

# *Marketing Alternatives for Specialty Produce*



**A Pacific Northwest Extension Publication**

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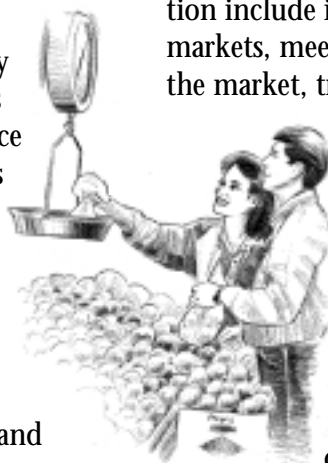
## Change and Opportunity

Pacific Northwest vegetable and fruit growers always have faced changing markets. To many growers, these changes have seemed faster than usual in recent years. Consumer preferences, production costs, and market logistics fuel these rapid market changes.

The number of processing plants in the region continues to decline. Typically, plant closures have been traced to declining consumer demand for a particular product or relocation to areas where lower costs or higher quality products are available. In some cases, plant sites are available closer to major markets.

On the other hand, there are new marketing opportunities. People are increasing their consumption of many fresh vegetables and fruits. They prefer more nutritious, less processed food. Interest in ready-to-use items and specialty products is growing.

In response to consumer desires, many supermarkets have increased the size of their produce departments and now carry as many as 300 items. Products include organic produce and convenience items such as prepacked salad, cut fruits and vegetables, and freshly squeezed juice. Restaurants and institutions also have increased the amount and



variety of fresh produce and specialty products they use. The Internet has become a marketing and communications tool for businesses and a way for customers to purchase products.

At the same time, growers in the major fresh-market shipping regions in California and Florida are losing their comparative advantage because of rising transportation costs to distant markets. For Pacific Northwest farmers, this situation opens good opportunities to expand their share of fresh produce and specialty product sales in local and Canadian markets.

A detailed understanding of a market can help you enter it successfully. This publication is intended to provide the following:

- Basic information necessary to develop a plan for marketing fresh produce and other specialty products
- A framework for conducting a thorough market analysis
- Information sources to help you evaluate the feasibility of entering or expanding your presence in a market

Topics covered in this publication include identifying potential markets, meeting the needs of the market, transportation

options, selling methods, and evaluating risks and potential returns. There is little published information about specialty product marketing plan development, so

many of the ideas in this publication are based on general research and personal contact between the authors and people who already are a part of the fresh produce and specialty product industry.

This publication is organized in a typical planning sequence you might follow when considering entry into a particular market. The appendix includes a method for determining the cost-return situation for any fresh produce or specialty product marketing venture.

## Farm Direct Marketing

Farm direct marketing means farmer-to-consumer sales, usually through U-pick, roadside markets, farmers' markets, or mail-order. A successful farm direct marketing business requires a knowledge of effective marketing and management practices. In addition, it requires an entrepreneurial outlook and the right personality and skills for selling directly to customers.

Some producers of specialty products find that farm direct marketing techniques offer an excellent opportunity to sell their commodities. Numerous studies of demand for farmer-to-consumer specialty products show that customers are attracted by the opportunity to



buy products they perceive to be fresher, more wholesome, and more flavorful than those they can get from regular commercial outlets. While some look for bargain prices by buying large volumes, many pay normal retail or even higher prices for products sold in a clean, relaxed, and friendly environment.

Selling directly to consumers can increase returns by reducing marketing costs associated with selling through middlemen—that is, processors, wholesalers, brokers, and retailers. Moreover, direct sales to consumers can provide market outlets for products that normally wouldn't attract middlemen. Grades and volumes of products might interest consumers even when they don't meet commercial standards. For example, vine-ripened or field-grade produce might have no commercial outlet, but established direct outlets might be able to move those products to customers who desire freshness and quality.

In some cases, producers develop direct outlets in addition to selling commercially to middlemen. This way, in the event of a market failure, the grower is not reliant on only one outlet.

Many farm direct marketers have found they can draw families from a wide area by adding recreational and entertainment aspects to their selling environment. Curiosity, available leisure

time, support for farmers, and a desire to learn and see what the “good life” is all about are important aspects of this customer drawing power.

A farm direct outlet can offer greater flexibility to producers.

Farmers can try new products and selling techniques. Also, a farmer may balance product mix, consumer demand, and his or her talents for production, selling, and market management. Last, but not least, many producers find satisfaction in their farm direct activities through a sense of ownership, being their own boss, or simply “doing their own thing.”

### ***Is a farm direct outlet for you?***

The best way to evaluate whether direct marketing is for you is first to look at your personality. If your personality seems compatible with direct sales, then you might continue by critically evaluating market opportunities and the compatibility of your farming operation with the demands of direct marketing.

A good place to start is an evaluation of your ability and desire to sell directly to consumers. Assess your personality, production knowledge, retailing abilities, and plans for the future.

First, you need to be outgoing and

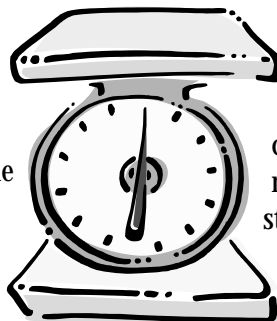
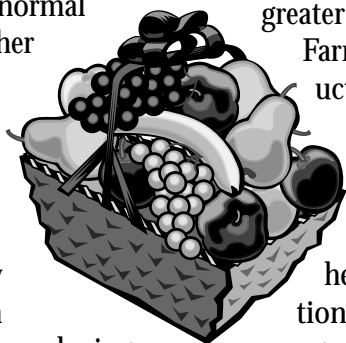
enjoy meeting and talking with people in a friendly manner. Farm direct customers want to feel welcome or they likely will not return for repeat sales—something that is essential for the success of any business.

Personal interaction with people adds to the long hours that successful farm direct marketers put into their businesses. Are those long hours going to create conflict and stress in your life and the lives of family members and friends? If so, perhaps farm direct marketing is not for you.

Knowledge of production methods is critical in selling directly to consumers. These buyers want and expect high-quality products on a consistent basis. You must meet those expectations or sales will lag.

Is there really a demand for the products and services you want to sell? Can you identify institutions (such as restaurants or local food cooperatives) that are a ready market? As part of your market research, be sure to contact other growers you respect. Openness and enthusiasm from other growers may be a strong indication that a market has potential. On the other hand, lack of enthusiasm or information may indicate the market is saturated.

Consumers and regulators expect you to comply with applicable regulations on grading standards, weighing equipment, and food safety. There may be legal



restrictions such as licensing, inspections, highway zoning and access, market orders, packaging and processing requirements, signing, or weights and measures rules. If you market organic produce, additional regulations apply. See "Organic Marketing," page 15, for more information. To avoid any pitfalls, be sure to contact your local government and state department of agriculture as a part of your market assessment.

Selling directly to consumers doesn't eliminate retailing skills. You'll need to possess or hire the skills necessary to control quality and to merchandise, display, price, and package your product. You can acquire these skills through study and experience. You'll need them to earn the highest possible returns on your products and services.

It is important to consider how farm direct marketing fits into your overall business plan. If it is to be a small part of your business, temporary structures and organizations for direct marketing may be enough. On the other hand, if you intend farm direct sales to be a substantial part of your business, you may need to consider major investments in personnel and capital.

A direct marketing business should complement your overall farming operation and not compete for land, labor, capital, and management resources. Thus, a complete farm review is necessary.

Space and access are important factors. Are marketing

facilities and adequate parking available at the farm, or will a farmers' market be the sales location? Are driving distances to the farm or farmers' market reasonable?

The production schedules for your mix of outlets must be complementary. Is the production area or volume available from other growers sufficient to supply product consistently to the direct outlet?

Early in the process of analysis, you must consider requirements for capital. Will sufficient equity and debt dollars be available to construct facilities and acquire equipment? The amount depends on the sales technique you choose and on the size of your operation. Approach lenders early in the process if you are considering taking out a loan.

Good information on a variety of farm direct marketing methods and grower-run direct marketing associations is available on the World Wide Web. You can find sites that advertise the goods and services of individual farm businesses and organizations, as well as information from government and educational institutions. Examples include:

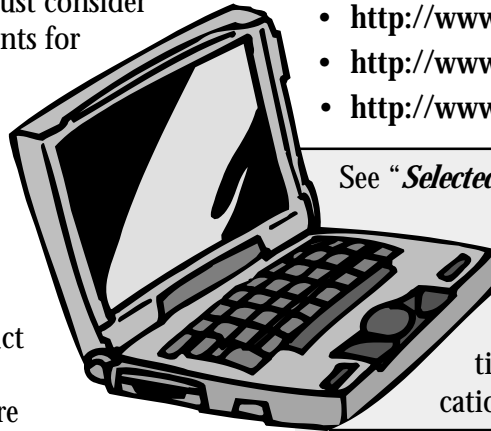
- The University of Idaho, at <http://www.uidaho.edu/ag>

[environment/sustain/sum/op.html](http://environment/sustain/sum/op.html)

- Oregon State University, at <http://smallfarms.orst.edu>
- Washington State University, at <http://www.pierce.wsu.edu>  
<http://king.wsu.edu/ag/agpubindex.htm>  
<http://foodfarm.wsu.edu>

A number of search engines are available to help you locate sites. Examples include the following:

- <http://www.altavista.com>
- <http://www.metacrawler.com>
- <http://www.yahoo.com>



See "*Selected World Wide Web Sites*," page 24, for details on these and other Web sites mentioned in this publication.

## Farm Direct Marketing Options

Five traditional methods of farm direct marketing are:

- U-pick
- Roadside stands and markets
- Farmers' markets
- Mail-order
- Direct-to-restaurant

When selecting a method, consider personal preference, farm location, and the volume and nature of the products and services to be sold. In some cases, more than one method may fit your marketing plan.

## ***U-pick***

U-pick, or pick-your-own, is a form of consumer harvesting. The customer comes to the farm, does the harvesting, and transports the product home. Consumer harvesting is a popular option for crops that have a distinctive indicator of ripeness (such as color or size) or for those that can be harvested all at once.

### ***Advantages of U-pick may include the following:***

- Costs for harvest labor, handling, packaging, shipping, and storage are lower than for other marketing methods.
- In most cases, sales provide immediate payment with no deductions for shipping, handling, spoilage, or risk of price change.
- Many consumers enjoy selecting fully ripe, fresh products.
- The generally lower price per unit for bulk purchases encourages sales for home processing.
- Some customers enjoy U-pick as recreation.

### ***Disadvantages may include the following:***

- U-pick operations may suffer losses from inexperienced pickers or from too few pickers to harvest the entire crop. (Two-income families have

less time for U-picking despite the perceived recreational benefits.)

- You may have insufficient parking space.
- Your liability risk may increase due to the potential for accidents.

## ***Roadside stands and markets***

Roadside stands typically are located on the farm. They sell the owner's products seasonally, coinciding with harvest schedules. Sometimes, a roadside stand also sells goods from other local farms. It's important to

maintain good quality control when buying from other producers. A suitable location, safe access to the stand, plenty of parking, and knowledgeable and friendly sales personnel are essential for a successful roadside stand operation.



### ***Advantages of a roadside stand may include the following:***

- You can manage time more efficiently between farm and stand operations.
- Transportation costs are reduced.
- You can expand production to meet consumer demand.
- You can expand production as you improve your direct-sales ability.
- You can improve facilities as volume and returns increase.

As you gain experience and accumulate capital, you may wish to develop your roadside stand into a roadside market. Roadside markets typically sell both owner-produced products and products purchased from other sources.

Roadside markets usually are open all year, so they rely heavily on wholesalers and brokers for supplies in the off-season. They may sell items other than produce, but successful roadside markets usually are identified with a rural environment and sale of "home-grown products." Roadside markets, like roadside stands, usually are located on or near the grower's property, which clearly associates them with rural farming.

Operators of roadside markets frequently cite the same advantages for their operations as do roadside stand operators. ***In addition, roadside markets offer:***

- The opportunity to expand the diversity of products offered for sale through purchases from wholesalers
- The possibility of retaining key employees year-round
- The possibility of offering cost-effective entertainment events such as musical performances, petting zoos, or displays
- The possibility that additional income from a year-round farm market may reduce or even eliminate dependence on income from off-farm employment

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***Disadvantages of roadside markets and stands may include the following:***

- The need for a strong retail background and experience
- The need for capital for facilities and inventory, especially for a year-round market

***Farmers' markets***

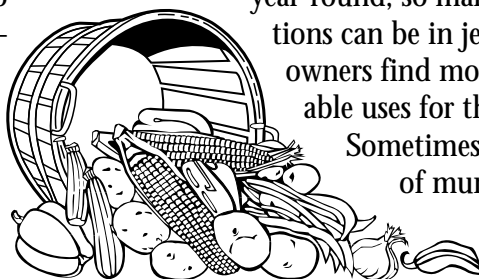
Farmers' markets have many other names, including open-air markets, curb markets, community produce markets, and farmers' retail markets. These community markets are a gathering point for producers to sell locally grown produce and other specialty products to local consumers. Facilities may be large, permanent structures, parking lots where growers sell from their trucks, or temporary stalls. The facilities may be owned by a city or by private individuals, corporations, or cooperatives.

Most farmers' markets are organized under a formal set of rules, guidelines, or by-laws. Frequently, a manager oversees the operation of the market, either as a volunteer or on a paid basis.

***Growers who sell at farmers' markets frequently cite a number of advantages for this method of farm direct sales. For example:***

- Collective selling attracts more customers because of the convenience of having a variety of products and services in one place.
- Customers are drawn by the possibility of obtaining or ordering special items in large quantities for home processing.

- The markets provide excellent opportunities to improve farmer-consumer understanding through direct contact.
- Low-income or elderly urban residents who cannot travel to production areas may be among the most reliable customers of a farmers' market.



- Some farmers' markets are involved in the Federal Women, Infants, and Children (WIC) Program.
- Entertainment such as music or special events may be more affordable when costs are shared among a number of sellers.

***Potential disadvantages of farmers' markets also need to be considered. For example:***

- Costs related to transportation and selling increase.
- There may be downward competitive price pressure because price comparison is easy and many buyers at farmers' markets are more bargain-conscious than customers who come to individual farm locations.
- Time away from production operations can reduce productivity. This problem is especially troublesome during the inevitable periods of slow sales at farmers' markets.
- Limited market days may put pressure on production schedules and contribute to insufficient volume sold.

- Most markets are not open year-round, so market locations can be in jeopardy if owners find more profitable uses for the space. Sometimes the use of municipally owned land reduces this risk.
- Obtaining competent market managers may be difficult.

***Mail-order and Internet sales***

Many growers have found that mail-order selling works well. Mail-order direct marketers sell everything from produce gift baskets to on-farm processed food products and Christmas trees. Destinations range from local to international. Growers like this form of marketing because it lengthens the selling season and expands the customer base.

Producers often develop mailing lists from contacts they make at on-farm selling operations or farmers' markets. You also can buy mailing lists. Often, using group catalogs or contacting buyers' clubs increases sales. In some cases, producers cooperate to prepare and send products.

The Internet provides a new mail-order opportunity. You can design a Web site by using a software package or by contracting with a professional programming service (Webmaster). The Web site would feature your products and services. Browse Web sites of other farm businesses to get ideas on how to design your own.

Most Web sites are on a commercial server and are linked to similar or complementary Web sites. If properly designed, a Web site is found easily by consumers using a Web search engine. When customers reach a site, they can view information, download it onto their own computer, print it, and, if the site is designed for it, place an order.

Often, growers include order forms on their Web site, which customers can fill out and submit, either electronically or by regular mail. Increasingly, customers pay for online purchases by entering their bank charge card number on an electronic order form. To use this method, you need to be able to accept credit card orders. The grower ships or delivers all orders in the traditional way.



### ***Direct to restaurants***

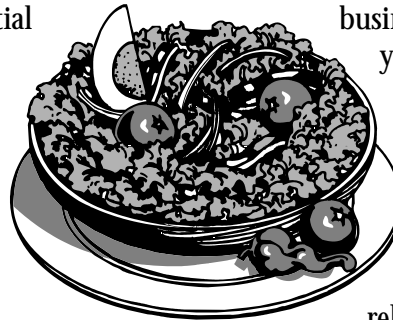
Selling directly to restaurants, like selling directly to consumers, eliminates one or two middlemen. By assuming traditional wholesaler functions, the grower can keep the profit that normally goes to the wholesaler. Often, chefs and restaurant owners are willing to make the extra effort to get high-quality and specialty items, but they demand the same consistent quality and service from the farmer that they can get from a wholesaler—broad

product line, partial cases of product, clean produce, frequent delivery schedules, convenient ordering, and expert advice.

Urban, suburban, and tourist destination areas usually have the number and type of restaurants that could make selling directly to restaurants economically feasible. A restaurant's produce needs depend on its style of cuisine, chef's preferences, number of customers, and menu prices. Generally, restaurants that feature regional specialties, vegetarian dishes, or unique cuisine are the best candidates for direct sales. For example, restaurants in the Seattle area continue to position themselves in the marketplace using a "fresh, locally grown" angle in their menus.

Some restaurants seek out unusual varieties of vegetables and fruit, such as those usually grown in other countries or old varieties often referred to as "heirlooms." Organically grown produce is in demand by some restaurants. Restaurant menus may feature farm names, locations where produce is grown, variety names for produce, and health claims about their dishes. The restaurant may be willing to have on-table "tent" placards that provide additional information about your business and the produce you supply to the restaurant.

Expect the development of a profitable direct-to-restaurant



business to take several years. You must make a dedicated, service-oriented commitment in this outreach-type marketing outlet. Developing relationships, product

line, and quality service takes good planning and hands-on experience.

An effective relationship with a chef involves annual planning to help the chef learn which specialty products can be grown in the area and to help you decide what crops to plant for the upcoming season. You'll need to develop a product line broad enough to accommodate a group of restaurants and to justify the cost of delivery to each individual restaurant. Your service quality—e.g., product presentation, phone service, and delivery—must be excellent for a restaurant to justify reducing or dropping orders from its year-round produce wholesaler for the short, local growing season.

Restaurants often use the Web to market themselves and order supplies. By using the Web, you can set up "cyber" relationships with restaurant customers.

### ***Frequently cited advantages for direct-to-restaurant sales include:***

- A higher wholesale selling price
- A potentially higher net profit
- A possible outlet for specialty or unusual products
- More precise production planning



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***Frequently cited disadvantages for direct-to-restaurant sales include:***

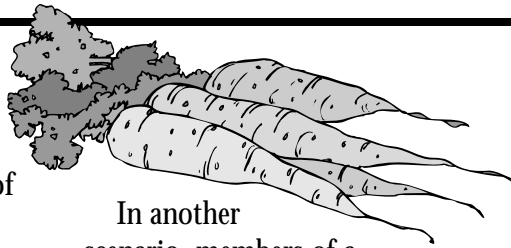
- The need for a high level of off-farm customer service
- Competition from wholesalers who have a year-round product line and sales staff
- The need for a broad product line
- Low per-customer sales volume

***Community-supported agriculture***

Community-supported agriculture (CSA), also called subscription farming, is another method of direct marketing. CSA is an arrangement between farmer and customers in which the farmer provides fresh produce all summer to a group of customers who have paid in advance. Usually, there is a weekly pickup day and time at the farm or a neighborhood location.

With CSA, members purchase shares of the farm's harvest and accept less if a crop is damaged or fails. This method differs from traditional market gardening, in which the grower accepts all of the risk.

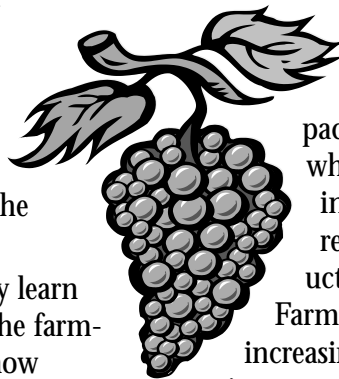
Other methods of CSA may be found. For example, in some membership clubs, members pay a fee for the privilege of coming to the farm and picking produce when it is ready. The customers pay by the pound for what they pick. Although a membership fee is paid before the season, the farmer assumes all of the risks of crop failure.



In another scenario, members of a food buyers club pay an annual membership fee plus a per-pound fee for what they purchase. Members fill out a produce order each week, and the grower takes the food to a central distribution point for pickup.

***There are many advantages to marketing through a CSA.***  
***For example:***

- There is reduced risk to the farmer, as the customer shares in the risk of farming.
- Payments come before or early in the growing season.
- Produce is very fresh, often picked the day of marketing.
- Produce may be home delivered, taken to a central distribution point, or picked up at the farm.
- Produce usually is organically grown.
- The producer has a dedicated market before the growing season begins.
- Farmers can find secondary markets, such as roadside stands, grocery stores, etc.
- There is direct contact between the producer and the consumer.
- Customers may learn something of the farming ethic and how things are grown.



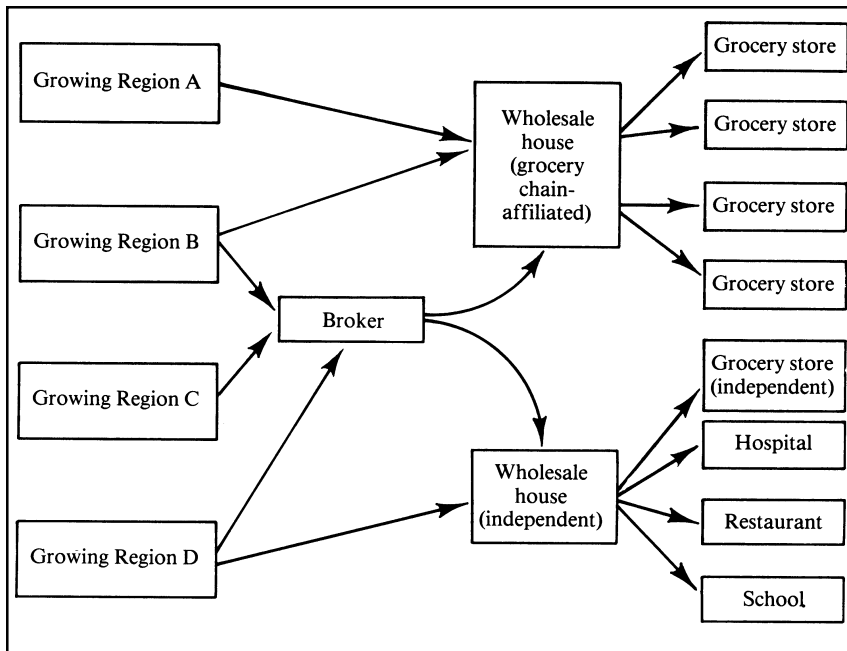
- The customer may help determine what is planted.
- The customer may provide some of the labor.

***There also are disadvantages.***  
***For example:***

- Growing a wide variety of crops adds complexity to the farm operation.
- The grower must develop a relationship with many customers instead of a few simpler wholesale marketing relationships.
- Some organic production techniques are less effective.
- The customer may not like the produce selection.
- Pickup may not be as convenient for customers as shopping at the local supermarket.

## **Wholesale Marketing**

In the past 50 years, the fresh produce marketing system has evolved into a highly sophisticated and efficient marketing mechanism. From handling only a limited selection of locally produced seasonal items, it now markets a large selection of local, national, and international products. Improved transportation and communication systems, as well as uniform grading and packing standards, allow wholesale buyers to shop in various growing regions to find the product and price they desire. Farmers benefit from the increasing number of marketing opportunities. Consumers



*Figure 1 shows some of the possible outlets for fresh produce. Fresh produce, especially many minor crops, may move directly or with help from brokers to wholesale houses for distribution to restaurant, institutional, or retail outlets.*

benefit from greater selection and lower prices.

More and more retailers are operating their own wholesale distribution centers. Large wholesale distribution centers, usually affiliated with large retail chains, often have buyers in major growing regions. New Internet grocery retailers recently have set up distribution centers in urban areas.

If you want to sell produce to distant buyers, you have to make several investments, including:

- Office space
- Phone service and a record-keeping system
- Packing equipment
- Cooling, storage, and loading facilities
- Skilled office personnel

- A skilled marketer, if you don't have the time or ability to do that job yourself

## Introduction to Selling Wholesale

### Product selection

Select the crops that best fit your farm's production capabilities and serve a market need. At the same time, don't overlook opportunities to grow previously untried crops. Hundreds of fresh produce items are available in grocery stores today; a trip to your community supermarket during the local season can help you prepare a list of primary items.

Price can be an important determinant of product potential. A trend toward high product

prices at the shipping point or terminal market during the Pacific Northwest production season can indicate potential high net returns.

The U.S. Department of Agriculture's (USDA) Agricultural Marketing Service (AMS) has a wealth of information to help you decide what product(s) to market. The market news reports prepared by the Federal-State Market News Service, USDA include price, volume, quality, condition, farmers' market, and auction information and other market data related to supply and demand in specific markets and marketing areas. Reports are available for fruits, vegetables, and specialty crops; poultry and eggs; and dairy products.

You can use these reports to help identify most of the produce items shipped into major market areas. Also, the reports indicate the states from which produce is shipped each month and the volume of shipments. Using back issues of the report, you can detect expanding and contracting markets for specific crops. This information can help you choose which products to ship and also give you some indication of the competition you can expect in a particular market.

You can find these reports on the AMS Web site at <http://ams.usda.gov> or in print in any library that houses government documents. The Federal-State Market News Service also publishes historical reports available in print through libraries.

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Today's Market Prices, a commercial service, stores recent historical reports at <http://todaymarket.com> on the Web. There is a fee for using this site, but a free trial period is available.

### **Buyers and brokers**

Wholesalers who want a small amount of produce or a small number of specialty items frequently rely on brokers. Terminal-market brokers can help you divide a full load of produce for sale among two or more buyers. Shipping-point brokers also can help you arrange sales in distant markets.

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

You can find addresses and phone numbers in the following sources:

- Phone directories for major cities (usually available in local libraries or on the Web)
- Trade directories and educational programming of the United Fresh Fruit and Vegetable Association (Alexandria, VA; no Web site) and the Produce Marketing Association at <http://www.pma.com>
- Credit services of *The Red Book* and *The Blue Book*

- Ads in the weekly produce trade newspaper, *The Packer*

Buyers and brokers may be willing to provide information on the needs of particular customers. Requirements vary by firm and market area.

For example, East Coast firms affiliated with retail grocery stores might prefer small, prepackaged packs of produce, while West Coast firms might prefer bulk packs. Most market areas show preference for a particular variety of fruit or vegetable because of appearance, taste, or tradition.

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
- Ordering procedures

Solicit this information for each market area you consider. It can help you get a good picture of the demand for particular products and the procedures needed to get them into the market.

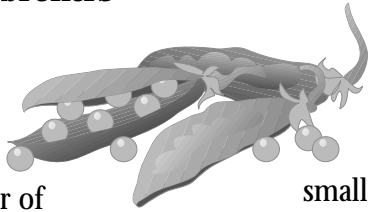
After surveying several market areas, you can compare composite descriptions of each market. You then can analyze further those with the most potential.

### **Industry resources**

For more than 100 years, Vance Publishing Corporation in Lenexa, Kansas has published *The Packer* and other periodicals for the fresh produce industry. *The Packer* is a national, weekly produce industry newspaper for growers, shippers, packers, processors, wholesalers, food-service distributors and operators, retailers, and allied suppliers. It includes information on quality and availability, market conditions, and regulatory issues and trends.

Vance also publishes the following:

- A produce availability and merchandising guide that focuses on handling, storage, seasonality, grades, packaging, merchandising, and nutrition
- A fresh trends magazine that provides information from recent consumer surveys
- A services source book that features a buyer's guide for goods and services
- A produce merchandising magazine for retail executives that features information on new products, merchandising trends, innovative ideas and people, management strategies, home meal and value-added commodities, specialty products, and health programs
- A bimonthly magazine for international traders of fresh produce that features stories on market opportunities, quality expectations, tariffs, licensing, packaging, transportation, and technology



The Vance Publishing Web site at <http://www.rbc.com> has many links to industry Web sites, including:

- Commodity organizations and associations
- U.S. and foreign government sites, including statistical reports
- National and international retail online information services
- Selected produce company Web sites
- Health and nutrition sites
- Organic growers associations
- Food safety agencies
- Import/export businesses

A number of Web sites are good resources for finding potential wholesale and retail buyers, produce brokers, truck brokers, freight forwarders, independent truckers, airline shippers, railroads, ship companies, or other services. For example, U.S. West Communications has a national phone directory at <http://uswestdex.com> where you can search for businesses by type of business or business name. Map and address searches are easy to do by city and state. General Telephone and Electric provides a site at <http://yp.superpages.com>

### Consumers

Don't forget that wholesale buyers and

brokers are trying to fulfill consumer desire. They represent the customers who purchase fresh produce in the marketplace.

To develop a market for a new product or expand consumption of an existing one, you may have to obtain additional information directly from consumers. In each market area, survey customers or marketing personnel who deal directly with consumers (such as produce department managers and restaurant chefs). Their input may provide valuable insight into the sales potential of fresh produce or other specialty products.

Analysis of general trends in consumption of fresh produce also may contribute helpful information. You can find data in various publications from the U.S. Department of Agriculture, land grant universities, and national food marketing associations (e.g., *Marketing and Performance Benchmarks for the Fresh Produce Industry*—see “For Further Reading,” page 26).

The Economic Research Service (ERS), USDA publishes the *Agricultural Outlook* and *Food Review*. The *Agricultural Outlook* is published 10 times per year. It covers current national and international economic situations, consumer trends, changing market structures, and production and marketing technology advances. *Food*

*Review* is published three times per year and contains general economic information, regional

food trends, demographic information, industry trends, specialty market development, and nutrition updates.

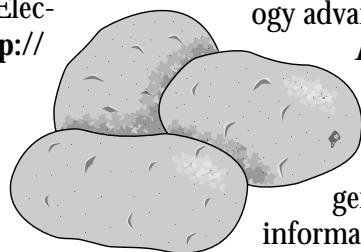
Both publications are available electronically or by subscription through libraries that house government publications. Subscriptions or no-charge electronic downloads are available on the ERS Web site at <http://www.econ.ag.gov>

## Meeting Market Requirements

Your ability to meet the product requirements of the market is very important for success. Meeting quality standards, investing in necessary cooling facilities, delivering a well-packed product, and meeting minimum volume needs can be expensive. This section discusses each of these topics. Carefully analyze the costs involved and the potential returns you expect before entering any distant market.

### Quality

Growing and shipping high-quality products is a prerequisite to success in the fresh produce market. In the produce industry, quality is described by “grade” and “standard.” There are USDA grades for most commodities and shipping area market order grades for specific commodities. 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.



AMS, USDA has a grading and certification program for various products. The USDA originally established these grades to bring order to the fresh produce industry. Without uniform standards, transactions were difficult, as buyers and sellers in different parts of the country often had different definitions of quality. Certification services facilitate ordering and purchase by large-volume buyers and assure buyers that the products they receive

meet the contract with respect to quality, processing, size, packaging, and delivery.

The USDA considers size, shape, color, and condition when assigning a grade. Grade names might vary. Common grade names include *Extra Fancy*, *Fancy*, *Good*, *U.S. No. 1*, and *U.S. No. 2*. Grade descriptions of fresh fruits and vegetables are available from local USDA inspection offices and from state departments of agriculture.

AMS grading services are provided on a user-fee basis. The services include:

- Quality standards for more than 200 agricultural commodities to help buyers and sellers trade on agreed-upon quality levels
- Grading, inspection, quality assurance, and acceptance

services to certify the grade or quality of products

- Inspection of processing facilities
- Assessment and registration of product and service quality management systems to conform with established, internationally recognized standards for some commodities
- Verification of compliance with voluntary standards or contractual requirements



**EXTRA  
FANCY**

Both shippers and receivers use AMS grading inspections to confirm quality and condition of products. Institutional buyers, processors, and government agencies use grading services to establish contract specifications. In cooperation with state departments of agriculture, federally licensed inspectors provide grading services.

USDA grades are the principal standards used by the industry, but USDA grading is not mandatory for interstate shipments unless specified by a market order. Usually, the main purpose of a market order is to set mandatory grades for specific crops shipped out of a growing region. These standards often are tougher than those of USDA. Federal and state laws allow grower groups to set up market orders to promote more consistent marketing.

If you want more information on market orders, contact your state department of agriculture or visit the market orders section of the AMS, USDA Web site <http://ams.usda.gov>

In many cases, other industry standards apply to quality, appearance, or packaging. Although generally not formalized, they represent commonly accepted practice and buyer expectations. For example, most buyers ordering produce from distant growing regions require precooled produce, which retains its quality longer than uncooled produce.

Other industry standards relate to packaging. Most buyers prefer a certain type of package because it maintains superior quality produce.

Buyers require consistent quality. Businesses handling produce operate on low margins, so they want to minimize losses caused by spoilage. Shipping a high-quality product can minimize spoilage losses throughout the marketing system.

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

It is important that you know and understand all applicable product standards. It also is important that you consistently

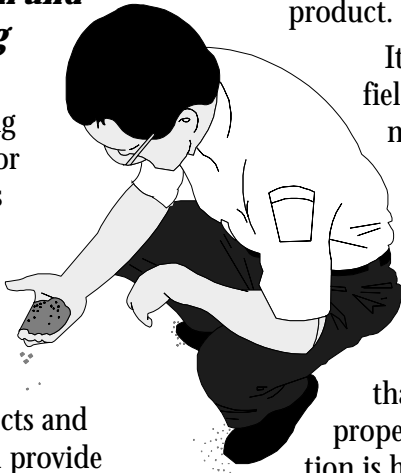
meet or exceed these standards. It is a good, cost-effective idea to have produce inspected by a third party such as AMS before shipment. Doing so protects you, the buyer, and the shipper.

### ***Production and harvesting***

Providing good growing conditions for your crops is important. If you maintain soil health, control harmful insects and diseases, and provide necessary nutrients and water, you are likely to produce a healthy crop, which gives you a better chance to market it at maximum value.

Fresh-market standards generally are stricter than processor standards, so more management time is required. Make sure adequate local labor is available to prepare your crop properly for market. Proper care of your crop during growing and handling is essential to produce a high-percentage packable product.

Select crop varieties that are resistant to specific insects and diseases or are more tolerant of adverse environmental conditions. Some new varieties have unusual colors, sizes, or shapes; are sweeter; or hold in storage longer. Unusual characteristics might result in higher prices or easier entry into some markets.



Plan harvest operations carefully so crops are harvested at optimum maturity. Harvesting in the cool of the morning, shading the harvest in the field, and cooling it as soon as possible all help maintain a high-quality product.

It is important to lay out fields properly to minimize machine- and human-inflicted damage to the crop. Skilled and properly supervised harvest crews can keep physical damage to a minimum and ensure that only produce of the proper maturity and condition is harvested.

Keep your packing lines in good condition and staff them with skilled personnel. These measures ensure accurate grading and minimize physical damage to the product.

### ***Cooling***

Fruits, vegetables, and flowers are still alive after harvest. The living cells in harvested produce combine oxygen from the surrounding air with sugars and starches in the plant to form carbon dioxide, water, and heat. This process is called respiration. Respiration results in produce deterioration, including loss of nutritional value, changes in texture and flavor, and loss of weight. These processes cannot be stopped, but they can be slowed significantly by careful postharvest handling and cooling.

Respiration rates vary tremendously for different products and are affected by environmental

conditions such as temperature. The closer a plant gets to its freezing point, the slower its respiration rate and the growth of decay organisms. For every increase of 18°F between the freezing point and 100°F, the respiration rate increases two or three times. Generally, the higher the respiration rate of a fruit or vegetable, the greater the need for postharvest cooling.

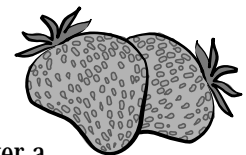
Removing field heat from newly harvested produce can increase its shelf life. Wet or damp produce must be cooled, as warm, wet produce creates an environment that encourages the growth of decay organisms. The rapid cooling of fresh produce from field temperature to its best storage temperature is called *precooling*. Precooling usually is the grower-shipper's responsibility.

There are four basic methods of precooling: *forced air*, *hydro-cooling*, *vacuum cooling*, and *icing*. Each was developed with specific crops in mind. For each crop, it is critical to know how to handle the produce at harvest, whether cooling is necessary, and the best method of cooling.

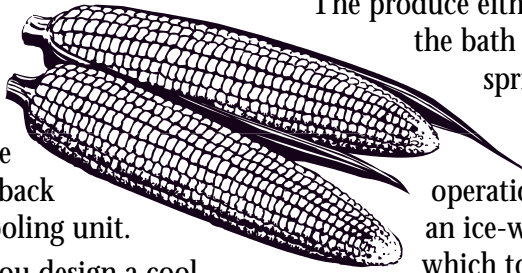
Buyer expectations based on tradition or local market conditions might call for some variation in cooling techniques. Cost also is an important consideration when you select a precooling method.

#### **Forced air**

In this method, cool air moves 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.



The produce either is dumped in the bath or under the sprinkler or is left in bins or boxes. Small operations might have an ice-water tank in which to “stir” the vegetables for rapid cooling.

When you design a cool room, provide enough refrigeration capacity and proper humidity control. These steps can prevent excess weight loss.

Forced air units are affordable for many small-scale growers. Alternatively, an existing cold room can be augmented by making cooling tunnels using portable fans and tarps. Line up two rows of produce and set up a fan to draw air down the aisle between the rows. Cover the aisle with a sturdy tarp to force the system to draw air through the boxes of produce.

Forced air cools most commodities effectively, but those best adapted to this method include berries, stone fruits, and mushrooms.

### **Hydrocooling**

With hydrocooling, chilled water cools the produce. The water usually is cooled by mechanical refrigeration, although cold well water and ice sometimes are used. The size of hydrocooling units varies depending on the size of the operation, but considerable refrigeration or large quantities of ice are required to keep the water at the desired temperature of 33 to 36°F.

The produce is cooled by a water bath or sprinkler system.

Pay special attention to water quality. Unfiltered and unsanitized water can spread undesirable microorganisms.

Most vegetables and many fruits that can withstand wetting can be hydrocooled. Asparagus, celery, cantaloupes, green peas, leaf lettuce, peaches, radishes, and sweet corn can be cooled successfully with this method.

### **Vacuum cooling**

In vacuum cooling, produce is placed in a vacuum tube, and air pressure is reduced greatly. At lower atmospheric pressure, some water from the produce “boils” away as the produce uses its own heat energy to convert water to gas, thus lowering the product’s temperature. Heat and moisture are removed from the vacuum tube by mechanical refrigeration.

Commercial vacuum units usually cool the product to the proper storage temperature in less than 30 minutes. Units are available for cooling different amounts of product, from two pallets to a full truckload.

Because of the high cost of this equipment, it might be more economical to do the cooling at a central location on a cooperative basis. Grower costs depend mainly on the volume

cooled. Growers usually are able to recover costs by charging a fee per unit in addition to the agreed purchase price of the produce.

Lettuce and a few other vegetables can be vacuum cooled effectively.

### **Icing**

In this method, crushed or slurry ice is placed directly into the produce box. This can be an effective method for precooling individual boxes of certain vegetables. The produce can be cooled in a short period of time and the temperature maintained in transit.



Broccoli, green onions, and some root crops most commonly are top iced.

### **Packing**

The first consideration in packing is product quality. Produce should be uniform in size, color, condition, and overall quality. Buyers like to know exactly what they will get when they order produce from a farmer. Thus, a pack that is consistent in appearance and weight (sometimes a grade standard) over the season is desirable.

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. Attractive packing frequently encourages repeat purchases.

High-quality produce must be handled carefully during harvesting and packing. For produce packed in the field, you have to rely on skilled harvesters with adequate supervision. In a packing shed, you must rely on skilled line personnel and properly operating equipment.

The cost for building and operating a packing shed varies according to product needs and type of equipment. Though usually more expensive than field packing, packing sheds offer some advantages. Grading and packing can be done under well supervised and less strenuous working conditions and with suitable equipment. The result often is a higher quality and more uniform pack than can be achieved in the field.

Some crops, however, cannot absorb the additional costs of shed packing. Also, some products, such as berries, do not lend themselves to the additional handling required in packing sheds. If such handling is necessary, harvesters should select only clean, firm fruit that will allow extra handling.

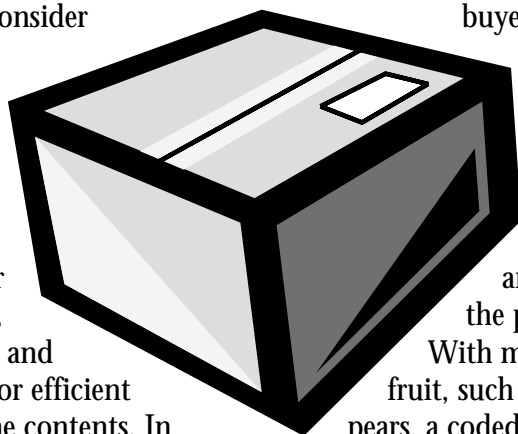
When you choose a cardboard box or other container for packaging, consider several functional criteria. The box must meet industry-accepted standards for size, volume, and strength and must allow for efficient cooling of the contents. In

addition, be sure the box protects the product throughout distribution and is suitable for storing on standard pallets. Lastly, the package must present your product in a useful and attractive manner.

Buyers usually expect new, unused containers. Sometimes, however, recycled produce boxes are acceptable for deliveries directly to a customer such as a restaurant. But keep in mind that recycled containers may have another farm's name printed on the outside, and your excellent job of production and handling may be attributed to that farm!

Some products are prepackaged in smaller units before being placed in the shipping carton. Apples and pears may be wrapped individually and placed on layer trays. Berries may be sold in 1-pint or half-pint containers and covered with a clear plastic lid. Berries also may be sold in clear plastic, clamshell-type containers for easier handling. Carrots often are placed in 1- or 2-pound bags.

Shippers often use prepacking to provide additional protection for their product. Many retail buyers prefer



prepacking of some products to reduce the amount of preparation and handling at the point of sale.

With many types of fruit, such as apples and pears, a coded sticker is

applied to each piece for easy identification by supermarket clerks. Be sure to check with potential buyers to determine their preference.

Prepackaged produce is more expensive to prepare and ship than bulk produce, so your pricing should reflect the added cost.

When you prepackage produce that is destined for retail supermarket shelves, use an attractive package. A package that shows off the product and has an attractive label helps promote sales. Be sure to include your farm name, business telephone number, and address (where the product is grown) to help promote locally grown products. Take advantage of any local promotions or logos that identify products as locally grown. Advertise your farm Web site, if you have one, to encourage buyers to check out your full line of products and to make future ordering easier.

Carton manufacturers in the Pacific Northwest are willing to assist growers in selecting and designing a box to meet their needs.

### ***Volume requirements***

The minimum amount of one commodity you can sell on any given day usually is set by your buyer's requirements. Buyers prefer to deal with as few suppliers as possible to simplify their logistics. Thus, they often look for grower-shippers who can supply a significant portion of what they require.



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At the same time, most buyers want shipments to be consistent throughout the season. They usually prefer regular shipments at a steady volume, quality, and competitive price. For vegetable crops, pay close attention to planting schedules and variety selection. For fruits, you need adequate postharvest storage facilities to extend the marketing season.

Being able to supply several different commodities at one time also can be to your advantage if it is more convenient for the buyer. Remember that different buyers have different volume needs. Look for those buyers whose product and volume needs *you* can best fulfill.

Transportation also puts constraints on volume. Trucking is the most common way to move produce in the continental U.S. Truckers prefer to move only full truckloads to distant cities. Also, truck trailers have volume and weight limits. Thus, shipments to most markets must be within precise truckload limits. Air and sea containers also require shipping in units with precise sizes and weights.

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.

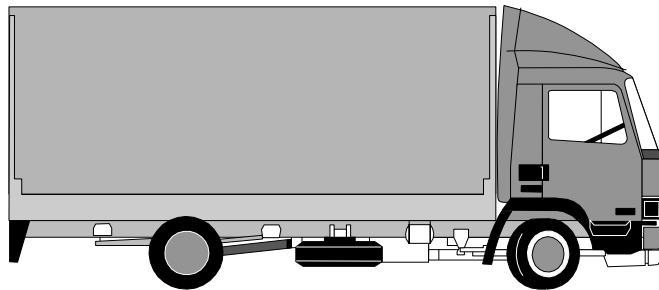
If you sell in small markets or grow specialty crops, you may encounter volume limits as well. At some level, all markets become saturated. Shipping into small markets might not be economical, so evaluate them closely.

## Organic Marketing

State and federal regulations define organic foods as agricultural products that are produced and marketed under standards established by specific rules.

### *The Idaho program*

In 1990, Idaho established an organic certification program under the Organic Food Products law. The law was enacted to



assure consumers that food products labeled and marketed with the term “organic” conform to defined standards.

Under that law, the director of the Idaho Department of Agriculture appoints an Organic Food Advisory Council to establish rules, regulations, and standards for the production, handling, advertising, and sale of organically grown foods. With the exception of apiary products (e.g., honey), the rules do not apply to any livestock, dairy, or aquiculture products.

Anyone in Idaho producing or marketing food products identified as organic must be registered and certified by the state. Farm histories, notarized applications, and application fees must be submitted to the Idaho Department of Agriculture. Thorough, accurate record keeping is required. Regular state inspections of production and handling operations are required during the growing season, and samples might be taken for chemical analysis. Additional unannounced onsite inspections are permissible under the law.

The State of Idaho believes this program puts it in good position vis-a-vis the National Organic Program (NOP). A member of the state Organic Food Advisory Council is a participant on the National Organic Standards Board (NOSB).

You can obtain details of the Idaho Organic Certification Program, a resource guide, and application materials from the Idaho Department of Agriculture Organic Certification Program Office, P.O. Box 790, Boise, ID 83701; phone 208-332-8660.

### *The Oregon program*

Under Oregon law, growers, wholesalers, and retailers of organically grown food must register with the Oregon Department of Agriculture. The Department maintains a list of approved organic materials and practices and has established rules and regulations related to organic food production and marketing. Various private

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organizations in Oregon do organic certification.

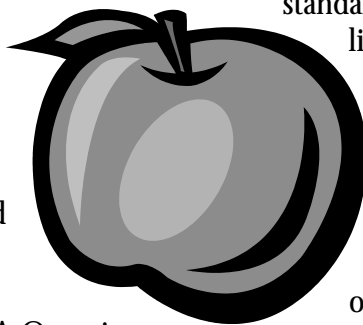
For more information on the Oregon Organic Program, contact the Food Safety Division, Oregon Department of Agriculture, 635 Capitol Street NE, Salem, OR 97310-0110; phone 503-986-4720.

### ***The Washington program***

Under Washington law, producers, handlers, and sellers of organically grown food must be certified by the Washington State Department of Agriculture (WSDA) and pay an annual fee. The only exceptions are individuals who normally sell less than \$5,000 worth of product per year or who sell directly to consumers. However, some farmers' markets in the state require their vendors to be certified regardless of the value of their sales. Anyone claiming their product is organic, whether certified or not, must comply with the WSDA organic standards.

The WSDA Organic Food Program has detailed information on the following:

- Organic crop production standards
- Application and certification procedures
- Visits by WSDA Organic Field Inspectors
- Regulation of organic food handlers, livestock operations, and food processors



You can contact the Program by writing to Organic Food Program, Washington State Department of Agriculture, P.O. Box 42591, Olympia, WA 98504-2591; phone 360-902-1877, or fax 360-902-2087. The Program also can be reached by e-mail at [organic@agr.wa.gov](mailto:organic@agr.wa.gov) for both crops and livestock.

### ***The national program***

In the late 1980s, organic growers started a campaign for national standards that would protect the word "organic" with respect to food production and marketing practices. Production and consumption of organic foods had expanded in recent years, and consumers, who were spending increased amounts on organic foods, supported the effort.

Under the Organic Foods Production Act of 1990 (OFPA), the AMS, USDA was mandated to develop an organic program. Under NOP, a national set of standards must be estab-

lished to govern the marketing of certain agricultural products as organically produced. The purpose is to assure consumers that organically produced products meet consistent standards and to facilitate interstate commerce in organically produced foods.

The proposed federal rules specify substances approved for

use in the production and handling of organically produced foods. The rules establish an accreditation program for state organic programs, their officials, and private individuals who want to be certified under NOP. All products claiming to be organic or to contain organic ingredients must be certified to be sold as such. The rules also establish labeling requirements for organic products and products containing organic ingredients. Finally, provisions are made for the importation of organic foods from countries with programs determined to meet equivalent standards.

However, early reactions to the NOP rules were mixed. Strong opposition to the proposed federal standards was raised because they included genetically engineered food products, irradiation, and sewage sludge as acceptable for organic production—despite recommendations to the contrary by the NOSB (a group formed by the AMS under the OFPA). Some people also opposed the burden of the certification program and associated fees.

The AMS received more than 275,000 communications on the originally proposed NOP rules. Comments were overwhelmingly opposed to the inclusion of genetically engineered food products, irradiation, and sewage sludge in the organic standards. Thus, AMS promised to consider excluding them when the list of acceptable systems and



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substances deemed “organic” is finalized.

For details and updates on the NOP, visit the AMS Web site <http://ams.usda.gov>

### ***Organic Farmers Marketing Association***

The Organic Farmers Marketing Association was formed in 1996 in Leavenworth, Kansas. Its purpose is to assist organic farmers in marketing, communications, and public advocacy. Its Web site at <http://web.iquest.net/ofma> has links to many other Web sites. Included on the site is a list of selected private organic certification organizations and state certification programs.

### **Selling to Wholesalers**

Selling fresh produce and specialty products requires skill. It involves selecting a selling method, setting the right price, managing credit accounts, promoting your product, and establishing good relations with buyers. The profitability of your operation depends directly on your skills as a seller. Each of these topics is discussed below.

#### ***Selecting a selling method***

You can sell your produce in the wholesale market in a number of ways. Consider several criteria when selecting a wholesaling method. First, consider your marketing skills or those of others who do the selling. Next, consider your desire to be involved in the marketing

process and the volume of product you need to sell. Investment costs and net returns also are important factors.

In the regional wholesale markets of major Pacific Northwest cities, you generally do the selling yourself. For more distant markets, you probably must depend on private shippers, brokers, or cooperatives.

In many growing areas, there are grower-shippers who are willing to market the produce of neighboring farms. Evaluate their skills and facilities for selling. In some cases, they buy the product outright from neighbor growers. In other cases, they may charge a marketing fee for their services.

Shipping-point brokers also are used by some Pacific Northwest growers. For a percentage of your price or a per-unit fee, they handle the sale arrangements and monetary transactions. Their commissions usually fall between 5 and 10 percent, but 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 for selling relatively small volumes and gaining initial access to major metropolitan markets.

Cooperatives are another method that Pacific Northwest

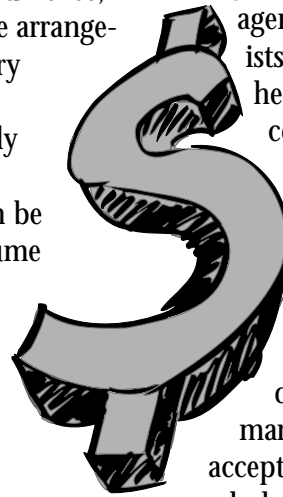
growers use to market their fresh produce. Through a cooperative form of business, growers can invest as a group in necessary selling facilities and staff. Marketing costs can be spread over a larger volume of product. Also, any profits (savings) eventually are returned to the grower-members. A cooperative may be a good option if you are a small producer, or if you are in highly competitive markets where growers need more market power.

You can find more information on cooperatives in *Organizing and Operating Agricultural Cooperatives*, EM 8665 (see “**For Further Reading**,” page 26).

The USDA, Rural Development, Rural Business-Cooperative Service Web site at <http://www.rurdev.usda.gov> might be of interest. It describes the programs and services of the agency and lists state specialists who are responsible for helping new and existing cooperatives.

#### ***Setting prices***

Setting price is one of the most important skills you must acquire. Prices must balance two objectives: establishing market share and earning an acceptable return. Usually, the wholesale market can be characterized as a buyers’ market where there are fewer wholesale buyers than producers wishing to sell. You need to be a skilled seller to identify buyers willing to pay the highest prices and to negotiate prices in your favor.



The key to good pricing is good information. Although you'll never have *all* the market information you'd like to have, be as well informed as possible. You should know the following:

- Break-even price and the related volume you must sell to achieve it
- Prevailing market prices
- Your product quality relative to others available on the market
- Purchasing options of buyers

An important source of information is the USDA, AMS market news report (see “Selected World Wide Web Sites,” page 24, for details).

### ***Financial arrangements***

Most wholesale transactions in the fresh produce industry are made on credit to facilitate fast movement of perishable goods.

The federal government, under the Perishable Agricultural Commodities Act (PACA) of 1930, promotes fair trade and regulates the extension of interstate credit in the produce industry. Under this industry-developed and sponsored law, produce buyers and sellers are required to satisfy the terms of their contracts. Sellers must ship the quality and quantity specified, and buyers must accept shipments that meet contract specifications. Both informal and formal procedures are available to resolve disputes outside the civil court system.

PACA protects the seller from buyer failure to pay the agreed price in compliance with the contract terms, or from unreasonably slow payment. PACA regulations state that payment for produce must be made within 10 days of the buyer's acceptance of the shipment unless otherwise agreed upon in writing. Often, however, payment may take 30 or more days to reach you.

PACA also protects sellers from buyer rejection of products without reasonable cause or from improper consignment handling. Discarding, dumping, or destroying products without reasonable cause is prohibited. Also prohibited is misbranding or misrepresentation of grade, quality, quantity, weight, or country of origin.

In 1984, the PACA was amended. The new provision creates a statutory trust from a buyer's produce-related assets, which is held to reimburse unpaid

produce suppliers who have preserved their trust rights. Although the trust automatically goes into effect at the time the buyer receives the product, a seller must properly preserve rights by notifying the buyer of the seller's intent to preserve trust benefits under the PACA. In case of a business failure or bankruptcy, produce suppliers are paid first from the trust before general creditors are satisfied.

Almost all produce shippers and buyers (those handling 2,000 pounds or more per day) must hold a license from the PACA Branch, Fruit and Vegetable Division, AMS, USDA. Parties found to have committed unfair trade practices face license suspension or revocation, which severely restricts their operations.

Growers are exempt from the licensing program as long as they sell only their own products. Also, retailers and frozen food brokers representing sellers are exempt until they purchase or negotiate sales of at least \$230,000 per calendar year. In addition, contract carrier truckers and most restaurants are not required to be licensed.

The PACA has a very informative Web site at <http://ams.usda.gov> that provides more detailed information. In addition to information on the trust provision, you can learn who is required to be licensed, PACA procedures, bonding requirements, information on PACA offices and the states they serve, and how to file claims for damages.

Each state in the Pacific Northwest also has its own regulations on credit extension. Most commercial produce purchasers must be licensed by the state under these programs. Buyers having only a cash buyer's license cannot buy on credit from growers. Wholesale and commission merchant licenses allow purchases with credit, but they require payment within a maximum number of days.



Contact your state department of agriculture for information on regulations and licensing.

A credit check of a buyer is important before you complete a sale. There are two industry-recognized credit rating services from which you can purchase information—*The Red Book* and *The Blue Book*. Most buyers of interstate produce subscribe to these services. The company name, address, phone numbers, executive personnel, and credit ratings are listed.

Vance Publishing Corporation operates Red Book Credit Services. *The Red Book* provides credit rating and marketing information about firms involved in buying, selling, and transporting produce. It has 24,000 listings and indexes them according to commodity, type of operation, location, and pay rate.

Reports include credit rating information from vendors, trading partners, government agencies, banks, and a private credit services database. A directory of transportation brokers includes listings and ratings for brokers and freight forwarders.

The Vance Publishing Web site provides detailed information, contact people, and subscription information at <http://www.rbc.com> (the same URL where you can find *The Packer*).

The Produce Reporter Company in Carol Stream, Illinois, provides credit and marketing information to the produce industry and those transportation industries that are exempt from federal regulation. In

addition to publishing *The Blue Book* twice per year, it issues weekly updates for its subscribers on business status changes, personnel movements, and new firms.

For detailed information on contacts and services available from the Produce Reporter Company Blue Book Services, visit their Web site at <http://www.bluebookprco.com>

### ***Promotion and advertising***

In order to sell produce in the national market, promotion and advertising often are necessary.

There are more than 2,000 major wholesale produce buyers in the United States. That is too many to reach easily by personal contact or word of mouth. Promotion means making contact with potential buyers through an indirect medium, such as:

- Articles in trade publications
- Speaking engagements or attendance at trade association meetings
- Appointment to industry committees

All can help get your name and firm in front of the industry.

If you are just starting to market or are adding new products, you can send a news release to trade publications. The

publications might print the release itself, or you might get a call from a reporter wanting a more detailed story.

Paid advertising allows you to time publicity and target it for maximum effectiveness.

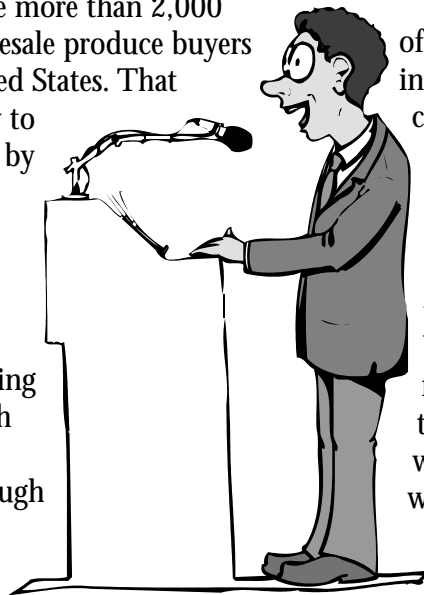
Announce the upcoming opening of your product shipping season. Invite buyers to place their initial orders. Remind buyers of the virtues of your particular product during the season. The aim of paid advertising is to get your name and products directly before the buyer as tastefully and frequently as possible.

The print medium often is best for reaching industry buyers. Periodicals and trade association publications offer advertising space.

To reach consumers, promotion and advertising usually are done by commodity commissions and associations. Sometimes they work in cooperation with retailers. Only a few large shippers promote their branded products

directly to consumers.

More and more consumers are shopping on the Web. Having a Web site of your own can connect you with those customers. You can promote your Web site address with brochures, catalogs, business cards, correspondence, and signs. Refer to “**Mail-order and Internet Sales**,” page 5, for more discussion on creating a Web site.



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## ***Buyer-seller relations***

It is to your advantage to establish a good, mutually beneficial working relationship with your buyers. You need each other to stay in business. Good working relations bring long-term steadiness to the market. You benefit during a market glut by having a reliable outlet. Your buyer benefits during a crop shortage by having a reliable supplier. Established relationships require less of your time per transaction than new relationships, so they can save money.

Buyers are looking for several characteristics when they establish a relationship with a supplier. For example:

- They typically prefer shippers who can provide a consistent product supply over the entire growing season. Buyers often prefer not to deal with a seller on an occasional basis because doing so adds time per sale.
- They want a specific product quality and volume.
- They look for reasonable prices.
- They appreciate helpful, knowledgeable salespeople who can provide future supply information, help arrange transportation, and answer questions.

Most sellers look for buyers who are reliable purchasers, pay on time, negotiate reasonable prices, and are easy to deal with. Payment policies vary between firms. Some firms pay weekly; others pay on the last day

allowed under the applicable law. If cash flow is a major concern for you, look for buyers who offer prompt payment.

Good records are a necessity in case a dispute arises over a shipment of produce. A payment dispute with a distant buyer in the middle of the growing season can be expensive to settle. Maintain a good record-keeping system; any agency or legal representative called in to mediate a dispute will need verification of the shipment.

You risk losing touch with the market if you rely on a few established buyers. However, if you keep abreast of what is happening in the marketplace at all times, you can avoid that risk and establish a mutually respectful relationship with your buyers.

## ***Types of risk***

Starting a new marketing venture or opening a new market can be risky because of necessary unknowns. You won't have an established relationship with buyers and you will be unfamiliar with the ultimate users of your product. Until you "test the water," you can't be sure of market reaction. You are risking the time and money that is necessary to enter the market, including, possibly, additional investment in on-farm facilities and equipment.

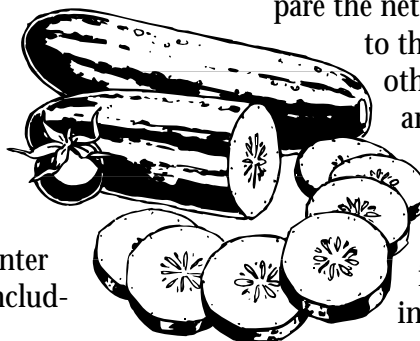
In addition to these initial risks, there are the normal marketing risks associated with the perishability of most specialty products. You must harvest your produce when it reaches maturity and you usually cannot store it long before it must be sold. As a result, there often are market gluts and low prices during peak harvest. You cannot always predict or avoid these trends.

Each handler in the distribution system can affect the quality of your product. Poor handling by a transportation firm or commission house can give the buyer a wrong impression about your product.

"Mother Nature" also can be unpredictable for produce growers. Inclement weather poses a common risk. And who knows when another Mediterranean fruitfly invasion or eruption of Mt. St. Helens might occur?

It is important that you take market and natural risks into account. Assigning a money value to potential risks forces you to consider them as part of your expenses when you calculate potential net returns to your operation. Thus, you can compare the net return calculation to the returns of your other marketing options and select the one that seems most profitable.

Once you have identified the risks involved, you can consider ways to lower them. One tool for reducing risk in a new market is a thorough



interview with other growers and potential buyers and transporters. You can determine more precisely market needs and identify trustworthy buyers. You also can use credit reference books to confirm the credit worthiness of new buyers.

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

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

You can buy insurance to lower some types of risk. Crop insurance is available against a number of natural disasters. Be sure that transportation firms you use carry cargo insurance to cover losses from accident or equipment failure.

## Transportation to Market

There are four ways to move commercial fresh produce within the United States: truck, rail, air, and ship. Refrigerated truck trailers move 92 percent of fresh domestic produce. Railcar and piggyback service move fresh produce from the Pacific Northwest to the East Coast. Air and ship services move highly

perishable products to Alaska, Hawaii, and Asian and other export markets.

Your farm or market location largely determines which modes of transportation are available. The buyer usually selects the type of transportation and pays for it directly. In some cases, you might pay the transportation cost and include it in the final product selling price.

If you do have a choice of transportation method, consider the following:

- Product perishability
- Types of service available between shipping points
- Time to destination
- Quality of service provided by the method or firm
- Preference of the buyer
- Volume to be shipped
- Cost

Arrange transportation directly with the carrier or through a transportation broker or freight forwarder. Brokers and freight forwarders usually arrange shipments on a commission basis. The commission almost always is paid by the carrier. Freight forwarders can provide additional transportation between your farm and the loading facilities. They also can arrange transportation between the freight terminal and the buyer's unloading dock. They usually charge an extra fee for these services.

## Truck

The most widely used means of transporting fresh produce is refrigerated truck trailer. This method has grown in importance as the national highway system has expanded. Products can be shipped by truck from any growing area to any market in the continental United States.

During winter, most produce moves out of southern growing regions. As summer approaches, northern growing regions gradually come into production. The trucking industry has been the most flexible of the transportation industries in its response to seasonal transportation needs. Traditionally, truckers who haul only agricultural products have been exempt from most federal regulations. For this reason, the produce trucking industry is made up mostly of independent truckers who are able to respond quickly to seasonal changes in shipping points.

More than 90 percent of the fresh produce grown in the Pacific Northwest is shipped by truck. The most common way to obtain a truck for out-of-state shipment is through a truck broker. Brokers continually monitor the availability of trucks. Truckers check in with brokers to obtain a load. Usually, brokers handle the billing and retain a percentage brokerage fee.

There are several truck brokers in each growing area of the



Pacific Northwest. They are listed in the online phone directories mentioned on page 25.

Not all trucking transactions involve a broker. You might want to contract with local truckers or trucking firms to move your product to regular buyers on a steady basis. Some growers have a small fleet of their own trucks. In some cases, the buyer provides trucks.

The trucking industry is very competitive, and profit margins are slim. Truckers prefer to haul full loads because less-than-full trailer loads generally are not profitable. It is to your advantage to mix your small loads with other shipments going to the same destination. Often, buyers themselves arrange mixed-load shipments. Some trucking firms specialize in consolidating small loads by running regular routes along interstate highways between major cities.

Depending on the destination, the produce might be in the hands of the trucker longer than anyone else in the distribution system. Take care to find a reliable trucker with well-maintained equipment.

Refrigerated trailers are necessary for perishable items. Trailer refrigeration usually is diesel-powered and operates independently of the truck. See that the trailer is precooled, cleaned, and examined for damage before loading. In winter, a heater might be needed to prevent freezing.

Inexpensive rented temperature monitoring devices can be added to your load to document

any problems during transit. If there is a quality problem when your product is opened on arrival, documentation of temperature during transit might be important.

Transportation by truck usually is 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 quotes average rates between western shipping points and eastern destinations and can be found on the Web at <http://ams.usda.gov>

### **Rail**

Five percent or less of all produce shipments are by rail. In the Pacific Northwest, rail service is used primarily by potato and onion shippers. Destinations usually are major eastern cities.

Full carloads almost always are necessary. Commodity groups move large volumes into large markets on a steady basis. Cars are equipped with mechanical refrigeration units and are designed to hold 75,000 to 90,000 pounds of product.

Trailer-on-flat-car ("piggyback") service is



increasing, while straight railcar service is declining.

The shipper or the buyer books directly with the originating railroad company. The railroad assigns a nearby loading facility and handles the billing.

### **Air**

Airlines are used exclusively to ship a few high-value and extremely perishable products to domestic and export markets. Air freight accounts for no more than 1 percent of all commodities shipped from the Pacific Northwest. It is the most expensive mode of transportation.

Berries and cherries are the products most commonly shipped by air from the Pacific Northwest to domestic United States markets. Raspberries especially have a very short shelf life, so they almost always are shipped by air. Most berries, except for strawberries, can be sold at a price high enough to compensate for the higher transportation cost.

Produce is loaded in containers for placement in the aircraft. Precooling the product and the container helps ensure lower arrival temperatures and lengthens the product's shelf life. Using disposable insulation and dry ice inside the container also can help maintain lower transit temperatures. Be sure to check with the airline for regulations on the use of dry ice.

Permanently insulated containers



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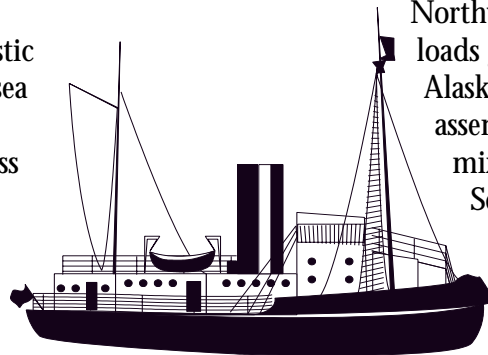
also are available for produce shipping.

Access to airline shipping service varies by region. Seattle-Tacoma International Airport offers several flights each week to many destinations. Several airlines have cool-storage facilities available there. Other international and regional airports 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. Containers can be picked up directly from the airline for loading back at the farm, or they can be loaded at the airline dock.

### ***Ship***

Total domestic shipments by sea account for 1 percent or less of the fresh produce transported out of the Northwest.



Most fresh produce moves in 35- or 40-foot refrigerated containers. Each unit has its own electric refrigeration unit powered by the ship's engines. Some containers can use modified atmosphere to protect produce better. Dry containers often are used for long-lived commodities such as apples, although refrigeration is recommended.

Containers of fresh produce are shipped by sea to Alaska and Hawaii from Seattle and Portland. Shipping by sea costs less than by air to these destinations, but it is slower. Shipment to Alaska requires a 3- to 5-day voyage; Hawaii requires a 5- to 7-day voyage.

Alaska is the most common destination from the Pacific Northwest. Most

loads going to Alaska are assembled as mixed loads in Seattle or Portland by one of a few wholesalers or

retail warehouses. These wholesale firms have branches in Alaska, or they have supply contracts with firms there. If you want to sell to the Alaskan market, you probably will have to sell to one of these Washington or Oregon wholesale firms.

Ship service is less frequent to Hawaii than to Alaska. Hawaii is a more limited market for Pacific Northwest crops, as California is Hawaii's major supplier. Some opportunity exists for shipments of fruit and potatoes, but not so much for other vegetables. There also are limited opportunities to ship less perishable products—such as pumpkins and squash—to Asian markets, but only at certain times of the year. Tropical weather can affect product quality drastically.

You can arrange container loading and booking directly with steamship or barge companies. Or, freight forwarders and some trucking firms can assist you in making arrangements.

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## Selected World Wide Web Sites

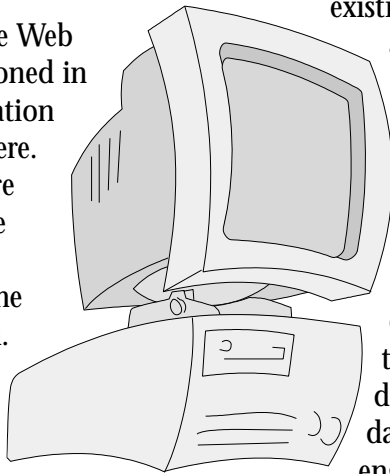
All of the Web sites mentioned in this publication are listed here. The sites are listed in the order they appear in the publication.

Most sites provide easy access to their information. Remember that URL addresses can change, and sites can be temporarily out of service. You might get a message that alerts you to changes in the content or location of a site. Other times, all you will know is that your system is unable to find the site.

Be aware that information on Web sites might be unreliable. We include here only sites that were reviewed and seem credible. However, even these sites might contain information that is not correct. Therefore, you should confirm any information you find in these or other sites.

<http://www.altavista.com> (page 3). This is a full-text search engine developed by the Digital Equipment Corporation Research Lab to help users find information on the Web by using key words or phrases. It can do multilingual searches and online translations.

<http://www.metacrawler.com> (page 3). Go2Net, Inc. developed and operates this



search engine. It is a search/index guide that combines several existing guides into one package. It collates results, eliminates duplication, scores the results, and provides a comprehensive list of possibly relevant sites.

<http://www.yahoo.com> (page 3). By 1994, the creators of Yahoo developed this customized database into a search engine that efficiently locates, identifies, and edits material stored on computers that are part of the Internet system. The system contains organized information on tens of thousands of computers linked to the Web.

<http://www.uidaho.edu/ag/environment/sustain/sum/op.html> (page 3). This site, developed and maintained by the University of Idaho, focuses on marketing opportunities for small farms. It has links to organizations related to farm direct marketing, community-supported agriculture, and sustainable agriculture.

<http://smallfarms.orst.edu> (page 3). The Benton County office of the Oregon State University Extension Service developed this site for small-scale farmers. It features materials on a wide variety of topics relevant to small farm production and marketing. It has extensive search capabilities to find information on agricultural production and marketing management.

<http://www.pierce.wsu.edu> (page 3). This site was created and developed by Washington State University Cooperative Extension in Pierce County. It provides a wealth of information on production and marketing for small farms, local grower products and services, and educational opportunities, and it is linked to many other relevant sites. Other WSU sites that may be of interest are <http://king.wsu.edu/ag/agpubindex.htm> and <http://foodfarm.wsu.edu>

<http://www.ams.usda.gov> (pages 8, 11, 17, 18, 22). The USDA Agricultural Marketing Service created and maintains this site. The menu features of this site make it very easy to use. You can find up-to-date information on AMS programs and services, market news, farm direct marketing, grades and standards, marketing orders, the national organic program, perishable agricultural commodity act regulations, and links to many other sites. There also are regular reports on shipping and terminal markets, national rail and truck shipments, and truck rates. Reports cover domestic and international markets.

Within hours of collection, data are disseminated via a satellite system and made available electronically, in printed reports, on telephone recordings, and through the news media.

<http://todaymarket.com> (page 9). This site is maintained by a commercial service, Today's Market Prices. The site stores

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current and recent historical reports on fresh fruit and vegetable markets in a database. You can find USDA and other information on terminal and shipping point markets with an easy-to-use, menu-driven system. There is a fee to use this site, but a free trial period is available. Extensive links to other sites are included and are free to all users.

**<http://www.pma.com>** (page 9). The Produce Marketing Association developed and maintains this site for members of the fresh fruit, vegetable, and floral industry who are involved in production, distribution, retailing, and food service. The Association's site helps them further their mission of bringing buyers and sellers together; providing marketing, education, and information programs; anticipating and managing marketing issues that might affect its members; and monitoring production issues.

**<http://www.rbc.com>** (pages 10 and 19). Vance Publishing created and maintains this Web site. Vance publishes newspapers and periodicals for the produce industry as well as the Red Book credit and market information service. The site has many links to industry, government, and university Web sites.

**<http://uswestdex.com>** (page 10). U.S. West Dex, Inc. is a part of U.S. West, Inc. and provides national white and yellow page directories through this Web site at no charge. It can provide valuable information on businesses that may be of service to you. There also are links to the Council of Better Business Bureaus, where you can find additional information resources and register complaints about businesses.

**<http://yp.superpages.com>** (page 10). This phone directory information site is provided by General Telephone and Electric. It is a database of yellow pages information from telephone services nationwide. For an annual fee, it is possible to link your Web site to the directory listing for your business.

**<http://www.econ.ag.gov>** (page 10). The Economic Research Service (ERS), USDA has established this Web site to make its publications, reports, and other services more easily and inexpensively available. ERS focuses on agricultural policy and programs, credit, food marketing, agricultural labor and other inputs, international agriculture and trade, rural development, specialty agriculture, and statistics. There are links to other USDA Web sites, including the National Agricultural Statistics Service.

**<http://web.iquest.net/ofma>** (page 17). The Organic Farmers Marketing Association was formed in 1996 in Leavenworth, Kansas. It was created to assist organic farmers with marketing, certification, communications, and public advocacy. Their Web site has links to many other Web sites.

**<http://www.rurdev.usda.gov>** (page 17). The Rural Development, Rural Business-Cooperative Service of USDA maintains this Web site. You can use it to find out about USDA programs related to rural development, business and cooperatives, housing and community facilities, utilities, and community development and empowerment. There also are links to other Web sites.

**<http://www.bluebookprco.com>** (page 19). The Produce Reporter Company maintains this Web site. Electronic services provide information to subscribers on a daily basis, and custom directories can be updated automatically.

**<http://eesc.orst.edu>** Oregon State University Extension & Experiment Station Communications maintains this Web site. It contains numerous publications on crop production and agricultural business management.

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## For Further Reading

### *Pacific Northwest Extension publications*

*Farmer to Consumer Marketing: An Overview*, PNW 201, by Larry Burt, Linda Burt, Richard Carkner, Harvey Meier, and Blair Wolfley (Washington State University, Pullman, 1981). 50¢

*Farmer to Consumer Marketing: Financial Management*, PNW 206, by Larry Burt, Linda Burt, Richard Carkner, Harvey Meier, and Blair Wolfley (Washington State University, Pullman, 1981). 50¢

*Farmer to Consumer Marketing: Merchandising, Pricing, and Promotional Strategies*, PNW 203, by Larry Burt, Linda Burt, Richard Carkner, Harvey Meier, and Blair Wolfley (Washington State University, Pullman, 1981). 50¢

*Farmer to Consumer Marketing: Personnel Management*, PNW 205, by Larry Burt, Linda Burt, Richard Carkner, Harvey Meier, and Blair Wolfley (Washington State University, Pullman, 1981). 50¢

*Farmer to Consumer Marketing: Place of Business and Product Quality*, PNW 204, by Larry Burt, Linda Burt, Richard Carkner, Harvey Meier, and Blair Wolfley (Washington State University, Pullman, 1981). 50¢

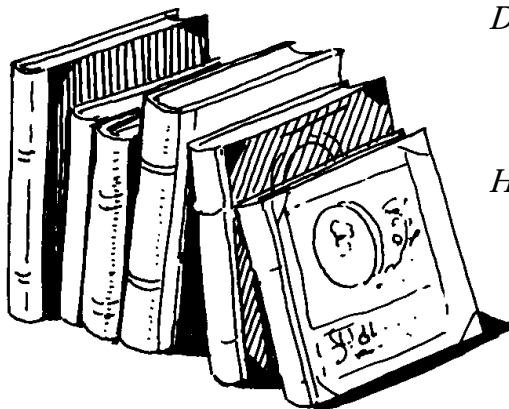
*Farmer to Consumer Marketing: Production and Marketing Costs*, PNW 202, by Larry Burt, Linda Burt, Richard Carkner, Harvey Meier, and Blair Wolfley (Washington State University, Pullman, 1981). 50¢

*Organizing and Operating Agricultural Cooperatives*, EM 8665, by Larry Burt (Oregon State University, Corvallis, 1997). \$3.50

To order copies of the above publications or additional copies of this publication (PNW 241), send the complete title and series number, along with check or money order in the amount listed (payable to Oregon State University), to:

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### **Other publications**

*A Guide to Marketing Organic Produce*, by Charles R. Hall and Richard A. Edwards (Department of Agricultural Economics, Texas Agricultural Extension Service, Texas A&M University, College Station).

*Agri Selling*, by W. David Downey, Michael A. Jackson, and Carl G. Stevens (Agribusiness Publications, Skokie, IL, 1983).

*Commercial Cooling of Fruits and Vegetables*, by F. Gordon Mitchell, Rene Guillon, and R.A. Parsons (University of California, Division of Agricultural Sciences, Manual 43, 1972).

*Developing a Sensible and Successful Marketing Attitude*, by Suzanne Karberg (Purdue University Cooperative Extension Service, West Lafayette, IN, EC-673, 1993).

*Developing and Implementing Sound Hiring Practices*, by Suzanne Karberg (Purdue University Cooperative Extension Service, West Lafayette, IN, EC-670, 1993).

*Do-it-Yourself Marketing Research*, by George Edward Breen (McGraw-Hill Book Company, New York, 1977).

*Handling, Transportation, Storage of Fruits and Vegetables*, by A. Lloyd Ryall, Werner J. Lipton, and W.J. Pentzer, second edition in two volumes (AVI Publishing Company, Inc., Westport, CT, volume 1: 1979; volume 2: 1982).

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- How to Conduct Your Own Survey*, by Priscilla Salant and Don A. Dillman (John Wiley & Sons, Inc., New York, 1994).
- Identifying Domestic Markets—Indirect Marketing of Produce*, by J.F. Guenther (University of Idaho, College of Agriculture, Moscow, CIS 981, 1993).
- Mail and Telephone Surveys: The Total Design Method*, by Don A. Dillman (John Wiley & Sons, Inc., New York, 1978).
- Marketing and Performance Benchmarks for the Fresh Produce Industry*, by Edward W. McLaughlin, Kristen Park, and Debra J. Perosio (Food Industry Management, Cornell University, Ithaca, NY, and the Produce Marketing Association, Newark, DE, 1997).
- Marketing Opportunities 1993 and 1989*, by Robert Fox and Curt Moulton (Washington State University Cooperative Extension, King County).
- Marketing Research*, by Ronald M. Weiers (Prentice-Hall, Inc., Englewood Cliffs, NJ, 1984).
- Marketing Your Produce Directly to Consumers*, by V.J. Parker-Clark (University of Idaho College of Agriculture Cooperative Extension System, Moscow, EXT 741, 1992).
- Professional Mail Surveys*, by Paul L. Erdos and Arthur J. Morgan (McGraw-Hill Book Company, New York, 1983).
- Protecting Perishable Foods During Transport by Truck*, by B. Hunt Ashby, et al. (Office of Transportation, U.S. Department of Agriculture, Agricultural Handbook No. 669, 1987).
- Sell What You Sow! The Growers Guide to Successful Produce Marketing*, by Eric L. Gibson (New World Publishing, 1994).
- The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks*, by Robert E. Hardenburg, Alley E. Watada, and Chien Yi Wang (Agricultural Research Service, U.S. Department of Agriculture, Handbook 66, revised 1990).
- The Owner's and Manager's Market Analysis Workbook for Small to Moderate Retail and Service Establishments*, by Wayne A. Lemmon (Amacom, New York, 1980).
- “Understanding Differences in People's Answers to Telephone and Mail Surveys,” by Don A. Dillman, Roberta L. Sangster, John Tarnai, and Todd H. Rockwood, in *Advances in Survey Research*, Marc T. Braverman and Jana Kay Slater, editors, New Directions for Evaluation, Number 70, pages 45–61 (Jossey-Bass Publishers, San Francisco, Summer 1996).

## Appendix

### *How to calculate postharvest cost and returns for fresh produce marketing*

Any investment of your time and money in a new marketing venture requires a careful analysis of potential financial returns. The following cost and returns format may help you make this kind of analysis for fresh produce.

You might want to make estimates on a “typical year” basis. Each commodity should have its own analysis. Where necessary, you can prorate equipment, machinery, and marketing costs among commodities. Note your cash (versus noncash) costs, to identify any potential cash flow deficiencies.

### Calculating revenue

1	2	3	4	5 (3 x 4 =)
Product type (grade)	Destination	Number of units shipped	Net f.o.b. price per unit (\$)	Total revenue (\$)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
<b>Total</b>		_____	_____	_____

The term *f.o.b.* means “free on board.” It is a commonly used price quote that excludes transportation charges beyond the shipping point. The shipping point usually is 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 produce. Then multiply the number of units on each line in column (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):

5	÷	3	=	6
Total revenue		Total number of units		Average price per unit

## Packing costs

### *Investment-related expenses*

7	8	9	10	(9 + 10 =) 11
	Average net cost Item	Interest expense @__% (\$)	Depreciation (\$)	Total investment expense (\$)
Land	_____	_____	_____	_____
Buildings	_____	_____	_____	_____
Machinery	_____	_____	_____	_____
Equipment	_____	_____	_____	_____
Office equipment	_____	_____	_____	_____
Vehicles	_____	_____	_____	_____
<b>Total</b>	_____	_____	_____	_____

The average net cost (8) is the sum of the purchase price and salvage value of each asset divided by 2. Multiply (8) by the interest rate(s) in the column 9 heading to obtain the interest expense (9). The interest rate should include both the interest rate on any debt you use to finance the investment, as well as the interest rate on your own invested capital (equity).

To be conservative, you can calculate depreciation (10) on a straight-line basis.

The total investment-related cost (11) is equal to the interest expense (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):

11	÷	3	=	12
Total investment expense		Total number of units		Total investment expense per unit

### Operating costs

Item	Total
Direct wages (including fringes and taxes)	_____
Dumping	_____
Cleaning	_____
Sorting	_____
Sizing	_____
Packing	_____
Lidding	_____
Office wages (including fringes and taxes)	_____
Management salaries (including fringes and taxes)	_____
Containers (including handling)	_____
Labels and labeling	_____
Vehicles	_____
Interest on operating money	_____
Property taxes and fees	_____
Insurance	_____
Repairs and maintenance	_____
Rent	_____
Water and power	_____
Plant and office supplies	_____
Accounting and legal	_____
Telephone	_____
Waste disposal	_____
<b>13 Total operating cost</b>	_____

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):

<b>13</b>	÷	<b>3</b>	=	<b>14</b>
Total packing operation cost		Total number of units		Total per-unit operating cost

The last step 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):

<b>12</b>	+	<b>14</b>	=	<b>15</b>
Total investment expense per unit		Total per-unit operating cost		Total per-unit packing cost

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 operate (forced air, hydro, vacuum, top ice, or cool room). The procedure is the same as that described for packing costs.

#### Investment-related expenses

Item	16	17	18	19	(18 + 19 =)
					20
		Average net cost (\$)	Interest expense @ ___% (\$)	Depreciation expense (\$)	Total investment expense (\$)
Site and structure	_____	_____	_____	_____	_____
Cooling equipment	_____	_____	_____	_____	_____
Architectural and engineering fees	_____	_____	_____	_____	_____
General equipment	_____	_____	_____	_____	_____
<b>Total</b>	_____	_____	_____	_____	_____

**21 Total number of units cooled per year**

\_\_\_\_\_

To calculate your total per-unit investment expense (22), divide the total of all investment expenses (20) by the total number of units cooled (21):

<b>20</b>	÷	<b>21</b>	=	<b>22</b>
Total investment expense		Total number of units cooled		Total per-unit investment expense

## Operating costs

Item	Total
Direct wages (including fringes and taxes)	_____
Office wages (including fringes and taxes)	_____
Management salaries (including fringes and taxes)	_____
Power, fuel, and water	_____
Maintenance and repair	_____
Taxes and fees	_____
Insurance	_____
Interest on operating debt	_____
Plant and office supplies	_____
Accounting and legal	_____
Telephone	_____
Rental charges	_____
<b>23 Total operating cost</b>	_____

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):

<b>23</b>	÷	<b>21</b>	=	<b>24</b>
Total operating cost		Total number of units cooled		Total per-unit operating cost

The last step is to calculate your total per-unit cooling costs (25). To do so, add the per-unit investment expense you calculated (22) to your per-unit operating cost (24):

<b>22</b>	+	<b>24</b>	=	<b>25</b>
Total per-unit investment expense		Total per-unit operating cost		Total per-unit cooling cost

Add together the total per-unit cooling costs (25) for all cooling systems you expect to use on the commodity. If you expect a charge for custom cooling, enter it directly into (25).

## Transportation costs

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

Mode (including containers)	26 Number of units	27 Net cost per unit (\$)	(26 x 27 =)
			28 Total cost (\$)
Truck	_____	_____	_____
Rail	_____	_____	_____
Piggyback	_____	_____	_____
Ship	_____	_____	_____
Air	_____	_____	_____
<b>Total</b>	<b>(30)</b> _____		<b>(29)</b> _____

For each transportation mode, your total cost (28) is the number of units you expect to ship (26) multiplied by your net cost per unit, including transportation (27). Then add together your total transportation costs for each destination (28) to obtain the total transportation costs for all of your commodity destination points (29).

Add together the total number of units you plan to ship to each destination (26) to obtain the total number of units you plan to ship to all commodity destination points (30).

Finally, to calculate your total per-unit transportation cost for all destinations (31), divide your total transportation cost (29) by the total number of units shipped (30):

<b>29</b>	÷	<b>30</b>	=	<b>31</b>
Total transportation cost		Total number of units shipped		Total per-unit transportation cost



## Marketing costs

Item	Total
Management salaries (including fringes and taxes)	_____
Office wages (including fringes and taxes)	_____
Facilities and equipment	_____
Property taxes and fees	_____
Advertising (newspaper, magazine, radio, TV)	_____
Utilities	_____
Phone	_____
Supplies	_____
Travel	_____
Bad debt collection	_____
<b>32 Total marketing cost</b>	_____

To calculate your total per-unit marketing cost (33), divide total marketing costs (32) by the total number of units shipped (3):

32	÷	3	=	33
Total marketing costs		Total number of units shipped		Total per-unit marketing cost

## Net return

The next procedure 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 Total per-unit packing cost	_____
25 Total per-unit cooling cost	_____
31 Total per-unit transportation cost	_____
33 Total per-unit marketing cost	_____
34 Costs of goods sold per unit	_____
<b>35 Total</b>	_____

Note that (25) includes the sum of all cooling systems used on your commodity, (31) includes the sum of transportation costs for all of your commodity destination points, and (34) is your incoming cost per unit of product sold (your cost of production).

Now, subtract this total (35) from your average price per unit (6) to obtain your net return per unit (36):

6	-	35	=	36
average price per unit		total above		net return per unit

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.

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

When you’re moving to a more risky marketing situation, you need a higher net return. When assessing whether an after-tax net return is acceptable, it is important to analyze your risk of loss. Risk of loss 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 refers to buyer failure to accept a shipment, buyer nonpayment, or a market price drop during shipment.

It is useful when doing this type of analysis to complete several runs through the procedure, using different possible forecasts. These might include an “optimistic” outlook on prices, costs, and risks; a “pessimistic” outlook; and an “average” outlook.

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