

Meet Extension Agent Darrin Parmenter



Darrin Parmenter, Extension Director for La Plata County, has been with CSUE since 2007. Darrin graduated from Montana State University in 1999 with a B.S. in Horticulture. In 2003, he graduated from Cornell University in Ithaca, NY with an M.S. in Horticulture and a minor in Soil and Crop Science.

His Extension education efforts focus on home and commercial horticulture - leading the Master Gardener Program and working with the area's new and established farming and agricultural enterprises. Darrin is active with local food systems, agricultural awareness, regional food, and backyard food production. His long-range goals focus on improving the quality and quantity of local food used in the community and promoting local and maintainable agriculture. Darrin has assisted with the organization, coordination, and implementation of multiple local food awareness events: the Iron Horse Chef, Tour de Farms, and Homegrown Apple Days.

Darrin sits on the Durango Botanical Society and The Garden Project of Southwest Colorado board of directors, as well as The Growing Partners steering committee.

In his down time, Darrin spends as much time as he can in the garden, or with his family, or enjoying this wonderfully beautiful and diverse corner of the world we all live in. A perfect day would include spring skiing or a mountain bike ride in the morning, early afternoon fly-fishing on river, and an afternoon playing with the kids and sipping iced tea on the deck. Now that's living...

STEM Connections

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How does your garden grow?

Agriculture: Who are the three sisters? Why do we need to prepare the soil before we plant?

<http://humanflowerproject.com/images/uploads/3sistersMain357.jpg>

Companion planting is an ancient agricultural technique of growing corn, climbing beans, and squash together. The corn acts as the pole for the climbing beans. The beans supply nitrogen (a necessary mineral for plants to grow) to all three. The squash reduces animal grazing, weeds, and holds more moisture in the soil because it covers the ground with broad, spikey leaves. These three plants together are called the Three Sisters.

Millions of years ago, most of the Western Slope was under water. If you drive between Ouray and Mesa counties, you will see patches of white that aren't snow. They are patches of ancient salt left behind as the marine waters receded and evaporated. We can see the remains of that ocean by the eroded, smooth, and rounded geology throughout the Uncompahgre Valley.

Put simply, salt is bad for plants. Salt will **inhibit** seeds from **germinating**, and can even kill your entire crop. There is no way to remove the salt, but there are steps you can take to help your plants. Check with your county extension office about testing the salt in your soil, and the Master Gardeners can help you with improving it. Steps for collecting your soil sample can be found at:

<http://www.cmg.colostate.edu/gardennotes/221.html>

EXPLORE IT - DESIGN IT - DO IT

You can start preparing your soil now, in early spring (see directions in "The Set-up," to the right). This project can take you hours, and it can be hard work. Don't get discouraged, but think about late summer when you will enjoy the most incredibly delicious corn, beans, and squash you ever tasted! Be sure to ask your family to help you.

Mid-Spring, check with your county extension office when it would be a good time to plant your three sisters. Because we all live at different elevations, the planting season will vary a bit. Proceed with these directions with they give you a good time to plant.

- Work your top soil into the soil in your patch.
- Until the squash limits weed growth, you will need to remove any weeds that sprout. Be sure to mark where your 3 sisters are planted so you don't accidentally pull them out! Water well after each planting.
- Plant 8 corn seeds in a ring in the center of your patch. You need to plant them about 1" below the surface of the soil and the ring needs to be about 18" across. The corn seeds will be planted about 6" apart along your ring. You will see corn seedlings in about 2 weeks.
- When the corn is about 10" high, it's time to plant beans. With a trowel, mound a little more soil around each of the corn plants to better anchor it. In a ring with a 6" **radius** around each corn plant, plant 8 bean seeds 1" deep. You will see bean seedlings in 1-2 weeks. As the beans grow, wrap their vines around the corn.
- Two weeks after you see the beans sprouting, it is time to plant the squash. Plant 8 squash seeds around each bean/corn circle 12-15" from the beans. Push the squash about 1" deep and cover with soil. The squash seeds will sprout in about 1 week.
- Harvest when the beans, corn, and squash are mature. YUM!

If you want to do this project, keep these instructions.

Age Appropriate:
4th—HS grades

Time Required:
All growing season!

Materials:

- garden tools (shovel, trowel, hoe, garden hose, garden gloves)
- plot of land 8' in **diameter**
- good soil
- 64 squash seeds
- 8 sweet corn seeds
- 64 climbing bean seeds

The Set-up:

- Ask your parent if you can start a 3 sisters garden.
- Remove the grass, weeds, and stones from a sunny patch 8 feet in diameter.
- Line the **perimeter** of your patch with stones.
- Take a sample of the soil (your county extension office can help)
- Add good soil to form a flat-topped mound within your 8 foot circle according to the directions you get from the Master Gardeners

The Clean-up:

- Late summer: harvest your crop and enjoy
- Use the corn stalks for October and November decorations
- Chop (with a hoe) the remaining bean and squash plant and turn into the soil for next year

Power Words

- **circumference:** the boundary line of a circle
- **diameter:** a straight line through the circle's center
- **germinating** (germinate): the act of sprouting or growing
- **inhibit:** to decrease, block or limit the actions
- **radius:** a straight line from the circle center to the circumference



The Three Sisters
Corn * Beans * Squash

Colorado State University Extension 4-H programs are available to all without discrimination.

<http://faq.gardenweb.com/faq/lists/teach/2003045238014436.html>