

PROGRESS REPORT
North Central Region
Sustainable Agriculture Research and Education (SARE) Program

Progress Report Year: 2012

Project Title: Sustainable Sweet Corn Production

Project Number: FNC12-871

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WORK ACTIVITIES

I chose to compare the production of sweet corn through two different variables. The first variable is conventional production vs. organic production. I wanted to measure the labor differences, the insect population, and the overall production of the plants. I also wanted to test the differences in plant health and soil quality at the end of the experiment. The second variable is heirloom vs. hybrid corn seed. For this, I wanted to measure the insect population, and consumer preferences. Consumer preferences include flavor, texture, ear length, sweetness, and overall satisfaction. I had consumers rate the corns using a blind test. I assigned each corn a letter and then used those letters to have consumers rate the corns. This prevented any bias. Not all corns have been tested so far, because they have not all come to full maturation. The following corns are the varieties that I chose:

Heirloom:

Blue Jade
Golden Bantam
Stowell's Evergreen

Hybrid:

Peaches and Cream
Bodacious
Silver Queen

The basic procedures were simple farming techniques. I did these following tasks throughout the season:

- researched and ordered the seeds
- identified the proper areas to plant them based on the type of corn
- prepared the ground; planted the corn
- documented which types of corn were planted in each area
- collected data as the plants came up with respect to population, insect damage and maturation rate
- replanted some patches that had inconsistent population
- kept records of all activities
- fertilized them (used chicken manure on organic patch)
- treated for insects (in the traditional method patch)
- harvested corn when ready
- selected shareholders who were interested in participating in the survey
- created blind evaluation process
- developed survey sheet for data collection by shareholders
- collected data
- hosted open house and farm tour
- developed presentation for Soil and Water Conservation meeting
- prepared for the Ohio Ecological Food & Farm Association (OEFFA) conference

I used the funds for:

- Purchase of the seed, fertilizer, herbicides, fuel
- Backpack sprayer
- Labor
- Data collection supplies
- Electric fencing materials
- Open house expenses

The additional funds will pay for my conference registration exhibitor fees, my expenses while at the conference, and the expenses for the development of my display and presentation materials.

RESULTS

Below are the generalized results from my research. I will have more specific information, including percentages, for each of the areas surveyed on the final report.

The Golden Bantam and the Blue Jade are starchier and are rated lower by consumers. I am waiting on the consumer evaluations from the Stowell's Evergreen, but I ate the corn and really enjoyed it. It was very sweet and the corn cob was a nice length. The consumers have definitely preferred the hybrid varieties during this project.

The heirloom corns seem to have more insects on them than the hybrid varieties. The Golden Bantam was by far the hardest to plant, and the hardest to determine when it was ready. The seed planter that we used wasn't able to plant the Golden Bantam seed because of the shape and size of the seed. When the Golden Bantam became ready the ears were so small around on the stalk that they appeared to be too small. But when they were picked the kernels were very big.

If the ears were picked smaller, the kernels were sporadic on the cob. That kind of corn usually isn't ideal for market sweet corn. The Blue Jade was very low to the ground and therefore was readily torn up by the raccoons. The other heirloom corns didn't seem to be bothered by animals. The Blue Jade and the Stowell's Evergreen were both very easy to pick. The mature ears were easily distinguished from the immature ears.

The hybrid varieties were more uniform in the stalk size and the ear length. Most of these varieties also had uniform maturation. For example, the Bodacious sweet corn ears matured all at the same time and the whole patch picked one time through. The Silver Queen did not mature all at the same time and has to be picked several times to get at least one ear per stalk. This is also the pattern for the Golden Bantam and the Stowell's Evergreen. The Peaches and Cream and the Blue Jade are more like the Bodacious corn.

The differences between the organic and the conventional corn have been less noticeable. I thought that the organic corn would be more labor intensive and it wasn't that much different. We definitely had to spend more time in that patch, but it wasn't an unreasonable amount of time. That patch had to be rototilled twice more than the conventional patch and had to be hoed once. The conventional patch had to be rototilled once, and some of it twice, and also sprayed with Volley herbicide.

The overall cost for the organic corn was higher than the overall cost of the conventional corn. But again, there was not as much of a difference as I would have thought. The most expensive combination was the heirloom organic corn.

WORK PLAN FOR 2013

This was a one year project. The only thing that I still need to do is completely analyze the data and formulate the final report. I have many pages of data collected by our shareholders throughout the growing season, on each type of corn that I grew.

OUTREACH

On August 18, 2012, I hosted an open house here at our farm to share the results of my work with the other farms in the community and with our shareholders. To let people know about it, I posted the information on our farm website, I sent an email to all of our current shareholders, and I talked to other farmers in our community. There was also an article in the local paper about the SARE grant and what I would be doing with it, and the open house component was mentioned in that article. I didn't know the exact date then, but I did have several people contact me and ask to be put on the invitation list. I had 14 people attend. They all stayed for quite a while, and seemed very interested in both the project and the outcome.

One of our shareholders works for the Warren County, Ohio, Soil and Water Conservation District. He participated in the data collection for my project. He asked me to be one of the keynote speakers at their annual meeting, and present the results of my project. I developed a power point presentation to use with the delivery of my information. I would estimate that about 125 people attended that meeting. A few of them stopped by to see me and told me that they came specifically to hear my research. Our shareholder said that they had twice the number of

participants that they usually do at that event, so there may have been more that were interested in the research.

I have also registered as an exhibitor for the Ohio Ecological Food and Farm Association's annual conference. It will be held in Granville, Ohio, February 16-17, 2013.



Participants at the open house



Set up in the barn for the open house