Developing a Marketing Plan for Fresh Produce

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Opportunity

Pacific Northwest vegetable and fruit growers have always faced changing markets. However, in the last few years, these changes have seemed extreme to many growers. Change is an evolutionary process. Markets are always changing because of underlying factors such as consumer preferences, production costs, and marketing logistics.

Over the past 10 years there has been a decline in the number of major processing plants in the region. The result has been reduced processing outlets for growers. Typically, plant closures have been traced to declining consumer demand for a particular product, alternative production areas with lower costs or higher quality products available, or the availability of plant sites closer to major markets.

Farmers must respond to new marketing opportunities. Consumers are increasing their consumption of many fresh vegetables and fruits. They prefer more nutritious and less processed food. In response to consumer desires, many supermarkets have increased the size of their produce departments 50 percent over the past 20 years to more than 100 items. Restaurants and institutions have increased the variety and variety of fresh produce they use.

At the same time, growers in the major fresh market shipping areas in California and Florida are losing comparative advantage in some distant markets because of increasing transportation costs. This presents opportunities for farmers in growing areas closer to the markets. Pacific Northwest producers have a good opportunity to expand their share of fresh produce sales in local, northern, and Canadian markets.

Purpose

A thorough understanding of a market can help make a successful entry. This publication is intended to provide you with basic information necessary for developing a plan for marketing domestic fresh produce. A framework is provided for conducting a thorough market analysis. Information sources are provided to help you evaluate the feasibility of opening or expanding a market.

Topics covered in this publication include identifying possible markets, meeting the needs of the market, transportation options, selling methods, and evaluating interests and potential returns.

Markets and market requirements

Product identification

Hundred of fresh produce items are available in grocery stores today. Select the crops that best fit your farm's production capabilities and that fulfill a market need. At the same time, do not overlook opportunities to grow previously unused crops.

A trip to your community supermarket during the local season can help you create a list of primary items for sale in supermarkets across the nation. Examine the U.S. Department of Agriculture's (USDA) annual publication, Fresh Fruit and Vegetable Unloads in Major Cities (available in many libraries and from the U.S. Government Printing Office).

You can use it to identify most of the produce items shipped into major market areas. In addition, this publication identifies the states from which the produce items have been shipped each month and the volume of shipments.

Using back issues of the report, you can identify expanding and contracting markets for specific crops. This information can help you identify products to ship and also give you some indication of the type of competition you can expect in entering a particular market.

Price can be an important determinant of product potential. A trend toward high prices at the shipping point or terminal market during the Pacific Northwest production season can indicate a product with potential high net returns. The best source of fresh fruit and vegetable prices is the Federal-State Market News Service.

FSMNS offices publish daily prices in all major growing regions and major terminal market cities in the U.S. Local offices can help you obtain information from more distant offices. In the Pacific Northwest, there are offices in Idaho Falls, Idaho; Seattle, Washington; and Yakima, Washington. Address and phone numbers are listed under "State Department of Agriculture" in your phone directory.

Buyers and sellers

In the past 30 years, the fresh produce marketing system has changed from handling only a limited selection of locally produced seasonal items to handling a large selection of locally, nationally, and internationally pro-
duced goods. The system has evolved into a highly sophisticated and efficient marketing mechanism.

Improved transportation and communication systems have allowed buyers to shop around in various growing regions to obtain the product and price they desire. Farmers have benefited by the increasing number of marketing opportunities. Consumers have benefited by a greater selection of products and lower prices for fresh produce.

Figure 1 is a flow chart of the fresh produce marketing system. Fresh produce typically moves (either directly or with help) from brokers in the growing regions to wholesale houses for distribution to retail outlets. Terminal market brokers can help you divide a full load of produce for sale among two or more wholesalers.

Wholesalers who want a small amount of produce or a small number of specialty items frequently rely on brokers. Shipping point brokers also can help you arrange sales in distant markets. Large wholesale houses, usually those affiliated with large retail chains, frequently have buyers representing them in major growing regions.

While making your market analysis, try to contact buyers and brokers representing farms in market areas who are potential customers for Pacific Northwest fresh produce. Personal visits and phone contacts are best. Most produce handlers have little time for answering letters.

Sources of addresses and phone numbers include phone directories for major cities (usually available in local libraries); trade directories of the United Fresh Fruit and Vegetable Association, and Produce Marketing Association; credit services of The Red Book and The Blue Book; and ads in the weekly produce trade newspaper, The Packer. (See “For further reading,” page 11).

Buyers and brokers may be willing to provide you with information on the needs of particular customers. These needs will often vary by firm and by market area. For example, East Coast firms affiliated with retail grocery stores often prefer small, prepackaged packs of produce for their consumers, whereas West Coast firms prefer bulk packs. Preference for a particular variety of fruit or vegetable because of appearance, taste, or tradition is common in most market areas.

Ask a buyer or broker for the following information: desired characteristics (variety, grade, size, etc.), type of packaging preferred, current sources, weekly purchase volume, preferred transportation methods, prices paid, payment schedule, and ordering procedures.

Soliciting this information in each market area you consider will help you develop a good picture of the demand for particular products—and the procedures needed to get them into the market. After surveying several market areas, you can compare composite descriptions of each market. You can then target markets with the most potential for analysis during later phases of your market study.

End users

Do not forget that consumers are the end users of fresh produce. They must purchase the fruits and vegetables in some form in grocery stores, restaurants, or institutions. Wholesale buyers and brokers are trying to fulfill the desires of the consumers. They represent consumers in the marketplace.

To open a market for a new product or expand consumption of an existing one, you may have to obtain additional information directly from end users. A survey of consumers in each market area or of marketing personnel dealing directly with consumers (like produce department managers and restaurant chefs) will give you valuable insight into the sales potential of fresh produce.

Figure 1.—The commercial marketing system.
Analysis of general consumption trends of fresh produce also contributes helpful information. You can find this data in various publications from the U.S. Department of Agriculture (including Agriculture Outlook and National Food Review), land grant universities, and national food marketing associations.

Meeting market requirements

Quality

Growing and shipping high quality produce is usually a prerequisite to becoming successfully established in the fresh produce market. Shipping a high quality product can minimize spoilage losses throughout the marketing system. Businesses handling produce operate on low margins, so their buyers want to minimize losses caused by spoilage.

We can define quality in a number of ways. In the produce industry, there are U.S. Department of Agriculture (USDA) grades for most commodities and shipping area market-order grades for specific commodities. In addition, there are generally accepted industry standards and individual buyer standards. You need to know all the grades and standards that apply to the crops you sell.

The USDA originally established these grades to bring order to the fresh produce industry. Absence of uniform standards made ordering difficult for buyers in other parts of the country. Many times buyers and sellers had different definitions of quality. Buyers could easily end up with a quality they did not want.

The USDA considers size, shape, color, and condition when assigning a specific grade. Grade names may vary.

Common grade names include Extra Fancy, Fancy, and Good, and U.S. No. 1 and No. 2. Grade description of fresh fruits and vegetables are available from local USDA inspection offices and from state departments of agriculture.

These grades are the principal standards used by the industry, but USDA grading is not mandatory for interstate shipments unless specified by a market order.

The major purpose of most market orders is to set mandatory grades for specific crops shipped out of a growing region. These grades are often tougher than the widely used USDA grades. Federal and state laws allow either groups to set up market orders to promote more orderly marketing.

If you want more information on market orders, contact your state department of agriculture or your local U.S. Department of Agriculture Marketing Service office.

Industry standards are generally not formalized; they usually apply to the preference of a particular buyer or buyer group. They are often much tougher than the widely used USDA grades. Federal and state laws allow either groups to set up market orders to promote more orderly marketing.

There are also industry standards for packaging. These have evolved because most buyers prefer one type of package to another. The preferred method of packaging usually maintains superior quality produce.

Individual buyers and their firms often have their own standards to meet local needs. Consumers in a particular geographic area may have a certain preference for a commodity—a taste, size, color, or package that is not specified as a grade. Thus, buyers frequently establish their own standards and communicate them to suppliers.

It is important they you know and understand the applicable product standards. It is also important that you meet these standards, or exceed them, on a consistent basis. Buyers require consistent quality from their suppliers.

All produce is subject to inspection by a third party before shipment, to protect the buyer and the shipper.

The USDA Animal and Plant Health Inspection Service or your state department of agriculture can provide inspections that follow USDA or market-order guidelines. Fees are generally low when compared to the value of the shipment. Contact your state department of agriculture for more information.

Production and harvesting considerations

Exercise care that you put into production, harvesting, and postharvest handling can produce a higher valued crop. Providing a healthy growing environment for your crop is paramount. If you maintain the soil properly, control harmful insects and diseases, and provide necessary nutrients and water, the plants will likely produce a healthy crop of maximum value.

Properly laid out fields are important. This helps to minimize machine- and human-inflicted damage to the crop and thus aids in producing highly saleable produce. Skilled and properly supervised harvest crews can keep physical damage to a minimum and assure that only produce of the proper maturity and condition is harvested.

In addition, harvesting in the cool air of the morning, shading your crop in the field, and cooling it as soon as possible will help maintain a high quality product.

Keep your packing lines in good condition and staff them with skilled personnel. This will assure accurate grading and minimize physical damage to the product. Fresh-market standards are generally much stricter than processor standards, so more management time is required. The proper care you give your crop throughout the growing and handling period is essential to producing a product with a high percentage of packability.
Cooling

Fruits and vegetables are still alive after harvest. They take in oxygen from the atmosphere and combine it with carbon in their tissues to produce various waste products including carbon dioxide, water, and heat.

This process is called respiration. They are consuming themselves by converting their starches and sugars into waste products. This eventually leads to visible deterioration in quality.

The respiration rate of fruits and vegetables directly affects their shelf life. Usually, produce items with higher rates of respiration have shorter shelf lives than those with lower rates.

Temperature affects the respiration rate. The closer a plant gets to its freezing point, the slower its respiration rate becomes. For every increase of 18°F between the freezing point and 100°F, the product's respiration rate increases two or three times. It follows that the shelf life of a product is shorter at a higher temperature than at a lower temperature.

Removing field heat from newly harvested produce can increase its shelf life. Precooling is the term used to denote the rapid cooling of fruits and vegetables from field temperature to its best storage temperature. Precooling is usually your responsibility as a grower/shipper.

There are four basic methods of precooling: forced air, hydrocooling, vacuum cooling, and icing. Each was developed with specific products in mind. Cost and appropriateness of the cooling technology for the selected crops are important considerations when you select a precooling method.

**Forced air.** Cool air can cool rapidly over a product to remove the field heat. Inside a cool storage room, fans pull air through the produce boxes and back into the cooling unit. When you design a cool room, allow enough refrigeration capacity and ability to maintain proper humidity control for the products being cooled. Forced air can effectively cool most commodities, but those best adapted to this method include berries, stone fruit, and mushrooms.

**Hydrocooling.** Chilled water cools the product down to the correct storage temperature. The water is usually cooled by mechanical refrigeration, though cold well water is sometimes used. The produce is either conveyed through a water bath or under a sprinkling system. These systems are designed for dumping into the use of bins or boxes. Most vegetables and many fruit can be hydrocooled.

**Vacuum cooling.** The produce is placed in a vacuum tube and the atmospheric pressure is greatly reduced. At the lower atmospheric pressure, some water from the produce 'boils' away using its own heat as energy to convert the liquid to gas—lowering its temperature. Heat and moisture are removed from the vacuum tube by mechanical refrigeration. Commercial units usually cool the product to the proper storage temperature faster than 30 minutes. Lettuce and a few other vegetables can be effectively vacuum cooled. Units for cooling different amounts of product (from two pallets to a full truckload) are available. Vacuum coolers are usually leased by the manufacturer or financing firm.

Grower costs will depend mainly on the volume cooled. Growers are usually able to recover costs by charging a fee per unit in addition to the agreed purchase price of the produce. This is a common industry practice for vacuum-cooled products.

**Icing.** This can be an effective method for precooling individual boxes of certain vegetables. By placing crushed or slurry ice directly into the produce box, you can cool the contents in a short period of time. Manual or mechanical means can be used. Broccoli, green onions, and some root crops are most commonly top-iced.

With the exception of cooling by forced air, these precooling methods require a separate cool-storage room. The cool room maintains the product at the correct storage temperature achieved in the precooling process.

Cool rooms are necessary for short-term storage before shipping the product. Be sure to consider proper humidity control in your design.

Packing

The first consideration in packing is the use of a high quality product—uniform in size, color, condition, and overall quality. A product that is consistent in appearance and weight over the season is also desirable. Buyers like to know exactly what they will get when they order produce from a farmer.

A high quality product must be grown properly in the field and handled carefully in the harvesting and packing process. For produce packed in the field, you will have to rely on skilled harvesters with adequate supervision.

In a packing shed, you must rely on skilled line personnel and properly operating equipment. Pack in a manner that makes the fruit or vegetables attractive to buyers. Sloppily packed containers distract the eye from the quality of the produce. Packing sheds, though usually more expensive to operate than field packing, offer some advantages. Grading and packing can be done under well-supervised and less strenuous working conditions—and with suitable equipment. The result is often a higher quality and more uniform pack than can be achieved in the field.

Some products (such as berries) do not lend themselves to the additional handling required in packing sheds. Other crops cannot absorb the additional costs of shed packing. The cost for building and operating a packing shed varies according to product needs and type of equipment.
Product packaging serves two major functions—to maintain the product quality through the distribution network and to present the product in a useful and attractive manner. Attractive packaging frequently encourages repeat purchases by buyers. Consider both of these functions carefully before making a packaging decision.

When you choose a cardboard carton or a wooden crate for packaging, consider several functional criteria. The box must meet industry-accepted standards for size, volume, and strength; and must allow efficient cooling of the contents. In addition, be sure that the box protects the product throughout distribution and is suitable for storing on standard pallets.

A package that shows off the product and has an attractive label will help promote sales. Carton manufacturers in the Pacific Northwest are willing to assist growers in selecting and designing a box to meet their needs.

Some products are prepackaged in smaller units before being placed on trays in the shipping carton. Apples are often individually wrapped. Berries are usually capped and packed in hallocks. Carrots are often placed in 1- or 2-pound bags. Many retail buyers prefer prepackaged produce, so your pricing for prepackaging should reflect the added cost.

Volume requirements

The minimum amount of a given commodity that you can sell on any given day is usually subject to requirements that your buyer lays down. Buyers prefer to deal with as few suppliers as possible because a large number of suppliers for any one item can be logistically difficult. So buyers frequently look for growers/shippers who can supply a significant portion of their needs.

At the same time, most buyers want shipments to be consistent throughout the season. They usually prefer regular shipments at a consistent volume and quality and at a competitive price. For vegetable crops, pay close attention to planting schedules and variety selection. For fruits, you need adequate postharvest storage facilities to allow an expansion of the marketing season. It is essential to ship several different commodities at one time can also be to your advantage. It can be sized conveniently for the buyer, and remember that buyers have different volume needs. Look for those buyers whose product and volume needs you can best fulfill.

Transportation also presents volume constraints. Truck transportation is the most widely used means to move produce in the Continental U.S. Truckers prefer to move only full truckloads to distant cities. Also, the truck trailers have volume and weight limits.

If this means shipments to most markets must be within precise truckload limits. Your sales are limited to what you or the buyer can arrange to ship. If you are a low-volume shipper, you or the buyer may be able to arrange to ship in a joint load with another shipper or producer. Air and ship containers also require shipping in specific sizes and weights.

If you are selling in small markets or grow specialty crops, you may encounter volume limits as well. At some level, all markets become saturated. Shipping into small markets may not be economical; evaluate them closely.

Your ability to meet the product requirements of the market is very important for success. Meeting quality standards, investing in necessary cooling facilities, putting out a well-packed product, and meeting minimum-volume needs can be expensive. Analyze carefully the costs involved and the potential returns you expect before entering any distant market.

Transportation to market

Selecting a mode

Fresh produce is moved by one of four modes within the United States: truck, rail, air, and ship. Refrigerated truck trailers move 92 percent of the fresh produce domestically. Railcars and piggyback service are important means of moving fresh produce from the Pacific Northwest to the East. Air and ship service are important in moving products to Alaska, Hawaii, and some other distant markets.

When you select a mode of shipment, consider these points: product perishability, types of service available between shipping points, time to destination, quality of service provided by the mode or firm, preference of the buyer, volume to be shipped, and cost. Each mode and firm will offer a different service.

Your farm or market location largely determines which modes will be available to you. Product perishability, volume to be shipped, and transportation cost are the major decision factors. Table 1 gives a comparison of costs and time for shipment to an East Coast destination. The buyer usually pays for the transportation directly and selects the type of transportation. In some cases, you may pay the transporta-
Table 1.—Cost comparison of full-load apple shipments to New York City from Washington State, August 1982

<table>
<thead>
<tr>
<th>Mode</th>
<th>Cost per pound</th>
<th>Transit time (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>.07</td>
<td>4</td>
</tr>
<tr>
<td>Rail car</td>
<td>.05</td>
<td>6</td>
</tr>
<tr>
<td>Piggyback</td>
<td>.06</td>
<td>5</td>
</tr>
<tr>
<td>Air freight</td>
<td>.25</td>
<td>1</td>
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b Raspberry shipment originating in Seattle.

In the winter months, most produce moves out of the southern growing regions. As summer approaches, northern growing regions gradually come into production. The trucking industry has been flexible enough to respond to the seasonal transportation needs of the produce industry.

More than 90 percent of the fresh produce grown in Washington is shipped by truck. The most common method of obtaining a truck is through a truck broker. There are several truck brokers in each growing area of the Pacific Northwest, and they are listed in phone directories.

Brokers continually monitor the availability of trucks. Truckers check in with brokers to obtain a load. Usually, broker's handle the billing for a trucker and collect a percentage as a brokerage fee.

You may also want to contract with local truckers or trucking firms to move your product on a steady basis to regular buyers. Some shippers have a small fleet of their own trucks. In some cases, the buyer provides trucks (these transactions do not require a broker).

Truck length and weight limits are set by federal and state law. Depending on destination and net weight of product, cargo capacity of a trailer can be 45,000 pounds or more. Product density or loading pattern may mean the trucker cannot use the trailer's total volume. Trailer refrigeration and heating units are usually diesel-powered and operate independently of the truck.

The trucking industry is very competitive, and profit margins are slim. Truckers prefer to haul full loads because less-than-full-trailer loads (LTL's) generally are not profitable. Refrigerated LTL service is most easily obtainable to destinations in California. Common carriers offer this service at a reasonable price if the shipping point and destination are on or near Interstate Highway 5.

LTL service going east from the Pacific Northwest is difficult to find on a regular basis. If you want to ship LTL's east, try to mix your small loads with other shipments going to the same destination. Often, buyers themselves arrange for mixed load shipments.

Depending on destination, the production or in the hands of the trucker longer than anyone else in the distribution system. For this reason, take care to obtain a reliable trucker with well-maintained equipment. See that the trailer is precooled, cleaned, and examined for damage before loading. Agree on a loading system with the buyer.

In winter, a truck unit may be required to prevent freezing. Buyers and shippers often place portable temperature monitors within loads to verify maintenance of proper temperature during shipment.

For some highly perishable produce, namely berries, modified “atmospheres” of gases are used at times to maintain quality during shipment. Usually individual stacks of produce are placed in a sealed bag on a pallet. An atmosphere designed specifically for that product is injected into the bag. Pallets with modified atmosphere are loaded in the regular manner. Whole loads are sometimes modified in specially designed trailers.

There also is limited use of trailers with atmosphere generators that maintain a precisely controlled atmosphere. Atmospheres provide additional protection, but proper refrigeration is the most important factor in maintaining produce quality during shipment.

Transportation by truck is usually more expensive than by rail or ship, but less expensive than by air. For current cost information, contact a local truck broker.

A weekly truck report published by the Federal-State Market News Service in San Francisco, California, quotes average rates between western shipping points and eastern destinations.

Transportation costs can be very important in making a produce sale. You should also consider the costs for building or renting a loading facility.
Rail

Rail service is used primarily by potato and onion shippers in the Pacific Northwest. Five percent or less of all produce shipments are by rail. Trailer-on-flat-car (“piggyback”) service is increasing, while straight railcar service is declining. Destinations are usually major eastern cities. Commodity groups move large volumes into large markets on a steady basis.

Full carloads are almost always necessary for shipment. Mixed loads are shipped at times, but it is not a common practice. Cars are equipped with mechanical refrigeration units and are designed to hold 75,000 to 90,000 pounds of product.

A well-maintained car and a loading pattern allowing good air circulation are necessary for maintaining proper temperatures during shipment. Load temperature can be monitored during shipment with rented recorders.

Piggyback service is available from the Pacific Northwest. Truck trailers or freight containers are loaded on rail flatcars to be transported. Private and railroad-owned units are available. Piggyback service to the East Coast can be a day faster than railcar service. In addition, no transfer of product from railcar to truck is necessary for distribution.

The shipper or the buyer books direct with the originating railroad company. Arrange for privately owned piggyback trailers or containers sourced from the railroad, and assign a nearby loading facility and handle the billing. Piggyback service is somewhat more expensive than railcar service. See table 1 for comparisons.

Access to airline service varies by region. Seattle-Tacoma International Airport provides a large number of wide-body and narrow-body flights each week to many destinations. Several airlines have cool-storage facilities available. The airports in Portland, Spokane, and Boise offer less frequent service and have limited facilities for cool storage.

Make reservations for cargo space through a freight forwarder or with the airline. Freight forwarders can save you time in arranging flights, and they usually don’t charge a fee for this service (they obtain a commission from the airline for booking the space).

Containers can be picked up directly at the airline for loading back at the dock. Some airlines offer discounts for use of insulated containers because the risk of product loss is lower.

Air

Airlines are used exclusively to ship a few high-valued and extremely perishable commodities to domestic and export markets. Air freight accounts for no more than one percent of all commodities shipped from the Pacific Northwest. It is expensive in comparison to other modes (see table 1).

Berries and cherries are the commodities most commonly shipped by air from the Northwest to domestic U.S. markets. Raspberries, in particular, have an extremely short shelf life, so they must be air-shipped. Most berries can be sold at a price high enough to compensate for the higher transportation cost.

For air shipment, produce is first loaded in containers for storage in the aircraft. Most cargo with domestic destinations moves in passenger aircraft. In addition, some airlines run exclusive air freight services. Wide-body jets have the largest capacity for carrying cargo. These include the Boeing 747, McDonnell Douglas DC-10, and the Lockheed L-1011. The previous generation of jets all carry much smaller containers.

Most fresh produce is shipped in aluminum “lower deck” (LD) containers for wide-body aircraft. Containers are available in sizes ranging from 3,000 to 10,000 pounds in capacity. Narrow-body jets use a standard disposable container called an “E” (with a capacity of 600 pounds). The “LD” type containers have lower freight rates per unit than the “E” type.

Shippers of highly perishable products can take additional steps to preserve product quality. Precooling the product and the air container can help to attain lower arrival temperatures. Use of disposable insulation and ice inside the container can also help maintain lower transit temperatures.

Permanently insulated containers are available for produce shipping. Remember that high transit temperatures can reduce the shelf life of the product being shipped.
Portland. Pacific Northwest firms have branches needing service in Alaska, or they have supply contracts with firms in the state. If you want your product in the Alaskan market, you will likely have to sell to one of these Washington or Oregon wholesale firms.

Hawaii is a more limited market for Pacific Northwest crops. California is Hawaii's major supplier. Opportunity exists for shipments of fruits and potatoes, but not so much for other vegetables. Ship service is less frequent to Hawaii than to Alaska.

You can arrange container loading and booking directly with the steamship or barge companies. Freight forwarders and some trucking firms can also assist you in making shipments.

The cooperative option may be a good alternative for you if you are a smaller producer or in highly competitive markets where growers need more market power.

Setting prices

Selling price is one of the most important skills you can have. You must set prices at a point where you can both establish market share and make an acceptable return for the effort. Usually, the wholesale market can be characterized as a buyers' market.

There are far fewer buyers than sellers. A skilled seller is needed to identify the buyer willing to pay the highest prices and to negotiate prices in your favor. Usually, price directly affects the profitability of your farming operation.

The key to good pricing is good information. You should know the break-even price and the related volume that you must sell to achieve it. In addition, you should know prevailing market prices, the product qualities relative to others available on the market, and the purchasing options of the buyers. Though you will never have all the market information you would like to have, more information is better than less in making your decision.

Financial arrangements

Most wholesale transactions in the fresh produce industry are made on credit. This is a necessity for fast movement of perishable goods. When orders are placed over the phone and the produce needs to be shipped out immediately, credit must be offered.

The Federal government, under the Perishable Agricultural Commodities Act (PACA), regulates the extension of interstate credit in the produce industry. Every shipper and buyer working over state lines must purchase a license from the USDA's PACA division. Although regulations state that payment for produce must be made within 10 days of the buyer's acceptance of the shipment (unless otherwise agreed

Selling fresh produce

Selecting a selling method

Selling fresh produce is a skill. It involves selecting a selling method, setting the right price, managing credit accounts, promoting your product, and establishing good relations with buyers. All are necessary to establish or maintain a market. The profitability of your shipping operation depends directly on your skills as a seller.

You can sell your produce in the wholesale market in a number of ways. In the regional wholesale markets in the major Pacific Northwest cities, you generally will do the selling yourself. For the more distant markets, you will depend on private shippers, brokers, or cooperatives to do the selling.

Consider several criteria when selecting a method. Your marketing skills or those of others who will do the selling should be the first consideration. Investment costs and net returns are also important factors.

In addition, consider your desire to be involved in the marketing process and the volume of product you need to sell. You must evaluate each selling option when selecting a selling method.

If you want to sell produce to distant buyers, you will have to make several commitments. One will be investment in office space, facilities, and personnel. Costs include phone service and a recordkeeping system; packing equipment; cooling, storage, and loading facilities; and a skilled secretary. A second commitment would be to hire (or train) a skilled marketer, assuming that you don't have the time or ability to carry out the function.

In many growing areas, there are grower/shippers who are willing to market product of neighboring farms. These firms provide the necessary skills and facilities for selling. In some cases, they buy the product outright from growers. In other cases, they may charge a marketing fee for their services. If you are considering this method of marketing, compare the net returns you expect from available alternatives before making a choice.

Shipping-point brokers are also used by some Pacific Northwest growers. For a percentage of your price or a per-unit fee, they will handle the sale arrangements and monetary transactions. A commission usually falls between 5 and 10 percent, but this can be lower for high-volume items.

Brokers usually do not take direct possession of the product; they arrange to have the packed product moved from the farm to the market. Brokers can be particularly helpful selling relatively small volumes and gaining initial access to major metropolitan markets.

Cooperatives are another method that Northwest growers use to market their fresh produce. Through a cooperative, growers can invest as a group in necessary selling facilities and staff. Marketing costs can be spread over a larger volume of product. Also, any profits (savings) must be returned to the grower/members.
upon), payment may frequently take 30 or more days to reach you.

PACA can help settle differences between buyers and sellers informally or through a legally sanctioned complaint and hearing process. The PACA division has the authority to fine or revoke licenses of regulation violators. The act is intended to protect shippers of fresh fruits and vegetables.

Within each state in the Pacific Northwest, there are also regulations on credit extension. All volume produce purchasers must be licensed (except cooperative purchases from members). Buyers having only a cash buyer's license cannot buy from growers on credit.

Wholesale and commission merchant licenses allow purchases with credit, but they require payment within a maximum number of days. The state departments of agriculture license firms and enforce the regulations.

There are two industry-recognized credit rating services, The Red Book and The Blue Book. Most buyers of interstate produce are subscribers to these services. Each subscriber furnishes the company name, address, phone number, executive personnel, and credit rating listed. You can purchase the books for reference (see "For further reading," page 11).

A credit check of a buyer is important before you complete a sale. A payment dispute in the middle of the growing season and over a long distance can be expensive to settle. Payment policies vary between firms. Some firms will pay weekly; others pay the last day allowed under the applicable law. Cash flow is a major concern for the shipper, those buyers who are prompt payment should be targeted for sales.

Good records are a necessity if a dispute develops over a shipment of produce. You need a good record-keeping system. Any agency or legal representative called in to mediate a dispute will need verification of the shipment.

Promotion and advertising

When produce is sold in a national market, promotion and advertising are often necessary. There are over 2,000 major produce wholesale buyers in the United States. That is too many to be reached easily by personal contact or word of mouth. Most are reached through trade periodicals and trade associations.

Promotion is the contact of potential buyers through an indirect medium. Articles in trade publications and speaking engagements at trade association meetings are examples. If you are just opening your doors or adding new products, you can send a new release to trade publications.

This can lead to the principle of the release itself or a direct report from a representative writing a more detailed story. Speaking engagements, attendance at trade meetings, the appointment of industry committees can help get your name and firm in front of the industry.

Paid advertising can be an effective way to get a firm and produce in front of the buyer. The print medium is often the best for reaching industry buyers. Periodicals and trade association publications offer advertising space.

Advertising allows you to present product activity and to target it for maximum effectiveness. Use announcements of the upcoming opening of your product shipping season. Invite buyers to place their initial orders. Advertisements can also remind buyers of the virtues of your particular product during the season. The aim of advertising is to get your name and products before the buyer in a tasteful manner as frequently as possible.

To reach the consumer, promotion and advertising are usually done by commodity commissions and associations. Sometimes this is done in cooperation with retailers. Only a few large shippers promote their branded products directly to consumers.

Buyer-seller relations

Establishing a good working relationship with a buyer is important. It is to your advantage to establish a mutually beneficial relationship with your buyers. You each need the other to stay in business. You can benefit during a market glut by having a reliable product outlet. A buyer can benefit during a crop shortage by having you as a reliable product supplier. Good working relations promote long term steadiness to the market.

Buyers are looking for several characteristics when they establish a relationship with you. They prefer shippers who can provide a consistent product supply over the entire growing season. Product quality and volume are usually important.

Buyers will frequently prefer not to deal with you on an occasional basis because added time is involved per sale. Buyers also look for reasonable prices and personnel who are knowledgeable and helpful. Knowledgeable salespeople on your staff can provide future supply information, help arrange transportation, and answer other questions the buyers might have.

Most shippers look for buyers who are reliable purchasers, pay on time, negotiate reasonable prices, and are easy to deal with. Established relationships require less of your time per transaction than new relationships. So established relationships can save money.

Some danger of losing touch with the market may exist if you rely on a few established buyers, but if you keep this in mind, you can avoid those dangers. Knowing what is happening in the marketplace at all times is very important to help establish a mutually respectful relationship with your buyers.

Types of risk

Do not decide to open a fresh market shipping operation until you have thoroughly examined the risk involved. Consider ways to lower risks. Assign a money value to risk taking. Then you
can consider it as one of your expenses when you calculate potential net returns to your shipping operation.

You can then compare the net return calculation to the returns of your other marketing alternatives. You can then select the most profitable marketing alternative.

Engaging in a new way of marketing or opening a new market can be risky because of your unfamiliarity with the territory. You will not have an established relationship with buyers, and you will be unfamiliar with the ultimate users of the product.

Until "the water is tested," market reaction to the product will be unsure. You are risking the time and money that is necessary to enter the market. This can possibly include additional investment in an onfarm facility and equipment.

In addition to these special risks, there are normal marketing risks because of the perishability of fresh fruits and vegetables. Each handler in the distribution system can adversely affect the quality of the product you ship. Poor handling by a transportation firm or commission house may give the buyer a wrong impression about your produce.

You must harvest your produce when it reaches maturity, and you usually cannot store it long before it must be sold. This often leads to market gluts in periods of low prices during peak harvest and you cannot always predict or avoid these. It is important that you take these market risks into account.

“Mother Nature” can also be unpredictable for produce shippers. Inclement weather is a common risk that you will face. Examples of other natural occurrences are the Mediterra-

nean fruitfly and the eruption of Mt. St. Helens. Consider Mother Nature’s risks before you start a shipping operation.

Lowering risks

One way to lower risks in new markets is to thoroughly interview the participants. Then you can more precisely determine market needs and identify trustworthy buyers. Talking with other shippers and using credit reference books can also establish the credibility of new buyers.

Shipping only high quality products in well-designed containers can help reduce handling losses. Precooling your produce and shipping with reliable transporters who use refrigeration can also help to keep product losses to a minimum.

You cannot always predict periods of low market prices. However, you can make a start by examining past trends, continually monitoring present market conditions, and calculating the break-even harvest price. In this way, you can minimize your losses from adverse market price changes.

Use insurance to lower some types of risk. Crop insurance is available for a number of natural disasters. Transportation firms should carry cargo insurance to cover losses because of accidents or equipment failures. When buyers do not pay their bills, consult the USDA's Perishable Agricultural Commodities Division. If product is damaged in a shipment, the USDA's Agricultural Plant Health Inspection Service can sometimes claim for you in this situation. A commission firm or opening a new market can be risky

For further reading


The Blue Book, a credit reference book published twice yearly by Produce Reporter Co., Wheaton, Ill.; available by subscription only.
Appendix

Postharvest cost and returns format for fresh produce marketing

Any investment of your time and money in a new venture such as fresh produce marketing requires a careful analysis of potential financial returns. The following cost and returns format may be useful to you in making this kind of analysis for produce.

You might want to make estimates on a "typical year" basis. Each commodity should have its own separate analysis. Where necessary, you can prorate among your commodities the aggregate costs for categories such as equipment, machinery, and marketing. Note your cash (versus noncash) costs, to identify any potential cash flow deficiencies in the operation.

Calculating revenue

<table>
<thead>
<tr>
<th>Product type (grade)</th>
<th>Destination</th>
<th>Number of units shipped</th>
<th>Net f.o.b. price per unit ($)</th>
<th>Total revenue ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(The term f.o.b. means "free on board." It is commonly a price quote that excludes transportation charges beyond the shipping point. The shipping point is usually included in any reference to the f.o.b. price, e.g., "f.o.b. Portland."

Use one line in the revenue section for each destination and grade of the produce that you are considering shipping. Then multiply the number of units in each case (3) by the estimated net f.o.b. price per unit (4) to obtain total revenue (5).

To determine the average price per unit for all units shipped (6), divide the total sum of all revenues received (5) by the total number of units shipped to all destinations (3):

\[
\frac{\text{Total revenue}}{\text{Total number of units}} = \text{Average price per unit}
\]

Packing costs

<table>
<thead>
<tr>
<th>Investment-related expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item [8]</td>
</tr>
<tr>
<td>Land</td>
</tr>
<tr>
<td>Buildings</td>
</tr>
<tr>
<td>Machinery</td>
</tr>
<tr>
<td>Equipment</td>
</tr>
<tr>
<td>Office equipment</td>
</tr>
<tr>
<td>Vehicles</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

The average net cost (8) is the sum of the purchase price and salvage value of each asset divided by 2. Then multiply this value by the interest rates that you specify in step 9 to obtain the interest expense (9). The interest rate you use to calculate the interest expense should take into account both the interest rate on any debt you use to finance the investment as well as the interest rate applicable to your own invested (equity) capital.

To be conservative, you can calculate depreciation on a straight-line basis. The total investment-related cost (11) is equal to the interest (9) plus the depreciation expense (10).

To calculate your total investment cost per unit for packing (12), divide the sum of all investment-related expenses (11) by the total number of units shipped to all destinations (3):

\[
\frac{\text{Total investment expense}}{\text{Total number of units}} = \text{Total investment expense per unit}
\]
Operating-related costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct wages (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>dumping</td>
<td></td>
</tr>
<tr>
<td>cleaning</td>
<td></td>
</tr>
<tr>
<td>sorting</td>
<td></td>
</tr>
<tr>
<td>sizing</td>
<td></td>
</tr>
<tr>
<td>packing</td>
<td></td>
</tr>
<tr>
<td>lidding</td>
<td></td>
</tr>
<tr>
<td>Office wages (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Management salaries (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Containers (including handling)</td>
<td></td>
</tr>
<tr>
<td>Labels and labeling</td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
</tr>
<tr>
<td>Interest on operating money</td>
<td></td>
</tr>
<tr>
<td>Property taxes and fees</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
</tr>
<tr>
<td>Repairs and maintenance</td>
<td></td>
</tr>
<tr>
<td>Rent</td>
<td></td>
</tr>
<tr>
<td>Water and power</td>
<td></td>
</tr>
<tr>
<td>Plant and office supplies</td>
<td></td>
</tr>
<tr>
<td>Accounting and legal</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Waste disposal</td>
<td></td>
</tr>
</tbody>
</table>

13 Total operating costs

To determine your total operating costs for packing per unit (14), divide the sum of all your operating costs (13) by the total number of units you plan to ship to all destinations (3):

\[
\frac{13}{3} = 14
\]

The final step in this section is to calculate total per unit packing costs (15). To do this, add your per unit investment expense (12) to your per unit operating cost (14):

\[
12 + 14 = 15
\]

If you anticipate a custom packing charge, enter it directly into 15.

Cooling costs

Complete this section for each type of unit you expect to be in operation (forced air, hydro, vacuum, top ice, or cool room). The procedure is the same as that described for packing costs.

Investment-related expenses

<table>
<thead>
<tr>
<th>Item</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average net cost ($€)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest expense @ % ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation expense ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total investment expense ($)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21 Total number of units cooled per year

To calculate your total per unit investment expense (22), divide the total investment related expense (the sum of 20) by the total number of units cooled by the system (21):

\[
\frac{20}{21} = 22
\]
### Operating-related costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct wages (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Office wages (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Management salaries (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Power, fuel, and water</td>
<td></td>
</tr>
<tr>
<td>Maintenance and repair</td>
<td></td>
</tr>
<tr>
<td>Taxes and fees</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
</tr>
<tr>
<td>Interest on operating debt</td>
<td></td>
</tr>
<tr>
<td>Plant and office supplies</td>
<td></td>
</tr>
<tr>
<td>Accounting and legal</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
</tr>
<tr>
<td>Rental charges</td>
<td></td>
</tr>
<tr>
<td><strong>23</strong> Total operating costs</td>
<td></td>
</tr>
</tbody>
</table>

To obtain your total operating costs for cooling per unit (24), divide the sum of all your operating costs (23) by the total number of units you expect the system to cool (21):

\[
\frac{23}{21} \times 24 \quad \text{(per-unit operating cost)}
\]

The final step in this section is to calculate your total per-unit cooling costs (25): Add your per-unit investment expense you calculated (22) to your per-unit operating cost (24):

\[
24 + 25 \quad \text{(per-unit cooling cost)}
\]

### Transportation costs

This section is only relevant to you if you bear the cost of transportation. Many transactions are done on a buyer-paid shipping basis. If the use of this section is appropriate, calculate the costs for transportation separately for each of your destination points:

<table>
<thead>
<tr>
<th>Mode (including containers)</th>
<th>Number of units</th>
<th>Net cost per unit ($)</th>
<th>Total cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piggyback</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For each transportation mode, your total cost (29) is the number of units you expect to ship (27) multiplied by your net cost per unit, including transportation (28). Then add together your total transportation costs for each destination (29) to obtain:

\[
30 = \frac{29}{31} \quad \text{(total transportation costs for all your commodity destination points)}
\]

The total number of units you plan to ship to each destination (27) are added together to obtain:

\[
31 = \frac{30}{32} \quad \text{(total number of units you plan to ship to all commodity destination points)}
\]

Finally, to calculate your total per-unit transportation cost (for all destinations (32), divide your total transportation cost (30) by the total number of units shipped (31):

\[
32 = \frac{30}{31} \quad \text{(total per-unit transportation costs)}
\]
Marketing costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management salaries (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Office wages (including fringes and taxes)</td>
<td></td>
</tr>
<tr>
<td>Facilities and equipment</td>
<td></td>
</tr>
<tr>
<td>Property taxes and fees</td>
<td></td>
</tr>
<tr>
<td>Advertising (newspaper, magazine, radio, TV)</td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td></td>
</tr>
<tr>
<td>Bad debt collection</td>
<td></td>
</tr>
<tr>
<td><strong>33</strong> Total marketing costs</td>
<td></td>
</tr>
</tbody>
</table>

To calculate your total per-unit marketing cost (34), divide total marketing costs (33) by the total number of units shipped (3):

\[
\frac{33}{3} = \frac{34}{34} \text{ Total per-unit costs}
\]

Net return

The next step is to calculate your expected net returns per unit for postharvest marketing activities. First, add up your total per-unit costs for packing, cooling, transportation, and marketing, and your per-unit costs of goods sold:

\[
15 \text{ Total per-unit packing costs} + 25 \text{ Total per-unit cooling costs} + 32 \text{ Total per-unit transportation costs} + 34 \text{ Total per-unit marketing costs} + 35 \text{ Costs of goods sold per unit} = \text{Total}
\]

Now, subtract this total from your average price per unit (6) to obtain your net return per unit (36):

\[
6 \text{ Average price per unit} - \text{Total above} = 36 \text{ Net return per unit}
\]

Note that 25 includes the sum of all cooling systems used on your commodity, 32 includes the sum of transportation costs for all your commodity destination points, and 35 is your incoming cost per unit of product sold (your cost of production).

To calculate your true net returns per unit (before risk assessment), you must consider income taxes. The applicable rate is the sum of all your Federal, state, and local income tax rates that are expected to apply to your net returns per unit (36). Net return is the amount remaining after you subtract your tax-deductible expenses from gross revenue.

In assessing whether the aftertax net return is acceptable, it is important to analyze your risk of loss. Moving to a more risky marketing situation implies a need for a higher net return. This requires your own management decisionmaking.

In doing this analysis, remember that the risk in fresh produce marketing can be categorized as either physical or monetary.

Examples of physical risk include thievery, vandalism, natural disaster, or transportation delays. Monetary risk of loss refers to such things as buyer failure to accept a shipment, buyer nonpayment, or a market price drop during shipment.

Be cautious when you use the step 36 value (on an aftertax basis) to measure "profitability." This value is highly dependent on your ability to forecast future prices and events.

A useful technique in this type of analysis is to complete several runs through this procedure, using alternative possible forecasts. These might include an "optimistic" outlook on prices, costs, and risks; a "pessimistic" outlook; and an "average" outlook.