



Purpose: The purpose of this study is to evaluate the use of compost generated from yard waste that can be used as a soil amendment applied in a corn/soybean rotation. The goal is to determine if an economical rate can be applied that will maintain crop yields, increase soil quality, and reduce commercial fertilizer use. This study is funded as a Farmer/Rancher grant by North Central SARE for two years.

Methods: Three farmers were selected in Lapeer and St. Clair County that have a corn/soybean rotation. Each farm had soil tests done by the Michigan State University Soil Lab (Table 1.) and the Woods End Soil Laboratory in Mount Vernon, ME. The Woods End Laboratory is utilizing the USDA-ARS **H₃A Extraction Method** Soil Test to evaluate soil health. A comparison of the soil tests will be done at the end of the trial. 5 tons/acre was applied in a RCB with four replications.

An educational seminar and demonstration field day was held on September 3, 2104 for those interested in using compost as a soil amendment in a cropping system. Approximately 40 participants from 8 counties attended the event.

Results: Of the three soybean locations, two locations had a 6.2 % yield response with compost over the control, however only one of the responses was significantly better than the control. The average of all plots shows a trend for a positive yield response of 3.7 %, however, it was not significantly better than the control (Table 2).

The single corn location (Table 3) had a 2.3% increase in yield with the added compost that was not significantly better than the control.

During the spring planting season, the 2.5 tons/acre treatment was deleted due to calibration problems with the spreaders.

Table 1. MSU Soil Lab - Spring 2014 Soil Test Results				
Site:	North Branch	Almont	China	North Branch
Soil type:	Boyer Loamy Sand	Conover Loam	Allendale-Lenawee-Toledo Complex	McBride Sandy Loam
pH:	6.6	6.3	6.8	6.6
Phosphorus (P) ppm:	41	55	51	123
Potassium (K) ppm:	90	190	60	74
Magnesium (Mg) ppm:	131	191	171	78
Calcium (Ca) ppm:	770	1725	1255	637
CEC:	5.2	11.9	7.9	5.2
Fertilizer applied:	100 lbs. 0 - 0 - 60	none	120 lbs. 0 - 0 - 60	250 lbs. 30 -0-15
Other:			5 lbs. 20-20-20 Foliar	
Variety:	Lilly	Asgrow 2632	Croplan R2C 2980	Legacy 2850
Previous crop:	corn	corn	corn	soybean
Plant date:	20-May-14	4-Jun-14	27-May-14	14-Jun-14
Harvest date:	27-Oct-14	24-Oct-14	28-Nov-14	11-Dec-14

Table 2.	Location					
	North Branch		Almont		China	Average
Treatment	- - - Soybean Yield Bu/A - - -					
Control	44.4	a	53.3	a	47.7	a
5 Ton/A	47.1	a	53.0	a	50.7	b
CV (%)	3.0		1.0		1.2	7.3
LSD 0.05	ns		ns		1.9	ns

Table 3.	Location			
	North Branch			
	- - - Corn - - -			
Treatment	TW	MS %	Yield (Bu/A)	
Control	50.7	21.3	129.4	
5 Ton/A	51.1	21.4	132.4	
CV (%)	0.8	2.0	2.5	
LSD 0.05	ns	ns	ns	



Fig. 1. Participants viewing trial at the Compost Field Day held on September 3, 2014



Fig. 2. Field day participants viewing spreader of compost prior to demonstration.