USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

The Tale of Three Sisters

Companion Crops

Who are The Three Sisters

The tale of the **Three Sisters** is a story that has been rooted in Native American culture for generations. It is a story that helps to teach the relationship between people and their food.

The three sisters are corn, pole beans and squash. The three sisters stand together in a field helping one another thrive. The corn gives a place for the pole beans to grow upward. The pole bean climbs the corn stalk making the stalk stronger. The bean also replaces the nitrogen in the soil needed by the other crops. The squash stay low to the ground protecting the soil from erosion, weed invasion and evaporation.

How to Plant

The method involves planting the crops after the last frost, around June 1. The plants should be planted at 2-week intervals. The crops should be planted in mounds that are 4 inches tall and 4 feet across with a small well in the center. Start by planting four corn seeds in the center of the well. Let the corn grow to be about 6 inches tall. Next, plant four bean seeds about 4 inches from the corn to allow the corn and beans to grow together. Once the beans have germinated, plant two squash seeds on opposite sides of the mound. The mounds should be spaced 3-4 feet from each other.

Pick the beans frequently to ramp up the production of the plant. After harvesting the corn and squash, chop the crop residue. Leave the residue in place to protect the soil from eroision and to enrich the soil as it breaks down.

Picking Plant Types

When picking the types of crops to plant, it is important to remember their functions. The corn should be a tall sturdy type such as sweet or popcorn to give the bean a place to grow. The bean should be a stalk type not a bush. Good choices for beans are lima and common bean. Choose a squash with big leaves. Summer squash is a good choice.

The Fourth Sister

Planting sunflowers around the crops will add extra benefits. The first is protection from wind and the sun, keeping plants from getting burned and increasing the water held in soil. Sunflowers will also attract pollinators.

Benefits

There are many benefits to companion cropping. The three sisters is a way of keeping a connection with traditional Native American agriculture. This practice has been used in North America since at least 1000 BC. Planting these three crops together, like any diverse plant community, make the whole more resilient than a monoculture planting. Companion cropping (along with the other soil health principles) can help to keep weeds from establishing, decrease pest and disease issues and produce more nutritious food. The need for fertilizers, pesticides, and time spent pulling weeds might go down. There may be less need for watering.

There is a lot of information online about what other gardeners have experienced when planting the three sisters. Learn more and put this method to work for you.

Varieties

Corn: Painted Mountain

Bean: True Red Cranberry, Hidatsa Shield Figure, Cherokee Trail of Tears

Squash: Table Queen Acorn

For more information visit

https://www.nal.usda.gov/collections/stories/three-sisters

Soil Health Principles

The three sisters help improve soil health by promoting the soil heath principles.

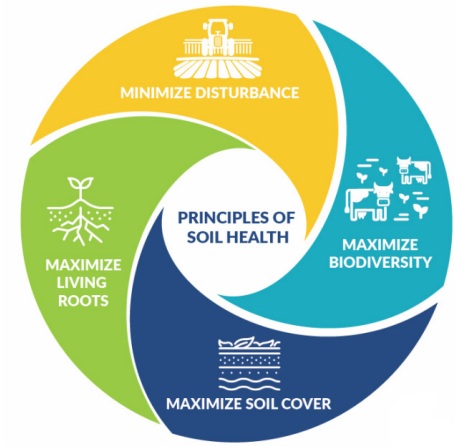
Armor the Soil: Provide soil cover by reducing disturbance and planting crops that are slow to break down. In grazing systems, leave enough standing and trampled material to protect the soil surface. Residue is important and it is a key component of a system grounded in soil health.

Minimize Soil Disturbance Especially Tillage: Undisturbed root systems are the main contributor to increased organic matter levels in the soil and the building of soil structure.

Keep a Living Root in the Soil: Keep living roots in the soil as long as possible to increase soil microbial activity. Soil microbes feed on sugars that leak from the plant roots.

Increase Diversity: Increase plant diversity by varying crop types within your rotation and/or using a "cocktail mix" as a cover crop. Effective grazing systems can also promote plant diversity.

Integrate Livestock: Livestock add another component of diversity to your system. Soil organisms like earthworms and dung beetles thrive where there is plenty of dung and dead plant material for them to live on.



PLANT	WEEK 1	WEEK 3	WEEK 5
Corn	Plant	6 in.	10-12 in.
Beans	N/A	Plant	1-2 in.
Squash	N/A	N/A	Plant

When to plant each crop.