

Beans

*Diane Relf and Alan McDaniel**

Environmental Preferences

LIGHT: Sunny.

SOIL: Well-drained, deep sandy loam.

FERTILITY: Medium-rich.

pH: 5.8 to 7.0

TEMPERATURE: Warm (65 to 80°F), except fava beans - cool (60 to 65°F).

MOISTURE: Average.

Culture

PLANTING: Seed after danger of frost is past; inoculating seeds with nitrogen-fixing bacteria may increase yields on land newly planted with beans.

ROW SPACING:

2 inches by 24 to 30 inches for bush snap beans;

4 inches by 18 to 30 inches for bush lima beans;

4 to 8 inches by 24 to 36 inches for pole beans.

HARDINESS: Tender annual, except fava - semi-hardy annual.

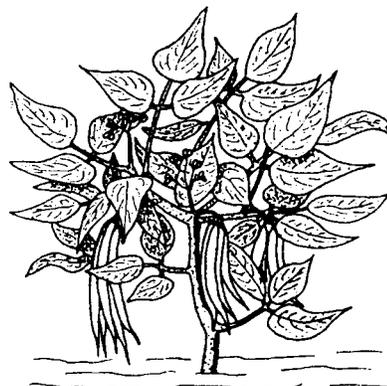
FERTILIZER NEEDS: Beans are medium feeders. Since beans are legumes, they will fix nitrogen once a good root system is established; inoculation will speed the process. Excess nitrogen will delay flowering, so sidedress only after heavy bloom and setting of pods, using 3 tablespoons of 10-10-10 per 10-foot row.

Cultural Practices

Snap Beans

Snap beans grown for the pod are the most common. Some beans, like lima, soybean, and dried beans, are grown primarily for the seed itself and not the pod. The bush snap bean is the most popular because of its early maturity and because trellising is not required. Varieties include standard green, yellow wax, and purple-pod types, giving the gardener a larger choice than is

generally available in supermarkets. Though wax beans are yellow and waxy in appearance, their flavor is only subtly different from that of regular green snap beans. The purple pod beans are different in appearance while growing, but the pods turn green when cooked. Flat-pod green snap beans are somewhat different in flavor and texture than the round-pod ones and are preferred by many gardeners. These are available in both bush and pole types.



First plantings of bush beans should be made after danger of frost is past in the spring and soil is warmed since seed planted in cold soils germinate slowly and are susceptible to rotting. Also, seedling growth may be slow in cool temperatures. Plant several crops of bush beans two to three weeks apart until August 1 for a continuous harvest. Snap beans should be kept picked to keep plants producing heavily. Most will give two large flushes of beans and can then be removed from the garden.

Half-runner Beans

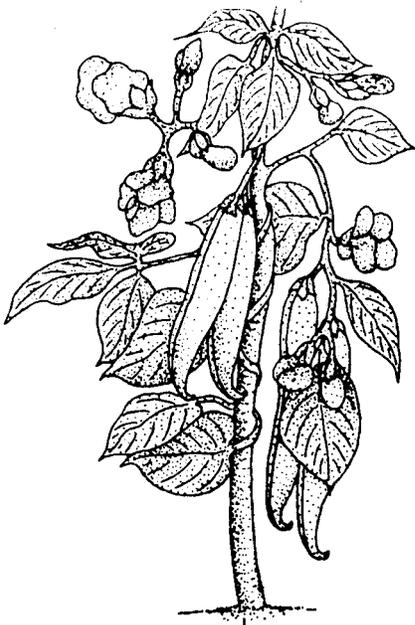
Half-runner beans have a growth habit between that of bush and pole beans, producing beans usually used as snap beans. Though they have runners about 3 feet

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long, half-runners are generally grown like bush beans. Trellising, however, may increase production of these already heavy yielders.

Pole Beans

Pole type beans come in many varieties, generally bearing over a longer period than bush types. They require trellising, and for that reason, generally yield more in the same amount of space. Pole beans are natural climbers, but require vertical supports as they will not interweave themselves through horizontal wires. A tripod support can be made with three wooden poles or large branches that are lashed together at the top. Five to six seeds are planted in a circle 6 to 8 inches from each pole. Many types of homemade trellises work well as long as they provide the needed support. Trellises should be 6 to 8 feet tall and sturdy enough to withstand strong winds and rain. See illustrations under vertical gardening in this chapter for examples of bean trellises. Interplanting pole or half runner beans with corn is a historic practice more suitable to field corn than sweet corn.



Scarlet runner beans are a type of pole bean that is quite ornamental as well as productive and delicious. The vines grow rapidly, producing beautiful red flowers and beans that may be harvested as snap beans when young and as green shell beans later. Beans are ready to pick in 75 to 85 days, and several pounds are produced per plant. The value of scarlet runner beans is mainly ornamental, though - the lush 6- to 15-foot vines can be used to cover arbors, trellises, or fences. An added feature is that the flowers are attractive to hummingbirds. According to some catalogs, the scarlet runner bean grows best in cooler weather than standard



beans prefer; in some very hot areas, the vines may not keep producing all summer, as they will in cooler regions. Keeping maturing beans picked off will prolong the life of the vines.

Lima Beans

Lima beans are available in bush or pole types. Bush limas mature about 10 to 15 days earlier than pole limas. Pole type limas have better yields and produce longer than the bush forms. Soil temperature must be 65°F for five days in order for the beans to germinate well. Because the large seeds store considerable amounts of carbohydrates, limas are quite susceptible to soil fungi and bacteria. Pregermination or starting indoors helps if care is taken not to damage the shoots when planting and if soil remains moist for several days; seed treated with anti-fungal agents also have improved germination rates. Soil should be kept moist (but not soaking wet) until the seedlings come through the ground; do not allow a crust to form on the soil, since the seedlings will have trouble pushing through. Prevent crusting and conserve moisture by spreading 1/4 inch of sand, sawdust, or a light mulch over the seeded row.

A cold, wet spell can cause lima flowers to drop, as can excessively hot and dry periods, reducing yields. Baby limas or butter beans are less susceptible to blossom drop problems.



Southern Peas

Southern peas are not actually beans or peas, but are in a separate genus. However, they are grown and used in the same ways as beans. There are three commonly grown types, black-eyed pea, cream pea, and crowder pea. They are available in both pole and bush forms. Southern peas may be harvested in the green shell or in the dried pea stage.

The yard-long or asparagus bean is related to black-eyed peas and has similar flavor, but the entire pod may be eaten. On trellised vines, pods may be produced which are 1 1/2 to 2 feet long. Yard-long is stretching it a bit. Asparagus beans need warm temperatures and a long growing season to do well. Look for the seeds in novelty, gourmet, Oriental, or children's sections of seed catalogs.



Soybeans

Soybeans are increasing in popularity because of their high nutritional value and their versatility. Catalogs often list them as edible soybeans; all soybeans are actually edible, but those in garden catalogs have been bred to do well under ordinary garden conditions, requiring a shorter season and not growing as tall as the field types. There is also a difference in flavor and texture, as there is between sweet and field corn. Soybeans are less sensitive to frost and may have fewer problems with Mexican bean beetles than standard beans. Soybeans are quite delicious when harvested as green shell beans, but may also be allowed to dry on the vine. The pods of soybeans are quite difficult to open; cook for a few minutes to soften the pod before removing the beans.

Dried Beans

Beans used primarily as dried beans are many and varied. Many can be used green, but dry well for easy storage. In the small garden, growing dry beans is somewhat impractical, since the amount of space required to raise a large enough quantity for storage is great. Many types of dry beans may be purchased in supermarkets at a very low cost, so it may be more

worthwhile to grow higher-value crops in the limited space. However, if you have a very large garden area and a desire to sit on the front porch rocking away and shelling beans in the fall, they are worth a try. Some varieties available to gardeners are either rare or completely unavailable in the supermarket.

The horticultural bean, or October bean, is very widely grown in parts of the state and is called a "Virginia delicacy" by one Extension Specialist. The colorful pods and beans of the October bean make it an attractive addition to the garden and kitchen. The seeds of pinto beans look similar to those of the horticultural beans, but are smaller. They are widely used as brown beans and as refried beans in Mexican dishes. Black beans or black turtle beans make an unusual, delicious, black-colored soup. They are easy to grow if given plenty of air movement to prevent disease problems to which they are susceptible. Kidney beans are the popular chili and baking bean, available in deep red or white types. Navy pea and Great Northern beans are used in soups and as baked beans. Cranberry and yellow-eyed beans are heirloom varieties again gaining favor among gardeners.

Mung beans, native to India, have enjoyed a rise in popularity because of their use as sprouts in Oriental dishes and salads, and gardeners now find seeds available for home production. Mung beans require 90 days of warm weather for good yield in the garden. Garbanzos, or chickpeas, produce plants that do not look like other bean plants. Garbanzos are actually neither true beans nor peas, but are leguminous. The fine-textured foliage is an attractive addition to the garden. Plant many seeds; the meaty seeds, like limas, tend to rot if they don't germinate and grow rapidly. Also, each pod contains only one or two seeds. The nutty-flavored beans of unusual texture are good roasted, in salads, and in soups. Garbanzos also require a warm climate and long (100 day) growing season.

Fava beans, or broad beans, are quite hardy. In cool climates, they are often substituted for limas. Favas are sown early in spring and are the exception to the rule, as they do not grow well in warm weather; in fact, if sown in April, they may be ready as green shell beans in late June or early July. It should be noted that some people of Mediterranean origin have a genetic trait that causes a strong allergic reaction to fava beans. People of this descent should sample the beans in small quantities at first.

Common Problems

DISEASES: Mosaic - use resistant varieties; Anthracnose; Bacterial blight - use disease-free, western-grown seed; Seed rot - do not plant in cold, moist soils; Root and stem rots.

INSECTS: Mexican bean beetles and larvae, corn earworm, mites.

CULTURAL: Large plants with few beans (excess nitrogen); blossom drop (excessive heat, dry winds).

Harvesting And Storage

DAYS TO MATURITY: 50 to 60 days for snap beans; 85 to 110 days for pole limas; 65 to 75 days for bush limas; 60 to 110 days for pole beans.

HARVEST: Snap beans - full size pods, small beans or larger beans as long as pods are still tender; pods break easily with a snap when ready; seed should not cause pods to bulge. Lima/Dry beans - Seeds will be full sized, and pods will be bright green. End of pod will be spongy. For dry beans (of all types) pods should remain on bush until dry and brown.

APPROXIMATE YIELDS: 3 to 5 pounds snap beans, 4 to 6 pounds lima beans per 10-foot row.

AMOUNT TO RAISE: 8 pounds of snap beans, 5 to 10 pounds of lima beans per person.

PRESERVATION: Freezing, canning, and drying.

