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ADVICE TO GROW BY » SONOMA COUNTY MASTER GARDENERS
Perfecting the planting of a Three Sisters Garden



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Question: I've been reading about the Three Sisters Garden of corn, beans and squash and want to give it try. I have three children who I feel could learn about history while growing a food garden. Is this something we can do at home in a relatively small space?

Answer: We applaud your efforts to embrace the historical and cultural growing practices of the Three Sisters Garden. This polycultural method of growing, often referred to as companion planting or interplanting, was used by Native Americans in different regions of our country a thousand years before European settlers arrived. When we mimic the Three Sisters' planting schemes, we connect with the wisdom of Native Americans that has been passed down through the ages.

Planted together, corn, squash and beans form a symbiotic relationship with each other.

Because of this relationship they were named the Three Sisters. It's believed that the Haudenosaunee (the People of the Longhouse), otherwise known as the Iroquois

tribes of the Great Lakes region, were the first to use the term to describe this growing method.

Corn, beans and squash were often referred to as the sustainers of life in some Native American cultures. The vitamins, minerals, carbohydrates, fiber and amino acids represented in this trio of vegetables kept their populations nourished throughout the harshest weather.

Corn could be dried and ground to make flour or cornmeal or left whole for popcorn or eating fresh.

All other parts of the corn were used. The husks were material for baskets, mats and toys. The cobs were burned for fuel, used for ceremonial rattling sticks and carved into darts. Dried beans and winter squash are formidable companions to the corn that can be eaten fresh or stored for a long time.

Corn is planted first. It needs full sunlight to grow vertically using strong supportive roots. Pole beans are planted second. The beans will climb up and wind around the corn, using it for support. In turn, the bean plants partner with bacteria in the soil to fix nitrogen to a form that the corn can use to grow. The third sister, squash, is planted next. The large, wide, sprawling leaves of the squash shade the soil while blocking the growth of weeds. Because the squash leaves are prickly, they also serve as a deterrent to pests.

How to plant the sisters

Select a sizable site that receives full sun (6 to 8 hours) and has access to water. Clear the planting area of weeds and other competing plants. Wait until all danger of frost has passed and the soil has warmed up before planting. May is generally the best month.

Ideally a 10-by-10 foot space would accommodate several mounds while a 4-by-4 foot space would work on a smaller scale.

Very large containers can be used, but adequate pollination of the corn may be hampered. Corn is wind pollinated, meaning the male flowers in the tassels at the top of the plant blow to connect with the female parts in the silks lining the husks.

Incredibly, each silk once pollinated becomes a kernel on a cob of corn. Space the plants close enough together to increase pollination but far enough apart to allow proper growth with the beans and squash.

Prepare your soil by mixing in compost. Form mounds that are 18 inches to 3 feet in diameter and about 12 inches high.

Leaving a shallow indentation at the top of the mounds will keep water from running off. Individual planting mounds should be 3 to 4 feet apart in all directions to give space for the vegetables to grow while aiding in better corn pollination.

Be sure to create access paths between mounds for maintenance and harvests.

Plant five to seven corn seeds 6 inches apart (once corn emerges you will thin to four seedlings) and 1 to 3 inches deep on top of your planting mounds. Planting corn seeds in east, west, south and north directions honors the Native American tradition of recognizing the movement of the sun.

When corn has grown 4 to 6 inches high, plant several beans at least 3 inches from the corn. Thin to three plants after the beans sprout. Once the seeds emerge, plant the squash.

Plant two to four squash seeds about 2 feet from the center of the mound on both sides. Thin to two plants and train the squash outward so as to not crowd the corn and beans. Planting sunflowers in and around this bed is traditional and attracts pollinators that will aid in the pollination of your vegetables. Some people refer to sunflowers as the Fourth Sister.

You may want to experiment with different types of vegetables depending on what your family likes to eat. You could plant summer or winter squash or a mixture of both.

Corn should be 6 feet at maturity, which is usually noted on the seed packet. Pole beans come in varieties that can be eaten fresh or dried.

Seed varieties used by Native Americans have been passed down through the generations and propagated in seed farms. Local seed banks are good resources for finding these seeds.

Ample and consistent watering is necessary to the germination of the seeds and growth of the plants. Soil should be consistently moist but not soggy (much like a wrung-out sponge).

When the corn is knee high, add a nitrogen amendment such as fish emulsion that can be mixed with water and applied to the mound. Once the plants have emerged and are growing, add a thick layer of mulch around the plants to keep the soil moist.

Be sure that the mulch is a few inches away from the base of the plants to avoid rotting the crowns. Keep a close eye on your mounds of plants to make sure the beans are climbing the corn and squash plants are heading in the right direction. The harvests will bring delicious and plentiful food to your family. Enjoy!

For additional information see our Master Gardener website:

<http://sonomamg.ucanr.edu/files/248078.pdf>

Contributors to this week's column were Sue Lovelace, Diane Judd and Joy Lanzendorfer. The UC Master Gardener Program of Sonoma County <https://sonomamgucanr.edu> provides environmentally sustainable, science-based horticultural information to Sonoma County home gardeners. Send your gardening questions to scmgpd@gmail.com. You will receive answers to your questions either in this newspaper or from our Information Desk. You can contact the Information Desk directly at 707-565-2608 or mqsonoma@ucanr.edu.