

Production Details: Penn State Corn Grain Hybrid Evaluation Trials



Site:	Clinton County, PA
Cooperator	Scott Munro
Planting Date	5/8/2019
Soil Type	Linden Silt Loam, occasionally flooded 2% slope
Herbicides pre-post	Explorer 6 oz, honcho K6 1 pt, atrazine 1 pt, helfire 3.2 oz 6 oz. status, 1 qt NIS, 5 qt UAN
Tillage	None
Previous Crop	Soybeans
Starter Fertilizer	10.5 gal - 10-34-0
Insecticide	Force 3G
Manure	None
Fertilizer	100 lb/ac amm. Sulf. (6/10) 233 lb/ac of urea/agrotain in late june
Harvest Date	10/14/2019

Field Summary: This field looked very good. Status herbicide was applied for escaped broadleaves in June. Some nitrogen loss started to appear. Overall, it was a very consistent site.

Weather Summary:	5/8-10/14	
Month	Precip. (inches)	GDD
May	4.65	260
June	6.68	460
July	6.54	732
August	3.04	593
September	1.52	412
October	1.68	67
Seasonal Total	24.11	2524

Precip. Data: www.accuweather.com
GDD data: <http://climatesmartfarming.org/tools/csf-growing-degree-day->

Site:	Centre County, PA
Cooperator	Rock Springs Agronomy Research Farm
Planting Date	5/9/2019
Soil Type	Hagerstown
Herbicides pre-post	Lexar @ 3 qts/ac None
Tillage	Chiseled Plowed and finished
Previous Crop	Soybeans
Starter Fertilizer	10.5 gal - 10-34-0
Insecticide	None
Manure	None
Fertilizer	375 lbs/ac of 0-20-20 and 300 lbs/ac of Urea with agrotain
Harvest Date	11/4/2019

Field Summary: This was a very nice location. Stand counts were good and weed control and fertility levels were adequate. A strong late season cold front with high wind gusts resulted in some lodging prior to harvest. Early season hybrids were hit the most significantly.

Weather Summary:	5/9-11/4	
Month	Precip. (inches)	GDD
May	3.71	278
June	2.84	474
July	2.65	723
August	3.45	600
September	2.01	449
October	4.45	126
November	0	0
Seasonal Total	19.11	2650

Precip. Data: www.accuweather.com
GDD data: <http://climatesmartfarming.org/tools/csf-growing-degree-day->

Site:	Indiana County, PA
Cooperator	Nathan and Lyle Stiteler
Planting Date	6/4/2019
Soil Type	CaA Cavode Silt loam 0-3% slope
Herbicides pre-post	1 qt. glyphosate 1 qt. Atrazine, 5 oz. Balance Flexx, 1 pt. Metallica, 1 pt. 2-4,D,
Tillage	None
Previous Crop	Soybeans
Starter Fertilizer	10.5 gal - 10-34-0
Insecticide	None
Manure	None
Fertilizer Pre-plant	300# 2-8-52 4000# Dolomitic Lime
Fertilizer Sidedressed	310# Urea
Harvest Date	11/15/2019

Field Summary: There was some minor deer damage at this location. The trial had tall plants and very nice ears. Weed control and fertility levels were also very good.

Weather Summary:	6/4-11/15	
Month	Precip. (inches)	GDD
June	7.01	426
July	5.51	675
August	3.39	561
September	2.63	423
October	5.62	126
November	0.61	0
Seasonal Total	24.77	2211

Precip. Data: www.accuweather.com
GDD data: <http://climatesmartfarming.org/tools/csf-growing-degree-day-calculat>

Site:	Union County, PA
Cooperator	Joe Anchor
Planting Date	6/12/2019
Soil Type	Wheeling soils, 0-3% slope
Herbicides pre-post	1.5 qt GLYPHOSATE, 2 oz. Sharpen, 3.1 Qt Lexar None
Tillage	None
Previous Crop	Soybean
Starter Fertilizer	10.5 gal - 10-34-0
Insecticide	None
Manure	None
Fertilizer	None
Fertilizer Sidedressed	32 GALS / ACRE OF 30%
Harvest Date	11/21/2019

Field Summary: There was some variation in this trial due to denitrification in certain areas. Overall, it was a great site with excellent pollination and weed and disease control.

Weather Summary:	6/12-11/21	
Month	Precip. (inches)	GDD
June	4.6	359
July	6.54	774
August	3.04	629
September	1.52	433
October	6.67	121
November	0.52	0
Seasonal Total	22.89	2316

Precip. Data: www.accuweather.com
GDD data: <http://climatesmartfarming.org/tools/csf-growing-degree-day-calcula>

Penn State Corn Grain Hybrid Testing Program 2019



Mid Season (Zone 2) hybrid performance for individual locations

Notes: Clinton was a very uniform site. There was some nitrogen loss towards the end of the season. Centre had consistent stand counts and weed control and fertility levels were adequate. A strong late season cold front with high wind gusts resulted in some lodging prior to harvest. Early season hybrids were hit the most significantly. Indiana did experience some minor deer damage at this location. The trial had tall plants and very nice ears. Weed control and fertility levels were also very good. Union had some variation in it due to denitrification but overall it was a good location.

Company	Hybrid	Traits*	Relative Maturity	Clinton (bu/ac)	Centre (bu/ac)	Indiana (bu/ac)	Union (bu/ac)
Augusta	2756	3	106	163.7	208.0	193.2	135.3
Augusta	4759	5	109	195.8	227.9	177.5	157.0
Augusta	4858	2	108	182.9	215.6	162.5	151.0
Augusta	1059	4	109	177.1	221.2	180.1	162.0
Augusta	4559	2	109	189.4	222.7	165.9	144.1
Blue River Organics	48G35	Conv.	102	183.4	209.4	182.1	158.0
Blue River Organics	57A30	Conv.	107	152.9	198.3	164.5	145.2
Channel	201-67STXRIB	34	101	167.8	205.0	176.9	137.4
Channel	204-25STXRIB	34	104	190.2	239.7	186.5	177.3
Channel	205-63STXRIB	34	105	177.5	231.9	193.7	169.4
Channel	206-60TRERIB	31	106	190.5	220.9	183.5	166.7
Channel	207-90STXRIB	34	107	206.6	193.4	170.7	163.0
Channel	208-38VT2PRIB	31	108	201.0	231.5	186.6	153.7
Chemgro	6395RDP	31	103	177.0	216.6	192.3	196.5
Chemgro	6505RDP	31	105	193.5	219.5	192.4	193.1
Chemgro	6605RDP	31	106	183.3	219.4	195.4	193.6
Hubner	H6213RCSS	34	101	182.1	211.0	179.6	165.1
Hubner	H6287RCSS	34	104	196.4	199.3	183.8	174.4
Hubner	H6390RCSS	34	108	166.3	218.9	186.3	178.7
LG Seeds	LG51C48VT2PRO	31	101	173.6	205.5	191.7	176.7
LG Seeds	LG5525VT2RIB	31	105	193.9	209.9	188.8	171.7
LG Seeds	LG58C77VT2RIB	31	108	182.6	226.9	174.2	170.7
Local Seeds	LC0297 SXRIB	34	102	188.1	228.7	189.7	179.6
Local Seeds	ZS0398 3110	4	103	169.7	200.1	175.6	172.4
Local Seeds	LC0488 SXRIB	34	104	183.3	199.4	190.8	187.1
Local Seeds	LC0657 SXRIB	34	106	183.5	218.3	189.5	176.4
Local Seeds	LCX07-90	Conv.	107	174.5	192.6	180.7	134.8
Nutrien-DynaGro	D48SS38	34	108	191.0	203.5	168.7	166.2
Seed Consultants	SCS 1018YHR	16	101	187.7	208.6	183.4	196.6
Seed Consultants	EX-SC 105YHR	16	104	181.1	223.4	182.3	185.0
Seed Consultants	SCS 10HR43	12	104	203.7	218.0	196.4	175.3
Seed Consultants	SCS 1069YHR	16	106	190.2	211.9	180.4	166.1
Seed Consultants	SCS 1087YHR	16	108	201.5	224.5	169.1	145.7
Syngenta	NK0440-3122	7	104	181.0	204.9	186.8	166.4
Syngenta	NK0886-3120	6	108	164.2	210.1	159.4	159.2
Syngenta	NK0968-3000GT	3	109	189.9	214.8	182.8	153.6
Syngenta	NK0243-3120	6	102	184.3	206.9	185.0	152.8
Syngenta	NK0472-3110	4	104	167.5	198.3	175.7	161.1

Mean	183.4	213.6	181.7	166.3
LSD(0.1)	19.7	13.3	13.6	26.0
LSD(0.25)	13.8	9.3	9.5	18.2
CV%	9.2	5.3	6.4	13.4

*See "Trait Key" tab for individual trait designation

¹. Not Significant

For more information visit, <https://extension.psu.edu/2019-results-pa-commercial-grain-and-silage-hybrid-corn-tests-report#>

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Table Key #	Trait Family Product	Bt protein(s)	Marketed for control of:	Resistance to a Bt protein in the trait package has developed in :	Herbicide tolerant?
Conv.	Conventional	None	None	---	No
RR2	Roundup Ready 2	None	None	---	GT
Agrisure					
1	Agrisure GT	None	None	---	GT
2	Agrisure 3010 & 3010A	Cry1Ab	ECB SWCB	---	GT LL
3	Agrisure 3000 GT, 3011A	Cry1Ab, mCry3A	ECB SWCB RW	RW	GT LL
4	Agrisure Viptera 3110	Cry1Ab, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	GT LL
5	Agrisure Viptera 3111	Cry1Ab, mCry3A, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC RW	RW	GT LL
6	Agrisure 3120 E-Z Refuge	Cry1Ab, Cry1F	BCW ECB FAW SB SWCB	FAW WBC	REFER TO BAG FOR SPECIFIC LETTER CODE: E20=GT ONLY EZ1= GT LL
7	Agrisure 3122 E-Z Refuge	Cry1Ab, Cry1F, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	
8	Agrisure Viptera 3220 E-Z Refuge	Cry1Ab, Cry1F, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	
9	Agrisure Viptera 3330 E-Z Refuge	CryAb, Vip3A, Cry1A.105+CryAb2	BCW CEW ECB FAW SB SWCB TAW WBC	---	
10	Agrisure Duracade 5122 E-Z Refuge	Cry1Ab, Cry1F, mCry3A, eCry3.1Ab	BCW ECB FAW SB SWCB RW	FAW WBC RW	
11	Agrisure Duracade 5222 E-Z Refuge	Cry1Ab, Cry1F, Vip3A, mCry3A, eCry3.1Ab	BCW CEW ECB FAW SB SWCB TAW WBC RW	RW	
Herculex					
12	Herculex 1 (HX1)	Cry1F	BCW ECB FAW SB SWCB	ECB FAW SWCB WBC	LL RR2 (most)
13	Herculex RW (HXRW)	Cry34/35Ab1	RW	RW	
14	Herculex XTRA (HXX)	Cry1F, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW SWCB WBC RW	
Optimum					
15	TRIssect (CHR)	Cry1F, mCry3A	BCW ECB FAW SB SWCB RW	ECB FAW SWCB WBC RW	LL RR2
16	Intrasect (YHR)	Cry1F, Cry1Ab	BCW ECB FAW SB SWCB	FAW WBC	LL RR2
17	Intrasect TRIssect (CYHR)	Cry1Ab, Cry1F, mCry3A	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
18	Leptra (VYHR)	Cry1F, Cry1Ab, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	LL RR2
19	Intrasect Xtra (YXR)	Cry1F, Cry1Ab, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
20	Intrasect Xtreme (CYXR)	Cry1F, Cry1Ab, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
21	AcreMax (AM)	Cry1F, Cry1Ab	BCW ECB FAW SB SWCB	FAW WBC	LL RR2
22	AcreMax CRW (AMRW)	Cry34/35Ab1	RW	RW	LL RR2
23	AcreMax1 (AM1)	Cry1F, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW SWCB WBC RW	LL RR2
24	AcreMax Leptra (AML)	Cry1Ab, Cry1F, Vip3A	BCW ECB FAW SB SWCB TAW WBC CEW	---	LL RR2
25	AcreMax TRIssect (AMT)	Cry1F, Cry1Ab, mCry3A	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
26	AcreMax Xtra (AMX)	Cry1F, Cry1Ab, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
27	AcreMax Xtreme (AMXT)	Cry1F, Cry1Ab, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
Yieldgard/Genuity					
28	YieldGard CB (YGCB)	Cry1Ab	ECB SWCB	---	RR2
29	YieldGard VT Rootworm (YGRW)	Cry3Bb1	RW	RW	RR2
30	YieldGard VT Triple	Cry1Ab, Cry3Bb1	ECB SWCB RW	RW	RR2
31	VT Double PRO VT Double PRO RIB complete	Cry1A.105, Cry2Ab2	CEW ECB FAW SB SWCB	CEW	RR2
32	VT Triple PRO VT Triple PRO RIB complete	Cry1A.105, Cry2Ab2, Cry3Bb1	CEW ECB FAW SB SWCB RW	CEW RW	RR2
33	Trecepta (or RIB complete)	Cry1A.105, Cry2Ab2, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	RR2
Others					
34	Smartstax Smartstax Refuge Advanced Smartstax RIB Complete	Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34/35Ab1	BCW CEW ECB FAW SB SWCB RW	CEW WBC RW	LL RR2
35	Powercore (or Refuge Advanced)	Cry1A.105, Cry2Ab2, Cry1F	BCW ECB FAW SB SWCB CEW	CEW WBC	LL RR2
36	QROME (Q)	Cry1Ab, Cry1F, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
	BCW = black cutworm	SB = stalk borer	GT = glyphosate tolerant		
	CEW = corn earworm	SWCB = southern corn borer	LL = Liberty Link, glufosinate tolerant		
	ECB = European corn borer	TAW = true armyworm	RR2 = Roundup Ready 2, glyphosate tolerant		
	FAW = fall armyworm	WBC = western bean cutworm			
	RW = corn rootworm				

Source: <https://www.texasinsects.org/bt-corn-trait-table.html>