

Place of Business and Product Quality

Location, Site Selection, and Facilities

Location

Selecting a good location for a direct farm-to-consumer enterprise is of primary importance in direct marketing. Although roadside stands, U-pick operations, and farmers markets can and do operate in different locations and settings, certain key factors contribute to a satisfactory direct market location:

- Being on a well-traveled road near population centers
- Having good visibility from the customer's viewpoint
- Being away from sharp curves, hill crests, high-speed highways, and other hazards to safe entry and exit
- Being on the right side of a road leading into town
- Having access to all the utilities you will need
- Being near other direct marketing enterprises

In an area with a group of stands, each stand complements the others if the number of buyers and sellers is balanced such that an additional business will add to a “cluster effect,” attracting additional customers to the concentration of businesses. On the other hand, if sales opportunities are already being met by several other producers, the likelihood for an additional business to succeed is diminished.

Direct sales operations have been very successful when located within a few miles of a city, town, or resort area. As “bedroom areas” for larger communities spring up, the opportunity to establish direct marketing facilities nearby is greatly enhanced. Many of these areas exist in the Northwest, and this partially explains the increasing interest here in roadside stands, farmers markets, and U-pick operations.

A substantial portion of customers stop at a roadside stand on impulse, because the stand or products look interesting. Thus, adequate room for a good flow of traffic is especially important if impulse buying is a big share of sales. If you lack adequate room at your farm, consider off-farm locations for your stands or markets. In evaluating off-farm sites, be aware you will have additional expense in renting, transporting products, staffing, security, etc.

Where traffic flow is inadequate and alternate off-farm sites are not feasible, consider a farmers market or U-pick operation. Although a U-pick operation would benefit from the same quality of location and traffic flow as the roadside market, such advantages are not required for success. Through advertising and merchandising, U-pick operators can attract customers without locating along the beaten path.

Farmer-to-Consumer Marketing: The Series

A successful direct farm marketing business requires knowing and understanding effective marketing and management practices.

This series of Extension publications, PNW 201–206, provides information about establishing and developing a direct farm marketing business. Production and marketing costs, management practices, personnel management, and financial management are among the topics discussed.

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Site Selection

After you decide to locate in a general area, the next important decision is specific site selection. The two major considerations here are convenience for the customer and convenience for you.

For the customer's convenience, the facility should be easily visible from the highway. Studies have shown that visibility is influenced by characteristics such as a long, level stretch of road before the stand and location on the outside of a broad curve or near the top of a long hill. Site selection is also influenced by the availability of parking space in the immediate vicinity.

The site with ample parking nearby should offer easy turnoff and return flow to traffic. Consumers do not like to take chances by turning abruptly from the road into a driveway leading to the stand. Thus, many consumers will pass a direct sales operation if the turnoff is the least bit dangerous or difficult. To eliminate this danger, you could construct a wide shoulder lane. However, check the right-of-way and other regulations with the proper state or local agencies before taking any other steps to change the entrance to your business.

For your convenience, the best site may be near your farm. With your operation so close, you may not need to be at your stand continuously. It may also be economical, from a security and sales standpoint. If you don't want to be bothered at certain hours, you can post business hours near the entrance to your parking lot. Lights, water, and a telephone are almost a necessity at a stand or control point, but costs may be reduced by extending the utilities from your farm to your stand or U-pick control point.

Some advisers encourage using an honor and self-service system when the stand is near your home. Theft of product and money are always a concern, but many operators with stands in "close proximity" to their homes report few losses.

Facilities

Size and type of operation are the two main factors to consider when planning facilities. Most direct farm marketers start out small and expand as customers and volume increase. You may find that existing facilities such as barns, sheds, or packing houses can be converted to a roadside stand for less money than building a new facility. Also, unless you take great care, a new building may destroy the "on-the-farm" atmosphere important to attracting customers.

Starting out on a small scale lets you:

1. Learn how direct farm marketing suits your temperament and way of life
2. See how direct marketing fits into your farm operation, or what changes in farm enterprises and cultural practices may be needed
3. Keep your investment down to minimize losses should you decide to give up direct selling
4. Test possible alternate sites for your stands or markets to determine which best attracts customers and which are most accessible to your fields, packing houses, or cooler

When the volume of business grows enough to warrant a larger facility, visiting other direct marketing facilities may be a good source of ideas. First, plan the market operation, then the building-to-house operation. The advice of a reputable architect or store layout consultant prior to building may save you time and money in the long run.

Building design and equipment

Building design considerations include:

- Ease of operation and labor requirements
- Construction cost
- All-weather operation
- Appearance—an attractive farm image
- Ease in altering or relocating displays
- Customer convenience and safety
- Low-cost expansion later
- Storage requirements including refrigeration
- Water supply and sanitary facilities
- Preparation area

The size and shape of the building should be in direct proportion to planned business volume and the permanency of the enterprise. Anticipate your current and potential future needs for lights, water, drains, and refrigeration. Facility expansion can be very expensive if not planned for initially.

Your stand or market should include a sales room, a preparation area, and a walk-in refrigeration area to hold foods at proper temperatures.

Display equipment does not have to be elaborate, but it should allow you and customers to easily see the merchandise. Containers and shelving should be easy to clean, wash, and maintain. Many types of display equipment may be suitable for your operation. Each type has its advantages and disadvantages. Devote some quality time and analysis to select the type that fits your particular needs and budget.

Dry racks These are the most common; they are easy to install and require minimal maintenance. They are probably the least expensive but do the poorest job of maintaining the attractiveness of perishable produce. Only the so-called “hardware items”—potatoes, turnips, rutabagas, and fast-moving items—can tolerate the dry rack for an extended time.

Wet produce racks These are used to display the hardier produce items; a periodic sprinkling feature keeps perishables attractive. Note: wet racks are not satisfactory, or necessary, for most packaged produce items.

Ice produce racks These extend the shelf life of most perishables. Sprinkling is still necessary. A 2-inch layer of ice on a well-insulated, properly drained ice rack maintains produce items in top condition on most days. Ice is also used when storing perishable produce overnight.



Existing facilities such as barns, sheds, or packing houses can be converted to a roadside stand for less money than building a new facility. Also, unless you take great care, a new building may destroy the “on-the-farm” atmosphere important to attracting customers.

To maintain product quality, you need to understand respiration (how to reduce it) and many other factors that can lead to loss of quality.



Mechanically refrigerated produce cases These are used by many roadside stand and market operators. They have most of the advantages of ice but require less labor in operating and eliminate the hazard of ice and water on floors. The installation cost may be high, however, and you must also consider the ongoing costs of electricity, maintenance, depreciation, etc. Wilting produce can be a problem unless you sprinkle regularly.

Give considerable thought to traffic flow within the market. Displays, shelves, and racks can be arranged to guide consumers on a certain path, which should pass nearly all sales items in order to increase impulse buying. Traffic flow also makes it easier to direct customers to a central check-out station and scale.

In a U-pick operation, the stand layout and display are much less complicated. Your management control of the product and customers, however, is still very important. The fields must be laid out and staked or roped off into blocks or rows to control an even and complete harvest. Don't permit customers to pick at random in the fields except in a salvage-type operation.

Parking

Parking is an important part of direct farm marketing. Clearly mark the parking area; if space is available, mark individual parking places with logs, poles, lime, or rope. If a parking design is established, most customers will park accordingly.

At a roadside stand, parking is even more important. Plan carefully for easy entry and exit. The ideal, of course, is to have wide, smooth approaches from the shoulder of the road or roadway to the parking area's driveway. Approaches should be free of obstructions that would hide other cars arriving or leaving. Sometimes a small island separating an entrance and exit helps to safely direct traffic flow. The number of parking spaces needed is related to expected business volume.

The following general rules may help you plan your parking arrangement:

- Allocate one parking space for each \$100 worth of business anticipated annually.
- Allow about 15 parking spaces for each 100 cars expected daily.
- Allow about 4 square feet of parking space for each square foot of market area.
- Parallel parking spaces, if provided, should be 22 feet long by 10 feet wide.
- Diagonal parking is easier to use than parallel parking but requires more space. Commonly, spaces are angled at 90, 60, or 45 degrees.
- Mark spaces on the ground or on logs or railroad ties that define the parking aisles.

Drivers seldom use parking space efficiently unless spaces are well defined. On asphalt surfaces, painted lines 3 to 4 inches wide reduce confusion. On gravel or other uneven surfaces, lime works temporarily. If parking spaces are well defined and large enough, most consumers will respect the lines and use only one space.

Many problems arise from improperly prepared and surfaced parking lots. Good drainage will prevent pot holes, ruts, and corduroyed surfaces. Control

dust. Some operators use calcium chloride or crankcase oil; either, however, may become a problem after it rains. Thus, blacktopping may be most practical in the long run.

Maintaining Product Quality

Fresh fruits and vegetables are still living organisms after they're picked, carrying on many life processes. The most important is respiration. To maintain product quality, you need to understand respiration (how to reduce it) and many other factors that lead to loss of fruit and vegetable quality.

The following factors influence fruit and vegetable quality:

- Respiration
- Moisture loss
- Decay and rot
- Rough handling
- Chilling and freezing
- Proper storage
- Sanitation
- Inventory control
- Customer handling

Respiration

Plant respiration takes in oxygen, combines it with plant sugars through enzymatic action, and gives off carbon dioxide and heat. Each type of fruit and vegetable has its own respiration rate. For instance, respiration is faster in peas, corn, and berries than in potatoes, apples, and cabbage. The most perishable commodities have the highest respiration rates and the least perishable, the lowest. Thus, in fruit and vegetable marketing, the “fast living” commodities (high respiration rates) cause the greatest handling problems and market losses.

Most fruits and vegetables are 80 to 95 percent water. In dry air, they wilt and shrivel; in refrigerated dry air, they shrivel severely. Low temperatures slow respiration rates, so refrigerated storage with a relative humidity of 85 to 95 percent, is recommended. The two should always be tied together: refrigeration and high humidity. See Table 1, page 6, for specific refrigeration and humidity requirements.

The principle to follow: Remove the field heat as soon as possible after harvest, and use refrigeration and high humidity to maintain quality and cut losses.

Decay and Rot

Rough handling will increase losses from decay and rot. All fruits and vegetables are covered with microorganisms, such as bacteria and mold spores, some of which can cause decay if given the right conditions. Most grow rapidly at warm temperatures, so refrigeration is still a good control. Even with refrigeration, however, rough handling that cuts or bruises the skin is all that is needed for some of these microorganisms to do their damage. This is particularly true on soft fruits such as peaches.

Research with dips and gases have successfully retarded decay, but probably the roadside marketer will rely more heavily on refrigeration and careful handling to prevent skin punctures that lead to decay and rot.

Table 1. Quality control for selected types of fresh produce.

Item	Best temperature (°F)	Freezing point (°F)	Preferred humidity (%)	Sprinkling	Desired characteristics
Apples	30–32	29.3	90	None	Colorful, uniform, bruise-free
Beans, snap	40–45	30.7	90–95	Lightly	Crisp, uniform, immature
Beets	32	31.3	95	Yes	Small, smooth, firm
Berries	31–32	29.7 – 30.6	90–95	None	Bright, clean, plump
Cabbage	32	30.4	90–96	Yes	Hard, heavy, bright color
Cherries	30–32	29.0	90–95	None	Bright, plump
Corn	32	30.9	90–95	Yes	Bright, plump, milky kernels
Lettuce	32	31.7	95	Lightly	Clean, crisp, tender
Onions, green	32	30.4	90–95	Lightly	Green, fresh, clean, uniform
Peaches	31–32	30.3	90	None	Bright, fresh, yellow background
Potatoes	45–70	30.9	85–90	None	Smooth, sound, firm
Radishes	32	30.7	90–95	Yes	Mild, bright, smooth
Spinach	32	30.0	90–95	Yes	Fresh, immature, colorful
Tomatoes, ripe	45–50	31.1	85–90	None	Plump, bruise-free, firm, uniform red color

Rough Handling

Rough handling causes cuts and bruises which can affect the eye appeal of all soft fruits and vegetables. Bruises show up almost immediately on apples, peaches, light cherries, eggplant, cucumbers, pears, and tomatoes. Sweet corn, potatoes, cauliflower, plums, prunes, and some others may not show bruising until the consumer gets them home and starts preparing them—bad for your image.

Careful handling is a must to prevent cuts, bruises, and loss of eye appeal. Do not dump perishable items into displays. Instead, roll or slide them from their field containers or carefully handle them individually. Also, do not throw or drop boxes; set them down without jarring them.

Chilling and Freezing

Not all fruits and vegetables can withstand low temperatures; in fact, they can damage many fruits and vegetables. Some produce, such as green tomatoes and bananas, may not ripen after chilling, or may ripen with a blotchy or dull appearance. The poor eye appeal might force you to discount the price or discard the item.

As Table 1 shows, ideal chilling temperatures differ for various fruits and vegetables. Those that need less chilling include snap beans, acorn squash, eggplant, cucumbers, peppers, tomatoes, bananas, grapefruit, and other citrus. Potatoes, sweet potatoes, and winter squash require minimum temperatures around 45 or 50 degrees and should be kept in a dry place; very high humidity is their enemy. Some fruits and vegetables, because of their high sugar content, can withstand temperatures below 32 degrees, but not too much lower and not for an extended time.

Proper Storage

Storage does not have to be elaborate. In fact, many fruits and vegetables can be “stored,” prior to harvesting, where they grow: on the tree, in the field, or in the ground. Once harvested, however, the full responsibility for proper storage and handling becomes yours. Storage facilities can range all the way from a hole in the ground to large walk-in coolers with completely automated controls.

Use a type of storage that is suited to your business size. That is, if you are selling only a few items from a bench or table in the front yard, perhaps the hole in the ground covered with wet burlap is all you need, or perhaps a standard root cellar on your farm will suffice. On the other hand, if you plan to handle a large volume of perishables, then a walk-in cooler with humidity control is necessary. Some operators, rather than invest in permanent “reefers,” rent or buy a refrigerated box from a truck company or salvage yard. The reefer is placed near the rear entrance of the stand or market and affords an ideal walk-in cooler.

Precooling

Sometimes, precooling fruits and vegetables before placing them in storage will reduce refrigeration needs and extend storage life by several days or weeks. Local refrigeration engineers or university Extension specialists may be of great help to you as you plan this critical part of your enterprise. The main thing to remember is to remove the heat prior to storage while handling the product as gently as possible.

Practical ways to precool include:

- Rapidly moving cold or moist air
- Hydrocooling
- Contact ice or top ice

Hydrocooling floods or immerses the product in cold water. Hydrocoolers do not have to be elaborate. An old bath tub, one-third full of water and enough ice to chill the water, will work fine. Immerse fruits or vegetables for 15 to 20 minutes, or long enough to reduce the core temperature to a point within the ideal range (see Table 1 and “Chilling and Freezing,” page 6). You can make a more sophisticated hydrocooler by building a tunnel over an old grading table. In the tunnel, arrange a series of pipes, with spray nozzles, and put a conveyor belt on top of the grading table. Gear the belt to move slowly. As a crate of the commodity moves through the tunnel on the belt, recirculated ice water sprays over the items to carry away heat.

To prevent moisture loss, control humidity in storage. Here again, you can add sufficient moisture (humidity) to a storage area in a number of ways. Fine sprays, fans blowing through wet burlap or other material, evaporation pans, or commercial humidifiers are a few suggestions.



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Storing Mixed Commodities

Haphazardly mixing commodities in storage can lead to loss of quality. For instance, some products absorb odors from other fruits or vegetables. Also, some products give off volatiles, such as ethylene, that harm others.

Guidelines for storing mixed commodities include:

- Deciduous fruits can generally be stored together if they have the same humidity and temperature requirements.
- Do not store apples and peas with celery, cabbage, carrots, potatoes, or onions.
- Lettuce and carrots are damaged when stored with apples, pears, and many other fruits that give off ethylene gas.
- Do not store cucumbers, peppers, or acorn squash—whose green color you want to retain—with apples, pears, tomatoes, or other ethylene-producing products.
- Meat, eggs, and dairy products readily absorb odors from apples and citrus fruits. Therefore, keep these items separated.

For additional information, contact local Extension agents, university Experiment Stations, or the produce manager in a local supermarket. If other direct farm sellers are willing to provide guidance, it’s a good sign that the market for your planned products is open in your area. Library and Internet resources may provide interesting produce-handling guides and other possible sources of information.

Sanitation

Sanitation is almost always a problem, and it is difficult to “oversanitize” when dealing with fruits and vegetables because they are extremely susceptible to many microorganisms, bacteria, and mold spores that are continuously present in the air.

Thus, one of your major responsibilities is frequently washing and disinfecting carriers, cutting knives, display racks, storage areas, scales, and other items that could become contaminated.

There is no substitute for sanitation. Protection from insects and rodents, as well as from the chemicals used to control them, must be an important part of your sanitation program .

Inventory Control

Inventory control is another major factor in maintaining fruit and vegetable quality. An important step is harvesting when your products reach optimum maturity. Until then, store them in the field or on the tree. Bring to the sales area only the volume needed to maintain attractive displays and satisfy demand during a specific period. Those periods will change in length as seasonal temperatures vary.

When adding more product to a display, remove the old, add the new, and put the old on top of the new and near the front. Rotating the stock this way can really help retain quality. When replenishing a display, some operators move all

older items to a markdown counter and put only fresh items on the display rack. This is a good merchandising technique because it maintains good eye appeal for higher priced items on display.

Customer Handling

Some marketers think their responsibility for product quality ends when customers leave the stand. This attitude is hazardous because it's inconsistent with the need for repeat business, which is important for financial success.

If customers mishandle produce, they may attribute its reduced quality to you. Counseling at purchase time could head off this problem. As you remark to customers about the high quality of the products they are buying, you can also offer storage and handling suggestions to maintain that quality. In addition, you can supply leaflets that suggest best ways to handle, store, and use the items.

Fresh, flavorful products are why customers buy from you in the first place. Many need help not only to buy but also to maintain that quality until the item reaches the table.

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