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ISU FARM Network: Northeast

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Abstract
North Central and Northeast Iowa Farmer Assisted Research and Management (FARM) project is in its first year of conducting onfarm research in area farmer cooperator fields. FARM is an expansion of Northwest Iowa On-Farm Research with additional locations in Northwest, West Central, Central, Southwest, and Southeast Iowa. These are field scale, replicated, and randomized trials. Trial ideas come from farmer cooperators, field and campus specialists, as well as agribusinesses. The FARM project was established to help farmers answer crop production questions and better manage their fields

Disciplines
Agricultural Science | Agriculture

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Introduction

North Central and Northeast Iowa Farmer Assisted Research and Management (FARM) project is in its first year of conducting on-farm research in area farmer cooperator fields. FARM is an expansion of Northwest Iowa On-Farm Research with additional locations in Northwest, West Central, Central, Southwest, and Southeast Iowa. These are field scale, replicated, and randomized trials. Trial ideas come from farmer cooperators, field and campus specialists, as well as agribusinesses. The FARM project was established to help farmers answer crop production questions and better manage their fields.

In 2012, 14 projects were conducted with 13 cooperators from Hancock, Wright, Worth, Cerro Gordo, Kossuth, and Floyd counties. Results of all the projects have been published in a FARM results booklet and are available at the Northern Research Farm in Kanawha, Northeast Research Farm in Nashua, and local ISU Extension offices. Trials conducted in North Central and Northeast included citric acid for Goss's Wilt, corn fungicides, land rolling for soybeans, foliar micronutrients on soybeans, and winter rye cover crop termination timing.

This article reports on the foliar micronutrient trials. In 2011 producers were interested in the use of foliar micronutrients on soybeans. Three trials were conducted with the use of foliar micronutrients. These particular fields had no history of manure, and the cooperators were able to use yield monitors to map harvest yields.

Materials and Methods

The trials looked at the use of foliar micronutrients compared with no foliar micronutrients. An application of AgriSolutions Max-In Ultra ZMB at a qt/acre and AgriSolutions Max-In Boron at a pt/acre was applied to soybeans at the V6 growth stage. The micronutrients consisted of sulfur, manganese, zinc, and boron. Soil samples and tissue samples were collected directly before the micro-mix was applied to monitor changes after the micro-mix was applied. Samples were taken in each replication in grid form every 250 ft. A John Deere 6000 sprayer was used to apply the treatments. The farmers' equipment was used to plant and harvest the trials. Yield data was collected by a calibrated yield monitor.

Results and Discussion

Table 1 shows the variety, row spacing, planting date, plant population, previous crop, and tillage practice implemented. Table 2 details yield average for each treatment by location. Two locations showed negative responses and the third location showed a positive response. At all three locations, the treatments were not statistically different from the controls.

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Table 1. Variety, row spacing, planting date, plant population, previous crop, and tillage in 2012.

Trial	Soybean variety	Row spacing (in.)	Planting date	Plant population (seeds/acre)	Previous crop	Tillage
1	AgVenture 20A3RR	30	5/17/2012	140,000	Corn	Conventional
2	Dyna-Gro 36RY-1.9	30	5/10/2012	150,000	Corn	Conventional
3	Pioneer 92Y51	30	5/16/2012	155,000	Corn	Conventional

Table 2. Yield data from cover crop termination timing trials in 2012.

Trial	Treatments	Treatment yield	Control yield	P-value	Difference	
1	Micro Mix	41.3	42.1	0.56	-0.8	NS
2	Micro Mix	36.7	37.3	0.83	-0.6	NS
3	Micro Mix	56.7	55.8	0.18	0.9	NS

All yields adjusted to 15.5% moisture.
** = statistically different, $P < 0.05$.
NS = not statistically different, $P > 0.05$.