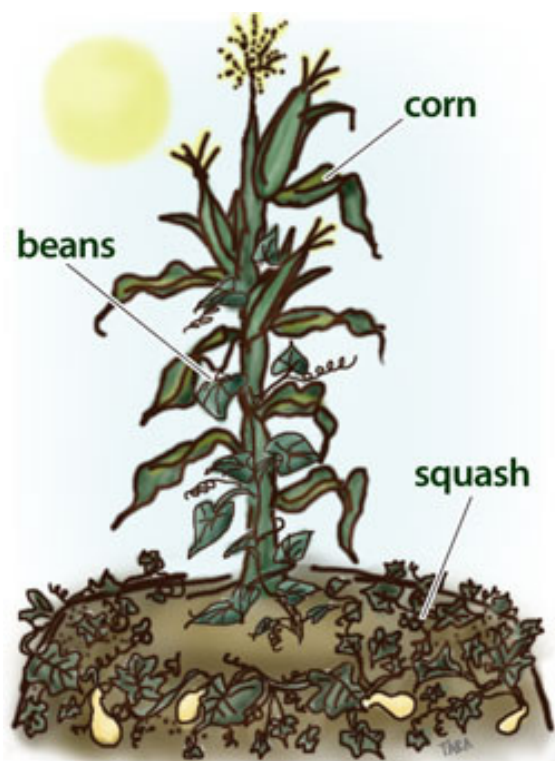


THE THREE SISTERS: CORN, BEANS, AND SQUASH

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*Direct-Sow, Easy-to-Grow:
The Ancient **Three Sisters** Method*

Did you know that corn, beans, and squash are called the “Three Sisters”?

A number of Native American tribes interplanted this trio because they thrive together, much like three inseparable sisters.

Instead of today’s single rows of a single vegetable, this method of interplanting introduced biodiversity, which does many things—from attracting pollinators to making the land richer instead of stripping it of nutrients.

By the time European settlers arrived in America in the early 1600s, the Iroquois had been growing the “three sisters” for over three centuries. The vegetable trio sustained the Native Americans both physically and spiritually. In legend, the plants were a gift from the gods, always to be grown together, eaten together, and celebrated together.

Each of the sisters contributes something to the planting. Together, the sisters provide sustainable soil fertility and a balanced diet from a single planting.

- The corn offers the beans necessary support.
- The pole beans pull nitrogen from the air and bring it to the soil for the benefit of all three.
- The large leaves of the sprawling squash protect the threesome by creating living mulch that shades the soil, keeping it cool and moist and preventing weeds.
- The prickly squash leaves also keep away raccoons and other pests, which don’t like to step on them.

WHICH SEEDS TO PLANT

In modern-day gardens, the Three Sisters consists of these three vegetables:

1. **Pole beans** (not bush beans). Common pole beans such as Scarlet Runner or Italian Snap should work. The 'Ohio Pole Bean' is our favorite. We've also heard that some very vigorous hybrid pole beans clambering up skinny hybrid corn stalks can pull them down. So if you want to be extra cautious, look for less vigorous climbers. If you'd like to try traditional varieties, look for Four Corners Gold Beans or Hopi Light Yellow.
2. **Corn** such as sweet corn, dent corn, or popcorn, or a combination. Your favorite sweet corn variety will do, although Native American gardeners traditionally used a heartier corn with shorter stalks or many-stalked varieties so that the beans didn't pull down the corn. Varieties include the pale yellow Tarhumara corn, Hopi White corn, or heritage Black Aztec,
3. **Small-leaved squash** such as summer squash (zucchini) or winter squash (Hubbard). Note: Pumpkins are too vigorous and heavy; plant in a separate bed. Native American squash was different, but a yellow summer crookneck is similar enough.

If you do wish to investigate pure strains of native seeds, reach out to experts such as [Native Seeds/SEARCH](#), a nonprofit headquartered in Tucson, Arizona, or Native American cultural museums.

HOW TO PLANT THE THREE SISTERS

There are variations to the Three Sisters method, but the idea is to plant the sisters in clusters on low wide mounds rather than in a single traditional row.

Before planting, choose a sunny location (at least 6 hours of full sun every day). This method of planting isn't based on rows, so think in terms of a small field. Each hill will be about 4 feet wide and 4 feet apart, with 4 to 6 corn plants per hill. Calculate your space with this in mind.

- In the spring, prepare the soil with plenty of organic matter and weed-free compost. Adjust the soil with fish scraps or wood ash if needed.
- Make a mound of soil that is about a foot high at its center and 3 to 4 feet wide. The center of the mound should be flat and about 10 inches in diameter. For multiple mounds, space about four feet apart.
- Plant corn first, once danger of frost has passed and nighttime temperatures reach 55°F (13°C). Don't plant any later than June 1 in most areas, since corn requires a long growing season. See local frost dates.
- Sow six kernels of corn an inch deep in the flat part of the mound, about ten inches apart in a circle of about 2 feet in diameter.

- Don't plant the beans and squash until the corn is about 6 inches to 1 foot tall. This ensures that the corn stalks will be strong enough to support the beans. The beans' role is to fix nitrogen in the soil, which is needed for strong corn production. You can grow several pole bean varieties without worrying about hybrids, but just plant one variety per hill. (Tip: Another option is to plant corn transplants; in this case, you'd plant them at the same time as the beans.)
- Once corn is 6 inches to 1 foot tall, plant four bean seeds, evenly spaced, around each stalk. (Tip: If you coat your bean seeds with an inoculant before planting, you will fix nitrogen in the soil and that will benefit all of the plants.)
- About a week later, plant six squash seeds, evenly spaced, around the perimeter of the mound. See the spacing for squash on your packet; usually this is about 18 inches apart. You may wish to put two seeds in each hole to make sure that at least one germinates.

Sometimes a fourth sister is included, such as a sunflower or amaranth, which attracts pollinators and lures birds away from the seeds. Sunflowers can be planted at the cross section of the spaces between the corn hills, and harvested for seeds. Amaranth could come up among the squash, and could be harvested both for greens and for seeds.

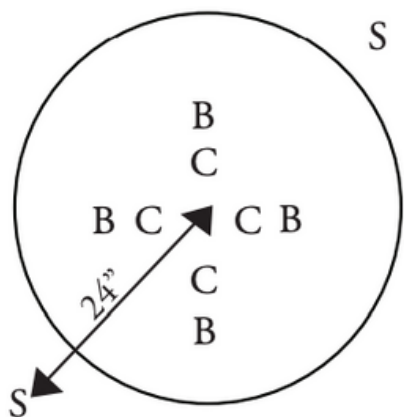
SUGGESTED THREE SISTERS GARDEN LAYOUTS

<https://www.nativeseeds.org/blogs/blog-news/how-to-grow-a-three-sisters-garden>

There are numerous configurations to Tree Sisters Gardens. Below is an example, but use your creativity and what works with the space you have. The main consideration is to give the individual plants enough space to thrive.

Layout Key: C= Corn Seed B=Bean Seed S=Squash Seed

Mounds



This is the classic three sisters layout similar to Iroquois gardens. Mound the soil approximately 4 inches high with a small well in the center. It should resemble a moon crater. Plant 4 corn seeds in the center in the well, 6 inches apart and 1-3 inches deep. After corn is about 4 inches tall, plant 4 beans seeds halfway down the sides of the mound at least 3 inches from the corn plant, 1 inch deep. After the beans have emerged, plant 2 squash seeds 24 inches from the center of the mound on opposite sides. Train squash to vine outward from the mound and not crowd the corn and beans. Place additional mounds 3-4 feet apart from the center.

Within this layout it can be hard to harvest beans and corn at the center of the mounds, particularly if there are multiple rows of mounds. Therefore it is recommended to have a single or double row of mounds that can be approached from each side or create walking paths between mounds.