

1. Three Sisters Farm
FNE02-434
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2. The goal of the project was to utilize the interplanting and mound building methods of indigenous people and to incorporate modern cultivation methods to produce a sustainable crop that will become hardier with every passing year.

3. We tilled 1.5 acres to plant and build mounds on. Initial mound building and planting was effected substantially by excessive moisture and later by raccoons that devastated half the crop of corn early on. These key factors and time constraints allowed us to plant only one acre of the corn, beans, and squash/pumpkin.

4. Vern Grubinger was my technical advisor. He published my notes in his "Reports From the Field" that was dispersed via e-mail. He offered advice and encouragement periodically. We consulted with Cornell University American Indian Program and received information as well as the Iroquois white flour corn seed and strawberry pole beans.

5. Starting in early May, I trucked in 20 tons of composted manure from a nearby dairy farm. It was piled at one end of the field and spread with both a shovel and a bucket loader. I incorporated it further with a disc and chain harrow. When the fields dried later in the month, I commenced mound building and planting. Each mound was dug by hand with a three prong fork. I turned the soil over three times to the depth of the fork and sifted out rocks by hand as I built up the mounds. They were five to six feet on center and approximately two feet around by two feet high.

I staked out rows and broke the field into quadrants with an access road between the sections. Needless to say this was labor intensive, but after negotiating the weather and raccoons, I built and planted five hundred mounds. Six kernels of corn were planted in the center of the each mound. After the corn grew to about six inches, we planted six beans seeds in every mound and four squash or pumpkins seeds in every other mound.

6. The results of our project was a crop of corn, beans, and squash that varied in yield between the mounds and the fields. The lack of uniformity of yield may be attributable to this being the first year of planting. Preparing the soil with buckwheat, manure, and lime tilled in prior to planting and then digging mounds individually did not provide a homogeneous distribution of nutrient as it would have in conventional planting and fertilizing methods. I side dressed the individual mounds with sprayed on fish Agra in one field and used dry North Country Organics in the other field. The field with the fish Agra had a far better yield of beans, and the other field with North Country Organics yielded more squash/pumpkins. Side dressing was applied eight weeks after planting.

The harvest yielded varied results but gave a good representation what does and doesn't work under these conditions. The strawberry pole beans and romano beans yielded far better than the Kentucky wonderer or the scarlet runner. The small sugar pumpkins fared much better than the butter nut squash which got hit by frost before it mature. The corn did well in both fields but was subject corn borer ear worms. After harvest, we dried the corn and ground it into flour. Beans were dried and shelled. We shared the harvest with family and friends along with a recipe for making Three Sisters Enchiladas. We have some corn flour left, and the pumpkin is storing well in the attic today.

7. There were far more rocks in the field than expected. It was later that I learned that ridge above the field is called Stony Ridge. I prepared the soil and cultivated with a disc behind the tractor which would kick up more rocks with every round. We spend a substantial portion of our time picking and removing rocks by wheel barrow from the field. The growing season was wetter than average at planting and drier throughout the rest of the season. We used a pump and hose irrigation system to irrigate from the adjacent stream. We were able to water each mound individually from the nozzle of the hose. The initial wet conditions made it difficult to form the mounds and subsequent drying produced crusting which inhibited seed emergence.

8. On the economic front, we need to allot more money for labor to contain the rock and weed situation, harvesting, and preparing the crop for consumption (i.e. shucking corn, taking kernels from cob, grinding corn, and shelling beans).

9. The next step is to concentrate on a smaller plot and mulch heavily with straw between the mounds to alleviate the weed problem. This would also eliminate the periodic kicking up of rocks and the need for their removal. I will have more compost from this year's harvest debris to enrich the soil. One of the problems was pest management which we addressed with Have A Heart Traps which proofed effective. We'll use these traps from initial planting through harvest to discourage any pests in our field.

10. As previously explained, I won't be practicing mechanical cultivation between mounds because of the rock problem. I will still hoe weeds and pull by hand those in the near proximity and on the mounds. I believe that by building up the soil in the individual mounds I can have an increasingly productive yield and subsequently continue to expand the acreage in a manageable way.

11. The outreach program consisted of field reports in Vern Grubinger's newsletter. Included in our website for "Shaping New Worlds" (www.shapingnewworlds.com) is information of The Three Sisters Farm and the Adopt A Mound Program. We had 36 mounds adopted and hope to have more in the future, a variant on a CSA. We also planted a smaller plot at the Manchester Elementary/Middle School in Manchester, Vermont. The ESL (English as a second language) students helped plant and harvest this garden. English lessons were designed around learning about this method of planting and significance of the interconnectedness of the Three Sisters. They shared what they learned with their classes giving presentations and a tour in the garden. At the farm, there was a camp called Earth Quest. Campers spent time in the field and learned about the balance of this ecosystem and its symbiotic relationship with nature and man.

12. Brian Rahm 2/16/03

A handwritten signature in blue ink that reads "Brian Rahm". The signature is written in a cursive style with a large, stylized initial "B".



Adopt a Mound Program

The Three Sister's Farm is located in Westminster in southeastern Vermont. It is situated on 200 acres of biodiverse land which is home to hills, forests, wetlands, beaver ponds, and many species of wildlife.

The Three Sisters is the Haudenosaunee (Iroquois) name given to corn, beans, and squash. This trio of crops was the physical and spiritual sustainer of many Native American tribes. They developed a method of crop management called interplanting that involved planting the Three Sisters together in individual mounds. During growth, the corn physically supports the beans as they grow up the stalks. The beans supply nitrogen for the soil, and the squash acts as a living mulch. Together they provide an excellent diet for the grower.

We honor this traditional farming practice by creating our field in this manner and show the beauty of the harmonious relationship between nature and the community of man. An elder of the Abenaki community has offered to plant some of his peoples' "Old" red corn which has been passed down from generations. This is an honor for us and our field.

We invite you to take part in our "**Adopt A Mound**" Program by purchasing your own mound of corn, beans, and squash for \$10. Come to the farm and care for your mound or have us do it for you. The harvest will be shared with the local Abenaki community as a thanksgiving for their earth honoring ways. Buy a mound for yourself, friends, and family members and reconnect to the Circle of Life. (Partial funding for the work reported here was provided by the USDA Sustainable Agriculture Research and Education Program.)

Adopt A Mound

Name _____

Address: _____

Phone Number: _____ E-Mail: _____

Quantity: _____ @ \$10/mound = Total: _____

If a gift, please include the name and address where you would like the *Adopt A Mound* certificate sent to. Please include cash or check made payable to Shaping New Worlds.

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The Three Sisters is the name given to corn, beans, and squash, the physical and spiritual sustainers of life to many of the Native American tribes. The Native peoples developed a method of crop management called interplanting that involved planting the Three Sisters together in individual mounds. During growth, the corn physically supports the beans as they grow up the stalks. The beans supply nitrogen for the soil, and the squash acts as a living mulch. Together they are a balanced diet illustrating the beauty of the harmonious relationship between nature and the community of man. Aho Mitakuye Oyasin.

Three Sisters Tortillas

Corn Tortillas

2 cups corn flour 1/2 teaspoon salt (optional)
3/4 to 1 cup lukewarm water

Put the corn flour into a bowl. Stir in water. Add salt if desired. Work the mixture thoroughly with your hands. Divide the mixture into small, egg size balls. Take each ball between your hands flattening it and flipping it back and forth until you have a round, thin tortilla about 4 inches in diameter. Put the tortilla onto a slightly greased skillet. Cook on each side until golden brown. The corn meal is crumbly, and this takes practice to master.

Boiled Beans

1/2 cup soaked beans salt to taste.
1 qt. organic vegetable broth

Soak the beans overnight. Bring 1 quart of vegetable broth to a boil and add beans. Simmer until beans are tender and the mixture is thick like chilly. Add salt to taste.

Pumpkin Filling

1 small onion
2 cloves garlic
1 small pumpkin diced
1 medium tomato
1 teaspoon allspice

Saute onions and garlic in oil until tender. Add diced pumpkin and cook on low for 20 minutes until soft. Add diced tomatoes and allspice and simmer for another 5 minutes.

Put tortillas onto a baking sheet. Spread bean and pumpkin mixture on each and top with a mixture of shredded cheddar and monterey jack cheese. Bake uncovered at 350 degrees for 20 minutes.

ENJOY THE TASTE OF THE THREE SISTERS NOURISHING YOU!