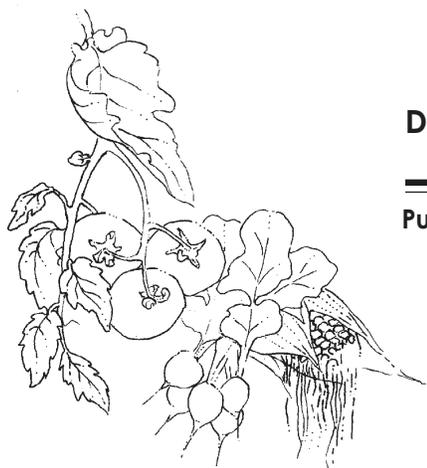


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Gourds

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Gourds are among the oldest cultivated plants. Remains of gourds, used extensively as utensils, were found in Egyptian tombs of the Twelfth Dynasty, about 2200 or 2400 B.C. Throughout recorded history, gourds have been used as utensils such as dippers, and as containers for grain or water storage. Some types are edible while young and tender, prepared like summer squash.

All gourds belong to the family *Cucurbitaceae*, and most are native to tropical and subtropical regions. All are frost-tender. Other commonly grown vegetables in the same family are squash, pumpkin, cucumber, and many types of melons.

The term gourd is most correctly applied to the hard-shelled, non-edible cucurbit fruits suitable for ornaments or utensils. Some of the squashes and pumpkins, such as Turk's Turban, Golden Summer crooknecks, or wild cucumber are highly attractive and useful for ornamental purposes. However, these are soft-shell types and will not keep for long periods.

Common Types

The most commonly grown gourds belong to two genera—*Cucurbita* and *Lagenaria*. The sponge gourd, which belongs to the genus *Luffa*, is becoming more common.

The *Cucurbita* types are the most popular, as they are colorful and come in unusual shapes. The surface may be smooth or warty, plain or patterned, and sometimes ridged or striped. In the *Cucurbita pepo* variety *ovifera*, there are several shape and color variations such as the apple, pear, bell, egg, bicolor, or orange.

Members of *Cucurbita* produce yellow flowers and are native to the Americas. The fruits should be harvested before cold weather because they are subject to frost damage. Fruits are not usually useful more than one season.

Gourds in the *Lagenaria* genus are commonly called bottle or dipper gourds. These Old World tropical natives produce white flowers. The fruit may be smooth, knobby, or ridged. Some are only three inches long, while others may be more than three feet long. Shapes vary from globe to dish, bottle, dumbbell, club, crookneck, or coiled.

Immature fruits of the genus *Lagenaria* may be damaged by frost, so should be harvested before cold weather occurs. The mature fruit, however, is not damaged by frost. When mature, the thin shell becomes extremely hard and durable and lasts for several years. These types have many uses, including birdhouses, storage vessels, dippers, or ornaments.

Culture

Gourds, like other vine crops, are warm season annuals. A long growing season is required to develop a full crop of fruit. Most vigorous development occurs during periods of warm nights and warm days. For best results, plant gourds where they will receive a full day's sun. Avoid locations where vines will be subject to wind whipping, particularly if they are grown on trellises.

The vines grow to varying lengths, depending upon the cultivar. Some may reach several hundred feet. They can be trained onto fences or trellises to conserve space. This also improves the quality of the fruit, resulting in more uniform shape and color. For ground culture, support fruits off the soil surface and rotate them occasionally to expose all sides to the sun.

Soil

Gourds grow best in a well-drained, moderately fertile soil, moderately supplied with organic matter. For northern gardens, a lighter, sandy soil is preferable. Heavier soil types are suitable if well fortified with organic matter.

Prepare the soil 6-8 inches deep to allow the extensive root systems to develop. Forming a soil mound or hill and sowing into the raised mound often helps the soil warm more rapidly and encourages quicker seed germination.

Fertilizing and Planting

Do not overfertilize gourds with nitrogen, as this favors vine growth and tends to retard fruiting. An application of a general analysis fertilizer, low in nitrogen, may be worked into the soil at planting time. Apply 1 tablespoon per hill. Later, two more applications may be added. Another method is to mix 4 pounds of 5-10-5 or similar analysis fertilizer with the soil per 50 feet of row before planting. Then, a month later, apply 2 pounds of 5-10-5 per 50 feet of row as a side-dressing.

Like all warm season crops, gourd seeds do not germinate well in cold soils and may rot if long periods of wet, cool weather prevail after sowing. Therefore, for outdoor sowing, wait until the soil has warmed and all danger of frost has passed.

In the garden, plant 4-6 seeds per hill. Later, thin to 2-3 plants per hill. Plant the seeds 1 inch deep or less, depending on their size. Space plants or hills at least 6-8 feet apart.

Seeds may also be started indoors. However, they should be transplanted outdoors before the seedlings develop the second set of true leaves, otherwise the vines "harden" and do not grow well. Avoid disturbing the roots during the transplanting process.

Culture

Control weeds during early growth by using mulches or shallow cultivation. Once established, the rapidly growing vines usually produce adequate cover to crowd or shade out most of the weeds.

Gourds require an ample supply of moisture, particularly during the early and middle parts of the growing season. They should receive one inch of water per week—supplement natural rainfall accordingly. This should completely soak the soil 6-8 inches deep. Don't water in the late evening. Wet foliage in the evening usually stays wet all night, which encourages the growth of fungus diseases (especially mildew).

Pests

Gourds are troubled by the same insect and disease pests as cucumbers and melons. Follow the current control recommendations for the specific pests. Be sure to follow the label recommendations for all pesticides used. See "Related Publications," below.

Harvesting

The early-forming fruits will mature in late summer, but most will ripen in the autumn. Gourds should be harvested when fully mature, but before frost, to reduce the possibility of spoilage during storage. As the stem turns brown and dries, this indicates the gourd is ripe. Don't use the "fingernail" test, since a break or dent in the shell of an unripe gourd destroys its future value. It's best to leave all but the very early-maturing fruit on the vine, until frost is imminent.

Right before frost threatens, harvest the fruit by using a sharp shears or knife to cut the stem. Bottle gourds can be subjected to a light frost or two before harvest without damage. Leave a few inches of the stem attached to avoid bruising the fruit. As the gourd dries, the stem sometimes falls off. If it remains, it will enhance its decorative effect. Do not handle the gourd by the stem. Gently lift the entire fruit.

Post-harvest Curing

Handle the fruit gently to avoid bruises and scratches. The surface is very tender. If the skin is only slightly dirty, wipe it with a cloth dampened with rubbing alcohol. If it is quite dirty, wash in warm, soapy water and rinse in clean water to which a household disinfectant has been added. This removes both the soil and soil-borne bacteria. Dry each gourd with a soft cloth.

Next, the gourds should be surface-dried. Spread the fruit on several layers of newspapers or on open shelves in a warm, dry place such as a porch, garage or shed. They can be placed outside during the day, but do not allow dew to fall on them at night. Space the gourds so they do not touch. This allows air to circulate freely and speeds drying. Turn the gourds daily and change newspapers that have become dampened from moisture.

The surface drying takes about a week. During this time, the outer skin hardens and the surface color sets. Remove and discard all fruits that begin to shrink or to develop soft spots. This also keeps any developing molds or bacteria from spreading to the healthy gourds.

An additional 3-4 weeks will be needed to dry the gourds. Wipe the gourds again with a soft cloth soaked in household disinfectant. Then spread in shallow trays or on newspapers and place in a warm, dry, dark area, such as an attic, closet, or under a bed or chest of drawers. The warmth encourages rapid drying, darkness prevents color fading, and dryness discourages mold. Gourds should never be stored in a damp basement, a closed, heated room or in tight, unventilated containers. This tends to encourage the development of rot and mold.

The larger gourds of the *Lagenaria* genus (dipper or bottle types) have relatively thin rinds and cure more easily than the small decorative types. They may be cured in slatted crates, in a well-ventilated garage or shed.

Preparing Luffa or Sponge Gourds

The Luffa or sponge gourd should be left on the vine until mature or until the vines are killed by frost. Most growing seasons in Indiana are too short for full maturation of Luffa, so green fruits are used. They must be treated to remove the outer covering and expose the inner fibers.

Several methods can be used. (1) Soak gourds in a tub of water until the outer covering softens. (2) Boil gourds in water for 15 minutes, then peel. (3) Freeze the gourds for 2 hours, then thaw and peel. (4) Dry thoroughly in a low heat oven. (5) Microwave on high power 10-15 minutes (time may vary with model), then peel. After the outer skin has been removed, shake to remove seeds. Wash the sponge in mild, soapy water and rinse repeatedly. If a lighter color is desired, soak in a mild bleach solution (1 part bleach per 10 parts water), rinse, then allow to dry.

Preservation

Decorative gourds may be displayed in their natural state for 3-4 months. A protective coating will increase their usefulness for 4-6 months. Some possible coatings include the following:

- Wax the gourd with a paste wax, then buff with a soft cloth to produce a soft, shiny surface with highlights.
- Apply a coating of clear shellac or spray varnish to give a hard, glossy finish.
- Gourds with a poor, dull color may be painted with a spray or regular paint in flat or enamel finish. Paint the entire gourd by suspending it by the stem, or set the painted gourds on the rims of empty cans to dry.
- Other dull gourds may be gilded with silver or gold paint. Apply a bright, shiny gilt with a brush or spray paint or a dull sheen by shellacing the gourds and shaking them in a paper bag with gold or silver powder before the shellac is completely dry.

Decorating Gourds

To carve or decorate gourds, choose completely mature fruits that have been fully cured. First, thoroughly clean and polish the outer surface, either by scrubbing with steel wool or by sandpapering with a very fine grade

sandpaper. Scrubbing is preferable since it removes the thin outer skin without leaving any marks or abrasions. A well-matured gourd is capable of taking on a very high polish. If steel wool is used, wipe the gourds dry with a soft cloth and dry again thoroughly before any further work is done.

Next, cut the design. Begin by tracing the design on the polished surface of the gourd. Then cut the design with a sharp carving tool or burn into the surface with an electric carver or needle.

Finally, the surface should be given a light rubbing with a very high grade of transparent furniture wax. This forms a thin coating that excludes the air and preserves the gourd. The wax surface should be renewed every few months.

Arrangements

Gourds used in a combination of colors, designs and forms are most pleasing. However, avoid combining natural, gilded or painted gourds in the same arrangement.

Fresh flowers, such as fall chrysanthemums, are also ideal to use with gourds. Small tubes of water concealed among the gourds help keep the flowers fresh. Autumn leaves or ivy also can be used in the water tubes.

For additional contrast, use bittersweet, dried berries, seed pods, or fruit. For a more lasting effect, artificial fruits or silk flowers may be used instead of fresh materials. Gilded gourds can be used with gilded oak or magnolia leaves for an unusual arrangement.

To give stability to a display, the gourds may be attached to the container, or to each other, with small wads of floral clay.

Useful Gourds

The *Lagenaria* gourds are both decorative and useful. The long, crook-necked shapes can be cut into dippers and scoops. The round, bottle or cylindrical forms are useful for storage vessels. Small rings, cut from the necks, make attractive napkin rings. Smaller types can be used for jewel boxes or button boxes. With holes carved, gourds can be used for small planters or arrangements.

Bottle gourds make excellent birdhouses. Simply drill a hole through the top of a bottle gourd for a hanging cord, and cut a hole in the side just large enough to accommodate a wren or bluebird (approximately 1 1/2 inch diameter opening required). You might consider an entire collection of gourd houses hung together on a pole to attract a colony of barn swallows or purple martins (2 1/4 inch diameter opening required).

Saving Seeds

Seeds may be saved from gourds. However, if pumpkins, squash, or other gourd types were grown nearby, cross-pollination will likely have occurred between the gourds and the other vine crops. Thus, your crop of gourds next year will be variable and different from this year's. Such cross-pollination will not affect the quality of this year's crop of gourds, pumpkins or squash.

To save seeds, select fully mature fruit. Open the gourds and separate the seeds from the pulp. Spread the seeds on a cloth or absorbent paper until thoroughly dry. Then store in a cool, dry place until planting time next year. Under good storage conditions, the seed should remain viable for 4-5 years.

Gourd Organizations

Those interested in learning more about gourds or sharing their experiences with others should consider joining the American Gourd Society. The society sponsors an annual meeting, publishes a newsletter and numerous information bulletins, and promotes interest in gourd growing and crafts. For more information write:

American Gourd Society
317 Maple Court
Kokomo, IN 46902
americangourdsociety.org/

Indiana Gourd Society
Lela Russell, Membership Secretary
10420 Hillside Dr.
Carmel, Indiana 46032
www.netusa1.net/~twill/index.html

Related Publications

The following related publications are available on line at http://www.hort.purdue.edu/ext/garden_pubs.html. For hard copies, you may contact your county Extension Office or write the Media Distribution Center at 1187 Service Building, S. University St., West Lafayette IN 47907-1187, phone 765-494-6794.

- HO-8 Growing Cucumbers, Melons, Squash, Pumpkins and Gourds
- HO-124 Small Plot and Intensive Vegetable Gardening
- E-21 Controlling Insects in the Home Vegetable Garden
- E-30 Cucurbit Insect Control

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.
