

# **Green Manure Mulch and Cover Crop for Orchards**

## **FNE 02-429**

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In simple terms the goal of the project is to grow our own nitrogen fertilizer by planting a cover crop of nitrogen fixing plants over the drip line of trees, letting the plants mature, mowing them then tilling them back into the soil. The end result should be increased fertility of the soil.

Since we were awarded this grant we have purchased the orchard in Manchester, Maine where the project is being done. Between our two farms (The Apple Farm is in Fairfield) we have about 75 acres of apple trees, three of pears and one of plums. We also raise about one acre of pumpkins and squash and about a quarter acre of other gardens, blueberries and raspberries. We currently have 7 acres of orchard certified organic. This is the block where the SARE project is being done.

The cooperators listed on my grant application are Eric Sideman of Maine Organic Farmers and Gardeners, Johnny's Selected Seeds and Renae Moran, apple specialist at the University of Maine. After some initial advice from each of these advisors there has not been much interaction about this project. Eric helped with decisions about what kind of seed to use, the folks at Johnny's helped with supplies and planting advice and Renae helped lay out the plot.

After the initial decision on which trees to use and marking the trees with ribbons we tilled the sections where we were going to plant cover crop. At the same time we spread compost on one block and set aside an equal number of trees as a check. I took pictures of the trees ground cover at this time. I also took soil samples (before soil amendments were added). The seeds were planted and raked in by hand. The growth was monitored during the growing season and pictures taken. The check block was cared for by mowing, as was the composted block. We did not mow the cover crop block until the plants had fully developed. We were concerned that the cover crop would not keep weeds down but that was not the case. The plants grew well and lay down so mowing them early was not necessary. During the summer leaf samples were taken which will be repeated next summer. Next summer we will till the green manure block again and replant. The other blocks will be treated as they were this year. We will take soil and leaf samples and compare with the first year.

This summer was extremely dry for the most part but we were very fortunate that we planted the cover crop before a rain and received enough moisture to get the plants off to a great start. The cover crop grew well enough through out the entire season. Next year is unknown!

Economically this project has been a net drain. The compost, the seed and labor was expensive and the results have not become apparent. However this is expected since the project is looking at longer-term goals.

The project is still too new for us to know if we will be able to extend it to more of our orchard. We know what our machines can do and we can make changes to make next season easier for tilling. We need to work on the planting of the seed since manually raking in the seed was hard and expensive. Spreading the compost also has to be made easier since that also was done manually, no fun at 90 degrees and buggy.

When the final report is done I will include pictures, leaf and soil analysis and a graph of the tree lay out for the compost block, the check block and the green manure block.

Submitted by Marilyn Meyerhans  
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