



Frederick County Office

# OPERATING A PROFITABLE SMALL FARM

FACT SHEET 19

## *Specialty Crops: Oriental Vegetables*

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One of the most important keys to small farm profitability is the production of high-value crops. By their very nature, small farms are limited-resource farms, with land often being the most limiting resource. The size of a farm is frequently the major factor determining which enterprises are viable on the farm. The high cost of farmland in this region is an additional liability to small farms. Generating a high enough dollar return per acre of land is critical to profitability on a land-limited farm. High-value crops often involve the production of specialty crops – crops that are not usually produced and sold in large quantities by larger farms. This makes high-value crops ideal for the small producer.

Among specialty crops, the oriental vegetable group has a tremendous potential for profitability. Oriental cooking has a strong following from a wide range of people in the region. In food stores and on farm direct markets, there is currently a limited selection of oriental vegetables. No marketing programs for these crops are being offered, so there is a wide-open market for serious production and sales.

Oriental vegetables can fit into almost every farm operation. They are productive, relatively easy to grow, and they have a wide range of seasonal availability. In the field, the decorative oriental vegetables look like ornamental crops to passers-by. For some varieties, the season can be extended into late winter using a root cellar. Oriental vegetables are a good addition to the diversification of the small farm.

When producing a crop for the first time, it is recommended that a small test plot be used before committing to a large-scale planting. Experience needs to be gained and lessons need to be learned before making a major commitment to any crop.

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Be sure to consider the following factors before planting a crop:

- ✓ Regional weather and seasonal differences
- ✓ Limited varieties of some species
- ✓ Quality control differences between seed dealers
- ✓ Limited technical support
- ✓ The region's disease and insect problems
- ✓ Limited pest management options

Another important consideration is the need to develop a local market for oriental crops. When starting a new farm enterprise, be certain to base the decision on thorough investigation of all pertinent factors, and make sure the enterprise follows the farm's business plan. The following descriptions serve as an overview of the various types of oriental vegetables.

## ***Oriental Greens***

### **Amaranth** (*Hinn Choy*)

Also known as Chinese spinach, amaranth, considered an ornamental in the U.S., is often found in the flower section of seed catalogs. It is an attractive plant with brightly colored leaves and flowers. It is important to order edible varieties, since some non-edible varieties do exist. In China, amaranth is known as Chinese spinach. In fact, it can be prepared like spinach and is more nutritious than spinach. Amaranth's flavor varies with the variety, ranging from spicy hot to bland, aromatic, slightly sweet to tangy. It is occasionally used in salads but is most often cooked. Heavy fertilization will result in large, tough leaves. This heat-tolerant plant can be planted when the soil warms up. Plants will mature for greens in 40 days.

### **Garland Chrysanthemum** (*Shungiku*)

This is a true chrysanthemum with recognizable flowers. It also is a vegetable and is used as a medicinal herb. To most people, typical garden chrysanthemum has a very bitter, unpleasant taste, but some have developed a taste for it. Edible chrysanthemum tastes better, so be sure to select cooking chrysanthemum when ordering seed. It is considered a potherb, and served cooked, not raw. It is cooked quickly and served like spinach. It has an aromatic flavor, meaning that it tastes the way it smells while cooking. It can be planted in early spring and takes about 60 days before leaves can be harvested. The flowers can be gathered when fully matured and dried for culinary uses.

### **Japanese Mustard** (*Mizuna*)

This pungent member of the mustard family is widely grown in Japan. In China, it is often called Japanese mustard. When eaten raw, the mild-tasting mizuna is best mixed in salads. The plant's beautiful, feathery foliage enhance the look of both a salad and a field planting. Mizuna is rich in vitamins and minerals and has a long harvest season, making it available well into the fall. It is tolerant of cold and wet soils. It is ideal for successive plantings during a season. Planting can begin in early spring and harvesting can begin 35 days later. The whole plant can be harvested at this time, or the leaves can be stripped to allow the growth of new leaves for later harvest.

### **Chinese Mustard** (*Gai Choy*)

This plant differs from the pungent mustard greens normally in the produce section. Gai Choy is considered one of the best tasting greens. It is a Brassica that is related to the common mustards. It has all of the nutrition and medicinal properties of the family. It can be eaten raw or cooked. Its planting schedule is the same as other members of the family; it matures in 35 to 50 days. The two main varieties are rugosa, with brownish-red leaves, and foliosa, with dark-green leaves.

### **Chinese Cucurbits**

#### **Bitter Melon** (*Foo Gwa*)

This is a vegetable, not a fruit. It has a bitter taste, similar to a bitter-lemon soft drink and is unlike anything grown in the U.S. Bitter melon is used in chicken, pork and shrimp stir-fry dishes. Bitter melon is a vine, often grown as an ornamental, that produces bright green leaves and numerous small, yellow flowers. The oval fruit is approximately 12 inches long and two inches in diameter. The fruit tapers to a point at both ends and turns from bright yellow to orange as it matures. It is a warm weather crop that needs a trellis and frequent watering. Fruit should be harvested when they are six inches long, but some people like the taste of more mature fruit. The bitterness increases with the age and size of the fruit.

#### **Winter Melon** (*Doan Gwa*)

Chinese winter melon is a staple in both China and Japan, where it is widely grown. All parts of the melon vine are eaten, including young leaves and flowers, as well as mature and immature fruit. The seeds can also be roasted and eaten. It is used in a variety of steamed, stir-fried and pickled recipes. It can be stored for a year in a cool place. This green melon can be decoratively carved for special feasts. The fruit should be eaten when ripe: ripe fruit develops a fine waxy, white coating that can be brushed off. The oblong melon grows to 12 inches long, eight inches wide, and can weigh 25 pounds. Its white flesh tastes like sweet zucchini squash. It should be grown on a trellis and liberally watered. It matures in about 150 days. It is best to use straw mulch around the plants to preserve the quality of its fruit.

#### **Fuzzy Gourd**

A fuzzy gourd is a smaller, earlier producing relative of the winter melon, and it has similar cultivation requirements. Also a vegetable, this pear-shaped gourd can be used the same ways as summer squash. The skin has a fuzzy coat, similar to that of a peach, which can be easily rubbed off. The flesh is white. The Chinese often serve it stuffed. One gourd usually serves one person. It is harvested when it is four to six inches long. The fuzzy gourd vine should be grown on a trellis.

#### **Sweet Melon** (*Chung Gwa*)

Oriental sweet melons are similar to and can be served like cantaloupes and honeydew melons. Sweet melons have the same color, shape, rind, and flesh as the more well-known fruits. Aroma is the best indicator of ripeness. A melon that smells fragrant is typically ready to pick. They are easy to grow and most weigh one to three pounds.

### **Chinese Pumpkins** (*Nung Gwa*)

Native to Asia, these pumpkins are revered for their nutritional and medicinal properties. Oriental pumpkins can be used the same ways as winter squash or regular pumpkins. They are small and flat, with a rind that can be dark green, brown, or almost gray, and it is sometimes striped. The flesh varies from orange to yellow and is typically sweet. This short vine can be trellised. The plants require frequent watering and should be mulched with straw to protect the quality of the fruit on the ground. Fruit should be harvested when the stems of the fruit dry out and turn brown. After being cured in the sun for several days, Chinese pumpkins store well in a cool, dry place.

### **Chinese Okra** (*Cee Gwa*)

All parts of this versatile vegetable can be used except the root. It is a prolific vine – one plant can produce more than 25 large gourds. Chinese okra, while much larger than regular okra, has the same pronounced ridges. When very young, the leaves and flowers are edible. The fruit is only edible when immature and is prepared like zucchini squash. The flesh has a sweet flavor. The seeds of the mature fruit can be toasted and eaten. The young fruit can be sliced and dried for use in soups, or mixed with other vegetables or meats. Vegetable sponges, famous in Egypt, are made from mature fruits. Chinese okra, with its numerous bright yellow flowers, is best grown on a trellis, since some varieties can reach 15 feet tall. The fruit varies in length from 12 inches to 24 inches. The fruit matures in about 115 days. It can be harvested twice: early for the immature vegetable (when they are 4 to 6 inches long) and late for the sponge.

### **Chinese Cucumbers** (*Kee Chi*)

These cucumbers are not altogether new in the United States. They are as easy to grow as regular cucumbers. The vines, flowers and leaves look like those of regular cucumbers. Chinese cucumbers take up less space when grown on a trellis and should be kept well watered to prevent bitter fruit. The fruit can be harvested at any stage before maturity, however they must not be allowed to mature or the vine will stop producing. Bees love the flowers of this plant.

## ***Snow Peas***

### **Snow Peas** (*Ho Lon Dow*)

Snow peas are easy to grow, prolific yielders, and they bring top dollar at markets. The pods are edible, so they do not have to be shelled. They are crisp and sweet, combining the best qualities of snap beans and garden peas. They are a main ingredient of oriental cooking. Snow peas look like garden peas – the shape of the leaves and flowers are similar, but the color and size of the flower differ. Varieties range from dwarf, bushy plants to vines that require trellises. The snow pea, like any other pea, should be planted as soon as possible in the spring. Not usually affected by cool, wet soils, they do suffer during the summer's heat. They can also be planted in late summer for a fall crop. Snow peas are legumes which need to be inoculated with the proper species of bacterium for nitrogen fixation. Legumes will improve the soil.

## ***Chinese Beans***

### **Adzuki Beans**

Cultivated in the Far East for thousands of years, Adzuki beans have a slightly sweet flavor and are used in oriental desserts. They are rich in protein (25%), minerals, and amino acids. They are currently used in the United States to make bean sprouts. They can be picked young for use in fresh salads, adding a nutty flavor. The whole pod can be used much the same way as snow peas. The beans can be dried and stored in jars and prepared the same as other dried beans. The bean pods grow on a bush-type plant that is two feet high. Beans for drying will mature in 120 days, while green beans are picked much earlier, and can be picked every five to six days.

### **Fava Beans**

Fava beans are actually related to vetch. Very young pods are edible and can be stir-fried like snow peas. Fava beans grow on a bush-type plant that grows about four feet high. The large, flat bean pods contain five to seven beans that look like lima beans. Fava beans can tolerate cool, damp soils, unlike most other beans. Their early short season maturity makes them ideal for succession planting. They should be harvested as soon as the bean outline can be seen in the pod. Mature beans can be dried. Fava beans are very rich in protein (25%) and other nutrients.

### **Mung Beans**

Most market bean sprouts in the United States are mung beans. Although expensive, they have an excellent flavor. The young pods can be picked and cooked like snow peas and added to stir-fry dishes and soups. Mature beans can be dried and shelled. The green or golden varieties mature in 90 to 120 days, depending on the variety.

### **Edible Soybeans (*Soy*)**

The soybean could be called the most versatile vegetable. They can be eaten green or dried. Specific varieties are recommended for green-shelling, drying, and for sprouting. Green soybeans can be cooked in the pod until tender. The beans are popped out when eaten. Soybean colors range from black, green or gray to yellow, brown, or white. They are harvested twice; early for green beans and later for the mature dried bean. Green beans can be harvested in about 30 days

### **Yard-Long Beans (*Dow Gauk*)**

Also known as the asparagus bean because its flavor is similar to asparagus, this pole bean is related to the black-eyed pea. It is a heavy producer and an aggressive vine that should be trellised. The beans can be prepared much the same way as green beans. The plant requires warm soil and warm weather for growth. The beans are at their best when picked immature; they mature in 60 to 90 days.

## ***Chinese Cabbages***

### **Chinese Celery Cabbage (*Pe Tsai*)**

This is a heading type of cabbage that looks somewhat like Romaine lettuce. It can be pickled, stir-fried, boiled, or made into coleslaw or sauerkraut like regular cabbage. It tastes similar to celery. Varieties range in height from 13 to 18 inches. Since it is a cool weather crop that prefers shorter days, it is best planted as a fall crop. It takes 70 to 80 days for maturation where the heads are firm and fully developed. When temperatures drop below 50<sup>0</sup> F, they stop growing. Mature heads will keep two to three months in a root cellar.

### **Chinese Mustard Cabbage (*Bok Choy*)**

This can be considered two vegetables in one; the leaves are cooked like spinach and the ribs are cooked like asparagus. The leaves of this plant are one of the ingredients of Won Ton soup. Bok Choy is rich in vitamin C, minerals and fiber. It looks more like Swiss chard than cabbage. This cool weather crop can be planted in March for a spring crop, or in August for the fall season. It matures in eight weeks, but they can be eaten earlier.

### **Chinese Broccoli (*Gai Lohn*)**

This versatile vegetable is very rich in vitamins A and C, as well as calcium, iron and other minerals. All parts of this plant are edible. It matures very quickly and can be grown as a two-season crop (spring and fall). The plant looks like regular broccoli that did not mature right. It should be harvested before it flowers.

## ***Other Vegetables***

### **Asparagus Pea (*Bin Dow*)**

Sometimes called the Goa bean, the Asparagus pea tastes like asparagus. The nutritious pods are picked before they mature, when they are about an inch long. The pods can be stir-fried, added to stews, or boiled. The whole plant is edible. It is an abundant producer, and the aggressive vine should be grown on a trellis. Asparagus pea can be planted after the last frost and picked 50 days later.

### **Burdock (*Ngau Pong*)**

The leaves and stems of this vegetable are prepared like spinach and asparagus. The very young root can be peeled and eaten raw like a radish. The mature root can be peeled and cooked in a variety of ways. The plant looks like wild burdock and prefers warm soils. The leaves and young shoots can be harvested in the spring. The roots mature in about 10 weeks.

### **Chinese Eggplant**

This tasty vegetable can be prepared in a variety of ways. The plant looks similar to a regular eggplant, but the fruit is smaller. This long season crop requires warm weather, heavy fertilizer, and frequent watering. Harvesting can begin when fruits reach the size of a large egg or a small zucchini. It is a good producer, and harvesting can occur over several weeks.

## **Chinese Radishes**

Radishes can be eaten raw, stir-fried, grated, pickled, and prepared in many other ways. Many radish shapes exist, including round, long and tapered, short and blunt-ended. Colors include white, rose, pink, purple, and black. These radishes also vary in size – some grow to 65 pounds. There are varieties adapted to production in the spring, summer and fall. Radishes harvested in the fall can be stored for several weeks in a root cellar. Chinese radishes are cultivated much the same as regular radishes. The leaves make excellent greens when picked young.

Reference: Geri Harrington, *Growing Your Own Chinese Vegetables*, Garden Way Publishing, 1994.