

THE 2013 OHIO SOYBEAN PRODUCT EVALUATION TRIALS



J.D. Bethel, Chris D. Kroon Van Diest, John McCormick, and Laura Lindsey
Department of Horticulture and Crop Science
Ohio State University Extension/Ohio Agricultural Research and Development Center



INTRODUCTION

The purpose of the Ohio Soybean Product Evaluation Trials is to evaluate soybean products for stand and yield. This evaluation gives soybean producers comparative information for selecting soybean products for their unique production systems.

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 150,000 seeds per acre. Previous crop was corn.

METHOD OF CONDUCTING TRIALS

Entries in Trials. All 2013 entries were submitted voluntarily by companies. Entry fee charges were paid per product. Application protocol and product rate were provided by the company. All products were tested on Asgrow 3231 seed. Companies designated their product to be applied to treated or untreated seed. Treated seed was treated with Acceleron (metalaxyl + pyraclostrobin + fluxapyroxad + imidacloprid). 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 treated check while products applied to untreated seed should be compared to the untreated check.

MEASUREMENTS AND RECORDS

Stand count is reported as number of plants per acre. Stand counts were conducted for each plot and location at the V2/V3 growth stage.

Yield. Soybeans were harvested when the moisture content was between 8 and 12 percent and yields reported in bushels per acre at 13% moisture. Yield data from the Delaware County location is not included in this report due to variability caused by excessive precipitation.

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.

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 the Ohio State University Extension.

TABLE 1: The 2013 Ohio Soybean Product Evaluation Trials, Production Practices

		N1 Henry Co.	N2 Erie Co.	C1 Mercer Co.	C2* Delaware Co.	S1 Preble Co.	S2 Clinton Co.
Tillage	Fall	None	None	None	None	None	Turbo-Till
	Spring	None	None	None	None	None	None
Soil and Crop Background							
	Soil Type	Hoytville	Kibbie	Blount	Pewamo	Crosby/Celina	Xenia
	Soil Texture	Clay	Loam	Clay Loam	Clay Loam	Clay Loam	Silty Clay Loam
	Soil pH	6.7	6.3	6.5	6.3	6.2	6.5
	Soil Test P (ppm)	25	30	40	32	17	41
	Soil Test K (ppm)	133	157	147	159	115	148
	Previous Crop	Corn	Corn	Corn	Corn	Corn	Corn
	Plant Date	16-May	23-May	17-May	20-May	15-May	22-May
	Harvest Date	14-Oct	30-Oct	15-Oct	28-Oct	21-Oct	27-Oct
Precipitation	5/1 - 9/30	16.85 in.	22.81 in.	13.93 in.		15.05 in.	23.07 in.
Weed Control	Preemergence	All cooperators used glyphosate in their spring burndown.					
		2,4-D, metribuzin, Valor XLT	Envide	2,4-D, Authority XL	2,4-D, Valor XLT	2,4-D, Optill	2,4-D, Sharpen
	Postemergence	~ Flexstar, Basagran, First Rate, Select Max ~					
							None

*Results from C2 location not reported due to excessive precipitation and yield variability.

TABLE 2: The 2013 Ohio Soybean Product Evaluation Trials, <i>North Region</i>							
Treatment Name	Company Name	Product Type	Type of Seed	Stand Count - N1	Stand Count - N2	Yield- N1	Yield- N2
				plants/ac	plants/ac	bu/ac	bu/ac
INTX	INTX Microbials, LLC	Innoculant	Treated	123,212	110,144	66.6	65.0
Tag Team LCO	Novozymes	Innoculant	Treated	118,856	110,455	59.4	64.2
Optimize	Novozymes	Innoculant	Treated	118,234	107,655	62.8	61.8
Bio-Forge	Stoller USA	Fertilizer	Treated	121,656	104,232	59.6	64.6
Stimulate	Stoller USA	Growth regulator	Treated	112,322	112,322	67.1	63.2
Micro-Plus Super Starter	Stoller USA	Micronutrients (Cu, Fe, Mn, Zn)	Treated	113,567	110,144	59.7	57.4
Inovate + Rizolex + Ethaboxam fungicide	Valent	Fungicide/Insecticide	Untreated	110,766	94,276	56.0	70.7
Inovate + Ethaboxam fungicide	Valent	Fungicide/Insecticide	Untreated	122,590	111,077	67.5	61.3
Prudent Presto	Wellman Seeds, Inc.	Foliar	Treated	117,923	115,122	55.7	60.3
Spunk	Wellman Seeds, Inc.	Foliar	Treated	116,678	104,543	63.9	58.8
MicroKing	Wellman Seeds, Inc.	Beneficial	Untreated	110,455	80,585	68.5	55.4
Encase	Wellman Seeds, Inc.	Fungicide/Insecticide	Untreated	117,923	71,251	54.2	50.2
Warden CX	WinField	Fungicide/Insecticide	Untreated	107,655	83,075	50.8	54.8
Xite Bio	XiteBio	Innoculant	Treated	127,879	102,054	61.3	53.6
Treated Check				118,856	114,811	46.6	62.8
Untreated Check				108,277	103,921	53.7	57.0
Asgrow 3231 was the variety used for all treatments.			LSD(0.10)	11,780	12,826	8.83	11.47
Treated seed was treated with Acceleron (metalaxyl + pyraclostrobin + fluxapyroxad + imidacloprid)			Minimum	79,652	59,739	37.2	26.6
Stand counts taken June 11-17, at V2-V3.			Mean	115,815	103,357	59.3	60.3
			Maximum	134,414	130,680	75.6	79.6
TABLE 3: The 2013 Ohio Soybean Product Evaluation Trials, <i>Central Region</i>							
Treatment Name	Company Name	Product Type	Type of Seed	Stand Count - C1	Yield- C1		
				plants/ac	bu/ac		
INTX	INTX Microbials, LLC	Innoculant	Treated	110,455	55.0		
Tag Team LCO	Novozymes	Innoculant	Treated	111,077	48.7		
Optimize	Novozymes	Innoculant	Treated	108,588	49.0		
Stimulate	Stoller USA	Growth regulator	Treated	115,433	51.9		
Bio-Forge	Stoller USA	Fertilizer	Treated	112,322	47.9		
Micro-Plus Super Starter	Stoller USA	Micronutrients (Cu, Fe, Mn, Zn)	Treated	111,077	46.6		
Inovate + Rizolex + Ethaboxam fungicide	Valent	Fungicide/Insecticide	Untreated	102,988	43.9		
Inovate + Ethaboxam fungicide	Valent	Fungicide/Insecticide	Untreated	112,633	46.5		
Prudent Presto	Wellman Seeds, Inc.	Foliar	Treated	114,189	49.4		
Spunk	Wellman Seeds, Inc.	Foliar	Treated	112,633	47.3		
Encase	Wellman Seeds, Inc.	Fungicide/Insecticide	Untreated	109,833	41.9		
MicroKing	Wellman Seeds, Inc.	Beneficial	Untreated	111,077	44.3		
Warden CX	WinField	Fungicide/Insecticide	Untreated	109,522	48.5		
Xite Bio	XiteBio	Innoculant	Treated	93,342	50.5		
Treated Check				105,788	50.0		
Untreated Check				91,164	47.8		
Asgrow 3231 was the variety used for all treatments.			LSD(0.10)	17,518	8.61		
Treated seed was treated with Acceleron (metalaxyl + pyraclostrobin + fluxapyroxad + imidacloprid)			Minimum	52,272	28.5		
Stand counts taken June 11-17, at V2-V3.			Mean	106,282	47.4		
			Maximum	128,191	66.4		
TABLE 4: The 2013 Ohio Soybean Product Evaluation Trials, <i>South Region</i>							
Treatment Name	Company Name	Product Type	Type of Seed	Stand Count - S1	Stand Count - S2	Yield- S1	Yield- S2
				plants/ac	plants/ac	bu/ac	bu/ac
INTX	INTX Microbials, LLC	Innoculant	Treated	118,234	113,878	70.5	59.1
Tag Team LCO	Novozymes	Innoculant	Treated	120,412	115,433	74.1	61.0
Optimize	Novozymes	Innoculant	Treated	116,678	117,611	75.0	58.0
Stimulate	Stoller USA	Growth regulator	Treated	128,501	117,611	71.7	60.3
Micro-Plus Super Starter	Stoller USA	Micronutrients (Cu, Fe, Mn, Zn)	Treated	116,989	119,478	72.1	58.5
Bio-Forge	Stoller USA	Fertilizer	Treated	112,944	110,455	68.5	58.2
Inovate + Rizolex + Ethaboxam fungicide	Valent	Fungicide/Insecticide	Untreated	119,789	129,435	71.8	59.0
Inovate + Ethaboxam fungicide	Valent	Fungicide/Insecticide	Untreated	117,923	116,989	71.1	57.7
Prudent Presto	Wellman Seeds, Inc.	Foliar	Treated	123,212	116,367	74.4	68.6
Encase	Wellman Seeds, Inc.	Fungicide/Insecticide	Untreated	124,457	122,279	69.3	63.1
Spunk	Wellman Seeds, Inc.	Foliar	Treated	127,879	125,390	74.2	61.8
MicroKing	Wellman Seeds, Inc.	Beneficial	Untreated	107,344	114,500	71.8	57.6
Warden CX	WinField	Fungicide/Insecticide	Untreated	112,322	115,433	74.7	58.4
Xite Bio	XiteBio	Innoculant	Treated	116,989	118,856	72.4	62.0
Untreated Check				111,700	117,923	69.5	62.2
Treated Check				116,367	121,345	74.1	56.3
Asgrow 3231 was the variety used for all treatments.			LSD(0.10)	14,111	8,537	7.71	8.79
Treated seed was treated with Acceleron (metalaxyl + pyraclostrobin + fluxapyroxad + imidacloprid)			Minimum	70,940	82,142	54.7	40.3
Stand counts taken June 11-17, at V2-V3.			Mean	114,512	115,883	72.5	60.3
			Maximum	145,615	13,414	86.2	79.0