

SPECIALTY and
HEIRLOOM TOMATO PRODUCTION and MARKETING

1995 - 1998

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The specialty vegetable market is a rapidly expanding niche in the produce industry. Defining and targeting a market for specialty produce must be considered before getting started in production. It's a good idea to start small with any new varieties or species you are growing before investing large amounts of time, money, land and labor. Markets change quickly and it's essential that growers keep up with the latest trends. Markets can quickly become saturated with specialty items, and demand may change from year to year.

Unusual vegetables are showing up more often in supermarkets, farm markets, produce auctions, and upscale restaurants and establishments. Consumers are eating more vegetables, due in part to the health benefits associated with vegetable consumption. As consumer tastes change, so does the list of cultivars being grown. One popular sector of this market is focused on

specialty and heirloom tomatoes. Consumers are attracted to these unusual cultivars for a number of reasons. Heirlooms varieties, mostly open-pollinated, are favored for their taste and unique shapes and colors.

Maintaining genetic diversity is vital particularly since breeding programs are focusing more on hybrids with uniformity and other characteristics which make it favorable for long-distance transport. Older, traditional varieties have been maintained mostly by home gardeners but are becoming increasingly popular with commercial growers and seed companies. Since these varieties have not been bred for long-distance shipping, they typically must be sold close to where they are produced, opening up a niche market that can be exploited by small growers, particularly those located near major metropolitan areas. Special handling of these fragile cultivars needs attention, but can demand a high price in the market. For growers willing to pay attention to special harvesting and handling requirements, specialty tomatoes offer colors, shapes and tastes that are an important part of today's cuisine. Seed companies are offering an increasing number of heirloom varieties to commercial growers to meet this market demand from consumers.

Growers attempting heirlooms and specialty vegetables should be cautious and start production on a small scale. Since most heirlooms are indeterminate varieties and require support, cultural practices such as pruning, staking and tying will require additional labor. Growing heirlooms and older varieties cause an increase in plant diseases that are common in older cultivars. Heirlooms have not been bred for disease resistance; unlike newer varieties. Disease control practices will need to be updated to accommodate this increase in older, less common plant diseases.

Special growing techniques and attention to post-harvest handling is necessary with heirloom tomatoes since most do not have an extended shelf life. These heirlooms need to be harvested at the breaker stage or just as they begin to color. Varieties will fully ripen at room temperature in a few days. Some cultivars have thick, corky stems that make harvest difficult. Pulling the stem at harvest may cause cracking of the fruit, so care must be taken when harvesting and detaching the fruit from the plant. Containers used for harvesting should be shallow to avoid fruit stacking that leads to fruit cracking and damage. Fruit is best packed in single layer boxes for transport.

Specialty tomatoes have been researched at Ohio State since 1995, and includes new varieties as well as heirloom cultivars. Thirteen cultivars were tested at either the OSU Horticulture Farm, Columbus, or at the OSU Enterprise Center (Southern State Community College field plots), Hillsboro, Ohio. Data collected included yield, fruit characteristics, market outlets, market prices and additional cultural information for each cultivar. We have been fortunate enough to work with Roth Produce, Columbus, Ohio in marketing these heirloom and specialty varieties to area restaurants and establishments. We also had the opportunity to sell this produce at farm markets and roadside stands.

Performance of a given variety will vary from year to year depending on several factors: planting date, irrigation, pest control, pruning and staking practices, and climatic conditions during the growing season. A particular cultivar should not be dismissed based only on one season's experience.

STATEMENT ON PRICING

The wholesale prices listed through this report are the prices paid on the day when these

items were delivered to Roth Produce warehouse; about 10 miles from the OSU Horticulture Farm. These prices were the prevailing prices for that day's delivery. Where more than one delivery was made, the prices cited are the average for the season.

Retail prices were established by the managers/workers of the retail markets (roadside stands and farm markets).

1998

Plots were established at the OSU Enterprise Center trial plots located at Southern State Community College, Hillsboro, OH. Plots were established on May 29, 1998, on raised beds spaced 5 feet apart and plants spaced 18 inches apart. Black plastic with trickle irrigation was also used in this study. Pest management strategies followed standard practices for Ohio tomato production. Septoria and Early Blight were noted in the fields during the growing season.

'Striped German', an indeterminate heirloom from Johnny's Selected Seeds, 'Striped German' produce large (almost 1 pound each) bicolored fruit of red and yellow that mature in approximately 80 days. This ribbed-shoulder variety produces fruit that is somewhat flat in shape. The bicolor interior is yellow with red center and marbling. This tomato has an excellent flavor and makes a beautiful presentation (due to the bicolor flesh and skin) when sliced or chopped. This cultivar should be harvested somewhat immature (breaker stage) just as the fruit begins to color up to avoid mushy, cracked fruit. Harvest is somewhat difficult since this variety has big, corky stems that will often times pull away from the peel when trying to harvest these at the mature to overmature stage. Marketable yield for 1998 was 19.8 T/A with 8.4 T/A culls. Many

fruit had radial growth cracks and catfacing which is common for this cultivar. Since fruit is somewhat soft, harvesting containers are best when small and shallow to avoid fruit stacking and cracking. Like other heirlooms varieties, 'Striped German' doesn't have a long shelf life but will definitely add variety to any tomato selection. This cultivar has been a favorite with home gardeners but will need some special harvest and post-harvest handling when grown on a commercial scale due to the size and softness of the fruit.

Marketing: Fruits were packed in peck baskets of 10 pounds each. Wholesale prices were \$7.00/10 lbs. Prices at a farm market and roadside stand were \$2.00/qt.

'Banana Legs' is a determinate heirloom from Totally Tomatoes that mature in approximately 75 days. These very prolific bright yellow, pointed, banana-shaped fruits measure 4 inches in length and are approximately 2 inches in diameter. This variety is a meaty "roma" type and low in acid. Fruits can be harvested, and are edible, in the green-to-yellow stage. This determinate variety requires no pruning or staking. 'Banana Legs' can be used for fresh market or processing. Fruits are easy to harvest and fruit set is very concentrated. Marketable yield in 1998 was 23.2 T/A with 6.7 T/A culled fruit.

Marketing: Fruits were packed in 10 lbs. lots and sold wholesale for \$7.00/10 lbs. They were packed in quarts and sold retail at farm and roadside markets for \$2.00/qt.

'Eva's Purple Ball' is a heirloom indeterminate variety available from Totally Tomatoes. The pinkish-purple fruits mature in 80 days. Fruits are round with an average weight of 5 ounces. Fruits are somewhat difficult to harvest and stems are somewhat corky. Fruits are blemish free

but cracking will occur if the fruit is picked overmature. Again, this variety should be harvested somewhat immature. The true color of this unusual variety is pinkish-purple. Some anthracnose was noted in the plots in early August. Marketable yield for 1998 was 18.9 T/A with 7.9 T/A culled fruit which were mostly cracked due to heavy rains prior to harvest. This is a popular variety with home gardeners but with some special handling, may be appropriate for the roadside or farm market outlets.

Marketing: Fruits packed in 10 lbs. lots sold wholesale for \$7.00.

They were packed in quarts and sold retail at farm and roadside markets for \$2.00/qt.

'Wonder Light' from Johnny's Selected Seeds is an indeterminate, yellow, rounded, nipped tomato that resembles a lemon in color, shape and size. With good taste and flawless appearance, this cultivar can be used fresh for salads, or processed for salsas and sauces. This unique variety is firm and meaty and seems to have a longer shelf life compared to other heirlooms. No disease problems, cracking, catfacing or fruit softening were noted. Fruit is easy to harvest and pulls away from the stem easily. This is a nice, unique variety that would hold up to shipping. Marketable yield was 19.3 T/A with culls weighing 3.0 T/A. This unique shape, size and color is definitely worth trying for fresh market or processing.

Marketing: Peck baskets were packed with 10 lbs. and sold for \$7.00 on the wholesale market.

Quart baskets were sold at farm markets and roadside stands for \$2.00/qt.

'Pink Ping Pong' this novelty from Totally Tomatoes matures in 85 days. This indeterminate

cultivar yields pink, ping pong ball-sized fruits that are candy-sweet and pinkish-purple in color. Plants produce large cherry-type fruits 2 inches in diameter and are very uniform in size and shape. Fruits should be harvested before full maturity to extend shelf life. This cultivar can be used for eating fresh in salads or for snacks. Marketable yields were 17.4 T/A with 3.3 T/A culled fruits. Definitely worth trying if your markets demands unique tomatoes in unusual colors and sizes. Mixes well with other cherry types or larger tomatoes.

Marketing: Ten pound lots were sold wholesale for \$7.00 .

Quarts were sold retail at a roadside stand and farm market for \$2.00/qt.

'Sungold' from Shepard's Garden Seeds, is an indeterminate hybrid orange colored cherry tomato that matures in 65 days. This cultivar has an excellent, sweet flavor. Fruits are borne on long trusses and mature all season long. The bright tangerine-orange color mixes well with other cherry-type sizes and colors. Plants require heavy pruning and staking and can reach a height of 6 feet. These plants produce a heavy fruit load. Marketable yield was 13.2 T/A with 1.7 T/A culls.

Marketing: Fruit was packed in pint containers and sold at a farm market and roadside stand for \$1.50/pint.

All 1998 cultivars were popular in the retail and wholesale markets. Demand for product was greater than the supply available.

1997

Plots in 1997 were established at the OSU Horticulture Farm in Columbus, Ohio.

Transplants were established in the field on May 28 into raised beds with black plastic. Plots were

spaced 5 feet apart with 3 feet between plants. Overhead irrigation was used as needed.

'Tigerette Cherry' from Stokes Seeds is an unusual red and yellow striped oval to round fruit on unique small, compact plants that have yellowish-green ornamental foliage. Average fruit size is approximately 2 3/4 inches in diameter and approximately .07 lbs. Although the outer skin is striped the fruit interior is solid red with a good tomato flavor. Plant population and yield could be increased if these plants were spaced closer together in the field. No major insect problems were noted. Septoria leaf spot (confirmed by a plant pathologist at Ohio State University) caused early "burning" of the foliage throughout the plots; however, no damage was visible on the fruit. The unique compact plants make harvest difficult. Plants had to be "turned over" to harvest fruit from the interior of the plants. Marketable yield was 8 T/A with culled fruit weighing 2 T/A. Fruit was culled due to cracking and ground rot.

Marketing: tomatoes were packed in peck baskets of 10 lbs. each and sold wholesale for \$4.50/10 lbs.

1996

Plots were established in both Columbus and Hillsboro. Plots were established on raised beds with black plastic. Irrigation (overhead in Columbus; trickle in Hillsboro) was available as needed. Plants were pruned and staked as needed.

'Lemon Boy' is an indeterminate variety producing 6 to 7 ounce globe-shaped fruits of a true lemon-yellow color. This variety matures in approximately 72 days. Plants were spaced 3 feet

apart in rows 5 feet apart. The plants are very large with adequate foliage cover which prevented sunscald on the fruit. Marketable yields in Columbus and Hillsboro were 24.1 T/A and 19.1 T/A, respectively. Some blossom end rot occurred on the early fruits harvested. Some radial and concentric cracking was observed after a substantial rainfall. Bacterial speck was present on some fruit in the Columbus plots. Overmature fruit will begin to turn orange and soft. It is best to harvest this variety when the fruits are a true bright yellow.

Marketing: Peck baskets of 10 lbs. sold at wholesale for \$8/10 lbs.

Fruit was sold retail at a farm market in Columbus for 3/\$1.00.

Fruit was sold retail at a farm market in Hillsboro for \$1.00/lb.

‘Italian Gold’ this new hybrid variety is a determinate roma type with beautiful golden-orange skin and flesh. This variety is extremely “meaty” with a compact seed cavity. ‘Italian Gold’ has excellent cooking quality and makes unusual sauces and salsas. ‘Italian Gold’ is bred to be high in pectin for a richer, thicker sauce. For unique whole or diced canned or frozen product, this was in demand from restaurant chefs in the area. Although not advertised as a variety to be eaten right off the vine, the flavor was widely accepted by many who tried it fresh from the plant. This variety also makes a beautiful presentation when served with other heirlooms of unusual shapes and colors. Average fruit size is 2-3 ounces and matures in about 70 days. The determinate plant habit is compact and requires no pruning or staking. Plants were spaced 15 inches apart in rows 5 feet apart. Marketable yields in Columbus and Hillsboro were 33.5 T/A and 27.7 T/A, respectively. No disease or insect problems were evident in the plots. This is truly an unusual new variety with excellent orange skin and flesh color, good flavor, and excellent cooking quality.

Marketing: Peck baskets of 10 lbs. sold at wholesale for \$8/10 lbs.

Fruit was sold retail at a farm market in Columbus for 4/\$1.00.

Fruit was sold retail at a farm market in Hillsboro for \$1.00/lb.

'Green Zebra' is an unusual variety that produces small, 2-4 ounce fruits on vigorous indeterminate vines. Skin color at maturity is bright green with stripes of darker green. Interior fruit color is solid green with a “real” tomato taste. When overripe, fruits begin to turn orange. Fruits mature in about 78 days. This indeterminate variety was spaced 3 feet apart and plants were pruned and staked. Marketable yields were 10.2 T/A in Columbus and 13.2 T/A in Hillsboro. Bacterial speck was noted in Columbus plots. This unique variety was a real eyecatcher alone and in combination with other heirloom varieties.

Marketing: Peck baskets of 10 lbs. sold at wholesale for \$8/10 lbs.

Fruit was sold retail at a farm market in Columbus for 4/\$1.00.

Fruit was sold retail at a farm market in Hillsboro for \$1.00/lb.

1995

Plots were established in Columbus and Hillsboro. Plots in both locations were raised beds with black plastic. Irrigation was used as needed. Plants were spaced 3 feet apart in rows spaced 5 feet apart.

'Sweet Million' (red cherry) and ***'Sweet Gold'*** (yellow cherry) were grown in both Hillsboro and Columbus. Both cultivars are indeterminate and require pruning and staking. Verticillium wilt

was present in plots at both locations. Hand harvesting was labor intensive. 'Sweet Gold' fruits were larger than 'Sweet Million' and more uniform in size. Marketable yields in Columbus and Hillsboro for 'Sweet Million' was 16.3 T/A and 12.9 T/A respectively. Yields for 'Sweet Gold' were 18 T/A (Columbus) and 8.9 T/A Hillsboro.

Marketing: 'Sweet Million' - Flats containing 12 pts. sold for \$8-\$9/flat (wholesale)

'Sweet Gold' - Flats containing 12 pts. sold for \$10-\$12/flat (wholesale)

Both varieties also sold at a roadside stand for \$1.00/pint

'Yellow Pear' this variety is a small fruited, yellow, pear-shaped tomato. This open-pollinated cultivar is indeterminate and requires pruning and staking. This variety produces firm, thick skinned fruits on wild growing plants. Verticillium was a problem throughout the plots.

Marketable yield in Columbus and Hillsboro was 7.1 T/A and 10.4 T/A, respectively.

Marketing: this unique variety was popular in the wholesale and retail markets. 'Yellow Pear' sold for \$1.00/pint on the retail and wholesale markets.

Seed companies are beginning to increase their offering of heirloom tomato seeds. They have realized the increased demand for these older varieties. The surge in specialty produce has caused an increase in demand for unusual produce, especially heirloom tomatoes. In some areas, demand exceeds supply. Growers who are willing to try heirloom varieties are cautioned to find your markets prior to any production. Starting small in specialty or heirloom production is advised. Keeping aware of market trends and product demand is essential. We hope to continue our testing of these unusual heirlooms and the market opportunities available for Ohio growers.

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