

Edamame Growing Guide

Edamame (ed-uh-MAH-may) are soybeans harvested when the beans have plumped up enough to create lumps in the fuzzy pods but are still soft and green. Lightly steamed and salted, the glistening apple-green beans easily pop out from the pods, ready to enjoy as they are or added to stir-fries or salads.

Soybeans (*Glycine max*) are nutritional powerhouses. They are higher in protein and lower in carbohydrates than most of their legume cousins. Soybeans pack about 38% protein and 18% oil, and they also contain iron, B vitamins, calcium, zinc, and fiber.



Why don't we find whole, cooked soybeans in our soups and chilis? Even after lengthy cooking, the mature beans can remain quite tough. Soybeans also contain a substance called trypsin inhibitor that impedes the digestion of the mature bean. This challenge to digestion explains the remarkable number of foods derived from soybeans, all of which are more easily digested, including soymilk, tofu, tempeh, tamari, and miso. The latter three involve fermentation, a process that deactivates the trypsin inhibitor. Fortunately, the young, green edamame beans contain less inhibitor, so they're more easily digested.

Growing edamame in youth and school gardens offers opportunities for lessons in botany, nutrition, and cultural connections. This warm-season crop requires about 75 days, from sowing seeds to harvesting the pods.

Edamame Facts

- Soybeans are a type of legume native to East Asia. During the Zhou Dynasty (1050 - 256 BC) in China, soybeans were designated one of the Five Sacred Grains, along with wheat, barley, rice, and millet.
- Soybeans yield more protein per acre than milk, eggs, meat, or other common crops. They are the largest cash crop in the U.S. Most soybeans are processed for their oil and as protein-rich feed for livestock.
- Soybeans are also used in many non-food applications, such as in manufacturing adhesives, inks, solvents, candles, paint, varnishes, plastics, and crayons.
- Like the roots of all legumes, soybean roots are colonized by a type of soil bacteria called rhizobia, which form a mutually beneficial association. These bacteria create and inhabit nodules on the roots. In return for extracting some carbohydrates from the plant roots for use as fuel, the rhizobia "fix" nitrogen from the air and transform it into a chemical form that is available as a nutrient to the plant.

How to Grow Edamame

Choosing varieties. Look for soybean varieties described for eating as edamame.

Selecting a site. Select a site in full sun with well-drained soil. At maturity, the shrubby plants will reach 2' to 3' tall, so choose a spot where they won't shade or crowd nearby crops.

Sowing seeds. Wait to plant until all danger of frost is past and the soil has dried out and warmed up (at least 55 degrees F.) Loosen the soil and mix in some compost.

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Plant seeds about an inch deep and 6" apart, and then plan to thin plants to about 12" apart. Because the pods will all mature at around the same time, if you want a longer harvest, stagger your planting times a few weeks apart.

Care. Because they "fix" their own nitrogen, the plants should need little or no supplemental fertilizing. Because the plants will tend to flop once they're heavily laden with pods, it's a good idea to support young plants by driving a stake into the soil at the end of each row and running twine along both sides of the plants.

Although the plants are rarely bothered by insect pests, you may still want to cover them with row fabric to keep out any hungry Mexican bean beetles, aphids, and stinkbugs. Soybeans are self-pollinated, so you don't need to remove the covers to allow pollinators access to the flowers.

The bigger pest problems are, well, bigger pests: rabbits, deer, groundhogs. You'll need a sturdy barrier to keep them away.

Harvest. Start harvesting when the beans are plump and beginning to fill out the pod, but before the pods turn yellow. For the best flavor, plan to cook and eat the beans as soon as possible after harvest.

Enjoying Your Harvest

Don't be tempted to eat edamame raw — always cook first. One method is to cook the unopened pods in a large pot of salted, boiling water for two to four minutes. Drain and serve hot or cold. Soybean pods are inedible. To extract the edible beans, press the fuzzy, salty pod to your lips and squeeze or bite the pod to pop the seeds into your mouth — the pod salts your lips and brings out the flavor of the beans. You can also steam the pods for eight to 10 minutes or until tender.

How to Grow a Soybean Cover Crop

For thousands of years, farmers and gardeners have planted soybeans as a cover crop to improve their soils. They sow the seeds, allow the plants to grow, and then plow them back into the soil. This not only adds organic matter, but it also makes the nitrogen that has been "fixed" by the plants available for the next crop. This type of crop rotation minimizes or even eliminates the need for applying supplemental nitrogen fertilizers.

Soybeans are a warm-season crop. If you're growing soybeans as a cover crop, you'll need to allow that planting area to remain unplanted for the summer season.

Wait to plant until all danger of frost is past and the soil has dried out and warmed up (at least 55 degrees F.) Plant seeds at a rate of 2 to 3 lbs. per 1000 square feet.

Allow the plants to grow until about 50% of the plants have begun to produce flowers. Cut down the plants. If possible, chop them into pieces and then gently incorporate them into the top few inches of soil.

Wait at least four weeks before planting anything in that area so the plant material has time to decompose. Some plant nutrients in the soil will be tied up during the decomposition process.

Another option is to leave the soybean plant material lying on the soil surface, where it will protect the soil from harsh rain and wind and help deter weeds.

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