



Vegetables: Growing Squash in Home Gardens

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS087E

Crop at a Glance

Growing season: Summer

Time of planting: Spring after date of last killing frost

Spacing: 2 vines per hill and 4 to 5 feet between hills

Days to harvest: Summer squash—60 to 70 days; winter squash—90 to 135 days

Average yield: Summer squash—10 to 15 fruit per vine; winter squash—4 to 8 fruit per vine

Common starting method: Seed or transplant

Introduction

There are few vegetables easier to grow in the home garden and more versatile in form/use/consumption than squash. The term “squash” refers to several plant species native to Central and South America. Many squash types or cultivars can be grouped as summer squash or winter squash, depending on the season the vegetable is harvested.

Selecting Types to Plant

Select squash types that appeal to both your culinary and esthetic tastes. Summer squashes include zucchini, yellow crookneck (Figure 1), and pattypan. Familiar winter squashes include acorn, butternut (Figure 2), buttercup, turban (Figure 3), Hubbard, curshaw (Figure 4), and spaghetti. Pumpkins are considered a type of squash, as are gourds. Gourd plants bear inedible fruit best suited for decorative purposes (Figure 5). Be sure to select a squash that matures within the growing season of your geographic area (see WSU’s Home Vegetable Gardening publication EM057E, <https://pubs.wsu.edu/ItemDetail.aspx?ReturnTo=0&ProductID=15566>). Most summer squashes require 60 to 70 days from planting to first harvest. Winter squashes require between 90 to 135 days, and this may be longer than some areas in Washington allow.

Choosing a Planting Site

Squash grows best in fertile, well-drained soils with high levels of organic matter and full sun exposure. Since squash thrives in a soil pH ranging from 6.0 to 7.5, it would be prudent to have your soil tested at the planting site *prior to* planting. Squash needs ample space, as the vines will wander three to five feet before setting fruit. Squash has moderate to high water needs, particularly during the heat of summer, so plant close to a source of water in the home landscape.

Planting Guidelines

Squash can be started in the garden from seed. We recommend that you purchase certified seed from seed catalogs and garden centers, as seed saved from last year’s harvest is unlikely to produce the same type of squash as the parent plant. Beware: Squash is a frost-tender vegetable. Seeds may not germinate in cold soil and seedlings can be killed off by spring frosts. Squash is planted in hills (mounds of soil) about 4 to 5 feet apart. Sow 4 to 5 seeds per hill at a depth of one inch in mid- to late May, depending on the date of the last killing frost (see WSU’s Home Vegetable Gardening publication EM057E, <https://pubs.wsu.edu/ItemDetail.aspx?ReturnTo=0&ProductID=15566>). Later, as the plants develop 2 to 3 leaves, thin to a couple of well-spaced plants per hill. Alternatively, start plants in the home or greenhouse 10 days to 2 weeks prior to transplanting seedlings into the garden. Spacing is important when planting these seedlings; place 2 seedlings per hill spaced 4 to 5 feet apart.

Plant Maintenance

The first couple of weeks after planting are critical to the survival and productivity of squash. If seeds fail to germinate, or germinate unevenly, you should investigate why (planted too deep, cold soil, old seed, pest-damaged seed, etc). Familiarize yourself with the appearance of normal, healthy plants and periodically (2-3 times a week) observe your plants for any signs of stress or pests. The most common sign of stress is leaf-wilting associated with either too little or too much water. Check the moisture level of the

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soil near the root zone of the squash plant: It should be moist and pliable, not dry and crumbly or wet and dripping. Watch out for stunted plants with pale leaves or for vigorous plants that fail to bloom or set fruit. These are signs of low soil fertility or excessive soil fertility. Another key period for maintenance is flower bloom. For most squashes, the male and the female flowers (distinguished by the round chamber at the base of the flower) are on the same plant. These flowers are dependent on honey bees and other bees to transfer the male pollen to the female flower. Take precautions to minimize insecticide use during flower bloom and encourage bee access and visitation. Inadequately-pollinated female squash flowers may grow, but abort before full fruit development.

Pest Management

Diseases. Plant diseases may impact squash production in your backyard. The incidence of diseases can be reduced by 1) planting certified disease-free seed, 2) planting squash in warm, light, well-drained soils, 3) keeping water from splashing on squash foliage, 4) avoiding plant overcrowding (weed and properly thin), and 5) cleaning up any plant debris. If you notice any squash plants that are unthrifty, discolored, or dying, and these symptoms spread to other plants, we recommend that you rogue out and destroy these plants (do not compost!). Investigate as to what is wrong with these plants. The best strategy to combat plant diseases is to avoid planting susceptible plants in an infected area or to plant squash varieties bred for resistance to the specific disease problem.

Insects. When the homeowner plants a few squashes each year and rotates these plants within the landscape, insect pest problems are few and rarely impact fruit quality. Healthy vines better tolerate pest damage, while stressed (often water-stressed) vines may attract arthropod pests. By periodically scouting your squash for insect presence or signs of damage (leaf discoloration, feeding damage, vine-tip dieback, surface marking on fruit), you can anticipate problems and control pests before they jeopardize the health of the plant. Learn to recognize the beneficial arthropods, especially insect predators, and encourage their presence in your home landscape. Do not hesitate to contact your local Master Gardener program to assist you in identifying pests and beneficials.

Common Problems

Powdery mildew *Erysiphe cichoracearum*

A fungal disease frequently encountered in Eastern WA.



Symptoms: Powdery white patches on leaves. Russet-like brown and dead areas on leaves.

Corrective Action: Promote good air circulation within plant canopy. Plant disease-resistant varieties. Destroy infested plant material. Note: Fungicides are generally not recommended.

Angular leaf spot *Pseudomonas syringae* pv. *lachrymans*

A bacterial disease frequently encountered in Western WA.



Symptoms: Leaves, stems, and fruit with water-soaked angular spots. Leaf lesions dry up and drop out, leaving irregular holes in leaves.

Corrective Action: Avoid overhead watering. Plant disease-resistant varieties. Rotate crops (i.e., do not plant squash in same garden spot in consecutive years). Note: There may be pesticides available to homeowners.*

Verticillium wilt *Verticillium* spp.

A soil-borne fungal disease.



Symptoms: Leaves wilt and collapse. Leaf edges with V-shaped yellow areas. Entire leaves turn yellow and dry up.

Corrective Action: Don't plant squash varieties in soil known to harbor this disease. Rotate squash year after year with other crops, but not with potato, tomato, or cucumber. Note: There are no recommended pesticides for homeowners.

Curly top, Curly top virus

A virus found predominantly in Eastern WA.



Symptoms: Plant growth stunted. Older leaves yellow and leaf edges roll upward. Plant may not set fruit, or fruit are small and of poor quality.

Corrective Action: Rogue out and destroy infected plants. This virus is transmitted by leafhoppers that avoid shade; shading your squash may reduce infection. Note: There are no recommended pesticides for either the leafhopper or the virus.

Spider mites *Tetranychus* spp.

Actual adult size is 1/60 inch. A pest more common in Eastern WA.



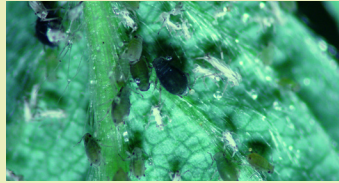
Symptoms: Whitish yellow stippling along leaf midrib. Whole leaves yellow, then bronze, then die. Mites and webbing are found on the underside of leaves.

Corrective Action: Wash mites from plants with a strong stream of water. Irrigate plants properly to avoid drought stress. There may be insecticides labeled for use in squash to control these mites.* Avoid broad-spectrum insecticides that kill beneficial predators like lady beetles, lacewings, and predatory mites.

*For a list of products available for home garden pests, consult the WSU Hortsense at <http://pep.wsu.edu/hortsense>.

Aphids
Aphis gossypii (pictured),
Myzus persicae and others

Actual adult size is 1/8 inch.



Symptoms: Infested leaves curl about aphids. Aphids excrete honeydew (a sticky, shiny substance) that coats leaves.

Corrective Action: Wash aphids from plants with a strong stream of water. There may be insecticides labeled for use in squash to control aphids.* Avoid broad-spectrum insecticides that kill beneficial predators like lady beetles, lacewings, and predatory mites.

Squash bug
Anasa tristis

Actual adult size is 5/8 inch.



Symptoms: Small yellow specks on leaves that turn brown. Feeding causes vine to wilt beyond the point of attack, then turn black and die.

Corrective Action: Handpick/destroy eggs and bugs. Clean up vegetative debris in autumn to discourage overwintering bugs. There may be insecticides labeled for use in squash to control these bugs.*

*For a list of products available for home garden pests, consult the WSU Hortsense at <http://pep.wsu.edu/hortsense>.

Harvest and Storage

Summer squashes are harvested when the fruit measures 4 to 7 inches long and the skin retains a soft, rubbery feel. Once the skin begins to feel smooth or slick, the rind gets thicker, the seeds get tougher, and the fruit begins to lose its flavor (and may get woody in texture). Summer squashes do not store well, and should be refrigerated and consumed within a week. Winter squashes are harvested fully mature when the skins feel hard and waxy. In autumn, there is no hurry to harvest winter squashes unless excessively cold or wet weather is approaching. Pick winter squashes with stems attached. Cure in a warm, dry place and store at room temperature. Under these conditions, winter squashes store between 3 to 5 months. After the final harvest, be sure to remove and destroy the leftover plant debris. Alternatively, turning under the remaining plant material into the garden soil can help replenish nutrients and contribute to the organic content of the soil.

End Uses

Freezing Summer Squash. Choose young squashes with tender skin. Wash and cut in 1/2-inch slices. Water-blanch 3 minutes. Cool promptly, drain, and package, leaving 1/2-inch headspace. Seal and freeze.

Freezing Winter Squash. Select firm, mature squashes with a hard rind. Wash, cut into cooking-size sections and remove seeds. Cook until soft in boiling water, in steam, in



Figure 1. Summer squash, *Cucurbita pepo*. Type: Yellow Crookneck.



Figure 2. Winter squash, *Cucurbita moschata*. Type: Butternut.



Figure 3. Winter squashes, *Cucurbita maxima*. Types: Buttercup (left) and Turban Squash (right).

a pressure cooker, or in an oven. Remove pulp from rind and mash. (For spaghetti squash, mashing the cooked pulp is not necessary.) To cool, place pan containing mash in cold water and stir occasionally. Package, leaving 1/2-inch headspace. Seal and freeze.



Figure 4. Winter squash, *Cucurbita maxima*. Type: Hubbard Squash (center). Winter squash, *Cucurbita moschata*. Type: Striped Curshaw (upper right).

Canning Summer Squash. This is not recommended. It is best to freeze, pickle for canning, or dry summer squash. For more information, see http://www.uga.edu/nchfp/questions/FAQ_canning.html.

Canning Winter Squash. See the National Center for Home Food Preservation at http://www.uga.edu/nchfp/how/can_04/pumpkin_winter_squash.html.

Additional Reading

Canning Vegetables. 2011. *Pacific Northwest Extension Publication* PNW172. <https://pubs.wsu.edu/ListItems.aspx?Keyword=pnw172>.

Home Vegetable Gardening. 2013. *Washington State University Extension Publication* EM057E, <https://pubs.wsu.edu/ItemDetail.aspx?ReturnTo=0&ProductID=15566>.



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Use pesticides with care. Apply them only to plants, animals, or sites as listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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Figure 5. Winter squash, *Cucurbita pepo*. Type: Autumn Wing Gourd (Decorative).

National Center for Home Food Preservation. 2012. <http://nchfp.uga.edu/>.

Pacific Northwest Vegetable Extension Group. 2012. Photo Gallery of Vegetable Problems http://mtvernon.wsu.edu/path_team/diseasegallery.htm.

So Easy to Preserve. 2006. 5th ed. *The University of Georgia Cooperative Extension Bulletin* 989.

United States Department of Agriculture. 2009. Complete Guide to Home Canning. *Agriculture Information Bulletin* No. 539.

Washington State University Hortsense. (Cooperative Extension) 2012, <http://pep.wsu.edu/hortsense/scripts/query/menu.asp?level=3&tableName=plant&categoryID=5&plantDefID=55>.