



Effects of Soil Applied Nutrient Program on High Density Honeycrisp Apples in Michigan. Experiment 15 – 806A

Experiment Info:

Planted:	2012
Harvest:	9-4-2015
Yield Goal:	1500 bushels
Target Fert.:	
Variety:	Honeycrisp
Population:	1100 / acre
Row Width:	
Prev. Crop:	
Plot Size:	10 trees
Replications:	4
Rootstock:	Bud 9

Soil Test Values (ppm):

pH:	7.7
CEC:	9.5
%OM:	1.2
Bray P1:	23
Bicarb P:	-
K:	129 ppm
S:	7 ppm
%K:	2.1
%Mg:	17.2
%Ca:	70.2
%H:	0.6
Zn:	1.2 ppm
Mn:	8 ppm
B:	0.5 ppm

Objective:

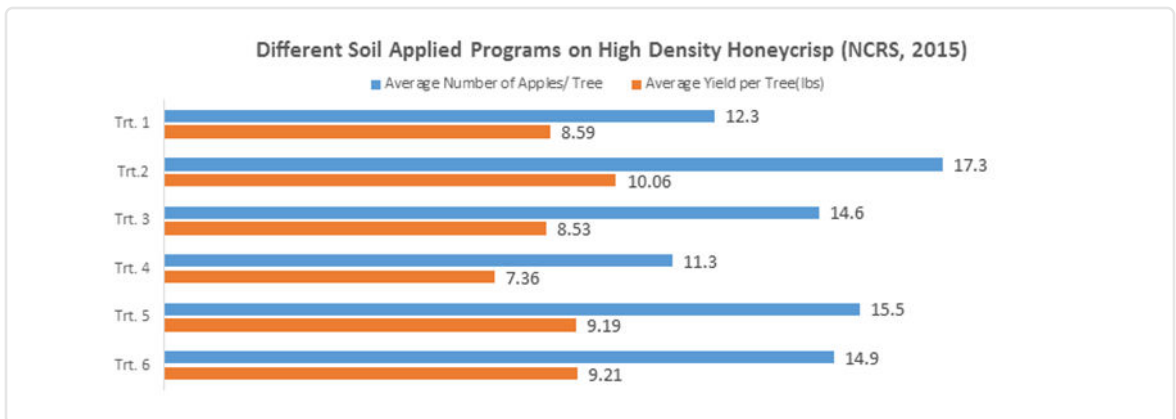
Determine the effects of various soil fertility programs have on yield and plant growth on high density Honeycrisp apples.

Material & Methods:

In the spring of 2012, the apple trees were planted at a spacing of 3.5 feet between trees and 11 feet between rows. All the trees are trained to slender spindle. Within the row, the plots are separated by ornamental crab apple trees to be used as a border tree and as an additional source of pollen at the time of flowering. Within each plot, a total of ten research honeycrisp trees are in a replication, with a total of four replications used throughout the orchard. The trellis design used for this orchard consists of a four wire system with the trellis top wire at a height of 11 feet. In the spring of 2014, all of the trees were headed at 18" above the soil and new tops were trained to the trellis. All of the different fertility products were applied before bloom in the spring in a band next to the trees. All of the AgroLiquid plots received the same amount of 5 gallons of Pro-Germinator + 0.5 gallons of Micro 500 + 0.125 gallons of Boron + 0.125 gallons of Manganese except treatment 2 which had a 20% increase used in all of the products. The other treatments fertility programs are as follows (all rates are per acre):

- Trt1. = Agroliquid: 12 gallons of High NRG-N
- Trt 2. = Agroliquid (+20%): 14.5 gallons of High NRG-N + 6 gallons of Pro-Germinator + 0.75 gallons of Micro 500 + 0.125 gallons of Boron + 0.125 gallons of Manganese.
- Trt. 3 = Agroliquid (N-Response): 12 gallons of N-Response
- Trt. 4 = Agroliquid (eNhance +28%UAN): 15 gallons of eNhance/28%UAN
- Trt. 5 = Conventional (A): Urea at 65lbs. + DAP at 109lbs. + SOP at 100 lbs. + Micro dry blend at 5 lbs.
- Trt. 6 = Conventional (B): SOP at 100 lbs. + Micro nutrient dry blend at 5 lbs. + 28%UAN at 12 gallons + 13 gallons of 10-34-0.

Results:



Conclusions:

- The different conventional treatments in either yield or number of apples per tree.
- Increased rate of AgroLiquid fertilizer allowed for larger amount of fruit to have proper development and increased yield on the trees.
- Preliminary results show that Honeycrisp responds better to the use of High Nrg-N as a nitrogen source compared to the various other nitrogen sources tested.