

Organic Production



Organic production consists of growing vegetables according to certain production guidelines. Throughout human history, most of the agricultural practices can be described as organic. During the 20th century, new synthetic chemicals were introduced to the food supply. This more recent style of production is referred to as conventional. Under organic production, the use of conventional non-organic insecticides, pesticides and herbicides are restricted.

Advantages

- There is an added value at the market for organic products.
- The vegetables have a superior mineral content.
- Foods are chemical free and can be eaten right out of the garden.
- Lower input costs.
- Environmentally friendly
- It creates a healthier soil, therefore healthier vegetables.

Disadvantages

- Slightly reduced productivity.
- More skill and labor are required.
- More time must be invested than conventional.
- More problem with controlling weeds and insects.
- Lower yields overall.
- Higher costs for consumers.

During the 2009 growing season at the Delaware State University Outreach Research Center, Cooperative Extension conducted some experiments using organic practices. We grew yellow and green squash, two types of cucumbers, two types of pumpkins, eight varieties of heirloom tomatoes, bell peppers, broccoli and some cabbage. The purpose of this demonstration was to show how well an organic plot could be started and completed, and to discover the advantages and disadvantages of growing organically. Throughout the experiment, we incorporated some organic and environmentally friendly practices.

Weed Control

- Plastic was laid with drip tape underneath. This helped prevent weeds and disease on the vegetables.
- Straw was laid down between the rows of vegetables to suppress weed growth. This helped for a while.
- Rolled down ground cover
- Pulled weeds
- Mowed between the rows

Fertilizer

- The plot that we worked had some cow manure applied the previous year, which provided a head start.
- Tea that was made from composted horse manure was applied through the drip tape.
- Rye, vetch and red clover, grown as a cover crop, helped supply the soil with nutrients.



Insect repellent

- Garlic tea– a mixture of garlic, onions, dish soap and water.
- Hot pepper tea– a mixture of Scotch Bonnet peppers, dish soap and water. (gloves and face mask recommended)



- It has been turned on a regular basis.
- It will be used on the organic plot in spring 2010.

Problems with the plot

- There were some troubles while working with this particular plot.
- There was a squash borer problem that killed the squash and some of the cucumbers and pumpkins.
- There was a problem with some mildew on the cucumbers.
- There was an issue with some excess water this year and it had an impact on the plot.

On farm demonstrations

Two organic Pole lima bean demonstrations were conducted by small farm owners whom we assist. One was certified and one was not. The first was Black Bird Heritage Farm in Townsend, Delaware. This farm was not certified. They had a major problem with the Mexican bean beetle. The hot pepper tea mixture was applied, but it was too late. The Certified Organic farm located in Georgetown, Delaware, had more success, though they did have a small problem with spider mites and the occasional stink bug. This farm planned to create a niche market for organic pole lima bean seeds as, currently, none are available.

For more information about this project, or for assistance with your organic production needs, contact:

Michael B. Wasylkowski

Extension Educator, Small Farms
College of Agriculture and Related Sciences
E-mail: mwasylkowski@desu.edu
(302) 857-6438

Megan Pleasanton, Student Outreach Assistant



Cooperative Extension Education in Agriculture, 4-H and Home Economics, Delaware State University, University of Delaware and United States Department of Agriculture cooperating, Dr. Dyremple B. Marsh, Dean and Administrator. It is the policy of Delaware Cooperative Extension that no person shall be subjected to discrimination on the grounds of race, color, sex, disability, age, or national origin.

January 2010



Cover Crop

- The entire plot was planted with a mixture of red clover, rye and hairy vetch. It was used to increase the nutrients in the soil, promote earthworms, and as wind protection when the plants were first planted in the ground.
- A study was done where some tomatoes, cucumbers, peppers and squash were planted right into the rolled down cover crop, with no plastic laid. This was not as successful as anticipated. It worked for nearly three weeks, and then the weeds started to take over.
- Also used to prevent soil erosion.

Composting

- Started with a layer of hay. Followed by a layer of manure. A repeat of hay on top started November 2008.
- All of the discarded vegetables and plants went into it. It has been layered with decaying hay.