

WHOLESALE SUCCESS

**A Farmer's Guide to Selling,
Postharvest Handling
and Packing Produce**

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photo: John Beske

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Introduction

As consumer demand for locally grown produce increases, more farmers are selling their products to supermarkets, distributors, restaurants, and institutions seeking to meet the demand of their customers. This manual is a guide to successful wholesaling as a small or mid-scale producer. It is a tool to help you build a number of skills that are key to success in this marketplace including: postharvest handling, cooling, packing, buyer-seller

relations, contracts, USDA grade standards, certification opportunities, food safety, and more. Ultimately, the information in this guide will help you develop new profitable business relationships, increase product quality, maximize shelf life, and successfully manage wholesale sales.

One of the most important aspects of wholesaling is proper postharvest handling, which can and often does make the difference between securing business relations or losing them based on the

Requirements for Selling Into Wholesale Markets

Field heat must be removed with proper cooling.

The “cold chain” must be maintained from the field to the customer with refrigerated storage of most fruits and vegetables.

Products must be sorted uniformly to match USDA grades.

Food safety procedures must be followed including necessary record keeping.

Buyers want larger quantities—many prefer pallets.

Production should yield a consistent weekly supply.

Producers must build relationships with wholesale buyers and stay in touch regularly to communicate issues such as timing, quantity, price, quality, etc.

consistency and quality of harvested produce. Proper postharvest handling and packing techniques are a necessary part of any farming operation involved in wholesale, large or small.

The single most important aspect of postharvest handling of produce is lowering the core temperature of fruits and vegetables immediately after harvesting. Removing the “field heat” within a few hours after harvest makes the difference between a carrot which will keep for five days and one which will still be good five months later. While cooling infrastructure such as refrigerated storehouses and

hydro-cooling systems can be very useful, there are a number of very workable solutions for farmers who may not have the financial resources to purchase this sort of equipment. For example, harvesting in the early morning hours or even overnight takes advantage of the naturally lower air temperature, saving on energy costs and time. There are also ways to build your own cooling units and other postharvest equipment, which are detailed later on in this manual. At least some form of cooler is necessary for selling to a wholesale market.

In addition to the technical side of preparing your produce for wholesale buyers, this manual offers important advice on the marketing and business aspects, with input from both wholesale buyers and farmers who have been involved in regional wholesale markets. This section discusses business relations, contracts, long-term financial planning strategies, and more.

In order to apply this information to your farm and the crops you grow, the second half of the manual offers 101 in-depth crop-specific profiles, including basic information such as cleaning methods, optimal storage conditions and standard package sizes, and also more complicated topics such as sensitivity to ethylene.

Selling into wholesale markets presents an entire set of new opportunities and challenges compared to direct marketing or selling on the open market at a fairly fixed price. Carefully consider what you are looking for as a farmer and for what your farm operation is best suited. This guide aims to be an easy to use resource to help farmers grapple with new demands of selling, sorting, sizing, packing, shipping, cooling, and more.

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Section 1: Selling Into Wholesale Markets

Market Size and Opportunity

The market for local and organic food has been growing quickly in the past two decades. In recent years the demand for local food has become the hottest trend in the food industry. Supermarkets are adding major sections of locally produced food and showcasing it through in-store promotions that sometimes include pictures of the farmer. Some consumers now shop at stores specifically because they know they can purchase products from their favorite family farm.

A recent study, "Local and Fresh Foods in the US," published by Packaged Facts, indicated that the market for local foods was \$5 billion.¹ The analysis indicated that local food sales would likely grow to \$7 billion by 2011. The local food trend is attracting major institutional purchasers such as universities, hospitals, entertainment venues and more. This in

turn is convincing major distributors to offer locally grown fruits and vegetables to their wholesale customers. The result is a tremendous opportunity for regional farmers that have the means to grow high quality products of sufficient quantity to sell into these markets.

In Illinois, the Local and Organic Food and Farm Task Force determined that less than 5% of the \$48 billion in food purchased in the state came from local sources. Spurred on by that figure they passed a new law encouraging more local food production and consumption, especially by state agencies and schools who are encouraged to use 20% Illinois grown food by 2020.

"Locally Grown Food is the latest student cause. . . The new activist phrase on campus is Eat Local."

*Time Magazine*²

LOCALLY GROWN PRODUCE



**SHIPPED FROM
OUTSIDE
THE REGION**

The market for organic food continues to grow as well. In 1990, US organic food sales were \$1 billion. By 2008, they had grown to nearly \$25 billion. With annual growth approaching 20% per year, organic has been the fastest growing sector in the food industry for the past two decades.

For example, in the Midwest alone, a per capita consumption analysis determined that organic food sales exceed \$2 billion.³ Yet most of that food is grown outside the region. One study indicated that more than 95% of the organic food consumed in Illinois was grown out of state.⁴

Selling into Wholesale Markets

A primary goal of this manual is to help more farmers capitalize on the opportunity to sell local and organic food into wholesale markets. Many of the biggest wholesale buyers in this marketplace are interested in developing new relationships with fruit and vegetable growers that can meet the demand for high quality produce.

For the producer, this is a big decision. Many produce growers use direct marketing business models for their farm – farm stands, farmers' markets, Community Supported Agriculture (CSA), or phone and internet sales. Wholesale markets present an entirely different set of obstacles and opportunities. For smaller producers who have primarily been selling into direct markets, the world of wholesale markets is very different. The price per pound for products sold wholesale is less than selling direct. You will have to make up for this drop in price with higher volume.

An increasing number of producers selling direct find the stability and high volume

sales in wholesale markets a major attraction. In some cases farms diversify their sales by keeping their most profitable or convenient direct market sales and adding wholesale accounts once the farm hits a certain size or they feel that the farm has the sophistication to meet the demands of wholesale buyers. In other cases, farms completely move out of direct markets and strictly sell to wholesale buyers. There are advantages and disadvantages to both.

This manual also addresses mid and large-scale fruit and vegetable producers who have historically sold produce directly to food processors. Competition from low-cost, foreign or out-of-region industrial-scale producers is cutting prices, sales and revenue for many mid-scale, independent farmers who have traditionally sold their products as commodities to food processors and manufacturers.

Supermarkets, restaurants, distributors, universities, hospitals, and other institutions looking for a more differentiated product mix represent a major opportunity for these producers to diversify their revenue stream and customer base. These producers have a different opportunity and set of challenges to selling wholesale. For them, the volume of products sold to one wholesale buyer will probably be far less than when selling to processors. As a result there will be more work in developing markets. Yet the price per pound will be much higher when selling into these markets rather than for processing. Prices are particularly higher when products are sold to those buyers seeking products that are local, organic, family farmed, ecological, etc. Wholesale buyers are now more willing to pay price premiums for those products that meet the values of their end customers, particularly if the name of the farm and the place of production can be used to promote the product at the point of sale.



photo: Alina Diddley

Blackberries



HARVEST

Quality: Shiny black color (some varieties can have some reddish color remaining, but risk being too acidic), sweet, and firm but not mushy. Chester Thorntons must be harvested when dull black. Berries are not yet ripe if partially colored or too acidic. Berries are overmature when mushy and beginning to ferment.

HANDLING/PACKING

Grades: Feb. 13, 1928

- **U.S. No. 1:** One variety firm, well colored, well developed and not overripe. Free from caps (calyxes), mold, and decay, and from damage caused by dirt or other foreign matter, shriveling, moisture, disease, insects, or mechanical or other means. Tolerance: 10% (5% for serious damage and 1% for mold or decay)
- **U.S. No. 2:** One variety, fail to meet the requirements of the U.S. No. 1 grade but that do not contain more than 10%, by volume, of berries in any lot which are seriously damaged by any cause, including therein not more than 2% for berries that are affected by mold or decay.
- **Unclassified:** Does not imply a failure to meet standards, merely that a grade standard has not been applied, or does not apply (e.g., multiple varieties sold together).

Cooling: Forced-air to within 41°F (5°C) within 4 hrs.

Washing: Blackberries should not be washed.

Carton sizes: 1-pint, 2-pint, or 1-quart vented plastic clamshell containers, packed in units of 12 per carton.

STORAGE

- Temperature: 31.1-32°F (-0.5-0°C)
- Humidity: > 90%
- Respiration: 9-10 mL/kg hr at 32°F (0°C)
- Air composition: 10-20% CO₂, 5-10% O₂
- Ethylene producer: 0.1-2 µL/kg hr; sensitive to ethylene exposure
- Damage potential: Low
- Shelf life: 2-7 days

PESTS/DISEASES

Gray mold, Brown rot and Rhizopus rot

- Keep storage conditions optimal (temperature and atmosphere).

Blueberries



HARVEST

Quality: Fruit should be fully blue and firm, and free of decay and injury.

HANDLING/PACKING

Grades: Mar. 20, 1995

- **U.S. No. 1:** Similar varietal characteristics, clean, well colored, not overripe, crushed, split, leaking, or wet. Fruit should be free from attached stems, mold, decay, insects, mummified berries, clusters, shriveled or broken skin, scars, and green berries. Tolerance: 10% with attached stems, 8% for other defects (4% for serious defects and 1% for mold or decay).
- **Unclassified**

Cooling: Forced-air cooling to <50°F (10°C) within an hour of harvest.

Washing: Blueberries should not be washed.

Carton sizes:

Weights:

- 1-or 2-pint vented polyethylene or polystyrene clamshell containers, 12 units to a tray

Sizes:

- Extra large: <90 berries/cup
- Large: 90-129 berries/cup
- Medium: 130-189 berries/cup

STORAGE

- Temperature: 32-37.4°F (0-3°C)
- Humidity: >90%
- Respiration: 1-5 mL/kg hr at 32°F (0°C)
- Air composition: 10-15% CO₂, 1-10% O₂ for Rabbiteye, Lowbush and Highbush
- Ethylene producer: 0.5-10 µL/kg hr; sensitive to ethylene exposure
- Damage potential: Susceptible to damage during shipping
- Shelf life: 2-4 weeks

PESTS/DISEASES

Gray mold and ripe rot

Rhizopus stolonifer: Grows readily in fruit packs above 50°F (10°C).

- Pre-cool berries and keep refrigerated during storage.

Blueberry maggot: A primary postharvest pest.

- Methyl bromide applications are the only USDA-approved method of control for quarantine (not organic). This chemical is being phased out in the United States and is highly toxic.
- Entrust is an organic-approved insecticide.

Bok Choy



HARVEST

Quality: High-quality bok choy has thick, fleshy, firm stalks and glossy, dark-green leaves. Bok choy with bruised or slimy spots and wilted leaves should be avoided.

Harvest tips:

- Harvest early or when cool; it's good if bok choy is wet.
- Use a field knife to harvest.
- Harvest into a container holding 24 heads.
- Damaged or yellow leaves should be removed.
- Cut above ground to keep knife clean and remove only the good portion; a good picker will not have to re-trim.
- Wipe field knife on pants between each cut.
- Be careful not to handle roughly; bok choy can be bruised.
- Cut open several heads to make sure there is no tip burn (brown on edges of internal leaves).

HANDLING/PACKING

Grades: Bok choy is not graded in the U.S.

Cooling:

- Hydro-cooling
- Room cooling
- Top-icing

Washing: Wash in water tank with sanitizer; drain upside down

STORAGE

- Temperature: 32-41°F (0-5°C)
- Humidity: >95%
- Respiration: 2.5-3 mL/kg hr at 32°F (0°C)
- Air composition: 5% CO₂, 3% O₂
- Ethylene producer: Very low. Not very sensitive to ethylene exposure
- Damage potential: *Sensitive to overheating*
- Shelf life: 21 days

PESTS/DISEASES

Leaf yellowing: Occurs during extended storage or at higher than optimal storage temperatures.

- Maintain optimal storage temperatures.