

## **My Three Sisters**

*Corn, beans, and squash have a unique symbiotic relationship in a Native American garden. Corn offers a structure for the beans to climb. The beans, in turn, help to replenish the soil with nutrients. And the large leaves of squash and pumpkin vines provide living mulch that conserves water and provides weed control. This ancient style of companion planting has played a key role in the survival of all people in North America. Grown together these crops are able to thrive and provide high-yield, high-quality crops with a minimal environmental impact.*

*Mardi Dodson - ATTRA*

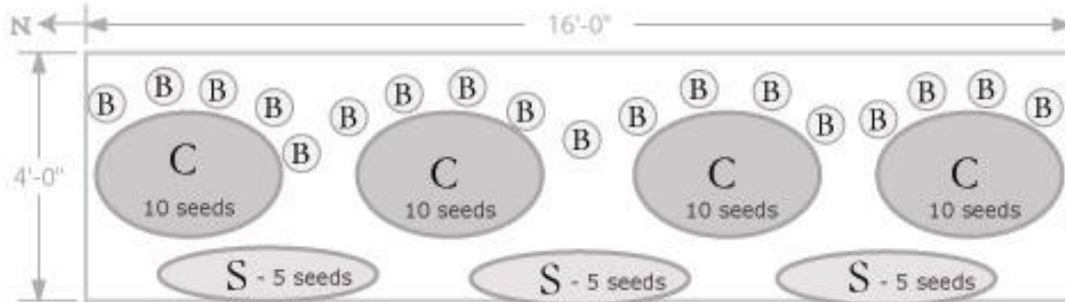
Started me to thinking about the place of Three Sisters Plantings in non-native gardens, which of course led me to exploring them in my kitchen garden. After two growing seasons, this exploration has yielded some answers and even more questions. My interest was in adapting the concept to my intensely organic, drip irrigated garden and integrating it into my own practice of inter-planting and rotation. The basic question is how could I adapt a native gardening practice to fit my own garden in a way that puts the food I like on the table?

So far my search of the “Three Sisters” literature has yielded little direct information about how, what, when and in what configuration to plant a “Modern Three Sisters” garden, except for some educational websites geared to classrooms, learning and teaching gardens and some research on inter-cropping those three varieties at the farm level. The ATTRA publication “Companion Planting: Basic Concepts and Resources” has a rather thorough description of the approaches to three sisters plantings developed by Native Americans in response to moisture, climate, soils and length of season. “The Wampanoag garden style works well east of the Mississippi. Hidatsa gardens were developed to thrive in the climate of the northern Plains, while the Zuni waffle garden was designed to conserve water in the arid Southwestern climate”. Not surprisingly, the three methods provide many clues, but none adapt directly to my garden configuration or gardening practices.

### **My Three Sisters Experiences**

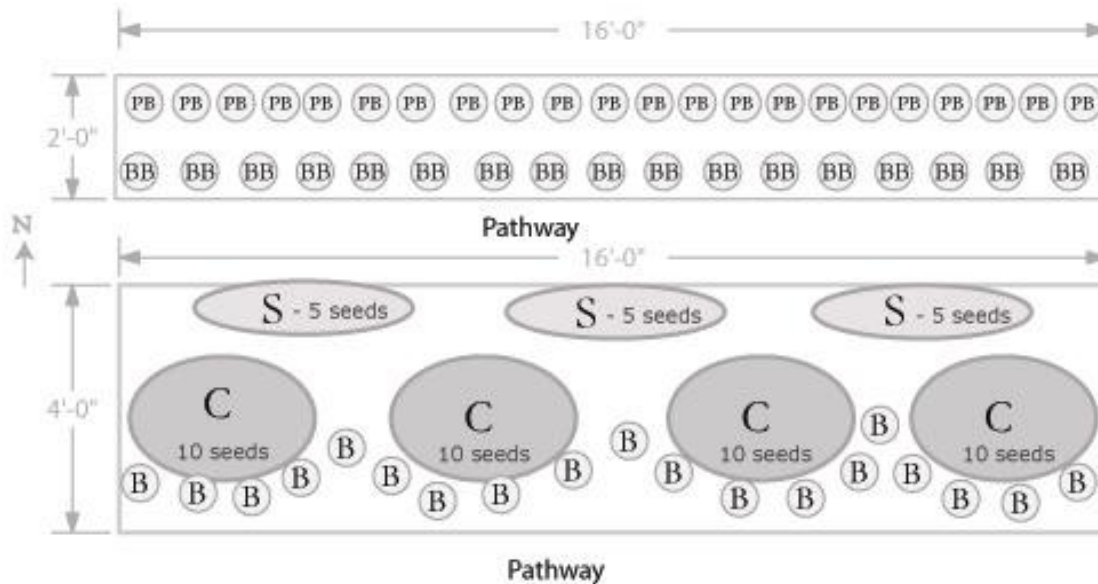
In 2004 I planted a combination of Bloody Butcher Corn, Little White Ice Beans and Hopi Pumpkin (used as a summer squash) in a north/south oriented bed, 4' x 16' with drip irrigation. I planted the corn in four clusters down the center of the bed with the beans planted in between the corn clusters and the squash planted on the west side of the bed. Worked great for the corn – ten feet tall, excellent pollination, good ear development. Did not work for the beans – too much shade from the corn. The squash grew fine, but produced less fruit than when grown as a stand-alone plant. The drip system of buried soaker lines could not deliver enough water during June and July, so I bermed up the edge of the bed and flooded it with a hose – fixed that problem.

This year, I planted a different north/south oriented bed, 4' x 16' using drip irrigation with four clusters of 10 corn plants down the center of the bed (worked before) only this year I used Chipolte Pinole Maiz (one of the four ancient corn lines). I planted Anazasi Beans down the east side of the bed and Minnie's Apache Hubbard Squash (winter squash) on the west side of the bed.



The corn grew extremely well and produced one to two ears per plant as expected. The beans grew fairly well, but were not very productive. The squash was most surprising. I harvested only four mature fruits from several plants, even though all the vines grew vigorously and produced a profusion of male blossoms. Turns out that winter squash is intelligent, producing only what fruit it can support to maturity - the goal is to make seeds, not to feed me. I'm sure this squash was responding to root crowding, since vine growth showed no signs of nutrient or water stress.

### Next Years Three Sisters Plan



Next year the Three Sisters will look similar but be much more productive. First, note that I have rotated the bed 90 degrees to make better use of sun orientation. The Hopi Pink Corn (a short, drought tolerant variety) will move toward the front of the bed with Tarahumara Purple Beans planted on the south side and Hopi Pumpkin on the north side of the bed. When the beans are tall enough, I will pull the Hopi Pumpkin vines through the corn and let them sprawl over the bean bed and pathway.

The bean bed to the north of the Three Sisters is actually functioning as part of the combination. I will plant Christmas Limas – a pole variety against the trellis and Dixie Speckled Butter Peas – a bush variety in the bed below them, which leaves a narrow and very shaded pathway between the two beds.

This Three Sisters companion planting plan will yield flour corn (Hopi Pink), both green and dried beans of excellent quality (Tarahumara Purples) and a delicious summer squash (Hopi Pumpkin) along with some winter squashes from the oversized fruits that hide out in a profusion of squash vines.

### **Some Questions**

Can Three Sisters plantings be done with sweet corn? With sweet corn and dry beans? With sweet corn, dry beans and a non-vining squash? Is there some combination of corn and tepary beans that would work in a Three Sisters garden? Could the Three Sisters be dry-gardened here during the monsoon season? Are the Three Sisters . . . . . ?

There is so much to explore, so much to know, perhaps that's the greatest gift from the garden.

### **Further explorations**

“Companion Planting: Basic Concepts and Resources”  
<http://www.attra.org/attra-pub/complant.html#appendix>

“Four Sacred Plants” a web exploration by RETA – NMSU  
<http://reta.nmsu.edu/sacred/index.html>

“Three Sisters Garden” - Bird Clan of East Central Alabama  
<http://www.birdclan.org/threesisters.htm>

till next time,

Darrol Shillingburg  
Master Gardener