar. For the citrus industry, the threat of a freeze or a glut of fruit in packinghouses can result in wild price fluctuations. Prorate supporters claim this has been avoided and prices have been remarkably consistent for many years.

There is still strong sentiment in the industry for prorate and concern over the market conditions in the absence of prorate. Evidence of strong support for the program is indicated by the 91 percent of the growers who favored the marketing order in the last referendum. Sunkist is a strong proponent of the marketing order and prorate, which benefits Sunkist's price-scale system. However, given that Sunkist represents the majority of California/Arizona citrus growers and operates a coordinated marketing system, it should fare better than most in a more unstable, price-oriented marketplace.

Another issue related directly to marketing cooperatives is their bloc voting on marketing orders. Provisions in the Agricultural Marketing Agreement Act of 1937 say that a cooperative can

cast a single vote on behalf of its grower-members. The cooperative's vote represents the majority view of its members, but for the purposes of administering the marketing order, it counts as if all growers voted in unison.

Controversy arises over bloc voting because some feel it obscures the actual measure of grower support. Opponents litigated against the USDA and Sunkist on the validity of bloc voting. The right of cooperatives to bloc vote was upheld November 22, 1993, in the Ninth Circuit Court of Appeals in San Francisco.[7] This court, like others before it, noted that it was the intent of Congress to encourage growers to form cooperatives by providing them limited antitrust immunity.

EXAMPLES OF COOPERATIVE OPERATING PRACTICES

To better contrast the use of specific cooperative tools and structures and give insight into the actual operations of citrus cooperatives, this section will view the operations of selected cooperatives. Cooperative examples were chosen in each type of marketing activity and membership structure.

Fresh Packinghouses

Packinghouses are the most widespread type of citrus cooperative. Their operations and structure are fairly similar. Although they tend to perform the fresh packing functions in the same manner, they differ in functions they perform.

Haines City Citrus Growers

The Haines City Citrus Growers Association (HCCGA) was formed in 1909 by six citrus growers as a nonprofit agricultural cooperative in the Ridge area of central Florida. HCCGA is a fresh packing cooperative and is one of the largest packinghouses in Florida.

Structure-Haines City has a centralized structure supported by about 150 citrus growers. Most are small grove owners, although some of its large grove owners have more than 200 acres apiece.

A significant number of HCCGA members are absentee owners (about 25 percent), a common trait in Florida citrus. Membership is open to any bonafide producer, defined in the bylaws as "any person owning or leasing a bearing citrus grove of five or more acres."

Governance-Haines City bylaws call for a board of directors of at least seven members elected at the annual meeting. The number may be increased from time to time-11 in 1991. Each member gets one vote, must purchase one share of common stock, and sign a membership agreement. The pact remains in effect for 10 years unless the grower notifies HCCGA in writing of the termination. Members may commit specific acreage, although most commit all their production to HCCGA. However, to lure larger growers, HCCGA encourages them to just put in a few acres.

Financing-HCCGA uses a base capital plan based on a IO-year production average. A capital retain is deducted from the member's patronage dividends based on the average number of boxes. Members are issued shares of Class B stock for each box. The capital retains are periodically revolved at the discretion of the board.

Operations-HCCGA is a considered a full-service cooperative. It provides a complete range of services for producing and marketing citrus. Members may care for their own groves, but under cooperative supervision. However, HCCGA does all the harvesting. It also has a production division that sells fertilizer and insecticides to members.

All member fruit is handled on a pooled basis-a fresh and processed pool for each variety on a seasonal basis. Haines City handles a variety of citrus, from oranges and grapefruit to tangerines. In the industry, it is known as an orange house—more than 50 percent of its fresh volume is oranges.

HCCGA is a member of Citrus World, Inc., for processing. Haines City delivers both packinghouse eliminations and fruit direct from the grove.

[7] Cecilia Packing Corporation v. United States Department of Agriculture/Agricultural Marketing Service, 10 F.3d 616 (9th Cir. 1993)

Ownership of Citrus World is allocated to members of HCCGA. Processing returns are calculated on a pounds-of -solids basis, and returns from fresh fruit on a cartons-packed basis.

Haines City has a freeze-contingency plan for sharing the effects of crop losses among members. After a freeze, estimates are made of what would have been delivered. Members are credited with that amount. HCCGA decides when to harvest. But, in fairness, growers with unharvested acres should not be penalized while those with harvested acres benefit for decisions made (timing of harvest) to maximize the cooperative business operations.

In addition to member fruit, HCCGA will harvest, pack, and market nonmember fruit under participation plans, or account sales. Account sales facilitate the addition of new members, provide supplies in times of production shortfalls of members, and broaden the fruit marketing mix.

Marketing-HCCGA has an in-house sales staff and markets fresh citrus under its own label. Unlike many packinghouses, Haines City has never been a member of Seald-Sweet. It is a member of Citrus World for processing and marketing.

Waverly Growers Cooperative

Waverly Growers was formed in 1914 by a small group of citrus growers in the Ridge area of central Florida. Waverly owns a single packinghouse and is consistently in the top quartile, by total annual volume, of Florida's packinghouses. Oranges represent the large majority of packed fruit.

Structure-Waverly has a centralized cooperative structure supported by about 200 grower-members. Most are small grove owners who average less than 30 acres. As is typical for the cooperatives in Florida, absentee ownership is common-at one time exceeding 50 percent. Membership is restricted to any bonafide producer owning or leasing a bearing citrus grove.

Governance-Waverly has an ll-member board of directors, elected by members at their annual meeting. Each member has one vote. New members must purchase one share of common stock for $1. After signing an agreement, membership continues each year unless revoked by the member in writing.

Financing-Waverly uses a base capital plan based on a lo-year production average. Capital retains are deducted from patronage dividends on a per-box basis. Capital retains are periodically revolved at the discretion of the board of directors.

Operations-Waverly is a full-service cooperative packinghouse, providing a full range of grove care (planting, cultivating, spraying, etc.), harvesting, hauling, and marketing services. Members may provide their own grove care or can have the cooperative provide some or all of those services. Grove care is charged to members at cost. The cooperative does all the harvesting, with the timing at the cooperatives' discretion. Waverly obtains a variety of production and packinghouse materials from HESCO, a Florida supply cooperative.

All member fruit is placed in specialty or common pools on a seasonal basis. The specialty pool includes oranges grown for fresh market, all grapefruit, and specialty varieties of citrus (tangerines and tangelos). A fresh and processing pool is operated for each, with returns to fresh calculated on a per-box basis and processed on a pounds-of-solids basis.

The common pool is for round, or juice oranges-Hamlin, Midseason, Valencia. All returns are based on pounds of solids. There are no separate pools for fresh and processing; all returns are only pooled by variety. Although sold as both fresh and processed, all payments to members for round oranges are based on total pounds of solids delivered.

In the event of a freeze, Waverly has a second pooling plan allowing for more flexibility in pooling regulations. Changes can be made to add pools to address damaged or lower quality fruit.

Waverly will harvest and pack nonmember fruit on a participation or account-sales basis. In some cases, large growers provide their own grove care.

Marketing-For fresh market sales, Waverly has a contract arrangement with DNE Sales, Fort Pierce, FL. DNE markets fruit packed under a

variety of Waverly's labels, including the Waverly Famous brand, and DNE's own labels. All of Waverly's packinghouse output must be marketed by DNE. Waverly has been with DNE Sales for more than 10 years on an annual-contract basis. Costs are assessed to Waverly on a per-carton basis.

For processing, Waverly is a member of Citrus World, delivering both packinghouse eliminations and fruit direct from the grove. Returns are based on pounds of solids delivered. Ownership of Citrus World is allocated to the grower-members of Waverly based on the volume of their citrus sent to Citrus World.

Lake Wales Citrus Growers

Lake Wales Citrus Growers Association was formed in 1918, also in the Ridge area of central Florida. The Lake Wales packinghouse is above average in size. Recent volumes have been down because of the severe freezes of the 1980s.

Structure-Lake Wales is a centralized cooperative with about 80 members. The average member tends to be larger than other cooperative packinghouses in Florida, including Haines City and Waverly. Two-thirds of the Lake Wales members average more than 20 acres, although some have 100 acres or more. Contrary to most cooperative packinghouses, Lake Wales has few absentee owners, primarily because it does not provide grove care services.

Governance-Lake Wales bylaws call for a board of at least three directors (11 in 1991) elected by the stockholders at the annual meeting. In addition to grower-members, a director can be an officer or manager of a corporation which owns stock in the cooperative. Voting is unequal, based on the number of shares of capital stock held by the member. Shares can only be issued to persons engaged in citrus production handled by or through the cooperative. Members sign an agreement that is in force indefinitely unless cancelled in writing by the member prior to a specific date. Members need not commit their total acreage and instead may commit specific acreage in the marketing agreement.

Finance-All equity is from retained earnings. There is no base capital plan. Earnings are retained on a per-box basis. The member must acquire capital stock on the basis of per-acre-of-citrus marketed through the cooperative, with a minimum of two shares per acre and a maximum of four. Dividends are paid on capital stock at the discretion of the board of directors.

Operations-Lake Wales provides no grove care services, so it is compelled to treat each member's fruit separately. Members either provide their own grove care or contract for it, sometimes from other grower-members of Lake Wales. Harvesting, however, is controlled by the cooperative. Lake Wales contracts for the loading and hauling, and decides when to harvest.

Lake Wales has two types of member agreements. One is the traditional contract used by most members-all eliminations from the fresh packing operation are delivered to Citrus World for processing. The other allows members to contract with other processors for eliminations, particularly new members with existing processing contracts.

Lake Wales also markets fruit on a participation plan for nonmembers. It is treated the same as member fruit when placed in pools. Nonmember fruit is also sold by account sales where the returns are based on the actual sales of their fruit instead of an average pool price.

Lake Wales has a slightly different pooling arrangement than either Haines City or Waverly. In addition to seasonal pools by variety, Lake Wales establishes pools for a specific time period for a given variety. Also, members elect the pools in which to participate (for fresh only). Members notify the cooperative which pool(s) they want to place fruit in before the pool opens. All fresh pools base returns on a fresh-box basis.

Although member fruit is commingled for marketing and treated the same in determining an average price, Lake Wales runs each member's fruit separately through the packinghouse. In doing so, each member's fruit is treated separately in terms of prorated allocations to different pools. Where some cooperatives allocate members' fruit based on samples at delivery, the Lake Wales members have

their prorata share determined by the amount of fruit designated for a specific grade.

Marketing-Lake Wales operates its own sales department for fresh fruit. A recent exception was when a freeze sharply reduced the volume of Lake Wales members. It was not feasible to operate their packinghouse for the following season. So, Lake Wales contracted with Waverly Growers to pack and market members' fruit. Lake Wales re-opened its packinghouse the next season and resumed marketing.

For processing, Lake Wales is a member of Citrus World. All member processing-grade fruit, unless specified otherwise by the member, is delivered to Citrus World. Returns are based on pounds of solids delivered.

Corona-College Heights

The cooperative roots of Corona-College Heights Orange and Lemon Association (CCH), Riverside, CA, go back to 1897. It was one of the original Sunkist packinghouses, but left Sunkist in 1980 to market fruit through Sun World. It is one of the few cooperative packinghouses in California that is not a Sunkist member. CCH is the largest multi-variety (oranges, grapefruit, lemons, specialties) cooperative packinghouse in the U.S. CCH operates two packinghouses, one built in 1964 and another recently acquired from Arlington Heights Citrus Company, a nearby private packinghouse and one-time Pure Gold member.

Structure—CCH has a centralized structure and about 300 members. Many are small growers (5-acre minimum), which is encouraged but not mandated. As in Florida, a number of them are absentee members, particularly small-acreage holders. While the bulk of their acreage has traditionally been in southern California, increasingly CCH member acreage is further north, up to 250 miles away. Due to urban pressures and rising land costs in southern California, many citrus growers have shifted or expanded production to the Central Valley. The costs of transporting citrus to CCH packinghouses is defrayed by the lower production costs in central California.

Governance-Each member has one vote. The board may include nonmembers and currently includes the chief executive officer of Sun World. Members elect directors at the annual meeting. The board must approve signed grower membership agreements. Membership is for an indefinite period unless cancelled in writing by the member by a specified date. There are no membership fees or stock purchasing requirements. Members commit specific acreage and may split their production among more than one packinghouse.

Finance—CCH requires no membership fees and issues no stock. All member equity in CCH is generated through member participation by capital retains on a per-box basis of fruit through the packinghouse. But no capital retain is deducted for fruit moving directly from grove to processor. A revolving fund is used to return these funds to the member at the board's discretion. CCH moved from an B-year revolving period to a 5-year plan. As common with revolving funds, these are paid on a dollar-in, dollar-out scenario. No interest is paid on retains.

Operations-CCH provides harvesting, hauling, packing, and marketing services; coordinates and harvests all of its members' fruit; owns all the hauling and harvesting equipment; and provides all harvest labor. CCH members arrange for their own grove care, some of which is contracted by numerous smaller members with larger members.

All member fruit is pooled by variety. Fresh fruit is pooled by specific time periods. Processed fruit is treated as a seasonal pool by variety. While the cooperative harvests all the fresh fruit, members may decide when the harvest will occur to determine in which pool to participate. CCH usually divides pools into 60-day periods by variety. Deducted from the returns for all the fruit in the 60-day pool are the allocated packing costs, a per-box marketing charge, and a capital retain. Harvest costs are included in packing costs. CCH will make advance payments at delivery, and usually tries to make the final payout soon after the pool closes. Returns are paid per-box-of-member-fruit delivered.

Marketing-CCH uses Sun World, one of the largest produce marketing firms, to market its fresh citrus. More than half of it is bound for export, principally to the Pacific Rim countries.

Grapefruit is the leading export product. Most of some varieties, such as white grapefruit, is exported. Increases in CCH volume during the 1980s and into the 1990s can be largely attributed to export sales.

Sun World has a director on the CCH board and bases its sales staff at CCH facilities. Sun World also markets the citrus of other packinghouses, including another cooperative, Irvine Valencia Growers, Irvine, CA.

CCH handles its processed sales and markets to many other processors. CCH typically does not enter into a supply contract with a processor, and is considered more of a spot market seller of citrus for processing. Processing sales usually comprise less than 10 percent of CCH revenue.

Sunny Cove Citrus Growers

Sunny Cove Citrus Growers, Orange Cove, CA, was formed in 1974 as an agricultural cooperative by eight citrus growers who purchased an idled packinghouse that at one time was affiliated with Sunkist. The growers had been Sunkist members. Sunny Cove operates a single packinghouse in central California. It is the only cooperative packinghouse in California or Arizona that markets citrus independently.

Structure-Sunny Cove, a centralized cooperative, has about 50 members. Most are local citrus producers. Sunny Cove has few small grove owners or absentee members.

Governance-Bylaws call for an eight-director board. The number may be changed only by an amendment to the bylaws approved by the general membership. A director need not be a member of the cooperative. Voting power of members is unequal-ne vote per box of citrus marketed through the cooperative. The cooperative has neither shares of stock nor membership fees. Membership certificates issued to new members constitute a l-year marketing agreement automatically renewed unless the member cancels by a specified date. Members commit specific acreage and may ship noncontracted acreage to other packinghouses.

Finance-Bylaws allow the board to implement member financing through either capital retains or facility acquisition loans. Capital retains are assessed on a per-carton basis and revolved back at board discretion. At one time, Sunny Cove had a 7-year revolving period, but they no longer retain capital from member payments. All member retains in the revolving fund were refunded as of 1991.

The facility acquisition loan form of financing was used in buying the packinghouse and related facilities. Members were assessed on a per-box basis for their share of the loan repayment, specifically for the interest payments. Loan principal was repaid on a per-carton basis when the fruit was packed. The loan assessment increased Sunny Cove's ability to repay a larger net margin to members. Also, by eliminating a capital retain, Sunny Cove became more attractive to prospective members.

Operations-The cooperative only packs and markets member citrus, although it also coordinates harvest timing. Members provide their own grove care, harvesting, and hauling services.

All member-fruit is pooled-seasonal processed pools by variety and fresh in multiple pools by time and variety. For example, fresh navels have five pools divided across the total estimated volume.

The cooperative determines the size of each pool by a given percentage of the total estimated volume as determined by the board. The cooperative also determines the degree of grower participation in each pool by coordinating the harvest, with each grower in the interest of equity allocated the same percentage to be harvested. If each pool contains 20 percent of the total volume, 20 percent of each grower's total production would be harvested. After the prescribed pool volume is reached, the first pool closes and a second opens. Deducted from total pool returns are packing costs and loan assessments on a per-carton basis. Advances and

final pool payments are paid on a per-carton- delivered basis. Sunny Cove markets nonmember fruit on a participation plan basis.

Marketing-For marketing fresh fruit in both domestic and export markets, the cooperative uses a private sales agent that has an exclusive contract to only market Sunny Cove fruit. The agreement is reviewed and renewed annually. Most sales are in domestic markets.

Sunny Cove has a processing contract with Ventura Coastal Corporation for all packinghouse eliminations. Members do their own harvesting and hauling and can make their own processing arrangements for fruit not committed to Sunny Cove.

Edinburg Citrus Association

This Texas cooperative was formed in 1932 without capital stock. Edinburg is the oldest and largest cooperative packinghouse in Texas and the only one left from several that formed in the 1930s and 1940s. A few cooperatives formed in the late 1960s also have discontinued operations. Rio Bravo Citrus Association is the only other cooperative packinghouse operating in Texas.

Edinburg operated a single packinghouse until it merged with another cooperative, Mission Citrus, and assumed operations of its packinghouse. After the freezes of the 1980s, only Edinburg's packinghouse survived.

Structure-Edinburg is a centralized cooperative. Membership has been in flux after a series of severe freezes. Membership declined from more than 700 member-growers in the early 1970s when many growers exited the industry Total member-acreage, however, did not decline at the same rate because some members expanded acreage. Membership is open to any citrus producer, including lessees and tenants of lands used for fruit production, and any lessor or landlord who receives as rent all or part of fruit raised on the land.

Prior to the freezes of the 1980s, more than 50 percent of Edinburg's citrus groves were owned by absentee owners. The severity of the freezes and a change in the tax treatment of investments in citrus production prompted many absentee owners to exit the citrus business. Accordingly, the percentage of Edinburg's absentee members, particularly those not living in the area, declined significantly.

Governance-Bylaws require a 9-director board. Members serve staggered terms. All directors must be members of the cooperative. All voting, including selection of directors, is conducted on a one-member, one-vote basis.

Expiration date of the marketing agreement is indefinite unless cancelled by the member in writing before July 31 for the coming crop year. An annual $10 membership fee is charged. While members in the marketing agreement describe the specific type and location of their citrus groves, Edinburg members must contract for the delivery from all citrus acreage they own or control. Unlike many of the citrus cooperatives in Florida or California, Edinburg members cannot split acreage among different packinghouses.

Financing-A revolving fund is used to generate needed capital by retaining funds from member payments based on each ton or other unit of fruit received. Members are credited on the association books for amounts retained from them. The amount of the retain is specified by the board either prior to, during, or after the season closes. Retains may differ for each variety, but all fruit of the same variety during a given season is subject to the same retain. Retains are considered temporary. The board determines the amount and timing of revolvement. Bylaws require that the oldest unpaid retained equities be revolved first.

Operations-Edinburg provides harvesting, hauling, packing, and marketing services for members. The cooperative also coordinates the timing of harvest and contracts for harvest labor. Each member is charged the actual cost of harvesting and hauling fruit and arranges its own grove care.

Pools are seasonal by variety for both fresh and processed, with different pools by size and grade. Members' accounts are credited with the season's average price for each grade times their contributions to the pool. In coordinating the tim-

ing of the harvest and fruit packing, the cooperative effectively determines in which pools the members will participate. With the exception of harvesting and hauling costs, all packing and marketing costs are deducted on a per-ton basis. Members share packing and selling costs uniformly on a per-ton basis for all fruit of same variety and grade. The only other deduction is for revolving fund retains.

Each member's fruit is run separately through the packinghouse. Each load is counted by variety, grade, and size and pooled accordingly. Members are credited with the actual amount of fruit packed. The counter converts packed cartons to tons, which determines member payments. If requested, growers may get an advance once their fruit is harvested. The final payment is made after all pool contents are sold and costs are allocated.

Edinburg closely coordinates harvesting with marketing. After the fruit is sold by the sales staff, the packinghouse staff is notified. The packinghouse radios the field crew. Groves that best match the sales order are identified, with one caveat. Harvesting is prorated among members to the fullest extent possible to equitably spread the effects of a freeze. Edinburg takes advantage of the ability of citrus to "store" well on the tree to closely coordinate harvest with marketing.

In the event of a freeze, Edinburg's pooling plan can be changed to address special problems. Provisions can be made to compensate unharvested growers after a freeze based on pre-freeze estimates. Edinburg normally would pack little nonmember citrus, but the severe freezes and reduced volumes of the 1980s forced it to harvest and pack fruit for another cooperative, South Texas Citrus Association.

Marketing-For both fresh and processed sales, Edinburg is a member of the Texas Citrus Exchange (TCX), a federated fresh sales and processing cooperative. Edinburg packs fruit for both domestic and export sales under its own and TCX labels. The TCX staff is responsible for making sales and coordinating shipments with the member packinghouses. Most processing deliveries are from packinghouse eliminations.

Fresh grapefruit is the primary product, so **sales** efforts are aimed at moving as much of it as possible through that market. No oranges are grown specifically for juice and only a limited amount of grapefruit is grown for processing. Edinburg receives its share of returns from TCX for both fresh and processed sales based on tons of product delivered. A capital retain is deducted from Edinburg's returns. The same per-ton amount is deducted for fresh or processed fruit.

Fresh and Processing

Most centralized cooperatives market fresh citrus and only a few are in both fresh and processing. Two of those are Golden Gem Growers and Ocean Spray Cranberries.

Golden Gem Growers

Golden Gem Growers, Umatilla, FL, was formed in 1947 as a cooperative fresh packinghouse originally named Grand Island Fruit Company. Within its first year, membership grew from 3 to more than 100 growers. This organization evolved into the Grand Island Citrus Cooperative and in 1958 was renamed Golden Gem. That same year, Golden Gem constructed its own processing facility. Today, Golden Gem is Florida's largest vertically integrated, grower-owned citrus cooperative. It operates two packinghouses.

Structure-Golden Gem is a centralized organization. Its 550-plus members grow citrus on more than 45,000 acres in 29 counties. It has more members than any cooperative in Florida. After declining from more than 700 members to less than 400 after the 1980 freezes, Golden Gem's membership rebounded in the 1990s.

Although the average comes out to more than 80 acres per member, the majority of members have less than 80 acres. Holdings vary from 10 to 1,000 acres. Freezes, combined with tax law changes, caused many absentee owners to exit citrus production. The number of absentee **owners declined to less than** 20 percent. Adding new members shifted the cooperative's membership base further south.

Governance-Bylaws permit a board of 9 to 15 directors. Voting on directors and other cooperative

matters is on a one-member, one-vote basis. New members must buy one $50 share of common stock.

The cooperative has two types of marketing agreements, a grower-member and a delivery-member contract. The grower-member agreement authorizes the cooperative to harvest and haul all fruit from groves specified in the marketing agreement. The fruit must be marketed by Golden Gem in either fresh or processed form. The indefinite agreement may be cancelled in writing by the member.

The delivery agreement is only for processed fruit. The member harvests and hauls the fruit while the cooperative accepts fruit delivered for processing. The member specifies the number of boxes to be delivered, with a 10 percent or less tolerance below the specified amount. The delivery agreement is for either 1 or 2 years, depending on the selected payment option. If the pool option paying 80 percent of total estimated return as an advance at delivery is selected, the agreement must be for two seasons. To receive the same advance in the second year, the member must renew for a second two-season period (current and next season). If not, the contract reverts to the other pooling option with a normal payment schedule.

Financing-Golden Gem operates a revolving fund to generate equity from members. The rate of retains from member payments is made on a per-box basis as established by the board. In practice, the amount of the retain is the same every year. It is allocated to member accounts as capital equity credits. Although authorized to levy a special assessment for capital improvements, the board has never done so. Revolving fund periods may vary greatly. During the severe freezes of the 1980s, Golden Gem had to delay revolvements for a number of years. Well aware of the vagaries of citrus production, members fully understand why cooperatives need to suspend the revolvement of retains, although members still expect to receive a retain at some future time.

Operations-Golden Gem is a unique centralized cooperative because it owns and operates both processing and packinghouse facilities. All members receive the same processing, packing, and marketing services from Golden Gem. Grove care, harvesting, and hauling are at the option of the grower. Golden Gem has flexible service and marketing provisions for members.

In one membership agreement, the grower authorizes the cooperative to harvest and haul its fruit. In the other, the member provides for harvesting and hauling. Prior to the freezes of the 1980s, Golden Gem harvested most of its member fruit with Golden Gem employees. As membership spread around the State, it became impractical for Golden Gem to have that many harvest employees in so many different locations. Labor is now contracted to handle the expanding service areas.

All fruit is handled on a pooled basis, with a seasonal pool by variety for processing and weekly pools by variety, grade, and sizes for fresh citrus. Returns to the weekly fresh pools are paid by grade on the total boxes packed during the pool period. Returns to processing pools are based on pounds of solids delivered for the entire season.

For processed pools, members have two options they can elect in the marketing agreement-an accelerated payment or a premium return plan. In the accelerated pool, members receive both pre- and post-harvest advances based on member crop estimates. At closing, the pool receives the standard return for processed products. The premium return option pays 4 percent more than the standard pool return. Payments are made in normal pool cycles. In forgoing the accelerated payment option, the member substitutes a higher pool return for a more immediate cash payment. Both pools close simultaneously, and operate in the same manner in terms of variety, grade, and cost allocation.

The accelerated payment option meets the cash-flow requirements of growers who incurred heavy expenses in grove rehabilitation or purchased young groves with light crops and heavy front-end cash-flow requirements. In choosing the premium plan, Golden Gem members receive more than the standard pool payment as an incentive to forgo the accelerated plan. Since 1987, there has been about a 50/50 split in grower selection between the two options, reflecting the different needs of members.

Golden Gem handles mostly oranges. Specialties, grapefruit, and lemons comprise the balance. In the event of a severe freeze, risk is shared by Golden Gem members by pooling harvested and unharvested fruit. Growers with unharvested groves are compensated based on pre-freeze production estimates.

With membership spread out across the State, Golden Gem is considering geographically based pools, uncommon to the citrus industry. However, no centralized citrus cooperative is as large and widely scattered as Golden Gem, so their circumstances may warrant more area-specific pools.

Freezes reduced member volume in the 1980s, so Golden Gem had to buy nonmember fruit from the cash market, account sales, and participation plans. Although member and nonmember fruit is pooled the same, nonmembers are charged an additional handling fee. By 1992, due to the combination of adding new members and the rehabilitating of existing member groves, most of Golden Gem's volume came from members.

Marketing-Golden Gem is active in all market channels for both fresh and processed citrus products. For fresh markets, an in-house sales staff markets product under Golden Gem labels to domestic and the increasingly important export markets. Grapefruit exports, particularly, have been a growing part of the fresh fruit business. Another expanding area is the school fundraising program for fresh fruit sales. Brokers may be used for some specific products like gift fruit. At one time, Golden Gem was a member of Seald-Sweet-the federated sales exchange-for fresh fruit sales.

Golden Gem's labels such as Golden Gem and Sunbright are primarily used for frozen concentrated juice products. At one time, they were among the leading labels for retail frozen concentrated products. Golden Gem has not yet entered the chilled "premium" citrus market.

The cooperative also is a leading processor and packager of lemonade. In addition to house labels, its sales staff markets processing and packaging services to private label buyers, which include some of the Nation's leading retailers. Golden Gem is also a major marketer of bulk citrus products. Its bulk tank farm used to store bulk concentrate is the second largest in Florida. Golden Gem also packs noncitrus juices for private label buyers.

Ocean Spray Cranberries

Ocean Spray at Vero Beach, FL, is a unique and relatively recent cooperative venturing into the citrus industry. Unlike most citrus cooperatives, Ocean Spray began as a processing operation and later entered fresh marketing. Originally, it only marketed fresh cranberries and limited amounts of processed product. Ocean Spray grew to a Fortune 500 company largely because of its entrance into the bottled fruit juice business.

With that growth came diversification in juice products. Grapefruit juice became a leading product line. To obtain the needed large volumes, Ocean Spray in 1976 entered the grapefruit processing business and added Florida grapefruit growers as direct members. In 1986, they began operating a packinghouse bearing the Ocean Spray name.

Ocean Spray, a centralized cooperative, has separate divisions for grapefruit and cranberry producers. Because of the marked differences in the production units and distance between production areas, the Ocean Spray centralized structure is like a federated structure.

Federated Fresh Marketing

Seald-Sweet Growers is the only federated cooperative marketing only fresh citrus. Central California Orange Growers Cooperative was formed as a federation specifically to coordinate fresh sales. It doesn't actively market fresh fruit. Each packinghouse organization markets its fruit independently.

Sea/d-Sweet

Founded in 1909, Seald-Sweet was patterned after California's Sunkist. Florida orange growers visited the California operation and Sunkist ultimately helped Seald-Sweet organize. To this day, even though they often compete in fresh citrus, the cooperatives have maintained good relations.

Seald-Sweet is a federated sales agency. Five of its 15 packinghouse members are fresh packing

cooperatives (table 12). The others are private grower-owned packinghouses, typically a single large-grove owner or a partnership. The board has 14 directors, one from each full-member packinghouse. Seald-Sweet usually accepts new packinghouses under a trial period as "associate" members so each party can test the relationship. Associate members have all the privileges of regular members except voting. It takes a majority vote of the Seald-Sweet board for associates to become full members. The decision is based on their performance in meeting Seald-Sweet standards and the overall fit with the system.

Seald-Sweet has a yearly contract with its members that is automatically renewed unless either party chooses to terminate it. The automatic rollover of annual contracts is fairly standard for citrus cooperatives.

Seald-Sweet differs slightly from Sunkist in that sales decisions are not as decentralized. Seald-Sweet combines the functions performed by Sunkist Central (soliciting the trade, setting scale prices, and market intelligence) and the district exchanges (sales, shipping). Activities are limited to marketing and selling member products.

Marketing includes placement of orders with member packinghouses, booking transportation from packinghouses to buyers, advertising and merchandising products, handling claims, establishing credit terms with customers, and providing miscellaneous support services, including data processing, field inspection, and packinghouse inspection.

Table 12— **Seald-Sweet membership.**

Member	Type
Hunt Brothers Cooperative	Cooperative Packinghouse
Mt. Dora Growers Assn.	"
Mims Citrus Growers Assn.	"
Oslo Citrus Growers Assn.	"
Winter Garden Citrus Growers Assn.	"
Winter Haven Citrus Growers Assn.	"
ABC Farms, Inc.	Grower-Owned Packinghouse
Ben Hill Griffin, Inc.	"
Gracewood Fruit Company	"
Indian Harbor Citrus, Inc.	"
Indian River Exchange Packers, Inc.	"
The Packers of Indian River	"
Peace River Packing Company	"
Sebring Packing Company, Inc.	"
Hubert Graves Packing Company*	"

'Associate member,

Buyers of Seald-Sweet citrus may specify fruit from a particular member-packinghouse. Like Sunkist, Seald-Sweet allows traditional relationships between packinghouses and buyers to continue with new members. Regardless of preference, Seald-Sweet's main function is to match buyers with the fruit that best meets their needs.

Seald-Sweet allows members to maintain their own labels in recognition of the "pride" the local associations have developed for many years. Although a single label may be preferred by Seald-Sweet, the marketing system is flexible enough to accommodate different packinghouse brands and the reputations they carry in the market.

Costs to members are assessed on a per-box-sold basis through Seald-Sweet, a typical practice in the citrus industry. In fact, the per-box costs are one standard a grower can use in analyzing marketing options, particularly because the packinghouse also accounts for costs on a per-box basis.

Pool returns are allocated on a per-box basis, with the various pools separated by variety (navel, red grapefruit, etc.) and time (early, mid, or late). Each pool receives returns from the total sales of fruit minus the costs assigned to that pool. This is then divided over the number of boxes delivered to the pool. Returns are then allocated to packinghouse members on a prorata basis and distributed to grower-members in the same manner.

Seald-Sweet solely markets fresh citrus. Member packinghouses market processed products at their discretion. Most Florida citrus is used for processed products-almost 90 percent for oranges and 60 percent for grapefruit. Some Seald-Sweet members also are members of Citrus World, the largest processing cooperative in the U.S.

Central California Orange Growers Cooperative

Three packinghouses formed the Central California Orange Growers Cooperative (CCOGC) at Lindsay, CA, in 1983. Members were once part of the Pure Gold federated marketing cooperative.

Unlike Pure Gold, each CCOGC packinghouse conducts its own marketing and sales programs.

The articles of incorporation are similar to other citrus cooperatives. CCOGC, in practice, however, has a fairly specific purpose-promoting more orderly marketing of citrus by its members and providing a more stable price system.

The cooperative marketing agreement between CCOGC and its members is fairly specific. The preamble acknowledges the goal of a more orderly market. Wording is laced with references to specific market conditions to be addressed: "speculation and waste; stabilizing the marketing of agricultural products; preventing the demoralizing of markets resulting from dumping and predatory practices; mitigating the recognized evils of a marketing system under which prices are set for the entire industry by the weakest producer; and obtain prices which are fair but not inflated beyond reasonable value...by reason of artificially created scarcity."

To create more orderly marketing conditions for members, CCOGC maintains a system of price scales for fresh fruit sales. Setting a price scale is the cooperative's only function.

Each packinghouse in the CCOGC is privately owned. To be a cooperative, membership is comprised of the growers marketing through the packinghouses in the CCOGC system. Although growers sign a marketing agreement directly with the cooperative as in a centralized structure, individual packinghouses operate like a federated sales agency. Costs and returns associated with the harvesting and packing are handled between the packinghouse and the growers. Even though they are privately owned, each packinghouse operates its own fruit pools. Moreover, each packinghouse is responsible for selling its fruit. All money flows directly to the packinghouse.

The relationship of the individual packinghouse to the cooperative is consummated by an "agency agreement." The grower designates the packinghouse as agent and representative on the marketing committee of the cooperative. Accordingly, the board of directors consists of agency representatives designated by the grower-member. Each packinghouse has one director.

The marketing committee is the mechanism under which individual packinghouses meet to assess supply and demand conditions and determine available supplies. The committee establishes a price scale that will maximize the flow of member fruit at the best possible prices. The price scale sets ceiling and floor prices between which the individual packinghouse can sell its fruit.

The marketing agreement requires members to adhere to the price scales. Penalties are determined by the board. Scales are set on a weekly or daily basis for each grade. Scales are adjusted based on supply and demand information provided by the packinghouses to CCOGC management. Prices are adjusted after discussions between the packinghouses as coordinated by the CCOGC manager.

Collecting information from packinghouses on supplies and relating that to demand factors are also major functions of the Sunkist system. Sunkist also sets a price scale within which members can market their fruit. Although much smaller than Sunkist, because CCOGC production is specific to a small geographic area, CCOGC can with some success coordinate the price scales with member fruit relative to the overall volume. Its smaller size also permits CCOGC to move faster in pricing and moving fruit to take advantage of short-run market conditions.

No money from fruit sales flows through CCOGC. Operating funds come from per-carton assessments. Retains are less than a penny per carton. Because CCOGC does no packing or marketing, facility and staff resources are limited to not much more than a manager, office, and phone. Excess retains are returned to grower-members on their prorata share of fruit through the packinghouses in the CCOGC system.

Federated Processing

The leading example of a federated citrus processing cooperative is Citrus World.

Citrus World

This cooperative was formed in 1943 by fresh packing cooperatives as an outlet for fruit culled from packing lines. Citrus World is a leading processor with major brands such as "Donald

Duck" and "Bluebird." The cooperative has 12 members—eight cooperative packinghouses and four grower-owned private firms (table 13).

Citrus World receives fruit from members via culls or eliminations from the packinghouse, and direct from grove to the plant. In both cases, title to the fruit is passed from the grower to the cooperative packinghouse. It, in turn, sends the fruit to Citrus World. Often, cooperatives operate "full service" packinghouses by providing all the grove care, harvesting, and shipping for grower-members. In the membership agreement, growers give the cooperative the right to market the member fruit. This includes determining the quantity of fruit to be delivered. However, the decision on what citrus varieties to plant and hence what pools in which to participate, is at the grower-member's discretion.

Citrus World operates pools by variety for the entire season's production of that variety. Pool contents are valued by pounds of solids per field box delivered. This, in turn, is factored by a formula estimating the gallons of product a field box will produce. The following is an example of estimated pool returns, with working assumptions of a **1.11** gallons/box yield for oranges:

Valencia	Murcotts
Premium Pool	
$1.77/lb. slds	$1.68/lb. slds
$9.90/fld box	$6.93/fld box
Upper Pool	
$1.58/lb. slds	$1.49/lb. slds
$6.43/fld box	$5.65/fld box
Lower Pool	
$1.39/lb. slds	$1.23/lb. slds
$5.39/fld box	$5.11/fld box

Citrus World sales staff "guestimates" the forward pricing and rate of sales for these returns. Members' pool proceeds are estimated at the end of the fiscal year and based on sales through the end of the year plus the value of inventories. When the inventory is liquidated and proceeds known, the estimated amount due members is adjusted. Members receive a percentage of the net pool proceeds based on their prorata share of the pool's volume.

Per-unit retains are deducted from pool retains to finance Citrus World operations. Retains are revolved back to members in the form of Class B common stock redemptions. Equity requirements, as determined by the board of directors, are retained from the amounts due to members and credited to their equity accounts.

Net returns received by the packinghouses from Citrus World are returned to their grower-members in two ways. For fruit culled from the fresh packinghouse, the total receipts of the fresh variety are combined with those from the processing plant for the same variety. These combined total receipts are divided by the total boxes harvested of that variety.

Each grower of that variety will receive the same price, less the packing costs on a per-box basis (and often picking and hauling costs). For fruit delivered to the processed pool, total receipts from the processing plant for a variety are divided by the total boxes harvested of that variety. Each member receives the same price, minus the individual grower's picking and hauling expenses.

This method for calculating pool returns rep-

Table 13— **Citrus World membership, 1993.**

Member	Type
Dundee Citrus Growers	Cooperative Packinghouse
Haines City Citrus Growers	"
Hunt Brothers Cooperative	"
Lake Placid Citrus Cooperative	"
Lake Wales Citrus Growers	"
Umatilla Citrus Growers	"
Waverly Growers Cooperative	"
Winter Haven Citrus Growers	"
Citrus Marketing Services, Inc.	Grower Cooperative
Consolidated-Tomoka Land Co.	Agricultural Producer
Ben Hill Griffin, Inc.	Grower-owned packinghouse
Peace River Packing Company	"

resents the operating practices of Citrus World's cooperative packinghouse members. Returns to the private grower-owned packinghouses would be the same as for a grower in a centralized cooperative. The basis of Citrus World's organizational structure is the fresh packinghouse, be it cooperatively owned by many small citrus growers or privately owned by a few large growers. The cooperative packinghouse is the grower's representative in Citrus World's system. Small growers achieve a balance of power with the much larger growers operating their own packinghouse.

Federated Fresh and Processing

The only federated cooperative in the traditional sense-only cooperatives as members—involved in both fresh and processing is Texas Citrus Exchange (TCX).

Texas Citrus Exchange

Four cooperative packinghouses formed this cooperative in 1968 to be their centralized selling exchange for both fresh and processed products. Three of the cooperative packinghouses were formed just prior to TCX through assistance from Edinburg Citrus Association. Edinburg's intent was to develop a central marketing agency for all of them.

TCX had to contract for processing with a private firm until it constructed a facility in 1971. TCX is the counterpart of the federated selling exchanges operating in Florida and California, but unlike the exchanges in those states, all cooperative packinghouses in Texas were TCX members.

Until the disastrous freeze of 1983, TCX at its peak marketed more than 40 percent of Texas citrus production. After the freeze, TCX lost members when some cooperatives exited the industry. Rio Tex Citrus Association closed its facility and Lake Delta Citrus Association sold its packinghouse in 1986 to a private firm.

Another damaging freeze in the late 1980s further reduced TCX's volume. Currently, it has only two members, Edinburg and Rio Bravo. TCX was forced into considerable nonmember business, including shipments from Mexico, until local production rebounded. However, the amount of replanted acreage in Texas has exceeded expectations, and TCX expects its member volume to steadily replace nonmember supplies.

Freezes have significantly altered TCX's structure and its future structure is largely uncertain. So TCX operations reviewed are from its prime years.

Structure-At one point, TCX had five member-packinghouses, all grower-owned cooperatives. Today, TCX has only two.

Governance-The board of directors is based on the relative volume of its members. Each cooperative member has at least one director. Members gain additional directors based on the incremental increases in their proportional share of TCX's volume. All members must market their citrus through TCX.

Financing-TCX members contribute working capital based on a set amount per ton of fruit delivered. The amount is the same for both fresh and processing deliveries. Funds are revolved back to members, although recent freezes of the 1980s greatly hampered the cooperative's ability to do so. TCX bylaws allow exiting members to retrieve their share of net worth as approved by the board, either the actual amount contributed or a lesser amount as negotiated with the remaining members.

Operations-TCX provides all the marketing services for members' fresh and processed citrus products, but offers no grove care, harvest, or hauling services.

Member fruit is handled on a pooled basis—seasonal pools for both fresh and processed products. Returns to fresh pools are on a per-box-packed basis, and processed on a pounds-of-solids-delivered basis.

TCX also markets nonmember fruit under cash buying and participation plans. Recent freezes forced TCX into significant nonmember business.

Marketing-TCX has an in-house sales staff for both fresh and processed sales. Fresh grapefruit is the king of Texas citrus because it has a recognized quality that will bring a per-box premium in the market.

TCX markets fresh grapefruit and fresh oranges under its Texas Star and Big Tex brands. TCX also markets in packages bearing the member packinghouse brand and the TCX name. A specific sales person is responsible for all the fruit from a specific member. Orders are prorated out to members as fruit is sold. The fruit is shipped directly from the member packinghouse to buyers. Fueled by the rise in fresh grapefruit exports, TCX export sales have steadily increased their percentage of overall sales.

For processing, TCX directly handles and ships product from its facility. In addition to retail packs of single-strength canned or frozen concentrated citrus products under their Big Tex label, TCX also packs for private label customers. Frozen concentrates are also sold in a variety of bulk containers. As a way to more fully use its processing facilities, TCX also packs citrus for other processors such as Citrus World and packs noncitrus juices for firms such as Tree Top Growers, Inc., an apple marketing cooperative at Selah, WA.

Sunkist Growers, Inc.

Structural Overview-Sunkist has a federated structure, but also has elements of a centralized structure. Therefore, it is classed as a "mixed" cooperative organization. Instead of marketing through a local association, growers can use a licensed private packer and become direct members in Sunkist via a district exchange. While fresh citrus marketing is in a decentralized federated structure, Sunkist operates a single pool for processed products as if in a centralized structure.

The federation of growers and grower-controlled cooperatives within Sunkist dates from its formal incorporation in 1893. In its earliest form, the federation had a contractual relationship between the grower and the respective packinghouse association, its district exchange, and Sunkist Growers, Inc. ("Central"). Each level in the federated structure was tied to the next by contract and by representation on the board of directors of the next succeeding level.

Citrus growers may join Sunkist in two ways. One is to apply simultaneously for membership in a local cooperative and in Sunkist Growers. Local cooperatives provide harvesting and packing services for members. All the costs of these services and local packinghouse operation are shared by the local members. These packinghouses, in turn, are members of a district exchange. As Sunkist bylaws describe them, "Each local association (packinghouse) shall market all of the fresh fruit subject to its control through the district exchange with which it is affiliated." In turn, the district exchange must market all fruit subject to its control through Sunkist.

District exchanges do not physically handle the product shipped directly from packinghouses to wholesale customers. The district exchange is delegated by the packinghouse(s) to set the final price and coordinate shipments, destination, and transportation. The exchange relies considerably on market information obtained from Sunkist Central. The exchange is forbidden by its agreement with Sunkist Central to solicit any customers.

Some Sunkist members choose to use commercial packinghouses (licensed or agency houses) to provide the same services otherwise provided by local cooperatives. These growers are simultaneously direct members of a district exchange and Sunkist Central. The licensed houses agree to pack exclusively for Sunkist under a l-year agreement. They are obligated to return to growers the net proceeds from marketing their fruit after deducting the packing costs and reasonable charges. The accounting procedures must be compatible with the cooperative's system.

Commercial packinghouses have no voting, membership rights, or privileges in the Sunkist system. At one time, these licensed houses were treated the same as local packinghouses, as members of Sunkist.

A U.S. Supreme Court review of the corporate structure found that Sunkist did not comply with Section 1 of the Capper-Volstead Act. In response, Sunkist reorganized so each grower became a direct member of Sunkist, and also of either a local association or district exchange. Growers could still use commercial packinghouses, but under the licensing agreement they had to return the net marketing proceeds to growers.

A subsequent court judgement upheld the use

of licensed packers because the Capper-Volstead Act specifically allows growers and their associations to make the necessary contracts and effect the purposes of the association.

Governance-All voting power in Sunkist lies with the grower. Growers have the sole voting power in and control of their local associations, including the power to elect the board of directors. The local associations and direct-grower members elect the boards of their respective district exchanges. The district exchanges elect members to the Sunkist board.

In the election of directors, each district exchange is entitled to as many votes as the number of directors it is entitled to nominate, multiplied by the number of directors to be elected. Each exchange is entitled to nominate one director. Additional directors may be nominated based on the volume of all fruit marketed through Sunkist.

Each exchange may nominate one additional director for each whole 4-percent increment of volume the exchange has in excess of the 2 percent minimum for the first director. Any exchange having less than 2 percent of Sunkist's total volume shall, for the purposes of nominating directors, combine its volume with other district exchanges to allow the combined exchanges to at least nominate one director in accordance with the formula contained in the bylaws.

The voting rights of Sunkist growers are unequal-not "one-man, one-vote." Other than in electing directors, Sunkist growers' voting rights are exercised through their local association or district exchange on the basis of one vote for each 1,000 cartons of citrus marketed through Sunkist. Both the local association and district exchange are organized as individual nonprofit cooperative associations.

Sunkist has an open-membership policy. Any qualified grower may join. Grower agreements are indefinite, but may be terminated at the end of each year. Combined with the lack of any initial capital outlay, Sunkist's membership is fairly mobile. There is considerable movement of citrus growers in and out of the Sunkist system. Moreover, members may commit any portion of their production, allowing some (few do) to market through different houses to compare performance.

Operations-Packinghouses prepare the growers' fruit for either the fresh or product markets. Management normally decides when fruit will be harvested and arranges for hauling. Sunkist operates fresh fruit pools separated by variety (navels, etc.) and sometimes by time (early season, etc.). Each local association and the district exchange director representing direct growers (using licensed packers) determines if fruit will be provided to a specific pool. The decision on pool participation is an extension of the final decisions on sales and price at the district exchange level.

Sunkist Central assumes responsibility for selling fresh citrus, maintaining contracts with domestic and foreign buyers, receiving and distributing to exchanges the receipts from fruit sales, establishing grades, organizing advertising and promotional programs, and regulating the use of trademarks and patents. The costs associated with these activities are assigned to the fresh pools and calculated on a per-box basis.

Marketing Agreements-For fresh marketing, the agreements and pooling policies are issued between the district exchanges and their packinghouse members, and between the packinghouse and its grower-members. A grower using a licensed packinghouse may have a marketing contract covering the method of payment with the licensed packinghouse. However, the Sunkist marketing agreement is between the district exchange and the grower-member, not the licensed packinghouse.

Financing-For new Sunkist members, there are no initial capital requirements. Instead, members pay into a capital account based on the volume of citrus they marketed through Sunkist during a representative period of years. The board determines the capital financing requirements annually. Members' share of this requirement is calculated and then compared to their current capital contributions. Each member is either assessed for an additional amount or receives a payout of the difference.

An important element of the financing responsibilities within Sunkist's structure lies in the decentralized nature of its organization. All the costs of harvesting, grading, and packing fruit for the fresh market are borne by the local cooperative or licensed packinghouses.

From fresh fruit returns, expenses are deducted in two assessments: per-carton for marketing and per-carton for advertising. The only other deduction is a capital retain. For processed products, as a single pool, all members share equally (patronage based) in the costs of operating the processing pool. All proceeds from the sales of processed products, less necessary operating and marketing expenses, are returned to members based on volume of fruit shipped to processing facilities. Sunkist Central governs the collection and assembling of products fruit and may prorate shipments if supply exceeds capacity of available facilities. Freight charges are handled equitably. No member may be at a disadvantage because of location relative to Sunkist's processing facilities.

Marketing-Sunkist is the most widely recognized brand of fresh citrus and one of few found in fresh produce. Sunkist labels are found on fresh oranges, grapefruit, lemons, and tangerines. Sunkist's system of field offices coordinates the sales and distribution of fresh citrus around the U.S. and Canada. Exports are an important part of Sunkist's fresh sales---one of every four cartons is sold overseas. Subsidiaries in the Far East and Europe help facilitate export marketing programs.

Sunkist Central acts as the clearinghouse for sales and supply information and coordinates sales information from the field office with information on supplies from the district exchanges. Sunkist Central advises the district exchanges on the buyer, destination, and price for a given quantity and grade. The district exchanges, in turn, determine the sales in which they will participate. However, not all sales are made in a formal iterative bidding process (offer/counteroffer) between district exchanges. Often, sales are facilitated by Sunkist Central working closely with the district exchanges to see that each will market its members' volume at the best possible prices. Moreover, Sunkist Central respects the buyer's request for product from a specific packinghouse or exchange.

For processed sales, Sunkist Central controls all the marketing and decisionmaking as to price and product destination. Returns are treated like most processing pools-all expenses are first deducted from total processed sales and then returned to members based on pounds of solids delivered.

Sunkist markets processed citrus in all product forms-single strength canned, chilled single strength, and frozen concentrates.

The majority of Sunkist's processed products sales has been in bulk or private labeling. In 1990, however, Sunkist began marketing frozen concentrates and chilled juices under the Sunkist label in limited distribution.

Before 1990, the Sunkist name was leased to the Thomas J. Lipton Company. Sunkist received royalties from Lipton for the sales of a variety of products, including sodas, candies, and fruit rolls.

Sunkist has licensed its brand name in more than 40 countries. In 1990, under a mutual agreement, Lipton returned the license for the Sunkist name so the cooperative could use it for retail packs of processed citrus products. Licensing not only helped increase the awareness of the Sunkist name worldwide, but the royalty income generated also decreased the investment that members had to make in the capital fund.

Sunkist System-The system of district exchanges makes Sunkist unique in the citrus industry. Although conditions prompting its formation have largely disappeared, they still exist today for two reasons: 1) Historically, there has been a certain amount of "inertia" in maintaining a successful marketing system. In a sense, the exchanges competed with one another. This would impede efforts to merge or eliminate some or all of them. The communication link between Sunkist Central and the packinghouse continues to be a benefit even today. It precisely coordinates shipments by their proximity to the groves; 2) The sheer size to which Sunkist has grown, in both volume and location of member groves, necessitated some delegation of sales and shipping coordination to more

decentralized locations. The district exchanges were already in a position to fulfill such a function and allowed packers to maintain their influence within Sunkist relative to the growers.

Summary of Cooperative Operations

A representative cross-section of organizational structures and activities was represented in the overview of citrus cooperatives. Of those not reviewed, most were fresh packinghouses with operations similar to, or the same as, one or more of the cooperatives presented. All federated cooperatives in both fresh and processing were studied.

In some areas, regardless of organizational structure, there were many commonly used tools and methods of operations. However, many cooperatives provided different types of services and functions, and also differed in the way they performed a given function. These similarities and differences are summarized in the following:

1) All cooperative members signed a marketing or membership agreement. Although of varying duration, all agreements allowed members to cancel after each season.

2) Although most citrus cooperatives are governed by "one-member, one vote" principle, some have proportional voting, such as Sunkist, Lake Wales, TCX, and Sunny Cove.

3) All citrus cooperatives generated equity from members through either a revolving fund or base capital plan-common financing methods for all agricultural cooperatives. All capital retains were based on member patronage, usually on a per-box basis.

While the methods of member financing are either a revolving fund or base capital, the relative amounts and implementation of each vary by cooperative. The amount of retained earnings usually reflects the financial health of the cooperative. For Florida and Texas cooperatives buffeted by freezes in the 1980s, capital retains were regularly deducted but revolving periods were delayed for many years. Conversely, some California cooperatives, such as Corona-College Heights, shortened their revolvement periods. Others, such as Sunny Cove, no longer needed to deduct capital retains.

4) Some cooperatives charge new members a minimal fee. Cooperatives such as Haines City, Waverly, and Golden Gem require the purchase of one share of common (voting) stock, a practice common among agricultural cooperatives. Edinburg charges a $10 annual membership fee. As a minimal amount of money, both per- member and in total, membership fees are more a traditional practice and not a practical source of member equity. Some, like Sunny Cove or Corona College Heights, require no new-member fee. 5) All cooperatives used some form of pooling to calculate and allocate returns to members. All cooperatives used a seasonal pool for processed products. There were regional differences for fresh sales. Most Florida cooperatives used seasonal pools for fresh sales, but in California, cooperatives used pools accounting for time, such as monthly or weekly. Cooperative members in California had more choice in deciding when to harvest than those in Florida, translating into a greater freedom in selecting pools in which to participate.

6) Returns to fresh sales are usually calculated on a per-box-packed basis. However, there are exceptions. Waverly Growers uses pounds of solids for juice oranges sold fresh. For processed product returns, pounds of solids is the standard measurement of juice yielded from a given box of fruit.

7) Most cooperatives allow members to deliver less than 100 percent of their citrus production. They also may commit acreage to multiple packinghouses. The one exception was Edinburg Citrus.

8) Most cooperatives, particularly the packinghouse—Haines City, Waverly, Corona-College Heights, and many of Sunkist's packinghouse members-provide grove care services for members. In most cases, grove care was one of a number of service options for the member. In cooperative packinghouses such as Edinburg, Lake Wales, and Sunny Cove, all grove care services are provided by members.

9) All citrus cooperatives, except Central California Orange Growers, provide all marketing and selling services for their members via one or more of three marketing mechanisms-in-house sales staff, private broker or sales agent, or as a member of a federated sales exchange.

All federations are large enough to employ an in-house sales staff, although some of the centralized cooperatives--Golden Gem, Haines, and Lake Wales-also have a sales staff. Some cooperatives contract with private sales agents, such as Corona-College Heights (Sun World), Waverly (DNE Sales), and Sunny Cove. Most cooperative packinghouses are members of a federated cooperative for either fresh or processed sales-29 cooperatives with Sunkist, 12 with either Seald-Sweet and/or Citrus World, and the 2 cooperative packinghouses in Texas with TCX.

10) Federated citrus cooperatives consist of both cooperative packinghouses and grower-owned private packinghouses such as Seald-Sweet or Citrus World.

11) Sunkist Growers, Inc., is distinct because of its size, market share, and decentralized structure of district exchanges. Its basic structural unit, the packinghouse, operates the same as other cooperative packinghouses in terms of operations and governance.

REFERENCES

California/Arizona Citrus Packinghouse Directory, California

Citrus Mutual, Visalia, CA, 1993.

Citrograph, various issues, Western Agricultural Publishing Co., Fresno, CA.

Citrus Fruit Industry Statistical Bulletin, various issues, Information Resources Department, Sunkist Growers, Inc., Sherman Oaks, CA.

Citrus Industry, various issues, Associated Publications Corp, Bartow, FL.

Cobia, David W., Cooperatives in Agriculture, Englewood Cliffs, NJ, Prentice Hall, 1989.

Connely, Chan. C., Daniel Fernandez, Robert E. Rouse, and Clyde R. Bogle, Texas Citrus Industry Economic Assessment, Research Center Technical Report No. 89-2, Texas A&M University Research and Extension Center, Weslaco.

Directory of the Canning, Freezing, Preserving Industries, 1993, Westminster, MD, Edward E. Judge & Sons, Inc.

Florida Agricultural Statistics Service, Orlando, Citrus Summary, various issues, 1978-1992.

Florida Department of Citrus, Economic Research Department, University of Florida, Gainesville, Florida Citrus Outlook, Working Paper Series, 1989.

Florida Department of Agriculture and U.S. Department of Agriculture, Division of Fruit and Vegetable Inspection, "Packinghouse Inspection Reports," 1978 to 1993.

Florida Grower & Rancher, various issues, FGR Incorporated, Orlando, FL.

Ford, Stephen A., Ronald I? Muraro, and Gary F. Fairchild, Economic Comparison of Southern and

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