

Displaying Vegetables at Their Best

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HARVESTING, SELECTING, AND PREPARING SPECIFIC VEGETABLES FOR EXHIBITION

(Beans, beets, broccoli, Brussels sprouts, cabbage, carrots, cauliflower, celery, corn, cucumber, eggplant, endive, garlic, herbs, kale, kohlrabi, leeks, lettuce, muskmelon, okra, onions, parsnips, peas, peppers, potatoes, pumpkins, radishes, rhubarb, rutabagas, shallots, spinach, squashes, sweet potatoes, Swiss chard, tomatoes, watermelons, baby and miniature vegetables.)

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The Vegetable Crops Gardening Program teaches skills in gardening and develops interest in the production of vegetables, enriching the lives of 4-H members, other youths, and adults. Vegetable gardeners of all ages are proud of their ability to produce their own food and eager to show off the products of their gardening efforts. The 4-H program gives youths the opportunity to exhibit their garden produce at county and state fairs.

The information in this bulletin will help all vegetable gardeners understand the general principles of and requirements for harvesting and storing specific crops. It will guide them in harvesting, selecting, and preparing vegetables for exhibition and marketing. These guidelines will also be valuable to exhibit judges, garden chefs, and consumers.

The primary value of vegetable exhibitions is the opportunity for education. Through presentations, corrections, and discussions, the exhibitor and judge interact directly and learn. The award is secondary.

THE VEGETABLE GARDEN

The harvested produce from a garden reflects the skill and attention of the gardener in charge. Vegetables of good quality grow from a garden of good quality. Gardeners with small plots can give more specific attention and care to their plants than can commercial growers. All vegetable growers, however, no matter what their planted area, should be concerned with the following characteristics of a well-maintained garden:

- The soil is tested, adjusted for acidity, and properly fertilized.
- The soil is enhanced with organic matter and cover crops.
- Appropriate crops and varieties are selected for the location.
- The quality of seeds and transplants is high.
- Thinning and cultivation are proper and timely.
- The water supply is adequate.
- Mulches, plant protectors, and support systems are properly used.
- Vegetables are protected from pests in a sensible and safe manner.
- Beneficial insects, including pollinators, are preserved.

Damage from insects, disease pathogens, and weeds can be avoided by carefully observing the plants and acting promptly to reduce pests in the garden. Alternative methods of pest management are encouraged in the garden. Damage can be kept low without using potent conventional pesticides. Eliminate weeds, for they can reduce the size and number of vegetables by blocking sunlight and by competing for water and nutrients. Weeds also harbor insects and disease organisms which can spread to the vegetable plants.

Although some vegetable gardeners feel their responsibility ends with the production of the edible plant part, it is important to know how the vegetable is to be used and at what stage it should be harvested. The criteria used to select a vegetable for a meal fit personal preferences and are not necessarily the same as those used to select a vegetable for exhibition or marketing. Gardeners may select less than perfect vegetables for their own consumption, cutting away the inedible part, but only the closest to perfect specimens should be picked for an exhibit.

TIMING

Planting and harvesting each require proper timing. Vegetables should be planted and grown in specific seasons. Cool weather crops such as radishes, lettuce, spinach, and peas should be planted early so they are growing in the cool time of the spring or planted late so they are maturing in the cool weather of fall. Tomatoes, peppers, melons, and cucumbers are examples of warm weather crops. Their growth is reduced and they languish if the season is cool, and they may be killed if the temperature lowers to freezing. Lettuce grown in warm weather elongates and goes to flower, and radishes become spongy in texture and hot to the taste.

Harvesting also must be done at the proper time to yield the best quality vegetable. Radishes allowed to overgrow will have poor texture despite the season in which they mature. Cabbages that sit too long in the field will split. Bok choy allowed to grow too large will have very tough leaf stalks and will develop side shoots. Snow peas that are kept on the vine until the peas enlarge will have fibrous, inedible pods.

STAGE OF HARVEST

Standards for the best quality of vegetables may seem confusing. Baby vegetables are harvested when they are very young and small. Heirloom gardens contain vegetables that are purposely overgrown to simulate the way our ancestors would have grown them especially for long keeping. Categories of "largest" vegetables at a fair are displayed for fun and audience amusement, not to indicate a normal practice or preference in our gardens. In fact, today with our knowledge of growing vegetables and methods to keep them, "bigger" is neither better nor necessary.

We eat vegetables in various stages of development, depending on our own taste preferences. Some people say corn tastes best in the milk stage, which occurs about three weeks after the silk first appears, when a pierced kernel exudes a milky juice. Others prefer corn that is older, past the milk stage, and more starchy tasting. Still others prefer corn picked when the sap is thin and nearly clear and the kernels are rounded. immature, and extremely tender. Gardeners should not deny themselves these preferences.

For exhibition or marketing, however, stages of harvest must be set that appeal to most consumers. These stages may not always coincide with individual taste preferences, but they are wellrecognized standards for the market and for exhibits, combining optimum flavor, texture, tenderness, shape, size, and color. When a crop is at the proper stage for harvest, good specimens of that crop offer

- optimum quality and freshness;
- high nutrition;
- attractive appearance;

• peak flavor, without bitterness, acute spiciness, or astringency; and

• optimum condition for storage.

METHODS OF HARVEST

The technique used to harvest vegetables strongly influences the appearance of the vegetables and how long they will keep. Damage to vegetables during harvesting not only visibly injures the tissues but also causes rapid deterioration. Mechanical damage from rough handling is easily avoided if time and care are taken as the vegetables are collected.

Most vegetables should be harvested in the coolest hours of the day; usually the morning is best. Plant materials lose moisture and wither in the heat and sun of the day, especially leafy greens and baby vegetables. If vegetables must be harvested in the middle of the day, then shade, a water mist, or cooling containers should be provided for root and leaf crops.

As an added precaution for leafy greens that must be transported over long distances to an exhibition or fair, it is best to harvest the plant with part of the root attached. Then wrap the root and even the entire plant in wet towels and keep it cool and moist. Just



before the exhibition, cut off the root, and wrap the cut end in a wet towel until judging. Mist the plant frequently.

The appearance of vegetables is enhanced when accessory parts remain attached for display. This is especially important for marketing. The color and form of beets, carrots, and radishes are complimented when leaves are present. Celery and rhubarb look scalped when their leaf blades are removed.

Corn looks more natural and fresh when flag leaves are left. But for several reasons, we remove these parts for storage and exhibition. They are all inedible, and the blades of rhubarb are dangerous to eat. Leaves and especially leaf blades act like a wick and draw moisture from the edible portion and release it into the air. The leaf parts soon wilt and decay. Also, extra plant parts waste space and make transport of vegetables more difficult.

Root vegetables and other plants with underground edible parts should be dug from the soil, not pulled. Even if they finally come free, vegetables pulled from the ground can be damaged by pressure and scraping. Tearing, bruising, or cutting the surface of a vegetable allows moisture to escape, which results in shriveling, and organisms that cause rotting to enter the plant. Root and underground vegetables are most easily



removed by digging a trench to the side of the roots and as deep as the roots, being careful not to puncture or bruise the vegetables with the digging tool.

Root crops that should be dug include carrots, beets, sweet potatoes, radishes, turnips, and parsnips. Underground crops that are not roots but that need digging are onions (bulb), garlic (bulb), potatoes (stem), and Jerusalem artichokes (stem). Even crops that are partially aboveground, such as kohlrabi, celeriac, finocchio, and leeks, should be dug out before picking to avoid possible damage.

Tomatoes, peas, beans, and Brussels sprouts usually can be pulled easily from the plant by hand without damage. Vegetables that don't pull off their plants easily should be cut with a sharp knife or shears. These crops include corn, broccoli, celery, eggplant, lettuce, cabbage, okra, squash, Swiss chard, and herb sprigs. Use a knife or shears especially when the stem is to be left on a vegetable for an exhibition.

When harvesting for any use, but especially for an exhibition, minimize the number of specimens pulled from the garden. Aboveground crops, such as beans, cucumbers, and peppers, can be examined and selected before they are harvested. Underground crops need to be dug in excess for selection—perhaps 3 or 4 times the number of specimens required for an exhibit.

POSTHARVEST TREATMENT

After harvest, vegetables should be taken quickly to a temporary storage area and not left in the field. The cells of the plant are still living but have lost their source of moisture. If harvested vegetables must be kept in the field for an extended period, consider shading them, misting them with water, covering them with wet paper or cloth, or even putting certain vegetables on ice or in an ice and water slurry. These are also considerations when vegetables are to be transported.

Onions, potatoes, squashes, and pumpkins need curing to develop full flavor and to heal bruises. Warm weather crops should be kept in a cool storage area but not in a refrigerator. Leafy greens generally benefit from being refrigerated in a plastic bag soon after harvest. Baby vegetables and small vegetables need protection from water loss. They are apt to lose moisture because they are small in volume and their outer surfaces are often thin and very water permeable.

Washing vegetables should be delayed until after curing or when they are ready to be prepared for a meal, an exhibit, or the market. Washing root crops immediately after digging may scar their delicate surfaces. Soil should be softened by briefly soaking the vegetables, then hosed off or loosened by rubbing with your hand or a soft sponge.

Most vegetables are damaged by freezing temperatures, some by temperatures well below 32 de-

grees F. Water crystallizes within the plant tissue, rupturing the cells and membranes.

Chilling injury is damage to the surface cells of sensitive warm weather crops at temperatures above freezing. The extent of injury is determined by the actual temperature and the length of time it persists. Damage is not visible when chilling injury occurs, but it shows up later at warmer temperatures with symptoms such as surface pitting, discoloration, decay, and changes in ripening. Vegetables injured by chilling are beans, cucumbers, eggplants, peppers, tomatoes, melons, okra, potatoes, sweet potatoes, winter squashes, and pumpkins. Chilling injury may vary substantially among different varieties of each vegetable. It can occur in the garden or in storage. The refrigerator is no friend of these crops.

Vegetables are exhibited to show off the very best products from a garden. A vegetable exhibition demonstrates the successful efforts and abilities of the gardener, plus it provides the opportunity to be recognized by a judge's award and by visitors' compliments.

Spectators are attracted to a good vegetable exhibition by the array of vegetables, their beauty, and their diversity. They learn about the crops that will grow in their region and the standards for vegetable size, shape, and variety appearance. Later they may contact exhibitors living nearby for advice about their own gardens. Viewing other garden exhibits inspires gardeners to maintain their own high standards as well as improve them.

County, city, and school vegetable programs are encouraged to adopt the standards and guidelines cited here and to use or add those vegetable classes that reflect specific interests and conditions in their locations. Because many gardeners are growing crops without the use of pesticides, a group of entries could be established for "organic" vegetables, in which judges would allow superficial damage but reward the growers' efforts and successes.

STANDARDS FOR GARDEN VEGETABLE EXHIBITS

• Exhibited vegetables must be grown by the exhibitor in a family, school, or community garden.

• Vegetables must be clean and not scarred by the cleaning process. Trim leaves and roots when appropriate. Leave 1/4 to 1/2 inch of stem on all vegetable fruits (e.g., beans, cucumbers, peppers, corn, squash) except tomatoes and muskmelons, whose stems must be removed. Trimming too close to the root or fruit can cause injury, allowing moisture loss and rotting to begin. Too much stem remaining can damage adjacent fruit.

· Vegetables should be labeled with type of crop, variety name, and exhibit class. Only one variety should be displayed in a single exhibit. The variety name is very important. Not only does it inform consumers what the variety of vegetable is, but it also informs gardeners what varieties have been successfully grown in an area under certain climate and soil conditions. Judges who are familiar with the many different varieties and how each should appear need the variety name to do their work properly and will downgrade exhibits without this label.

• The exact number of specimens per exhibit, method of trimming, size, and other specifications are usually described in the premium list by the organizers of the fair or event where the vegetables are to be shown.

JUDGING GUIDELINES FOR 4-H VEGETABLE EXHIBITIONS

In 4-H vegetable exhibitions, vegetables are not judged against each other but against established standards for excellent, good, and worthy exhibits. If all the exhibits at a fair fit the guidelines for "excellent," for example, then all will be awarded that prize. Likewise, if the season was adverse for gardening and most exhibits do not fit the guidelines for "excellent," the standards will not be compromised by upgrading the awards, especially if a few talented gardeners show excellent vegetables despite poor conditions.

The standards written and used by 4-Hers follow:

Excellent Exhibit (Blue Ribbon)

Clean; only very minor defects in general appearance; best market size and quality; true to varietal characteristics.

For exhibits with more than one specimen: not more than 10 percent variation in size; uniform in shape, color, and degree of maturity.

Good Exhibit (Red Ribbon)

Clean; slight defects in general appearance; defective and unusable parts in the normally edible sections do not exceed 5 percent; good market size and quality.

For exhibits with more than one specimen: not more than 25 percent variation in size; slightly detectable variation in shape, color, and degree of maturity.

Worthy Exhibit (White Ribbon)

Fairly clean; some defects in general appearance; defective and unusable parts in the normally edible sections do not exceed 10 percent; fair market size and quality.

For exhibits with more than one specimen: not more than 100 percent variation in size; noticeable variation in shape, color, and degree of maturity.

No Award Exhibit (Green Ribbon)

Dirty; serious damage apparent; defective and unusable parts in the normally edible sections exceed 10 percent; unsatisfactory market size and quality.

For exhibits with more than one specimen: more than 100 percent variation in size; extreme differences in shape, color, and degree of maturity.

TYPES OF VEGETABLE CROPS FOR 4-H EXHIBITS

Descriptions for vegetable entries may be different from one county fair or exhibit to another, but they usually reflect certain general standards. The New York State Fair 4-H categories of garden vegetables are given below as examples. The lists include the exhibit criteria for most vegetables grown in New York.

Garden Vegetable Entries

Beans, lima—6 green pods containing edible beans.

Beans, snap, green—10 pods.

Beans, snap, yellow-10 pods.

Beans, snap, pole or vining type— 10 pods.

Beans, green shell—10 pods, any variety including edible soy, Horticultural, Kentucky Wonder.

Beans, dry shell—1/2 cup in container, dry field bean variety including navy, kidney, mung, adzuki, fava.

Beets—3, tops trimmed to 1 inch, tap root trimmed to 1 1/2 inches.

Broccoli—1 head or bunch of small heads, 4 inches or more in diameter.

Brussels sprouts—1 pint basket.

Cabbage, any fresh market variety—1 head, 2 to 4 pounds, with 3 to 4 wrapper leaves.

Cabbage, any kraut variety—1 head, large size, with 3 to 4 wrapper leaves.

Carrots—3, tops trimmed to 1 inch, no green shoulders.

Cauliflower—1 head, leaves cut just above head.

Celery—1 plant, market quality, roots off.

Corn, sweet—3 ears, husks removed completely, shank trimmed to 1/2 inch, displayed in transparent bag.

Cucumbers, slicing type—2 fruit, 5 inches or longer, 2 inches or less in diameter.

Cucumbers, pickling type—5 fruit, 3 to 5 inches long.

Cucumbers, pickling type—10 fruit, less than 3 inches long.

Dill—bunch of 6 seed heads, tied or in transparent bag.

Eggplant—1, large oval and oblong types such as Black Beauty, Black Magic, Black Enorma, Dusky.

Eggplant—2, small slender and round types such as Easter Egg, Ichiban, Long Tom, White Beauty.

Endive—1 plant, roots off, good market size.

Garlic—3 bulbs, dried, braided together or tops trimmed to 1 inch, cleaned, and minimally peeled if necessary.

Herbs—a tied bunch or potted plant. Examples: parsley, basil, thyme, chive, sage, mint.

Kale-1 plant, roots off.

Kohlrabi—2, tops trimmed to 2 inches and tap root trimmed to 1 inch.

Leeks-3 large, trimmed.

Lettuce, leaf—1 plant, roots off, good market size.

Lettuce, head—1 plant, roots off, good market size.

Muskmelon and honeydew melon—1, good market quality.

Mustard-1 plant, roots off.

Okra-6 fruit, 2 to 4 inches long.

Onions—3, tops trimmed to 3/4 inch, well cured and dried, not peeled.

Onions, green bunching type—6, tops on but trimmed evenly.

Parsley—1 plant, roots off, good market size and quality.

Parsnips—3, tops trimmed to 1 inch.

Peas-10 pods.

Peppers—2, large types such as Bell, Cubanelle, Italian Sweet.

Peppers—3, small types such as Banana, Hungarian Wax, Cherry, Jalapena.

Potatoes—3 tubers, 5 to 10 ounces.

Potatoes, salt potato type—3/4 to 1 1/4 inch diameter, 1 pint basket.

Pumpkin, any pie variety-1, ripe.

Pumpkin, any field variety—1, ripe.

Pumpkin, largest by dimensions in exhibit period—1, ripe, hard and ribbed stem.

Radishes—1 pint basket, tops trimmed to 1/2 inch.

Rhubarb—6 stalks, tops trimmed.

Rutabaga—1, top leaves trimmed off.

Shallots—3, tops trimmed to 1 inch, dried not peeled.

Spinach, common—1/2 pound in transparent bag.

Spinach, New Zealand—1/2 pound, tender tips 2 to 4 inches long, bunch tied or in a transparent bag.

Squash, summer—2, young, skin tender, such as zucchini, yellow, scallop.

Squash, winter—1, any large types such as Hubbard, Delicious, Banana.

Squash, winter—2, such as Buttercup, Butternut, Spaghetti, Table Queen, Golden Nugget.

Squash, largest by dimensions in exhibit period—1, soft and round stem, such as Big Max, Big Moon, Mammoth.

Sweet potatoes—3 roots, any variety.

Swiss chard—1 plant, roots and damaged leaves off.

Tomatoes, medium and large fruited varieties including Roma types—3, ripe, stems off. Tomatoes, small fruited—1 pint basket, ripe, stems off, also Presto, cherry, and small fruited types.

Turnips—3, tops trimmed to 1 inch.

Watermelon—1, mature, market size.

Baby and miniature vegetables display twice the number required for the vegetable at conventional size or, if not listed, show 6 of one type. Examples: baby corn, minipeppers, tiny squash.

Ornamental vegetables—3, such as miniature pumpkins, gourds, decorative corn, ornamental kale, white eggplant, scarlet runner bean.

Heirloom vegetables—any variety from the Heirloom Garden Project, exhibited in same manner as other vegetable entries, but size and condition typical of nineteenth century practices. Examples: Black Mexican sweet corn, Red Wethersfield onion, Dwarf Sugar pea, Russet Burbank potato.

Miscellaneous vegetables—for any category not listed, display same number of specimens as similar crop.

COMMON EXHIBITING ERRORS

These are the most common faults judges find with exhibited vegetables:

- Too many specimens.
- Too few specimens.
- Variety is incorrect or not stated.
- Vegetables are improperly exhibited (see vegetable entries list).

• Vegetables lack uniformity in type, size, shape, color, or maturity.

• Vegetables show injury from insects, disease, weather, handling.

• Vegetables are too large, too small, too old, or too young.

• Vegetables are wilted or dirty.

• Vegetables are poorly trimmed, peeled too close, or scrubbed too much.

10 Harvesting, Selecting, and Preparing Specific Vegetables for Exhibition

BEANS



Description

Beans are in the legume family and related to alfalfa, peas, and clover. There are a few tall vining types, but most garden beans grow on bushes. Most varieties are green, but some, called wax beans, are yellow. A few have purple pods, but the color is removed in cooking.

Harvest Stage

Beans are sensitive to frost and must be grown during the summer. They take 45 to 60 days, depending on the variety, to reach a stage for first picking. After that time, beans give a bountiful harvest. Beans should be picked when they are young and smooth, not rough and bumpy because of overgrown seeds inside. Do not let beans overgrow; they are tough to eat, they may develop strings along the sutures where the pods meet, and the plant will slow or cease production.

Harvesting and Trimming

Beans should be picked carefully from the plant, steadying the plant with one hand while pulling the bean and its short stem off together. If the stem is pulled off the bean, the bean can lose moisture and disease organisms can enter through the exposed wound.

Selection

For a vegetable exhibit, choose beans that are long, straight, thin, and of equal size and shape. The market is more tolerant of curved bean shapes than vegetable exhibit judges are. Also, choose beans high up on the plant, for they are less likely to be diseased or to have soil splashed on them. Newer varieties produce more uniformly sized fruit and are slower to develop seeds.

Short Storage

Beans keep best at a temperature of 40 degrees F and in perforated plastic bags, which maintain moisture. A refrigerator is adequate if it is not too cold and if the beans are put on a high shelf, which is usually warmer. Beans may keep up to a week under these conditions.

How to Exhibit

An exhibit of beans is most impressive when the beans are thin, long, and seemingly copies of each other. Selecting matching beans to exhibit does take time, and preparing multiple specimen plates is a challenge. A small section of stem should be attached to the fruit but trimmed neatly to about 1/4 inch.

BEETS

Harvest Stage

Beets need about 60 days from seeding to harvest. This period will vary with the temperature and moisture. To produce a uniform harvest, it is very important to thin beets, keeping them 2 to 3 inches apart. Observe the top of the beet root as it enlarges and harvest when it is between 2 and 3 inches in diameter.

Harvesting and Trimming

Digging beets with a spade or trowel is better than pulling them out of the ground. Carefully pick off all dead and discolored leaves. If the leaves are healthy, they can be left on the beet for a short time; otherwise, cut the leaf stalks (petioles) evenly about 1 inch above the root. Do not trim the long tap root that extends below the storage root at this time.

Selection

Gently wash off the soil from the harvested beets to get a better look at their color and form. Their shape should match the description on the seed packet or in the seed catalog for that variety. Do not choose beets with insect damage or with excessive russetting at the top for an exhibit. No area of the beet should be inedible. Usually 3 beets will be displayed as one exhibit, and they should match each other very closely in size and shape.

Short Storage

Beets lose moisture rapidly and should not be exposed to the sun. To keep in optimum condition, they should be cooled or refrigerated soon after harvest. Beets with leaves left on lose moisture very rapidly because the leaves draw water out of the root. Cut the tops close to the root. Do not cut the root itself for that will allow moisture to leave more rapidly and provide a wound through which organisms that cause rotting can enter.

How to Exhibit

Beets should be of medium size, from 1 1/2 to 2 1/2 inches in diameter, and of typical shape for their variety. Good attention should be given to cleaning the beet gently without leaving any scars. Cleaning is best accomplished by rubbing your hands over the roots in warm water. The tops should be neatly trimmed leaving l inch of leaf stalks, and the beets should be well matched. Pull off secondary fine roots and trim the tap root below the beet to about 1 1/2 inches. Beets on a single plate should all be the same length, from the trimmed top of the leaf stalks to the lowest part of the tap root.



Description

Beets are in the same family with spinach, Swiss chard, and lambsquarter. Beets are grown primarily for the enlarged storage root, but the leaves can also be eaten. Although beets are normally red in color, there is a golden yellow variety.



BROCCOLI



Description

Broccoli is a member of the mustard family and related to cabbage, cauliflower, Chinese cabbage, and yellow rocket. The flower buds, formed both as a single terminal head and as smaller side shoots, make up the edible parts of the plant. Broccoli grows best in cool weather and is normally set in the field as a 3- to 4-week-old transplant.

In Europe, broccoli is a term for cauliflower. Green broccoli became available in the United States about 40 years ago.



Harvest Stage

After being transplanted, broccoli needs 50 to 70 days to reach the harvest stage. Harvest broccoli when the head of flower buds is large but no flowers have opened up to show their yellow petals. Once the flowers are open, broccoli has passed its prime eating condition. Terminal heads may be 5 to 10 inches in diameter. After the main head is cut, the plant will produce side shoots or smaller heads in the axils of lower leaves.

Harvesting and Trimming

Broccoli heads are harvested by cutting with a knife 4 to 8 inches below the flower head. The stalks should be long enough to include the section where all the branches from the flower head attach together, yet short enough so they're tender. Broccoli heads are very fragile and bruise easily with rough handling. They benefit greatly by immediate refrigeration or icing. A few leaves may be left surrounding the head, but lower leaves on the stalk should be trimmed off. Washing is not usually necessary except for its cooling effect. Soaking the heads in water for a few minutes will cause worms to release themselves from the broccoli and float to the top of the water. The heads should still be carefully inspected for worms because the complex shape of the flower bud clusters can entrap worms.

Selection

There is no need to cut more broccoli than you need. You can see the exact form and condition of the broccoli before you cut it. Choose a head or small side heads that have tight flower buds and that are generally smooth and symmetrical in appearance. There should be no evidence of insect damage or leaves growing through the head.

Short Storage

Broccoli ideally needs a temperature of about 32 degrees F and a high relative humidity, which can be obtained by storing it in a perforated plastic bag. In the field, shading, misting, or covering the heads with wet paper helps keep the broccoli cool.

How to Exhibit

Exhibit the most uniform head with tight flower buds. If terminal heads are not available, side shoots of the same growth stage can be neatly arranged and bunched, then tied together with a string or rubber band to form a single exhibit. Bunched heads should measure at least 4 inches in diameter across the top. The stalk end of the broccoli should be neatly cut in cross section. Make sure there is no insect damage and that no insects are present on the plant. Most varieties are a rich green or blue-green color. Broccoli that is yellow-green does not look healthy and may be rejected by the judge or customer. This is not true for Romanesco, which is normally yellow-green.

BRUSSELS SPROUTS

Harvest Stage

Brussels sprouts are normally planted in early to midsummer and need a long growing season to develop good-sized sprouts. The sprouts form best in the fall of the year, and the plant must be well established before sprouts enlarge. If planted in the spring, sprouts will develop but they may be loose and poorly formed. Cool conditions are needed for best production. If sprouts seem small or lack uniformity on a plant, cut off the top growing portion of the stalk to prevent new sprouts from forming. Then the sprouts already on the plant will enlarge. Brussels sprouts should be approximately l inch in diameter for harvesting. Sprouts of the best quality are compact with no splitting or insect injury.

Harvesting and Trimming

Brussels sprouts can be snapped off the plant or neatly cut with a sharp knife. Remove sprouts with a bit of stalk attached, which can be neatly trimmed later. Harvest is normally in the fall, so this crop is exhibited in late summer fairs.

Selection

Brussels sprouts can be initially selected on the basis of good form, no damage, and uniformity of size while still on the plant. The leaves should be wrapped tightly around each other to form the sprout. Once cut, the sprouts should be laid out in a single layer to pick the best round shapes and the most uniform sizes to go in one exhibit.

Short Storage

Brussels sprouts will keep several weeks in the refrigerator. They need high humidity, so store them in a perforated plastic bag to maintain moisture. Since they normally mature in cool weather, harvest conditions will not affect their quality.

How to Exhibit

Brussels sprouts are commonly exhibited in pint baskets containing 15 to 25 sprouts. The sprouts should be neatly trimmed and free of damage and discoloration. Pull off all leaves that are off-colored. Size uniformity is critical. Slightly squeeze the sprouts to make sure they are compact. The very best sprouts should be on the top of the basket for a good first impression. Pile the sprouts in a rounded dome above the edges of the basket.



Description

The Brussels sprout plant is a member of the mustard family along with broccoli and cabbage. The round buds or sprouts, which are the edible part of the plant, form in the axils of each leaf along a single center stalk.



CABBAGE



Description

Cabbage is a member of the mustard family and related to broccoli, kale, and yellow rocket. It is a leafy green, and its leaves wrap around one another to form a head. Because the inner leaves are protected and blanched naturally by the exclusion of light, they are more tender than the outer ones.

Harvest Stage

Cabbage is normally planted as a transplant and may take 50 to 70 days to reach harvest size. Time of harvest is regulated by weather and soil conditions and determined by the optimum size of the plant for its variety, as indicated in the seed catalog or on the seed packet. Once the cabbage has formed a firm head surrounded by wrapper leaves, it is ready to be harvested.

Harvesting and Trimming

Cabbage is harvested by cutting the stalk at the soil line, taking the rosette leaves along with the head. Handle the cabbage using the extra outside leaves and try not to touch the head itself. The head has a dusty bloom on it that if marred will lessen its appearance. If there is no serious insect damage, leave 3 or 4 wrapper leaves outside the head itself. These frame and enhance the head as well as protect it. Cut the stalk at the lower end smoothly in cross section. Soak the head in water or salt water to remove any worms from under the outer leaves; they will float to the top. Soaking also cleans soil residues from the leaves.

Selection

Choose a cabbage that is free of insect damage, that has a smooth, uncracked, and full-grown head, and that shows good vigor and form compared to others in the garden plot. It should match as closely as possible the description for its variety.

Short Storage

Cabbage keeps best at 32 degrees F and in high humidity. The outer leaves quickly wilt if cabbage is not kept cool and moist. Refrigeration or storage in an iced container holds the quality best. Using a perforated plastic bag for storage helps retain moisture. Any damage due to insects, disease, or handling in the garden will cause rapid deterioration of the cabbage in storage.

How to Exhibit

Cabbage is normally exhibited as a single head. The head should be surrounded by 3 or 4 wrapper leaves. The ground end should be cut squarely, and little or no insect damage should be apparent. Green, red, savoy, and Chinese heading cabbages should all be exhibited in this way.



CARROTS

Harvest Stage

Carrots take 50 to 80 days from seeding to harvest. They grow best and give the best flavor when produced in a cool season, especially fall. With a good water supply and sunlight, however, they can be grown at any time. The time of harvest depends on the variety, so check the seed catalog or seed packet. Test dig the carrots about the time they are supposed to be ready. If allowed to overgrow, carrots will become rough, woody, and may crack. Parts of the carrot root exposed to sunlight will turn green.

Harvesting and Trimming

Carrots should be gently dug from the soil. If the soil is heavy, dig a trench next to the row of carrots and then dig the carrots on the opposite side, releasing them into the trench. This way the roots are not broken and the carrots are not bruised. Carrot tops may be left on if they are in good condition and the carrots are to be bunched, or the tops may be cut off above the root leaving about 1 inch of leaf stalk.

Selection

Only after digging and cleaning the carrots will their condition become apparent. Choose roots that are most characteristic of the variety planted. Read the descriptions in the seed catalog or on the seed packet. For an exhibit, select carrots that have a smooth shape and bright color and are similar.

Short Storage

Carrots will keep several months if they are stored at a temperature of 32 degrees F and with very high humidity. The refrigerator is best for holding them at optimum condition; make sure they are in plastic bags. In the field, their surfaces will dry up quickly if carrots are left unprotected. Keep carrots out of the sun and in cool water while collecting them from the garden. Carrots with the tops left on dry more quickly than those trimmed immediately.

How to Exhibit

Carrots for an exhibit should be free of injury and true to varietal type. They should not have green shoulders or other discolorations, and they should match up well with each other in a single exhibit. Display carrots with healthy leaves left on or with leaves cut off about 1 inch above the root (or according to the standards of your exhibit list). Hairlike side roots should be removed and the thin extension below the tap root should be cut to l inch. Do not exhibit carrots that are forked. Make sure no cleaning marks are left on the root by a rough brush or cloth. These will show up very clearly after the carrot has dried. Bruises also allow moisture to leave the root, causing the carrot to shrivel.



Description

The carrot is a member of the parsley family, whose members include celery, celeriac, dill, parsnip, and Queen Anne's lace. For many centuries, the carrot was white in color. Only in recent times have carrots been bred and selected for deep orange types. The edible portion is a tap root which can be from 1 to 10 inches long, depending on the variety. Baby carrots, harvested when they are immature, are very tender and have a delicate flavor. Heavy clay soil or rocky conditions will adversely restrict the growth and form of this crop.

CAULIFLOWER



Description

Cauliflower is closely related to broccoli and cabbage as well as to mustard and yellow rocket. Its edible portion is the light-colored curd which is the initial stage of the plant going to

flower. Cauliflower has long straplike, blue-green leaves. Several varieties, which combine the characteristics of cauliflower and broccoli, have purple heads. A recently developed cauliflower has an orange head.

Harvest Stage

Cauliflower is grown in the cool season, either early in the spring or in late summer to fall. Once a curd begins to develop and is only 1 to 2 inches across, bring the leaves up around the curd to exclude light. Tie the leaves together or put a rubber band around them to keep them in place. After 2 more weeks, the cauliflower should be 5 to 10 inches across and ready for harvest. The surface, although a bit irregular, should be smooth and not interrupted by leaves protruding through the head. When overgrown, the head becomes rough and granular, a condition called ricy. With some cauliflowers, which are termed self-blanched, the leaves grow naturally up and around the head. Problems associated with this type include incomplete blanching of the head and trapped water, which may cause rotting.

Harvesting and Trimming

When the cauliflower gets to a moderately large size and the surface is still fairly smooth, cut the curd just below the head, leaving enough stem to hold the leaves that encircle the head. This portion is ready to prepare for a market display or for an exhibit. Cauliflower is a very delicate vege-table and should be handled with great care.

Selection

Cauliflower heads can be easily graded in the field and the very best ones selected for an exhibition. Look for the most smooth, regular, and uniform heads. They should be nearly white in color. Protect them from light, even after harvesting, so they do not turn a color. The leaves should be in good condition, with little injury from insects, disease, or mechanical damage.

Short Storage

A very cool temperature of about 32 degrees F keeps cauliflower in optimum condition. High humidity is also necessary, so use a perforated plastic bag to store cauliflower in the refrigerator or on ice. Keep the wrapper leaves around the head to help prevent bruising from handling.

How to Exhibit

Cauliflower is usually exhibited as a single specimen. The head should be white in color, except for varieties whose heads are orange or purple. It must be symmetrical and have a smooth surface. Leaves should be trimmed evenly to about the level of the head so the white curd is framed by a green rim of leaves.

CELERY

Harvest Stage

Celery is a demanding crop to grow because it needs a steady and ample supply of water and nutrients; without these, it will be thin and tough. Start celery early to have large plants by the end of the summer. Leaf stalks should be fleshy and succulent and the tops healthy and medium green in color. The diameter of the bunch should be at least 3 to 4 inches.

Harvesting and Trimming

Cut celery at the very base of the stalks, usually at ground level or a little below, so the bunch is connected at the base but no root system remains. Remove leaves and stalks that are yellow or damaged.

Selection

Collect the most succulent and robust plants for an exhibit. The leaves should be medium green with no yellowing and the stalks should be erect. If the stalks are not erect, ring the top of the plant with a rubber band or string to hold the stalks together.

Short Storage

Celery must be kept cool and moist. In the field the harvested plants should be shaded and iced or sprayed with a mist. The lower ends can be set in shallow water to maintain water uptake and humidity. When stored at 32 degrees F, the ideal storage temperature, celery should last up to 2 months.

How to Exhibit

The entire celery plant is exhibited, but the roots are cut off. Healthy leaf blades can be left on and not trimmed. In some cases, trimming may be necessary or requested. Soil often lodges between the leaf stalks, so wash celery carefully and thoroughly. Stalks can be held together with a rubber band near the top or tied with a string.





Description

Celery is a member of the parsley family and related to carrot and dill. Its edible portion is not the stem but the leaf stalks, or petioles. The leaf blades can also be eaten, but they are normally cut away when celery is sold in the supermarket.

Celeriac is closely related to celery. The leaves of this plant are darker green with thin petioles. It forms an enlarged root 2 to 4 inches in diameter, which can be stored the same way as carrots or beets.



Description

Corn is an ancient crop original to the Americas. Sweet corn is a relatively new adaptation. Sweet corn varieties have kernels that are white, yellow, or a mixture of the two. Husks can range in color from green to different shades of red. Popcorn and ornamental corn are different types of corn, and the kernels must reach full maturity and be dried before they are used.

Harvest Stage

Most people feel that the milk stage is the best harvest stage for sweet corn. This stage comes 18 to 21 days after the silk first emerges from the baby ears. The silks, one attached to each kernel, will have just turned dark brown outside the ear. The kernels press against each other but are not overgrown to the point of crowding. Some corn lovers enjoy young, tender kernels at the "dough" stage, and others enjoy an older, more starchy corn in which the kernels press tightly against each other. The milk stage is the best compromise of good flavor, sweetness, and tenderness.

Any corn variety at the growth stage when its silk can first be seen is called baby corn. Both the kernels and the cob are edible.

Harvesting and Trimming

CORN

Corn, although protected by the husk, bruises easily if grabbed hard and twisted from the stalk. For exhibits, corn should be cut from the stalk, applying little pressure to the ear. The stalk attached to the ear can be trimmed later to about 1/2 inch, cutting squarely with a sharp knife. Corn should be cooled as soon as possible once it's detached from the plant.

Selection

Because the husk is not open while the ear is on the plant, 1 or 2 dozen ears may have to be harvested to get a matching set for an exhibit. Although maturity can be determined, characteristics such as tip fill, uniformity of size, straightness of rows, and worm injury cannot be determined until the husk is removed and all the kernels are observed.

Short Storage

A temperature of 32 degrees F and a high relative humidity are necessary to keep corn fresh and of good quality. Corn keeps best if the husk leaves are not removed and the corn remains covered. Plastic storage bags help keep the humidity high.

How to Exhibit

To display corn, remove the husks entirely, cut the stalks very close to the ear, and put the specimens for a single exhibit in a plastic bag so the kernels will not dry. This allows the judge to examine the entire ear. Windowing, or pulling off a few husk leaves, is a satisfactory alternative, but the exposed kernels will dry out quickly. There should be no evidence of insect damage and the kernels should be of fairly uniform size and in straight rows. Tip fill should be good, meaning well-developed kernels extend almost to the tip of the ear. Varieties differ in their ability to produce kernels at the tip. There should be no bird damage in that area. The color and size of the corn should be typical of the variety listed. Corn deteriorates rapidly, so it must be kept on ice or very cool until the time of the exhibit.

CUCUMBER

Harvest Stage

Fresh market cucumbers are harvested at an immature stage when the seeds are very small and soft. Slicing cucumbers should be 5 to 8 inches long but only 1 to 1 1/2 inches in diameter. Pickling cucumbers should be harvested when they are 3 to 5 inches long and 1 to 1 1/2 inches in diameter. Cucumbers that have bulging shapes usually have enlarged seed cavities and consequently reduced eating quality.

Harvesting and Trimming

Cut cucumbers from the vine, retaining a small piece of the stem on the fruit. To keep a plant vigorous and productive, cut fruit every 2 to 3 days.

Selection

Cucumbers of the proper size can be preselected before they are cut from the vine. Those that are enlarged, overgrown, or yellowed should be removed from the plant and discarded or composted. Also discard or compost fruit that is discolored, diseased, damaged by insects, or bruised.

Short Storage

Cucumber fruits are somewhat durable, requiring only shade in the field. They should be cooled but not to temperatures below 50 degrees F. Do not store cucumbers in the refrigerator. Cucumbers require a high relative humidity, which can be provided by keeping them in a perforated plastic bag.

How to Exhibit

Cucumbers of newer varieties grow uniformly. Those selected at the proper eating stage should be lined up and specimens of uniform size, shape, and color should be chosen for an exhibit. Slicing types are long, thin, and dark green. Do not substitute them for pickling types, which have a short, squat shape and are lighter green, striped with yellow. Trim the stems neatly to about 1/4 inch. Make sure the cucumbers are clean. Use water and a soft sponge to remove soil, being careful not to bruise them.



Description

The cucumber is a member of the gourd family, which includes melons, squashes, and pumpkins. It is a vining crop that normally produces separate male and female flowers on the same plant. Pollination occurs when bees visit the different flowers. Slicing cucumbers are long and dark green with white spines. Pickling cucumbers are shorter and lighter green with yellow stippling, and they have black or white spines, depending on the variety.

EGGPLANT



Description

The eggplant is a member of the nightshade family, whose relatives include peppers, tomatoes, potatoes, and tomatillos. The fruits of different varieties range in skin color from nearly black to shades of green, purple, pink, and white. The eggplant probably received its name from a small white type that resembles an egg. The eggplant commonly grown is oval or slightly elongate in shape. Oriental varieties are longer and more slender in shape and are reliable producers. All eggplants require high levels of fertilization.

Harvest Stage

In the Northeast, eggplants are transplanted into the garden and then take 2 to 3 months to produce the first fruit. A temperature range of 65 to 80 degrees F is critical for optimum fruit set and growth. Eggplants should be harvested before they reach full size. If they are allowed to grow to maximum size, their seeds turn dark and hard. If full size for a certain variety is not known, test maturity by feeling the fruit. Fruits that should be harvested become soft and pressing them leaves an indentation. As eggplants get too old, they lose their gloss and a part of the skin may turn bronze. When temperatures are cool, eggplants grow slowly and should be picked at a smaller size.

Harvesting and Trimming

Eggplants have hard stems with some spines. Cut the stems with a knife or shears, being careful not to injure the fruit or yourself.

Selection

Choose fruits that are close to but not the full size of the variety planted. Eggplants for an exhibit should be symmetrical and well shaped with no scars or bulges. Their skins should be glossy and the color typical of the variety.

Short Storage

Eggplants can be stored for up to 2 weeks at temperatures above 45 degrees F and at a relative humidity of about 90 percent. Below this temperature, an eggplant will experience chilling injury and its skin may pit and decay when it is brought to room or exhibit temperature. Temperatures above 60 degrees F will cause rapid water loss and deterioration.

How to Exhibit

Normally, 1 or 2 eggplants are displayed per exhibit. They should be glossy with a rich color and good form for their variety. Soil should be wiped clean from the fruit and the stem trimmed neatly about 1 inch above the fruit and sepals.





ENDIVE

Harvest Stage

Endive can be seeded or transplanted in the spring or summer. It is normally ready to harvest 75 to 90 days after it is planted. If left longer in the garden, the plant may brown and become diseased. To ensure good quality, give the plants enough room to grow, so the heads are not pushing against each other, and irrigate well, especially during hot weather. Endive plants should be harvested when they reach 6 to 14 inches, depending on the variety.

Harvesting and Trimming

Cut the heads with a sharp knife at the very base of the plant and even a little below the soil line. Leaves must be lifted to reach the base of the endive. Once the plant is cut free, discard leaves that are off-color or have holes.

Selection

Select plants that match a picture or description of their particular variety on the seed packet or in a seed catalog. Depending on the variety, plants may be 6 to 12 inches or more in diameter, but they should not be overgrown. If the mature size is not known, look for signs of fading color or deteriorating, yellowing leaves—indications that the plants are past peak maturity.

Short Storage

Soon after it is harvested, endive must be kept at temperatures near 32 degrees F, preferably in a refrigerator. The leafy plants loose water rapidly and should be put in a plastic bag after washing and draining. In the field after harvest or prior to an exhibition and market display, endive should be spray misted or covered with wet cheese cloth or paper. The moisture and evaporation will help retain its quality.

How to Exhibit

Endive is normally displayed as 1 specimen per exhibit. The plant should be symmetrical, with discolored or unattractive leaves removed and the stem neatly cut. Wash the plant well by soaking and gently shake out the water. To remove trapped soil, let tap water flow through the head, especially where the leaves are attached to the main stem. Endive should look fresh and bright in an exhibit, never wilted.



Description

Endive is in the sunflower family and is related to chicory, lettuce, and radicchio. Endive grows as a loose head or rosette of leaves which are extremely curled and serrated. Escarole, a type of endive, has flat broad leaves that are less cut at the margins. Used alone, both are somewhat bitter, but when mixed with other greens, they add tang to the flavor of salads.

Endive and escarole will grow in the summer, but may become so acrid they are inedible. The leaves should be drawn up and tied at the top to form a temporary closed head for about 10 days. This blanches the inner leaves and reduces the bitter taste formed in response to heat and light.

GARLIC



Description

Garlic plants are related to onions, but they have flat leaves, as do leeks. The garlic bulb divides into separate cloves, from 8 to 20 depending on the variety. For thousands of years, garlic has been honored for its healing and pre-

ventive properties. Chemists recently have identified compounds in garlic that are antibacterial, antifungal, and antithrombotic.



Harvest Stage

Garlic is planted in the fall, usually in October, and harvested in July or August, giving it a nine-month overwinter and growing season. Yellowing leaves are the first indication that harvest time is approaching. Do not wait until the leaves die. Test dig several bulbs when the leaves turn yellow and see if they look plump. The papery sheath protects the garlic bulb, keeping disease-causing organisms out and moisture in. Avoid letting garlic overgrow, for once the bulbs have broken the outer sheath they are unattractive and keep poorly.

Harvesting and Trimming

Garlic should be dug from the ground, not pulled out by its leaves and neck. Rub the soil from the bulb and roots and let the plant dry in a wellventilated space protected from sun and rain. In a week or two when the leaves have begun to dry, braid several bulbs together or cut the leaves off about 1 inch above the top of the bulb. Hand rub or lightly brush remaining soil from the bulb and trim the roots evenly to 1/2 inch.

Selection

There is no reliable way to determine how garlic bulbs appear until after they are dug. Plant and leaf size, especially the thickness of the neck near ground level, may indicate vigor of the entire plant including the bulb. The bulbs of a well-selected garlic variety grown in soil with a high percentage of organic matter are somewhat uniform in size.

Select bulbs for market or an exhibition that are large and as smooth as possible in overall shape. Řemember to save cloves of your best-looking, healthiest bulbs for next year's planting stock.

Short Storage

Garlic bulbs should be kept at room temperature for brief storage periods and at moderately cool temperatures (35 to 45 degrees F) for longer storage. They keep well when refrigerated, but deteriorate quickly when brought to room temperature. Temperatures above 60 degrees F may cause water loss or regrowth. Do not store bulbs in plastic bags; rather, use paper or mesh bags and store in a ventilated area. High moisture will cause the garlic to rot.

How to Exhibit

Use the most impressive garlic bulbs in an exhibit or market display. Although size is one of the major exhibiting criteria, uniformity in the size and color of all the specimens is most important to a judge. Pure white garlic is traditional, but garlic with red in the bulb can be very attractive. Garlic should be clean, well matched, and well trimmed—tops to 1/2 inch and roots to 1 inch. Bulbs may also be displayed as a neatly braided exhibit.

Harvest Stage

The flavor of herbs comes from essential oils in the leaves and becomes most intense as the leaves reach full size. Leaves that are old or on plants that are late in the season do not produce as much flavor as young, quickgrowing leaf tissue. Leaves must be soft, edible, and of good color, without injury or blemishes.

Harvesting and Trimming

Usually, the outer part of the branch or stalk of the herb is harvested. This is the newest growth and it should be cut 4 to 8 inches long, depending on the type of herb. The plant has its best flavor early in the morning after the sun has shone on it for about 1 or 2 hours. Select shoots that do not have flowers on them. Cut away leaves that are dead or injured.

Selection

Choose young actively growing shoots and leaves for harvest. With plants that overwinter, do not select older tissue that may be woody and tough. Attractive material that is vigorous and of good color and form can be selected in the garden before cutting.

Short Storage

Because herbs include many varieties of plants, it is difficult to make one recommendation for storage. All herbs are delicate leafy plants and benefit by having their cut ends placed in water immediately after harvest. Misting them with water will help maintain their quality. They can be refrigerated at 35 to 40 degrees F to maintain freshness. Be careful with basil, for it is sensitive to cold temperatures and will freeze at 32 degrees F.

How to Exhibit

Herbs are normally bunched, 4 to 8 sprigs or shoots per bundle. The smaller the shoot or area of leaf tissue, the more sprigs or shoots should be in a bundle. For example, 10 to 15 leaves of chives may be needed to make an acceptable bunch. The diameter of the bunch should be at least 1 inch where it is tied. A rubber band or other type of tie should be used to hold the bunch together. Cut ends should be neatly and evenly trimmed, and leaves should not be tightly pressed together. Uniformity is important in color, size of leaves, and shoot length. Different herbs should not be mixed. Potted herbs can be displayed at some exhibitions, and they sell well at markets; they should be well trimmed and formed and of usable size.



Description

The herbs described here are culinary plants used to season other foods. Examples include sage, oregano, thyme, mint, rosemary, basil, parsley, and chives. Herb species come from several different plant families and are not necessarily related except by their use.







Description

These vegetables belong to the mustard family and their close edible relatives are cabbage, cauliflower, broccoli, kohlrabi, and turnip. The crops of kale, collard, and mustard are produced for their leaves. Crops in the mustard family are noted for their nutritive value, especially vitamins A and C, and their relatively high content of protein. Also, they have been shown to lower blood cholesterol and the risk of certain types of cancer.



Harvest Stage

These three crops grow best in cool seasons. When grown in temperatures higher than 60 degrees F, they may become spicy or tangy in taste. They need a good supply of water and fertilizer for lush growth. If 3- to 4-week-old transplants are set, the lower leaves are usually ready to harvest 4 to 6 weeks later.

Harvesting and Trimming

Plants can be retained from spring through fall by harvesting lower leaves and leaving several leaves at the top to continue the growth. Leaves may be harvested at any time, but it is recommended they be from 5 to 8 inches long. Old leaves may become too bitter and tough to eat. Entire plants may be harvested also at any stage. Before the entire plant is cut, however, there should be from 10 to 15 leaves on it. Leaves that are faded and yellowed or show insect damage should be discarded and composted.

Selection

Select kale, collard, and mustard with leaves that are not damaged and that are typical of the crop and variety. Kale leaves are usually blue-green and quite ruffled and curled at the edges. They have an elongate shape with a short petiole. Collard leaves are blue-green with a rounded shape and several inches of petiole. They are generally flat and the blades resemble cabbage leaves. Mustard leaves are usually yellow-green and elongate in shape with fringed, curled leaf margins.

Short Storage

Leaves of these crops lose moisture and wilt rapidly. After harvest in the garden they should be shaded and cooled immediately. They can be misted or put in a container with crushed ice to keep them fresh. When stored in a refrigerator in a perforated plastic bag, these leafy greens will keep at least 2 weeks.

How to Exhibit

Mustard, collard, and kale are usually exhibited as 1 entire plant with the roots removed. The plant should have at least 10 good leaves on it. The leaves should show no insect damage and be typical in shape and color for the variety. If it is difficult to carry the plant without knocking off the leaves, let the plant will slightly and cover it with a wet cloth. This allows the leaves to bend without snapping off. Do not handle the leaves, for they can be marred by the oil from your fingers.

At some fairs it is possible to exhibit just the leaves. For such exhibits, bunch together about 12 leaves of similar size, shape, and color for display.

KOHLRABI

Harvest Stage

Kohlrabi can be grown from seeds or transplants. The plants need a good amount of fertilizer and irrigation. Unlike other crops of the mustard family, kohlrabi's best growing temperature range is 60 to 80 degrees F. Plants should be ready to harvest 50 to 70 days after planting, when the enlarged stem portion is about 3 inches in diameter. Do not let kohlrabi plants languish in the field. They become very tough or hard. The truest measure for harvest is tenderness, but this can be determined only by cutting into the stem.

Harvesting and Trimming

Harvest kohlrabi by cutting it near the soil line below the enlarged stem portion. Tops may be left on for market display or cut for exhibiting. The leaf stalks should be about 2 inches long after the leaf blades are cut off. The small center leaves may be left intact.

Selection

Choose young kohlrabi stems, about 2 to 3 inches in diameter. They should have no growth scars or other injuries and should be the typical color for the variety. Do not exhibit or sell stems that have odd shapes and that are hard or split.

Short Storage

Kohlrabi stems keep best at 32 degrees F and in high humidity. They will keep for 3 to 4 weeks when stored in a plastic bag in a refrigerator.

How to Exhibit

Two kohlrabi stems are usually required for one exhibit. They should be well matched, true to the description of their variety, and within the 2- to 3-inch-diameter range. Trim leaf blades away neatly, and leave about 1 inch of root just below the enlarged stem. Wash off all soil. For a baby vegetable exhibit, pick young kohlrabi stems when they are 1 to 1 1/4 inches in diameter and select 6 for exhibition.



Description

Kohlrabi is a member of the mustard family and its close relatives are the cole crops, which include, cabbage, cauliflower, broccoli, Brussels sprouts, and kale.

Cole translates to mean stem cabbage, and that is exactly what the edible portion of kohlrabi is, an enlarged stem. It is available in light green and red-purple varieties.

LEEKS



Description

Leeks are in the amaryllis family and their close edible relatives are the great headed "elephant" garlic, onions, shallots, garlic, chives, and bunching onions. The crop is grown for its lower leaf section, which forms a white shank that is extended when covered with soil or straw to exclude light. Leeks do not form an enlarged portion as do onions, but different varieties of leeks have shanks of different diameters and lengths.

Harvest Stage

Leeks are a long season crop, normally started in the garden from 6- to 8week-old transplants. They are planted in early spring and grow into the fall. Fall leeks, which are harvested in late summer or fall, are usually thinner in diameter with longer shanks. They are injured by cold weather and a hard frost. Winter leeks are normally more stocky and can withstand a hard frost. With mulching, they can be preserved in the garden well into the winter. Leeks can be harvested as early as needed, but give attention to their variety and stage of development.

Harvesting and Trimming

Leeks should be dug with a spade or fork to loosen their many fibrous but shallow roots from the soil. Plants can be injured if they are pulled out by hand. Shake the soil free from the roots. Green leaves above the shank area should also be trimmed, leaving several inches above the point where the leaves fan out.

Selection

Leeks in the field can display a wide range of sizes and variation in color. For exhibition and marketing, dig the largest and most well matched leeks. Leeks can be selected in the field before they are dug.

Short Storage

Leeks can be held for several months at 32 degrees F and in high humidity. They retain their quality best when they are stored in a perforated plastic bag in the refrigerator. Since leeks are normally harvested in cool weather, protection in the field is not usually necessary.

How to Exhibit

Most fair exhibitions require 3 leeks for a single display. They must be well cleaned, especially in the axils of the leaf sheath where soil may be trapped. Use hard-running water to clean soil out of the root area. Roots should be trimmed to about 1 inch and leaves trimmed from 2 to 6 inches above the shank area where the leaves fan out. The leeks in a single display must be well matched for total length, shank diameter, and leaf color.



LETTUCE

Harvest Stage

Lettuce can be planted from seed or as 3- to 4-week-old transplants. This crop should be grown in the cool part of the season and may take 40 to 80 days to mature, depending on the variety and the planting method. The loose leaf, nonheading type is the quickest to grow, followed by butterhead, romaine, and crisphead. The description in the catalog or on the seed packet should indicate the approximate stage of harvest for the variety planted. Leaf lettuce should be full, showing a rounded bouquet of leaves. Butterhead types should feel spongy but full of interior leaves when softly squeezed. Romaine and crisphead types should be quite firm to the touch. The red coloration of certain varieties should be well developed at the time of harvest. The color forms best in cool weather.

Harvesting and Trimming

All lettuce types should be harvested at the soil line or even below by cutting with a sharp knife low enough on the stalk so that all the edible leaves are still attached. Once cut, remove the leaves that have yellowed, show damage, or are unattractive. Heads should be rinsed in water and shaken gently. Lettuce is a very fragile crop, so always treat it with great care. Cool lettuce immediately after harvest. Keep it out of the sunlight and put it in a cooler or refrigerator as soon as possible.

Selection

Select lettuce heads that are a good size for their variety but not overgrown. Leaf color, whether meant to be pale green or deep red, should be bright. When looking down on them, the heads should appear symmetrical and well rounded. Usually 1 specimen is required for an exhibit and it can be selected as it grows in the garden.

Short Storage

All lettuce types should be stored at temperatures close to 32 degrees F in very high humidity. Since lettuce is about 95 percent water, it can easily dehydrate and wilt if not cooled and bagged in plastic immediately. When stored under these conditions, it can last 1 to 2 weeks. The higher the temperature rises above 32 degrees F, the more quickly the lettuce will deteriorate.

How to Exhibit

Choose a lettuce head that is full, rounded, and symmetrical, and trim away any unattractive leaves. Also remove the roots, so only the edible portion is displayed. The head must be clean and kept turgid until exhibit time. During an exhibit, misting helps prevent moisture loss from the leaves and keeps the head looking fresh. Lettuce displayed in a market should be shaded and also misted.



Description

Lettuce, a member of the sunflower family, is related to chicory, endive, artichokes, chrysanthemums, and burdocks—edible and weed. Lettuce is a leafy salad crop whose outer leaves grow in a rosette. In the center of the rosette, other leaves grow more erect and, in some varieties, form a head. Lettuce is a cool weather plant and can form a bitter taste when grown in the heat of the summer.

There are four familiar types of lettuce: crisphead (iceberg), butterhead (includes Boston and Bibb), loose leaf, and romaine (cos).

MUSKMELON



Description

Muskmelon is a member of the gourd family and related to watermelons, cucumbers, and pumpkins. Muskmelon is also related to, but not the same as, cantaloupe, which typically is grown in Europe. Muskmelon usually has a netted surface and orange flesh, which is sweet and fruity at maturity. As with other crops in the gourd family, bee pollination is essential for fruit production.

Harvest Stage

The muskmelon fruit forms an abscission, which lets the vine slip easily from the melon when it is ripe and ready for harvest. In other words, the plant dictates the time of harvest by separating from the fruit. The sweetness of the melons depends on how well the crop was grown and how much sunlight and water it received, especially in the 2 weeks just prior to ripening. Note that some other melons, such as honeydews, crenshaws, and persians, do not slip from their vines. Ripeness must be determined by color change, softness, and aroma, tested at the blossom end.

Harvesting and Trimming

Muskmelons that have slipped from the vine should be taken out of the field immediately. Otherwise, they are susceptible to decay-causing soil organisms and invading insects such as sap beetles. The fruit should be washed clean and cooled to about 50 degrees F. Melons need a moderately high humidity. They will dehydrate if not protected by shade or misting.

Selection

Muskmelons are normally exhibited as 1 specimen. The melon chosen should be well rounded, uniformly netted if that is typical of the variety, clean, and stemless, showing it was ripe at harvest. The plant naturally seals the scar left by the stem as the fruit matures. Pulling the stem from the fruit before maturity leaves an opening that will allow moisture loss and the invasion of rot-causing organisms.

Short Storage

Muskmelons should be kept cool, 45 to 50 degrees F, and away from any area that might cause them to lose moisture. Colder temperatures will injure the melons. They should not be refrigerated.

How to Exhibit

For an exhibit, display the muskmelon that is truest to the variety descrip-

tion, with appropriate netting and vein tracts (longitudinal indentations). The background color should indicate ripeness and should usually not show green. The fruit should be full sized and even plump, indicating good fertilization and growing conditions. No soil should remain on the fruit and the stem should have "slipped" off. The melon should be free of injury.



OKRA

Harvest Stage

A frost-sensitive plant, okra must be seeded after the danger of frost. Its hard seed coat may slow and reduce germination. In the short growing season of the North, okra is started as transplants. Two months after planting this crop will begin to flower, and a week later the fruit should be ready for harvest. Okra is picked as an immature fruit, when the pod is no more than 4 inches long. The best quality is at this very young stage. Larger pods become tough and must be cooked excessively to be edible.

Harvesting and Trimming

Harvest okra with a knife or hand shears. The stem is tough and the plant might be injured by pulling the pods free. If some pods are missed at their optimum stage, they should be removed when noticed anyway, because old fruit left on the plant will reduce production of new flowers and pods. Okra is a more delicate fruit than it appears.

Selection

During a short season, one plant may produce only a few pods, so several plants may be needed to collect enough fruit of the same size for an exhibition. The pods are readily seen and can be measured while still on the plant. Length is one of the main criteria for putting together an exhibit of matching pods, but form, straightness, and diameter must also be considered.

Short Storage

Okra suffers severely from chilling injury at temperatures below 45 degrees F. Specimens kept at about 50 degrees F in high humidity, which is best achieved in a perforated plastic bag, should last from 1 to 2 weeks. Okra that is stored in a refrigerator will experience chilling injury and deteriorate very rapidly when brought back to room temperature.

How to Exhibit

Okra is normally exhibited as 6 pods, each 2 to 4 inches long. The pods should be well matched in shape, color, diameter, and length. Stems on the fruit should be trimmed to 1/2 inch and the ends cut neatly. Do not display any pods that are discolored, wilted, or bruised.



Description

Okra is a member of the mallow family and its close relative is the hibiscus. It is an attractive plant, with broad palmate leaves and bright yellow flowers. Okra is a warm season crop and needs temperatures between 65 and 95

> degrees F to produce well. For this reason, its performance may be disappointing in some northern gardens. Okra is very intolerant of wet or acid soils.

ΟΝΙΟΝS



Description

Onions are in the amaryllis family and closely related to shallots, leeks, and garlic. The onion plant, like the shallot, has a tubularshaped leaf, which is round in cross section. Leeks and garlic have flat leaves. The outer leaves or scales of the onion bulb are adapted to preserve moisture and protect the crop for long-term storage. Mild onions, such as Walla Walla, Bermuda, Vidallia, and the true "sweet" Spanish, keep poorly.

Different varieties of onions offer external colors of red, purple,

brown, yellow, and white. Light colors will turn green in the sun.

Harvest Stage

Onions should be planted, usually as 6- to 8-week-old transplants or moderate-sized onion sets, as early in the spring as possible. This gives long day onions time to form many leaves before they begin to form bulbs in late June or July. Onions have little chance of growing to a large size if they have few leaves.

The exact time to harvest onions depends on the growing conditions that season and the variety grown. Onion leaves signal when the plants are ready for harvest. When about half the row of a single variety has leaves that are fallen over, then that variety is nearing the time of harvest. Wait about 10 days and then harvest all the onions of that variety.

Harvesting and Trimming

Onions should be dug from the ground, not pulled out by their leaves. Gently rub the soil off the bulbs and put them in a well-ventilated shaded area to cure for about 2 weeks. Curing seals the neck of the plant, excluding decay organisms, and prepares the onion for storage. It also prepares the plant for a slowdown in the growth of the onion as it begins to dry. Unsightly leaf scales can be removed, but these leaves should be left to protect the bulb from injury and dehydration.

Selection

The tops of onion bulbs can be examined in the garden, so potentially good bulbs can be selected for digging. When looking down on the plants, the tops of the bulbs chosen for an exhibition should be uniform to each other and round in shape, and the color should be true to the variety grown. Bulbs with off-color leaf scales should not be chosen for exhibition. Lopsided bulbs may indicate more than one growing point inside.

Short Storage

Although fairly hearty looking, onions need careful handling and storage. Cure onions at a temperature of 75 to 80 degrees F for 2 weeks to reduce susceptibility to infection. After curing, leaves should be cut 1/2 to 1 inch above the bulb. Onions will keep for several months at a temperature of 32 degrees F in moderate humidity. Use a paper or mesh bag to store onions in a refrigerator. The scales of the onion help protect it from water loss.

How to Exhibit

The specimens in a single exhibit, usually 3 onions, should be clean and uniform in color, size, and shape. They should match the description of their variety. Trim the tops to about 3/4 inch above the bulb, and cut the roots to just below the bulb. The onions should have a well-cured outer skin and neck, with unsightly bulb skin pulled away.

Onions that are not well cured may start to regrow, sending up green leaf stalks while they are being exhibited. This is not an acceptable condition.

PARSNIPS

Harvest Stage

Plant parsnip seeds in the spring after the soil has warmed, for the seeds germinate very slowly in cool soil. Parsnips will not be fully mature and ready for harvest until the fall, but they can be harvested earlier for an exhibit. In the fall, especially in cool weather, parsnip roots become sweet and are best eaten then and into the winter. Parsnips are a very hardy crop and will keep well in the garden over the winter when the row not dug is covered with mulch.

Harvesting and Trimming

Parsnips should be dug with a spade or fork. They may grow quite deep, so make sure the spade goes down at least 10 inches to lift out the entire root. A trench can be dug next to the row of roots, and the parsnips can be moved with a spade into the trench from the opposite side with little resistance or breakage. Remove the blade part of the leaves from the plant at this time, but leave several inches of leaf stalk just above the root.

Selection

There is no way to know the size and shape of the parsnip roots before they are dug. Therefore, it is good insurance to dig three to four times the number of specimens needed for an exhibit.

Short Storage

Parsnips are best stored in the garden into the winter. Mulching the plants with straw or leaves protects them from severe frost and keeps the soil soft enough for winter digging. They will last until the spring, at which time they should be harvested before they produce more than a few inches of top leaf growth. Once removed from the garden, parsnips should be stored at 32 degrees F and at very high humidity. When sealed in a plastic bag in the refrigerator, parsnips should keep several months. Keep this root crop moist or it will dry out very quickly.

How to Exhibit

Three parsnips are usually displayed in an exhibit. They should be well matched in length, diameter (especially at the shoulders), and straightness of growth. Trim the tops to 1 inch and take the side hairs off the roots. Clean the parsnips well under water with hands or a soft sponge, making sure they are not scratched or bruised by the cleaning.



Description

Parsnips are in the parsley family, which includes many edible vegetables, such as carrot, celery, celeriac, florence fennel, and skirret, and the herbs coriander, anise, caraway, dill, parsley,

and chervil. Parsnips need a long growing season of 4 months or more. The seeds are fragile and their viabil-

ity deteriorates severely after 1 year. They need light soil that avoids compaction. Heavy soils crust, preventing seedling emergence, and may cause the parsnips to be stunted or forked.





Description

Peas are in the legume family and relatives of snap beans, lima beans, peanuts, chick peas, soybeans, and lupines. The plant is a vine and produces flowers which develop into the pea fruit (pod) in the axils of the upper leaves. Pea plants can be the shell type, where only the seed is eaten, or the edible pod type, where both the seed and the pod are eaten.

Harvest Stage

Peas are a cool season crop, and in New York, they are best planted in the spring and harvested in early summer. Large varieties can be grown against a trellis or support system to keep the vines off the ground. Although recommendations may state a certain number of days to harvest, this may change dramatically with location and weather conditions. Therefore, the peas must be examined carefully as they reach what is thought to be a harvest stage.

Shell pea varieties should be harvested when the peas are still round and fill the pods but are not overgrown and starchy. Harvest snow peas just as the peas begin to form and the pods are still very thin. If they mature further, the pod becomes fibrous and inedible. Snap peas should be developed fully and the pod should be almost circular in cross section. They are most flavorful at this point. Before this, the peas lack sugar and taste. Older pods can be bitter.

Harvesting and Trimming

Remove pea pods from the vine carefully, being sure to retain some of the stem. Peas may be bruised if they are yanked off the plant. It is best to hold the stem with one hand while pulling off the fruit with the other. Although short vine types may offer only one or two harvests, tall varieties may give five to eight harvests.

Selection

The quality and the shape of pea pods are apparent while they are on the plant. Choose pods that are bright green, undamaged, and of uniform size, shape, and maturity. Do not pick those that are misshapen or poorly filled.

Short Storage

The quality of peas is very transitory. They start to convert their sugars to starches immediately after harvest. Therefore, it is very important to chill the pods to 32 degrees F and keep them humid during harvest. Putting pea pods into a slurry of ice water helps reduce their temperature immediately. Then place them in an ice chest to keep them cool.

How to Exhibit

Several specimens are required for an exhibit. They should all be at the proper edible stage, of uniform size and shape, and without apparent flaw. Peas that are too young do not develop good flavor and those that are too old are starchy. The stage of harvest should be appropriate for the variety grown. If the dried flower is still at the blossom end, remove it. Stems should be cut to about 1/4 inch on all specimens.

PEPPERS

Harvest Stage

Where the growing season is short, peppers are normally set out as 5- to 6-week-old transplants after the danger of frost is past. From that time, it still may take 60 to 80 days until the first fruit can be harvested. The plant sets fruit best between 60 and 75 degrees F, which is a narrow temperature range and the reason many gardens in the Northeast have trouble in some years. Bell peppers are usually harvested when they are full sized but still green. Although peppers in the green stage are normal for an exhibition and marketing, they are not fully mature until 2 or 3 weeks later when they turn the color genetically prescribed for their variety—yellow, red, chocolate, or purple. This color stage is unusual in the North because of the short growing season. Waiting for peppers to mature is a luxury because it reduces the yield from each plant.

Harvesting and Trimming

Peppers should be pulled from the plant while holding the plant firmly. A better method is to cut the pepper from the plant with shears or a knife, leaving part of the stem attached to the fruit. Well-picked plants will bear more peppers.

Selection

Specimens of the best shape and size can be selected while attached to the plant. Be careful to avoid fruit with holes, which indicate insect damage. Sun scald and blossom end rot, which can occur anywhere on the fruit, also can be problems. Consider the shape of the peppers and their segmentation into lobules or lobes when looking for uniform specimens.

Short Storage

Peppers should be shaded immediately after harvesting and soon stored at a temperature between 45 and 50 degrees F. They require a rather high relative humidity, so keep them in a perforated plastic bag or other moisture-retaining environment. Do not refrigerate peppers. Chilling injury will result.

How to Exhibit

Peppers chosen for an exhibit should be cleaned well with a soft cloth or running water. Exhibits normally require multiple specimens, and a larger number of small pepper varieties, such as jalapeno, chili, and cayenne, may be required. The peppers should have a glossy texture, accurately match the description of their variety, and be uniform in shape, size, and color. For example, if their variety is supposed to have three lobes per fruit, then all specimens in the exhibit should have three lobes per fruit. The stem should be attached and trimmed neatly to about 1/2 inch. Colored peppers, which are fully mature, make a very attractive exhibit or market display; be sure they are well matched in color.



Description

Peppers are in the nightshade family, which includes tomatoes, eggplants, potatoes, and tobacco. The pepper plant is native to the Americas and grows in tropical areas as a perennial. It is very sensitive to the cold and to wet conditions, and in northern areas it is grown as an annual. Pepper varieties come in many different forms: four-lobe blocky, round, cow horn, and taper. They also range from sweet frying types

> to the very hot tabasco and habenaro peppers.

POTATOES



Description

Potatoes are in the nightshade family and related to tomatoes and peppers. The edible portion is a modified stem, or tuber, and grows underground. The plant has many problems with insects and disease, which can reduce yield. Potatoes may flower during the growing season, producing purple or white blossoms and green fruit, but the flowers, reportedly, do not affect the production of tubers.



Harvest Stage

Potato tubers enlarge during the last half of their growing season. The leaves of short season varieties die down, indicating that the potatoes are ready to harvest. The vines of long season potatoes may need to be cut to stop plant growth. The potatoes can be dug a couple of weeks later. Begin to test dig potatoes in August to see if they are the size desired.

Harvesting and Trimming

Potatoes must be dug out of the ground with a spade or a fork. Make sure you are about a foot away from the center of the plant before digging or you could hit a tuber. Vigorous varieties can produce so many tubers that some are pushed up out of the ground. To prevent this, hoe soil onto the row at the base of the plants. Do this once or twice to create a hilled row, which will prevent tuber exposure. Potatoes exposed to light turn green, and either the entire potato or the green area should not be eaten.

Selection

There is no way to preselect potatoes. The only way to tell what you have grown is by digging. Once potatoes are dug, they should be lightly brushed and examined for surface damage. Choose potatoes that are of moderate size and true to form for their variety. Surface defects caused by disease or physical damage, cracks, and growth irregularities are not acceptable on specimens for exhibition.

Short Storage

Potatoes should be cured at 50 to 60 degrees F for 2 weeks to heal bruises and then stored at 40 to 45 degrees F. They need a moderate humidity, which can be maintained by storing them in paper bags or cloth sacks. Handle potatoes gently, for they bruise easily. A bit of soil left on potatoes supposedly reduces injury from bruising. Several reports recommend washing potatoes not before storage but afterwards, just before marketing or use.

How to Exhibit

Look over a wide array of potatoes and pick out specimens that are true to the description of their variety, have no surface defects, and are similar in size and shape. Wash these potatoes, but be gentle and only use a soft sponge or your hands. The skin is very delicate at this stage. Look at the potatoes again and line up the most matched set of specimens for your exhibit. Standard potatoes usually are limited in size to those weighing 5 to 10 ounces, but there may be a category for salt or small potatoes, which are usually displayed in a pint basket.
PUMPKINS

Harvest Stage

When they are ripe, pumpkins turn from green to orange. They should be taken out of the field before the temperature drops to freezing. Although you may have to take in some that are not ripe, pumpkins can still turn orange when stored inside. This process can be accelerated by putting the pumpkin in a bag with some apples, which give off ethylene, a ripening gas. Pumpkins left outside in temperatures below 50 degrees F may be damaged by chilling injury. If they do spend several days in cold temperatures, continue to leave them outside. They will last longer in the cold than if brought into the house, where they will deteriorate rapidly.

Harvesting and Trimming

Pumpkins should be cut from the vine, leaving as long a stem as possible on the fruit. Wipe them clean of soil.

Selection

Different varieties of pumpkins have different shapes. Select the pumpkin that best fits the description of the variety. The fruit should be symmetrical, not lopsided. The stem should be dark in color and strong. Do not carry the pumpkin by its stem.

Short Storage

Pumpkins are susceptible to chilling injury and should be brought inside before frost. They keep a couple of months at 40 degrees F. Pumpkins keep even longer after curing at 60 to 70 degrees F in high humidity for 1 to 2 weeks. Be careful not to bruise the fruit, for bruising causes it to deteriorate rapidly.

How to Exhibit

Pumpkins are normally exhibited as 1 specimen. The pumpkin should be true to its variety description, clean, bright in color, and symmetrically shaped. Trim the stems neatly. Some exhibits have a prize for the largest pumpkin, measured either by weight or by circumference. Certain squashes have the potential to grow much bigger than a true pumpkin. Be sure your pumpkin is not competing against squashes that look like pumpkins. Squashes have corky stems, and pumpkins have ridged, star-shaped (in cross section) stems.



Description

Pumpkins are in the gourd family and related to squashes, cucumbers, and melons. The term pumpkin was once used for many different types and shapes of squash, but now it is normally used only for the round orange fruit that is carved or baked into pies. Large pumpkins do not usually have a good flavor and are not recommended for cooking. In earlier times, large pumpkins were fed to farm animals. A few small types are designated as pie pumpkins. Some squashes are passed off as pump-

kins, but the true pumpkin has a hard, ridged, star-shaped stem.



RADISHES



Description

Radishes are in the mustard family and relatives of kale, mustard, turnips, broccoli, cabbage, watercress, and horseradish. Radishes take many forms, ranging from the small red radish of spring gardens to the winter radish, which grows ten times as large and can be stored all winter. The Japanese daikon radish may be 18 inches long and weigh several pounds. All radishes are grown for their enlarged, succulent tap root. They produce the mildest flavor and best texture during cool seasons.

Harvest Stage

Small garden radishes should be harvested about 1 month after seeding. If left longer, the plant may produce a root that is hot or a flower stalk and small root. Other types of radishes require a longer growing season. Oriental radishes take 60 to 90 days to grow to harvest size. Storage radishes, such as Black Spanish and Rose China Winter, may take the same amount of time. Radishes should be test dug after 3 weeks to check for proper size, cracks, and insect damage.

Harvesting and Trimming

Radishes should be loosened with a spade or fork and pulled gently out of the ground. Deep-rooted radishes, such as icicle and daikon radishes, can be harvested by digging a trench along one side of the plants and loosening them with a spade on the opposite side so they fall into the trench. These radishes may be 6 to 18 inches deep.

The leaves of some radishes may be kept on the root for an attractive market appearance. Radishes to be exhibited and large-leaf varieties should have the leaves removed to within 1 inch of the root. Leaves left on draw moisture and nutrients out of the roots and cause them to deteriorate more quickly.

Selection

Radishes cannot be selected until they are dug from the garden. Dig three to four times the number of roots needed for an exhibit and then select the radishes of best quality.

Short Storage

All radishes should be kept at or just above 32 degrees F and in high humidity, which is easily provided by storing them in a plastic bag. Well-stored radishes will retain good , quality for several weeks.

How to Exhibit

Small garden radishes are normally exhibited in a pint basket. Roots should be clean with a bright color and no cracks or other damage. Tops should be trimmed to within 1/2 inch of the radish root, as should the lower root hair. Large radish types are displayed on plates. Usually 2 specimens are required for an exhibit. Gently clean all the roots so no scratching occurs.

RHUBARB

Harvest Stage

Rhubarb can be harvested initially in early spring as long as the leaf stalks are at least 8 inches long. The ideal length is 12 inches or more. If a plant is not picked often and water is plentiful, leaf stalks can be harvested at almost any time from spring until fall. If a plant is being harvested too often, the new stalks grow thin and general vigor is reduced.

Harvesting and Trimming

Rhubarb stalks should be pulled from the crown of the plant. Hold the stalk firmly near the base of the plant, close to the soil, and pull straight up in the direction of the stalk. The leaf stalk should separate neatly from the crown of the plant. Cutting the leaf stalk from the plant is not a good practice since the stubble left in the crown may contribute to several plant problems. Cut the leaf blade from the stalk about 1 inch above its attachment to the petiole to prevent splitting the stalk. Discard the leaf blade, for it contains compounds that are physical irritants and must not be consumed.

Selection

Since the leaf stalks are well exposed on the plant, attractive and uniform stalks can be selected before they are pulled from the plant. Look for thick fleshy stalks with good color for the variety.

Short Storage

Rhubarb stalks will keep several weeks if they are refrigerated in a perforated plastic bag, wrapped in wet towels, or in some other high-humidity container. Remove most of the leaf blades before storing the stalks.



How to Exhibit

An exhibit of rhubarb is normally made up of 6 uniform leaf stalks, displayed either separately or bundled and tied. The tops should be cut squarely, retaining a small section of leaf blade. No scarring or injury should appear on the stalks, and their color should be bright, true to the variety, and uniform from one to another. No remnants of the crown sheath should be on the lower part of the stalks, and any soil should be washed off.



Description

Rhubarb is a member of the buckwheat family and familiar relatives are sorrel and dock. Rhubarb is a perennial plant and as such needs good fertilization and organic matter every year to thrive. Leaves emerge from the crown of the plant early in the spring, sometimes while snow is on the ground. The leaf stalk, or petiole, is the edible portion. Its color depends on the variety planted and ranges from green to vivid red. Some varieties tend to go to flower more easily than others.

RUTABAGAS AND TURNIPS



Description

Rutabagas and turnips belong to the mustard family and are related to Chinese cabbage, mustard, kale, broccoli, cabbage, and radishes. These two crops are grown for their edible roots and sometimes for turnip greens. They grow best in cool weather.



Harvest Stage

Rutabagas grown from direct seedings take 80 to 90 days to reach an optimum harvest stage, and turnips take about 60 days. These crops should be grown in the cool season, and fall is most ideal. Rutabagas may grow as large as 8 inches in diameter. For turnips, a diameter of about 3 inches is optimum.

Harvesting and Trimming

As with all root crops, rutabagas and turnips should be dug with a spade or fork. Their shapes are round, so you do not have to dig deeply to get the entire root out of the ground. After harvesting, cut the leaf blades from the roots leaving about 1 inch of the leaf stalk.

Selection

Rutabagas and turnips grow partially out of the ground, so their shapes can be determined in the garden. Dig those that are of moderate size for the variety and uniform to one another. The upper half of the roots of some varieties are red in color, differing in intensity. How well the roots are matched is an important factor in an exhibit of multiple specimens.

Short Storage

Rutabagas and turnips keep best at 32 degrees F in high humidity. They should keep for several months in a perforated plastic bag in the refrigerator. Keep the roots cool in the field, and cut the leaves soon after harvest.

How to Exhibit

Rutabaga exhibits usually require only 1 specimen. The rutabaga should be from 6 to 8 inches in diameter and symmetrical in shape. Its color should be true to its variety, especially if it is described as having particular colors. Side hairs should be pruned off and all soil washed away. Cut the top leaves to within 1 inch of the edible portion.

> Turnip exhibits usually require 3 specimens. The turnips should be a good color and shape for the variety and well matched to one another. They should be no more than 3 inches in diameter. Do not display roots that are damaged by insects, disease, or handling or that are overgrown with cracks.

SHALLOTS

Harvest Stage

Shallots are planted in the fall as a single bulb, which multiplies into a cluster of bulbs by the next summer. It is easy to detect when shallots should be harvested. Sometime in the summer the leaves brown and die. Soon after that the shallot bulbs should be dug from the ground.

Harvesting and Trimming

Shallot bulbs should be lifted from the garden soil with a spade or fork. Cut the dried tops to within 1 inch of the bulbs. The bulbs should be separated and all soil gently removed by hand rubbing. Leave the bulbs out to dry in a place with good ventilation for a week before storage.

Selection

Since shallots of a single variety all mature at the same time, they should all be dug at once. Select individual bulbs for exhibition or marketing after they are collected from the garden. Dig only what is needed for an exhibit if the shallots have not matured by the time of the fair.

Short Storage

Shallots keep for several weeks at room temperature and in only moderate humidity. For long-term storage, they keep well in the refrigerator. Use a paper bag to contain them. A plastic bag may cause them to rot.

How to Exhibit

Shallots of uniform, moderate size are commonly exhibited in a pint basket. Make sure they are free of soil. Trim the tops to within 1/2 inch of the bulb and trim the roots so they are 1/2 inch long or less. The color of the leaf scale surrounding each shallot should be bright, and the outer leaves should be tight to the bulb.



Description

Shallots are in the amaryllis family, very closely related to onions and more distantly to leeks, garlic, and bunching onions. The leaves are tubular, similar to those of onion plants. Shallots have a very good flavor, which is not too pungent, and they are used in fine cooking. Several types, varying in shape, color, and flavor, are available.



SPINACH



Description

Spinach is a member of the goosefoot family, whose members include beets, mangles, Swiss chard, and orach. Spinach is grown for its edible leaves, which may be eaten raw or cooked. Spinach is high in vitamins A and C and calcium.

New Zealand spinach is a leafy green, used in the same way as common spinach. The leaf tops are harvested when they are 1 to 2 inches long, which causes the plant to branch extensively. It grows best in warm weather and does not develop flowers or a harsh, biting taste until late in the summer.



Harvest Stage

The flavor and production of spinach is best in cool seasons. Spring spinach goes to flower as the day length increases. Spinach leaves may be harvested at any time once the plant has produced at least 6 leaves. Older leaves may be picked continually through the growing season. The ideal leaf blade size is 3 to 5 inches without the leaf stalk. Varieties differ in the size and the curl of the leaves, so reading the description of the variety grown is important. If continual picking is desired, be sure to leave the top growing point and several leaves around it to nourish the spinach plant. Spinach is a green leafy vegetable and requires only moderate amounts of nitrogen fertilizer.

Harvesting and Trimming

Leaves on plants that are continually picked should be harvested when they are several inches long and well formed, but not so old that they are injured or loosing their green color. Take care not to bruise the leaves, especially if they are to be stored for several days. If an entire plant is to be harvested, then it should be well developed and have at least 10 leaves. Leaf stalks should be removed from the blades before eating spinach.

Selection

Choose leaves that are bright green and have no insect or other damage. If selecting plants, look for those that are full and symmetrical and not elongated, which indicates the plant is going to flower. The plant should be a rosette, with all stalks arising from a nearly common point close to the ground.

Short Storage

Spinach is a cool weather crop and needs cool temperatures and humidity for storage. Spinach will keep for 2 weeks when refrigerated in a plastic bag. Refrigerate spinach immediately if harvest temperatures are hot.

How to Exhibit

Spinach is normally exhibited as loose leaves—about 1/2 pound—in a transparent plastic bag. If spinach is bunched, the tie should be loose to prevent the leaf tissues from being crushed and to allow ventilation. The leaves should be bright green and not yellowing from age. The stalks of the leaves below the blade should be neatly cut off. Wash all soil from the leaves and then gently remove most of the water. Keep the bag of leaves in the refrigerator or in an ice chest until exhibit or meal time. The bag might have to be changed if condensation inside the bag obscures the spinach. When sold at a market, spinach should be kept in a cooler or on ice on the display shelf.

SQUASHES, SUMMER

Harvest Stage

All summer squashes should be harvested at an immature stage, when the seeds are small and still soft and edible. The skin should be glossy. The fruit of young zucchini and yellow squash should be about 6 to 8 inches long and fairly narrow in shape. Patty pan and round types should be no more than 5 inches in diameter. The skin should be smooth and delicate. Summer squashes can be purposely harvested at a smaller size as a baby vegetable for special uses.

Harvesting and Trimming

Squash should be cut from the plant, leaving some of the stem attached to the fruit. Pressure bruising can occur if the fruit is twisted from the plant. Summer squashes injure very easily, so treat them with care.

Selection

Squashes are easily examined on the plant and can be selected in the garden, cutting only those of good form and uniform length. The first fruit of a plant may grow a few inches and then rot from the blossom end back. This is due to the absence of male flowers and the lack of pollination.

Short Storage

Although summer squashes benefit from shading and cooling after harvest, do not expose them to temperatures less than 45 degrees F, which will cause chilling injury and deterioration of the fruit. The skin is thin and delicate, so an environment is needed to prevent moisture loss. Misting the fruits or putting them in a plastic bag helps.

How to Exhibit

Several specimens are required for a single exhibit. Make sure they are true to the description of their variety and uniform in size, shape, and color. Take off any remnants of the dried blossoms and cut all stems evenly to within 1/2 inch of the fruit. Very young squashes can be exhibited as baby vegetables. Baby zucchini should be 2 to 3 inches long and are most attractive with the blossom attached. Baby patty pan squash should be 1 to 1 1/2 inches in diameter.



Description

Summer squashes are in the gourd family and related to pumpkins, melons, and cucumbers. Summer squashes are easy to grow, and production usually exceeds the needs of the home grower. The plant grows in a bush habit and has large prickly leaves. Green zucchini, cocozelle, golden zucchini, yellow straight-necked squash, yellow crookneck squash, green tint and golden patty pans, and round summer squash such as Gourmet Globe are all forms of the same species of summer squash. When grown together, genetic crossing may occur and a volun-



teer fruit that is some mixture of these may develop in the next season.

SQUASHES, WINTER





Description

Winter squashes include hubbard, buttercup, butternut, Boston marrow, cheese, delicious, banana, and acorn types, among others. They are in the gourd family along with their more perishable edible relatives-cucumbers, melons, zucchinis, chayotes, and bitter melons. Winter squashes are mostly vining plants, with separate male and female flowers occurring on a single plant (monoecious). The fruit develops after successful pollination by bees of the female flower and consequent fertilization. You can observe the miniature squash below the female blossom even before pollination.

Harvest Stage

Winter squashes are warm weather, long season crops. They take from 3 to 4 months to grow, but the growing time can be shortened by setting out 3- to 4-week-old transplants. The fruit is ready to pick when the rind is hard and the vines begin to yellow and die. Chilling injury occurs below 50 degrees F, so be sure to pick the squashes well before a frost occurs. Color becomes more bright and intense as the fruit matures.

Harvesting and Trimming

Fruit should be cut from the vine retaining most of the stem. Immediately after harvesting, winter squashes (except acorn) should be cured for 10 days at a temperature of about 80 degrees F and a relative humidity of 80 percent. Curing heals cuts and bruises, especially those received during harvest. This healing prevents decay-causing organisms from entering the wounds and rotting the fruit.

Selection

Winter squashes can be selected in the garden while they are still attached to the plants. Although all squashes may not be ready at the time of an exhibit, a few of the older fruits—those on the vine closest to where the stem comes out of the ground—may be approaching maturity. Look for fruit of good size, bright color, and symmetrical form. Judges at early season exhibits understand that the winter squashes presented will be immature.

Short Storage

Winter squashes will keep for several months at 50 to 60 degrees F in moderate relative humidity. Higher temperatures cause the fruit to respire at a high rate and use up the nutrient stores, resulting in a loss of quality. At storage temperatures below 50 degrees F, chilling injury may occur, which kills surface cells and causes the fruit to rot.

How to Exhibit

Large winter squashes are normally displayed as 1 specimen per exhibit. The fruit should fit the description of its variety. It must be of good size and proper shape, with a bright color. Remove all soil and trim the stem to 1 or 2 inches. Two fruits may be required for a single exhibit of smaller squashes such as buttercup, butternut, spaghetti, or table queen.

In some exhibits, there are contests for the "largest squash" displayed. These specimens are often described incorrectly as giant pumpkins, but squashes are genetically different. Special growing techniques are used to produce the largest, heaviest fruit for these contests. Giant squash varieties include Big Max, Atlantic Giant, Big Moon, and others.

SWEET POTATOES

Harvest Stage

Sweet potatoes are a warm weather, long season crop. In the North where the growing season is short, less than 120 days, sweet potatoes are planted as a "slip," or small plant, after the danger of spring frost, and they grow until the first frost in the fall. For areas with longer seasons, there is no aboveground sign of maturity, so sweet potatoes must be test dug periodically to see when the majority of roots are 5 to 9 inches long and 2 to 3 inches in diameter. This is the stage at which they should be harvested.

Harvesting and Trimming

Sweet potato vines should be cut before harvesting. In gardens where black plastic mulch is used, the plastic should be lifted before digging. Insert a spade or fork deeply and about 1 foot away from the plant and lift the roots from the ground. This should be done with great care because the skin of sweet potatoes is very delicate at this stage. Several sweet potatoes hooked together at their tops may come up with the spade. Pull them apart, brush the soil gently from them, and cut any remaining stem from the storage roots.

Selection

Since sweet potatoes grow entirely underground, there is no way to determine their appearance until you dig them up. For an exhibit of 3 potatoes, begin by digging out 4 to 6 plants. A good variety will give 3 or 4 marketable roots per plant. Once dug, line up the roots according to size.

Short Storage

Sweet potatoes should be cured immediately after harvest. The skins of sweet potatoes become more firm and durable if the roots are cured for a week at 85 degrees F in 85 percent relative humidity or at 75 degrees F for 2 weeks. The roots become more sweet during curing because starch is converted to sugar. After curing, sweet potatoes keep best at 55 to 60 degrees F in high humidity. Below 50 degrees F, chilling injury may occur and the sweet potatoes will deteriorate rapidly. Potatoes stored in a closed paper bag on the floor of most kitchens or in a cool cabinet should keep 2 to 5 months.

How to Exhibit

An exhibit of sweet potatoes normally consists of 3 roots. Choose 3 that are well matched in size and shape and similar in skin color. No damage should be visible. Clean them in water, preferably after curing, rubbing gently with your hand or a soft sponge. If the potatoes have been cured and their skin is firm, each surface can be polished by rubbing it lightly with your hand. If the soil is very sandy, they may only need brushing to be cleaned.



Description

The sweet potato is a member of the morning glory family. It is sometimes called a yam, which for fifty years has been a marketing term but not a true botanical term. The true yam is a starchy root from Africa, and the sweet potato has its origin in South and Central America. The edible part is an enlarged storage root, which can vary in skin and flesh color from nearly white to orange and purple.

SWISS CHARD



Description

Swiss chard is related to beets and the weed lambsquarter. The edible portion is the leaf blade and leaf stalk. Swiss chard grows from spring into fall, and the outer leaves are normally picked periodically as the plants continue to grow in the garden. Swiss chard comes in white and red varieties.



Harvest Stage

Swiss chard should be growing vigorously, with succulent fleshy leaf stalks and broad leaf blades. The plants should be of good color and gloss and not damaged by insects. Since the entire plant is usually exhibited, do not harvest from the plants you hope to display.

Harvesting and Trimming

Swiss chard, although usually harvested leaf by leaf in the garden for home use, is normally exhibited as an entire plant. Cut the entire plant just above the root system below the soil line. This way the leaf stalks will remain connected and will not fall apart. Trim the root end of the plant squarely. Leaves that are damaged or of poor color should be cut away and discarded.

Selection

The selection of Swiss chard for an exhibit can be made in the garden because you know exactly what you are harvesting before you cut the plant. Consider only the most vigorous plants for exhibition. Leaf stalks should be thick and fleshy. The blades should have a glossy texture with little insect damage.

Short Storage

Swiss chard keeps best at 32 degrees F and in high humidity, such as in a refrigerator in a hydrator or plastic bag. The stalks will last longer than the leaf blades. Because Swiss chard wilts quickly in the field, stand the plant in water in the shade or mist it if other proper storage conditions are not immediately available.

How to Exhibit

Swiss chard is normally exhibited as a single plant with the roots cut off and the damaged leaves removed. The plant should have many good leaves. Do not display a plant that has had its leaves harvested in the garden. The specimen should be cleaned well, for soil can lodge in the axils of the leaves.

TOMATOES

Harvest Stage

Tomatoes are harvested through the latter part of the frost-free season as they reach a mature stage. Both red and yellow varieties are fully ripe and most flavorful when they reach their most intense color. As cool weather approaches, tomatoes may be picked as they reach a mature green color or just show a slight change of color. This is done to avoid chilling injury, which is a cumulative effect when the temperature drops to below 45 degrees F, day or night. If you live in a cool northern area, either grow a quick-maturing variety, or purchase a cookbook with recipes that use green tomatoes.

Harvesting and Trimming

Tomatoes are normally pulled from the plant, and with most varieties, a piece of the stem comes with them. Be careful not to squeeze the tomato while removing it from the plant. A tomato is a delicate fruit and can bruise easily. Once off the plant, detach the stem entirely from the fruit so it cannot pierce or bruise other fruit held in the same container. Removing the stem from the tomato does not reduce its storage ability.

Selection

Tomatoes are visible on the plant and can be selected before picking. When choosing exhibit specimens, avoid those that have insect or disease damage, hard tissue or green shoulder, and blossom end rot. Collect tomatoes of similar size and maturity.

Short Storage

Tomatoes suffer from chilling injury in storage when temperatures drop below 45 degrees F. Store them in a cool place in the kitchen or outside in the shade. Do not refrigerate tomatoes, which causes chilling injury, or, at the other extreme, expose them to temperatures above 80 degrees F, which causes them to lose color.

How to Exhibit

Tomato specimens in an exhibit should be typical in form and color for their variety. All specimens should be uniform in size, shape, and maturity. The stems should be removed entirely, and there should be only a small blossom scar on the opposite end. Display small cherry, pear, and plum types in a pint basket. The specimens should be clean and bright.



Description

Tomatoes are in the nightshade family and related to peppers, eggplants, and potatoes. The edible portion is a fruit which at maturity turns red or yellow, depending on the variety. The plant is a bushy vine that grows vigorously and may need to be contained by trellising or staking. Tomatoes are normally round or flattened round in shape, but a few types are plum or pear shaped.



WATERMELONS



Description

Watermelons are in the gourd family, which also includes muskmelons, citrons, squashes, pumpkins, cucumbers, and luffa. Watermelon is a vining crop and bears separate male and female flowers on the same plant. The fruit grows from the pollinated female flower. The edible flesh of this fruit is delicious as a dessert. Watermelons can be round or oblong in shape with white, yellow, or red flesh at maturity. A few varieties do not develop seeds.

Harvest Stage

Watermelon is a long season crop that grows best in very warm temperatures. Normally, 3- or 4-week-old transplants are set out after the danger of frost is past. Depending on the variety, the fruit may take 3 to 4 months to mature. Varieties that grow quickly should be used in northern gardens.

Detecting when a fruit is mature is as much an art as it is a science. Look for the tendril at the point where the fruit connects to the vine. It should be wilted at maturity, about 45 days after a female flower blooms. The side of the fruit that rests on the ground, the "ground spot," turns from nearly white to a cream color as the fruit ripens. Sometimes you can detect ripeness by tapping the fruit. The sound is hollow when the fruit is immature and a dull thud when it is ready to eat. Watermelons picked when immature will not ripen off the vine.

Harvesting and Trimming

When ripe, simply cut the watermelon from the vine leaving about 1 inch of stem attached to the fruit. Unlike muskmelon, the stem does not slip away from the fruit at maturity. Wipe the bottom side of the watermelon clean of soil and carry it gently from the garden.

Selection

Since watermelons are visible in the garden, a good specimen can be selected before it is cut from the vine. If a fruit is needed for an exhibit before maturity, look for the largest specimen, which developed earliest on the main stem.

Short Storage

Watermelons need no particular conditions in the field except for careful handling so they will not bruise or crack. Once harvested, watermelons stored at 55 to 60 degrees F will keep their quality for 2 weeks. Below 50 degrees, their flesh color fades and they are subject to chilling injury. If brought back to room temperature after chilling, they are prone to rot.



How to Exhibit

Normally, 1 watermelon is required for an exhibit. Select a watermelon that is symmetrical, has a good shape, fits the description of the variety grown, and has no apparent damage. Display ripe fruit if possible. Make certain that all soil is cleaned away from the fruit and the stem is cut neatly to about 1 inch. Judges may ask for a wedge of the watermelon to see if it is ripe and sweet, the proper color, and tender.

Harvest Stage

Baby vegetables are harvested at very immature stages, usually when they are 1/2 to 1/4 their mature size. Miniature or dwarf varieties are genetically small varieties harvested at mature stages.

Harvesting and Trimming

Great care must be taken when harvesting young and very delicate baby vegetables because they have developed no protective cuticle, periderm, or skin. They should be misted, shaded, or covered with wet paper or cloth immediately. Root crops are subject to increased water loss if the leaves are left on.

Selection

Baby vegetables that grow aboveground can be selected before being removed from the garden. For below-ground crops, three to five times the number needed for an exhibit should be collected. Baby vegetables may not have developed their full color or flavor. Judges look for uniformity among specimens in a single exhibit.

Short Storage

Observe the same storage conditions for baby vegetables as those recommended for their mature stages. Take great care to prevent water loss. Refrigerators have relatively high humidities but a temperature of 34 degrees F can injure some vegetables. Baby vegetables are more sensitive to chilling injury than their more mature stages. Use plastic bags to help retain moisture.

How to Exhibit

The number of baby and miniature vegetables exhibited is normally two to three times the number required for mature specimens of the same or similar vegetable. Choose specimens that are uniform in size, shape, and color. Make certain they are clean, but do this with great care because their external surfaces are very delicate. Leaves can be left on to enhance the appearance of a baby vegetable exhibit, but because leaves allow rapid water loss, make sure the vegetables are misted frequently during the exhibit.



Description

This class includes many different vegetables, either picked at early stages of development or grown to a genetically small mature stage. Almost any vegetable plant can be harvested as a baby, including asparagus, bean, beet, carrot, cauliflower, corn, eggplant, kohlrabi, lettuce, turnip, and squash plants.

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