



# Vegetables: Growing Green Beans in Home Gardens

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS088E

## Crop at a Glance

**Growing season:** Summer

**Time of planting:** Late spring when soil temperature reaches 65°F

**Spacing:** 2 inches apart in rows spaced 18-24 inches apart

**Days to harvest:** 50 to 80 days

**Average yield:** 6 to 8 pounds per 10-foot row

**Common starting method:** Direct seed or seedling transplants

## Introduction

Homegrown beans are fresh, nutritious and relatively easy to grow, making them a good choice for first-time gardeners. Edible-pod beans were once called “string” beans due to the stringy fiber along the seam of the pod. Modern varieties are mostly free of tough fibers allowing the pod to snap into segments easily for cooking or preserving, thus the name “snap” bean. There are a few cultivars of snap beans with yellow or purple-colored pods. Usually, the purple color fades during cooking, revealing a green pod. Harvest green beans for their edible pod when the seeds start to form, but before they begin to bulge, keeping the seeds tender and sweet. Use snap beans in salads when pods are immature, small and tender. If picked later in the season, beans can be used as shelled beans. The seeds are starchier and not as sweet as younger bean pods. Use mature beans for cooking; snip the stem ends just before using and cook immediately. Beans can also be preserved for later use by freezing, drying, or canning.

## Selecting Types to Plant

Pick varieties that appeal to your taste and culinary use. Pole (climbing) bean plants grow as vines and need a support system; bush varieties grow without additional

support. Be sure to select a variety that matures within the growing season of your geographic area. Most green beans are planted in the summer and require 50 to 80 days from planting to first harvest. For western Washington gardens, select varieties with the shortest growing season as listed by date to maturity to ensure ripening. Eastern Washington has a warmer growing season and gardeners may select varieties with a longer growing season.

## Choosing a Planting Site

Beans grow best in fertile, well-drained soils with high levels of organic matter and full sun exposure. Pole beans need ample support through a netting or trellis system, as some vines wander three to five feet or more before setting fruit. Bush type beans are mostly self-supporting. Beans have moderate water needs early in the growing season; however, this will increase during the heat of summer. Water bean plants at the roots to prevent fungus growth.

## Planting Guidelines

Purchase certified seed from seed catalogs and garden centers. Seeds saved from some green bean varieties may not produce the same quality as the previous season’s plant. Beans are a warm-season crop and seeds can be planted in late spring after the soil warms. For the bush type varieties, sow seeds about one inch deep and two inches apart in rows 18 to 24 inches apart. Pole beans need the support of a trellis or pole system. Plant 6 to 8 seeds around the base of the pole or space 1 inch apart along the trellis. Sow seeds one inch deep with rows 3 feet apart. Seeds may be started indoors ten days to two weeks prior to planting outside. Transplant seedlings into the garden in late spring when soil temperatures are sufficiently warm to encourage bean growth.

## Plant Maintenance

The first few weeks after planting are the most critical to the survival and productivity of the bean plant. If seeds fail

*This fact sheet is part of the WSU Extension Home Garden Series.*

to germinate or germinate unevenly, a gardener should investigate potential reasons why; for example, seeds planted too deep, cold soil, old seed, or pest-damaged seed. In addition, gardeners need to observe their plants for signs of disease, insects or garden pests. This should be done 2 to 3 times per week. Check the moisture level of the soil near the root zone of the plant; it should be moist and pliable, not dry and crumbly or wet and dripping. Signs of low soil nutrition levels are stunted plants with pale leaves or vigorous plants that fail to bloom or set fruit.

Another key period for maintenance is flower bloom. For beans, the flowers are self-pollinating (they contain male and female parts on the same plant). These flowers depend on bees and insects to transfer the male pollen from the anthers to the tip of the stigma (female part) to create a fruit, in this case a pod containing beans. Take precautions to minimize pesticide use during flower bloom and encourage bee and insect visitation.

## Pest Management

**Diseases.** Plant diseases can affect bean yield in your backyard. Diseases can be reduced by 1) planting certified disease-free seed, 2) planting beans in light, well-drained soils, 3) avoiding overhead watering to prevent water from splashing on vines and foliage, 4) avoiding plant overcrowding (weed and properly thin), and 5) cleaning up plant debris and digging out any plants that are diseased and dying (do not compost!). Gardeners should investigate problems with weak plants and why they failed to grow. The best strategy to combat plant diseases is to avoid planting susceptible plants in an infected area, or by planting bean varieties bred for resistance to specific diseases.

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

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

## Common Problems

### Powdery Mildew

Photo: Howard F. Schwartz, Colorado State University, Bugwood.org



**Symptoms:** Powdery mildew is a fungal disease that attacks the leaves, pods, and stems. Leaves and stems develop discolored spots. The spots later show characteristic white mats of powdery fungal growth, which give a bluish cast to the foliage.

**Corrective Action:** Clean up plant debris in the garden. Destroy or discard (do not compost) diseased materials. Plant beans early. Spring crops seldom show serious damage. Do not replant fall beans in the same location. Plant disease resistant varieties as indicated on the seed packet.

### Root Rot

Photo: Howard F. Schwartz, Colorado State University, Bugwood.org



**Symptoms:** Several fungal root rots can affect beans. Typical symptoms are stunting, yellowing, and dieback of above-ground portions of the plants. Root systems of affected plants are smaller than normal.

**Corrective Action:** Do not overwater, especially in heavy soils. Plant in well-drained soil. Use raised beds or add organic matter to soil to help improve drainage. Remove and discard diseased plants. Do not compost diseased plants. Rotate crops. Do not plant beans in the same location more frequently than once every 3 years.

### Root Rot/Damping Off

Photo: Gerald Holmes, Valent USA Corporation, Bugwood.org



**Symptoms:** Soil-borne fungi cause seed rot and damping-off bean seedlings. Infected seeds decay without germinating or emerged seedlings wilt and topple over.

**Corrective Action:** Do not overwater. Do not plant in soil known to be infested with damping-off fungi. Mulch to help raise soil temperature. Plant in well-drained soils. Plant shallow to encourage quick seedling emergence and growth.

### Slugs

Photo: Rosetta, OSU



**Symptoms:** Slugs are common garden pests in Washington. Foliage of older plants is chewed, while younger plants may be totally consumed. Slugs leave behind a slime trail, which appears silvery when it dries. Slugs typically feed at night.

**Corrective Action:** Handpick and kill slugs when noticed. Trap slugs with containers of stale beer sunk into the ground. Use chemical baits with caution, as pets can be poisoned. Iron phosphate-based baits are safer for pets.\*

## Bean Aphids

Photo: K. Grey

**Symptoms:** Bean aphids are small, pear-shaped, dark green to black insects. These soft-bodied insects often feed in clusters on the shoot tips and leaves of new growth.



**Corrective Action:** Provide proper nutrition. High levels of nitrogen encourage aphid reproduction. Switch to a slow-release or low-nitrogen fertilizer if necessary. Wash aphids from plants with a strong stream of water.

National Center for Home Food Preservation. University of Georgia. <http://www.uga.edu/nchfp/index.html>.

Photo Gallery of Vegetable Problems. Washington State University. [http://mtvernon.wsu.edu/path\\_team/diseasegallery.htm](http://mtvernon.wsu.edu/path_team/diseasegallery.htm).

WSU Hortsense. Washington State University. <http://pep.wsu.edu/hortsense>.

## Harvest and Storage

Green beans are ready for harvest 50 to 80 days from planting. Harvest beans by size, depending on their end use. Do not allow pods to reach the yellowish stage as they become bitter and plant yields are reduced. Harvest by removing the pods from the bean vines 1/4 inch above the fruit. Do not trample the vines any more than necessary to harvest the crop. Frequent picking of green beans is essential as they grow and reach optimum quality. Delayed harvest results in reduced quality products and less productive plants because fruiting is an exhaustive process for the plant. After the final harvest, remove and destroy the plant debris. Alternatively, turning under the remaining plant material in the fall can help replenish nutrients and contribute to the organic matter content of the soil.

## End Uses

Fresh eating green beans: Choose young pods with tender skin. Wash and cut or “snap” as desired for segments, or eat pod and seeds whole in salads, as a side dish or preserve for future use.

Green shelling beans: Choose pods that are well filled, yet not bulging; remove beans from pod and cook as desired. For more information see [http://nchfp.uga.edu/how/can\\_04/beans\\_green\\_shelled.html](http://nchfp.uga.edu/how/can_04/beans_green_shelled.html).

Preserve green beans for later use by freezing, drying, or canning. For more information see *So Easy to Preserve*, in the Further Reading section.

## Further Reading

Andress, E. and J. Harrison. 2006. *So Easy to Preserve*. The University of Georgia Cooperative Extension Bulletin 989.

McCurdy, S, L.Powers-Hammond and C. Raab. 2011. Canning Vegetables. *Washington State University Publication PNW172*. <http://cru.cahe.wsu.edu/CEPublications/PNW172/PNW172.pdf>.

Miles, C. 2013. Home Vegetable Gardening in Washington. *Washington State University Extension Publication EM057E*. <http://cru.cahe.wsu.edu/CEPublications/EM057E/EM057E.pdf>.

## WASHINGTON STATE UNIVERSITY EXTENSION

By **Sheila Gray**, WSU Lewis County Extension, Chehalis, WA.

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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