

Home Gardening Series

Cucumbers

Craig R. Andersen
Associate Professor and
Extension Specialist -
Vegetables

Environment

Light – sunny
Soil – well-drained
Fertility – rich
pH – 5.5 to 7.0
Temperature – hot
Moisture – keep moist

Culture

Planting – after danger of frost
Spacing – 12-18 x 48-72 inches
Hardiness – very tender annual
Fertilizer – heavy feeder

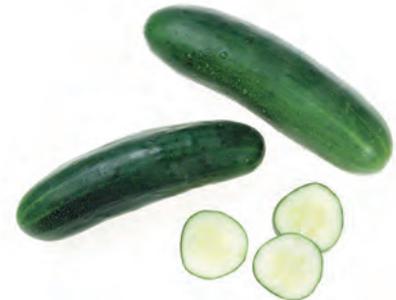
Cucumbers – *Cucumis sativus*

Cucumbers are gourd fruits native to southern India. Other edible members of this family include squash, melons and pumpkins. The wild ancestor of the edible cucumber has never been identified. The best guess is *C. hardwickii*, a native of the Himalayas that is small and bitter with many small spines. Cucumbers have been cultivated for 4,000 years. The earliest writings of the Hebrews, Egyptians, Greeks and Romans contain numerous references to this plant. Roman gardeners grew cucumbers in earth-filled baskets and carted the plants from spot to spot to take advantage of limited off-season sun. Cucumbers came to the new world with Christopher Columbus, who planted them in his experimental garden in 1493.

Cultural Practices

Cucumbers are warm-season, tender vegetables that produce well in Arkansas gardens when given proper

care. There are three types of cucumbers that are grown in the garden – slicing, burpless and pickling. The vines of standard varieties grow rapidly and require substantial space. Vertical training methods, such as trellises, and new dwarf varieties enable cucumbers to be grown even in small gardens for slicing, salads and pickling.



The flavor of garden cucumbers has been continually plagued by bitterness due to a class of compounds called cucurbitacins, which are as repulsive to certain insect pests as they are to humans. Burpless cucumbers are long and slender with a tender skin. Through plant breeding, the bitterness associated with the burp has been removed.

Planting Time

Plant seed directly in the garden after the danger of frost has passed and the soil has warmed above 60 degrees F in the spring. Warm soil is necessary for seed germination and proper plant growth. This is generally after April 1 in southern Arkansas, April 10-15 in central Arkansas and April 21-30 in northern Arkansas and

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Cultivars

Crop	Cultivar	Days to Maturity	Seed Per 100 Feet of Row	Disease Resistance or Tolerance	Remarks
Slicing Cucumbers	Poinsett 76	63	1 ounce	PM, DM, ALS, A	Medium long, green fruit, good quality, good yield.
	Marketmore 76	68	1 ounce	S, MLS, PM, DM	Nonbitter, semi-bush, long, green fruit, good quality, good yield.
	Dasher II	58	2 ounces	A, CMV, DM, PM, S	Very dark green, high yielding.
	Diva	58	2 ounces	PM, DM, S	AAS winner, burpless, dark green fruit, good for trellis.
	Sweet Success	58	2 ounces	CMV, WMV, LS, S	AAS winner, burpless, long, dark green fruit when trellised.
	Sweet Slice	55	1 ounce	S, MLS	AAS winner, burpless, nonbitter, long, smooth fruit, grows on stake or trellis, seedless in greenhouse.
	Fanfare Hybrid	63	1 ounce	CMV, DM, PM, A, ALS, S	AAS winner, semi-dwarf, monoecious hybrid, slim, deep green fruits.
Pickling Cucumbers	Calypso	51	1 ounce	S, MLS, A, ALS, DM, PM	Straight, blocky, green fruit, good quality and yield.
	Carolina	52	1 ounce	ALS, PM, DM, MLS, A	Straight, blocky, green fruit, good quality and yield.
	H-19 Little Leaf	65	1 ounce	A, BR, PM, MLS, A	Drought tolerant, sets large number of fruit at one time. Can set parthenocarpic fruit.
	Fancipak Hybrid	55	1 ounce	S, A, ALS, PM, DM, CMV	
	Pickle Bush	53	1ounce	MLS, PM	Compact plant for small area, white, spined.

Abbreviations: **A:** Anthracnose; **AAS:** All-America Selections®; **ALS:** Angular Leaf Spot; **BR:** Belly Rot; **CMV:** Cucumber Mosaic Virus; **DM:** Downy Mildew; **LS:** Leaf Spot; **MLS:** Mosaic Leaf Spot; **PM:** Powdery Mildew; **S:** Scab; **WMV:** Watermelon Mosaic Virus

at higher elevations. With ample soil moisture, cucumbers thrive in warm summer weather. A second planting for fall harvest may be made in mid-July to August 15.

Cucumbers may be transplanted for an earlier harvest. Sow seeds in pots or other containers two to three weeks before the first frost-free date. Cucumbers cannot be transplanted successfully when pulled as bare-root plants.

Spacing and Depth of Planting

Plant seed 1/2 to 1 inch deep, and thin the seedlings to one plant every 12 inches in a row or three plants every 36 inches in the hill system. If cucumber transplants are used, plant them carefully in warm soil 12 inches apart in the row.

If trellised, plant 3 to 4 seeds per foot in rows spaced 30 inches apart. Ground beds may need to be spaced 4 to 6 feet apart. When plants are 4 to 5 inches high, thin them to 6 to 9 inches apart.

Care

Cucumber plants are shallow-rooted and require ample soil moisture at all stages of growth. For best yields, incorporate compost or well-rotted manure before planting. Prior to planting, fertilize the garden with a complete fertilizer, such as 10-20-10 or 13-13-13, at the rate of 1 pound per 100 square feet. When the vines begin to run, side-dress the plants with an additional 1 pound per 100 square feet. Repeat every two weeks on sandy soil and every three weeks on heavier soils. Cucumbers respond to mulching with soil-warming plastics in early spring or organic materials in summer. Control cucumber beetles from the time young seedlings emerge from the soil.

Most varieties of cucumber vines spread from row to row. Training on a cage, trellis or fence along the edge of the garden limits this and lifts the fruit off the soil, limiting infection of fruit by soil-borne diseases. In small gardens, the vines may be trained

on a trellis, wire cages or a fence. A simple trellis can be made by setting posts 12 to 15 feet apart and 6 feet high. Use one strand of #8 wire between the posts on the top and on the bottom. Tie plastic twine at one-foot intervals between the two wires. When the vines begin to run, they can be trained to grow up the twine. The tendrils, modified leaves, allow the vines to attach to the twine and climb the trellis. When the climbing varieties are supported, the cucumbers hang free and develop straight fruits. Wind whipping the plants can make vertical training impractical.

For the flower to develop into fruit, pollen must be carried by bees from male flowers, on the same plant or on different plants, to the female flower, the one with the tiny swollen cucumber. The female flower is most receptive to pollination in the morning. It takes 8 to 12 visits from bees to complete pollination. At the end of the day the flower closes, never to open again. Unless pollination has occurred, the unpollinated fruit will turn yellow and fall off in about three days.

On a normal cucumber plant, the first 10 to 20 flowers are male. A plant may produce male flowers for 10 days before any female flowers are produced. For every female flower, which will produce the fruit, 10 to 20 male flowers are produced. Gynoecious varieties have predominantly female flowers and are pollinated by male flowers from other plants, the seeds of which are usually included in the seed packet. These plants tend to bear fruit earlier with a more concentrated set and better yields.

Poor cucumber set is common during rainy weather when bees are inactive. If pesticides are necessary, use late in the afternoon to avoid harming the bee population. Cucumber flowers are open for only one day.

Parthenocarpic cucumbers generally have all female flowers and are seedless because the fruit is produced without being pollinated. These are sometimes called "burpless" or greenhouse cucumbers. If this type of cucumber is planted near others, pollination will occur and seeds will form. This type is usually grown in greenhouses.

Harvesting

Pick cucumbers at any stage of development before the seeds become hard. Cucumbers are usually eaten when immature. The best size depends upon the use and variety. They may be picked when 2 inches long or less for pickles, 4 to 6 inches long for dills and 6 to 8 inches long for slicing or salad varieties. Remove by turning cucumbers parallel to the vine and giving a quick snap. This prevents vine damage and results in a clean break.

A cucumber is of highest quality when it is uniformly dark green, firm and crisp. The large burpless types should be 1 to 1 1/2 inches in diameter and not over 10 inches long. Some varieties will grow considerably larger. Do not allow cucumbers to turn yellow. Remove old fruit from the vines so the young fruit will develop. The cucumber fruit grows rapidly to harvest size and should be picked every other day.

Common Problems

Insects

Spotted and striped cucumber beetles attack seedlings soon after emergence from the soil. They may attack in large numbers and can stunt or kill the small plants. The beetles may also carry bacterial wilt disease. Control cucumber beetles by applying a suggested insecticide.

Squash bugs can be a problem on older cucumber plants. They can cause considerable damage to foliage and may even strip the plant of leaves. These insects are easy to control when young, in the nymph stage, but nearly impossible when adults.

Flea beetles are small, black beetles about the size of a large pinhead. They eat numerous small holes in the leaves and tend to be more of a problem on young plants.

Watch for buildup of colonies of aphids on the underside of the leaves. Use a suggested insecticide if these colonies appear.

Pickleworm is the larvae of a moth that lays eggs in the cucumber flower and damages the young developing flower and fruit.

Diseases

Do not handle, harvest or work in the leaves and vines when they are wet to avoid spreading diseases.

The most common leaf spots, anthracnose and septoria, quickly defoliate a plant. The diseases are caused by a fungus and are controlled by foliar applications of a suggested fungicide.

Plants may be infected with bacterial wilt disease spread by the natural attack of cucumber beetles. Plants are usually infected with the disease-causing bacteria long before they show any symptoms. The disease organism overwinters in the beetles from one year to the next. The beetles hibernate among the plant debris and weeds around the garden. When the vines wilt and collapse (usually about the same time the first cucumbers are half grown), it is too late to prevent the disease.

Belly rot is a soil-borne fungal disease that attacks the developing fruit. Use mulches to prevent fruit contact with the soil.

Powdery mildew is a fungus that attacks the foliage during cool, damp periods, commonly in the fall. The leaf surface takes on a dusty gray color.

diseases – bacterial wilt (spread by cucumber beetles), mosaic leaf spot, anthracnose, scab, powdery mildew

insects – cucumber beetle, aphid, flea beetle, pickleworm

cultural – misshapen cucumbers (low fertility or poor pollination), failure to set fruit (too few bees for adequate pollination, no pollinating plants for gynoecious hybrids, changes in temperature)

Harvesting and Storage

days to maturity – 50 to 70

harvest – from when cucumbers are about 2 inches long up to any size before they begin to turn yellow, about 15 days

approximate yields (per 10 feet of row) – 8 to 10 pounds

amount to raise per person – 10 to 15 pounds

storage – medium cool (45 to 50 degrees F), moist (95 percent relative humidity) conditions, 5 days

preservation – pickled

Frequently Asked Questions

Q. Why do my cucumbers fail to set fruit and yield properly?

A. The first yellow flowers to appear on the plants are male flowers that provide pollen. The male flower usually drops off after blooming. The small cucumber is evident at the base of the female flower, and it should develop into an edible fruit. For proper fruit set, the pollen must be transferred from the male to the female blooms. Anything that interferes with pollination of the female flower (including cold temperatures and rainy weather that hamper bee activity or improper use of insecticides that kill bees) reduces fruit set and yields.

Q. Some of my cucumbers are badly misshaped. Will they develop into normal cucumbers?

A. No. Remove them from the vines. Misshaped cucumbers may result from poor pollination or low fertility. Side-dressing plants with a complete fertilizer may help later cucumbers develop normally.

Q. Why do some of my plants suddenly wilt and die? Dead or dying plants are scattered all over my cucumber patch. One plant in a hill may be healthy while others die.

A. These are typical symptoms of bacterial wilt disease spread by cucumber beetles early in the season. Control the beetles when the plants are small.

Q. Is there really a “burpless” cucumber?

A. Yes. Burpless cucumbers are no longer considered novelties and are offered in most garden catalogs. They are mild, sweet and crisp when fresh. Most cultivars are long and are grown on a trellis.

Q. What are gynoecious hybrids?

A. Gynoecious (female flowering) hybrids are special hybrids of slicing or pickling cucumbers that have all female flowers. They may be earlier and higher yielding than other varieties. The seed company mixes in a small proportion of seed of a standard cucumber to produce male flowers for a pollen source.

Q. How can I tell if a cucumber cultivar is monoecious, dioecious, gynoecious or andromonoecious?

A. A monoecious cultivar will have both male and female flowers on the same plant. Male flowers will precede the appearance of female flowers by about 10 days and continue to produce about ten times as many male flowers as female flowers. Dioecious plants can have all female flowers (gynoecias) or all male flowers (andromonoecious). Most parthenocarpic, seedless, cultivars are gynoecious.

Printed by University of Arkansas Cooperative Extension Service Printing Services.

DR. CRAIG R. ANDERSEN is associate professor and Extension specialist - vegetables, Horticulture Department, University of Arkansas Division of Agriculture, Fayetteville.

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