THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

THE 2015 OHIO SOYBEAN SEED TREATMENT TRIAL

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INTRODUCTION

The purpose of the Ohio Soybean Seed Treatment Trial is to evaluate soybean seed treatments for stand and yield. This evaluation gives soybean producers comparative information for selecting soybean products for their unique production system.

FIELD PLOT DESIGN

The entries for each test site were planted in a randomized complete-block design. Each entry was replicated four times and planted in plots 28 ft. long and 5 ft. wide containing four rows seeded at 15-inch row width. Seeding rate was 150,000 seeds per acre. All sites had corn as the previous crop. All sites were no-tillage except the C2 (Marion Co.) location which was chisel plowed in the fall and field cultivated in the spring.

METHOD OF CONDUCTING TRIALS

Entries in Trials. All 2015 entries were submitted voluntarily by companies. Entry fee charges were paid per treatment. Application protocol and product rate were provided by the company. All products were tested on Dennison (public variety) seed with 3.5 relative maturity. Companies designated their treatments to be applied to treated or untreated seed. Treated seed was treated with Intego Suite fungicide and insecticide. There were two controls of treated seed (treated check) and untreated seed (untreated check). Results of products applied to treated seed should be compared to the treated check while products applied to untreated seed should be compared to the untreated check.

Product Type. Each company was asked to specify product type(s): biological, fertilizer, inoculant, growth regulator, fungicide, and/or insecticide.

LSD. Least Significant Difference (LSD) for stand count and yield were computed for each trial location. LSD's are reported in bushels per acre at 13% moisture. Yields of two products are significantly different 90% of the time if their yields differ by more than the LSD value shown for that trial location.

MEASUREMENTS AND RECORDS

Stand count is reported as the number of 1,000 plants per acre. Stand counts were conducted for each plot and location at just prior to harvest.

Yield. Soybeans were harvested when the moisture content was between 8 and 12% and yields reported in bushels per acre at 13% moisture.

DATA USE. Inclusion of entries in the Ohio Soybean Performance Trials does not constitute an endorsement of a particular entry by the Ohio State University, Ohio Agricultural Research and Development Center, or Ohio State University Extension.

Table 1. The 2015 Ohio Soybean Seed Treatment Trial, Site Descriptions

	N1	N2	C1	C2	S1	S2
	Henry Co.	Sandusky Co.	Mercer Co.	Marion Co.	Preble Co.	Clinton Co.
Soil type	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Silt Loam
Soil pH	6.0	6.3	6.7	6.2	6.0	6.1
Soil Test P (ppm)	49	34	49	38	70	94
Soil Test K (ppm)	285	185	160	198	148	190
Plant Date	May-23	May-22	May-21	May-22	May-15	May-13
Harvest Date	Oct-12	Oct-19	Oct-8	Oct-13	Oct-7	Oct-11

Table 2. Directory of Companies Listed by Treatment and Product Type

Company/Treatment	Product Type
3Bar Biologics, Inc.	www.3barbiologics.com
BioYield1	Inoculant, Fertilizer
BioYield2	Inoculant, Fertilizer
BioYield3	Inoculant, Fertilizer
BioYield4	Inoculant, Fertilizer
BioYield5	Inoculant, Fertilizer
BioYield6	Inoculant, Fertilizer
Winfield Solutions, LLC	www.winfield.com
Warden CX	Fungicide, Insecticide

Table 3. The 2015 Ohio Soybean Product Evaluation Trials, North Region

Treatment Name	Company Name	Product Type	Type of Seed	Stand Count- N1 1,000 plants/acre	Stand Count- N2 1,000 plants/acre	Yield- N1 bu/acre	Yield- N2 bu/acre
BioYield1	3Bar Biologics, Inc.	INOC, FERT	Treated	135	105	61.9	69.4
BioYield2	3Bar Biologics, Inc.	INOC, FERT	Treated	143	109	63.5	67.0
BioYield3	3Bar Biologics, Inc.	INOC, FERT	Treated	146	122	66.0	72.3
BioYield4	3Bar Biologics, Inc.	INOC, FERT	Treated	135	121	64.1	71.6
BioYield5	3Bar Biologics, Inc.	INOC, FERT	Treated	131	113	64.2	70.1
BioYield6	3Bar Biologics, Inc.	INOC, FERT	Treated	138	126	65.7	72.9
Warden CX	Winfield Solutions, LLC	FUNG, INSECT	Untreated	138	111	65.8	71.5
Untreated Control			**Untreated**	**134**	**127**	**61.8**	**68.7**
Treated Control			**Treated**	**147**	**109**	**61.9**	**71.1**
		LSD (0.1)		**10**	**19**	**3.59**	**6.79**
		CV		**5.98**	**14.07**	**4.74**	**8.16**

Table 4. The 2015 Ohio Soybean Product Evaluation Trials, Central Region

Treatment Name	Company Name	Product Type	Type of Seed	Stand Count- C1 1,000 plants/acre	Stand Count- C2 1,000 plants/acre	Yield- C1 bu/acre	Yield- C2 bu/acre
BioYield1	3Bar Biologics, Inc.	INOC, FERT	Treated	130	146	69.9	56.9
BioYield2	3Bar Biologics, Inc.	INOC, FERT	Treated	127	145	66.9	64.5
BioYield3	3Bar Biologics, Inc.	INOC, FERT	Treated	134	149	72.4	61.5
BioYield4	3Bar Biologics, Inc.	INOC, FERT	Treated	124	145	70.4	64.7
BioYield5	3Bar Biologics, Inc.	INOC, FERT	Treated	123	142	67.7	65.1
BioYield6	3Bar Biologics, Inc.	INOC, FERT	Treated	128	149	69.5	62.3
Warden CX	Winfield Solutions, LLC	FUNG, INSECT	Untreated	130	145	70.5	59.3
Untreated Control			**Untreated**	**125**	**141**	**69.2**	**59.4**
Treated Control			**Treated**	**134**	**149**	**70.2**	**64.4**
		LSD (0.1)		**11**	**5**	**4.40**	**6.30**
		CV		**7.18**	**2.81**	**5.35**	**8.59**

Table 5. The 2015 Ohio Soybean Product Evaluation Trials, South Region

Treatment Name	Company Name	Product Type	Type of Seed	Stand Count- S1 1,000 plants/acre	Stand Count- S2 1,000 plants/acre	Yield- S1 bu/acre	Yield- S2 bu/acre
BioYield1	3Bar Biologics, Inc.	INOC, FERT	Treated	130	120	69.8	66.4
BioYield2	3Bar Biologics, Inc.	INOC, FERT	Treated	116	121	68.7	70.5
BioYield3	3Bar Biologics, Inc.	INOC, FERT	Treated	130	125	66.7	67.0
BioYield4	3Bar Biologics, Inc.	INOC, FERT	Treated	120	115	68.7	69.6
BioYield5	3Bar Biologics, Inc.	INOC, FERT	Treated	125	101	67.7	67.1
BioYield6	3Bar Biologics, Inc.	INOC, FERT	Treated	117	115	69.2	71.4
Warden CX	Winfield Solutions, LLC	FUNG, INSECT	Untreated	131	115	69.8	70.3
Untreated Control			**Untreated**	**129**	**120**	**70.6**	**67.0**
Treated Control			**Treated**	**136**	**118**	**72.8**	**68.2**
		LSD (0.1)		**17**	**11**	**4.54**	**4.38**
		CV		**11.18**	**8.27**	**5.46**	**5.41**