

Purdue University

Corvus and Balance applied PRE and Early Post Crop for a one pass weed control in corn.

Trial ID: 08S-SEP-NTC-12 Protocol ID: 08S-SEP-NTC-12
 Location: SEPAC Study Director: Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact:

General Trial Information

Study Director: Melissa Kruger **Title:** Lab Technician VII
Investigator: Dr. William G. Johnson **Title:** Associate Professor

Discipline: H herbicide
Trial Status: F one-year/final
Initiation Date: 6/2/2008 **Planned Completion Date:** 8/7/2008

Trial Location

City: Butleville
State/Prov.: IN
Postal Code: 47223-0216
Country: USA

Objectives:

The objective of the study is to evaluate the BCS one pass herbicide program in comparison to competitive standard treatments in weed control and crop tolerance.

Personnel

Study Director: Melissa Kruger **Title:** Lab Technician VII
Affiliation: Purdue University
Address: 915 W. State St.
Location: West Lafayette, IN USA
Postal Code: 47907 **E-mail:** mmkruger@purdue.edu
Phone No.: 765-494-4621
Investigator: Dr. William G. Johnson **Title:** Associate Professor
Affiliation: Purdue University
Address: 915 W. State St.
Location: West Lafayette, IN USA
Postal Code: 47907 **E-mail:** wj@purdue.edu
Phone No.: 765-494-4656

Cooperator/Landowner

Cooperator: Southeastern-Purdue Ag Center **Role:** Cooperator
Organization: Purdue University
Address 1: 4425 E Co. Rd. 350 N
City: Butleville **Phone No.:** 1-812-458-6977
State/Prov: IN **Fax No.:** 1-812-458-6979
Postal Code: 477223-021 **E-mail:** biehled@purdue.edu
Country: USA United States

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: Pioneer 34A20 **Description:** JD 7000; RR/LL/HLX
BBCH Scale: BCOR **Planting Date:** 6/2/2008
Planting Method: DIRDRI direct drilled **Rate, Unit:** 27000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Soil Moisture: MOIST **Soil Temperature, Unit:** 86 F
Emergence Date: 6/8/2008

Pest Description

Pest 1 Type: W **Code:** ERICA Erigeron canadensis
Common Name: Horseweed

Pest 2 Type: W **Code:** TAROF Taraxacum officinale
Common Name: Common dandelion

Pest 3 Type: W **Code:** AMBEL *Ambrosia artemisiifolia*
Common Name: Common ragweed

Pest 4 Type: W **Code:** RANAB *Ranunculus abortivus*
Common Name: Smallflower buttercup

Pest 5 Type: W **Code:** XANST *Xanthium strumarium*
Common Name: Common cocklebur

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT2 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RAOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Maintenance

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Tank Mix Code	Tank Mix
1.	6/11/2008	Buccaneer Plus	3	LB/GAL	L	1	QT/A	Y	yes
2.	6/11/2008	AMS	100	%	DF	17	LB/100 GAL	Y	yes

Soil Description

Description Name: SEPAC Field U41-6
% OM: 1.3 **Texture:** SIL silt loam
pH: 6.5 **Soil Name:** Avonburg
CEC: 5.7

Analyzed By:

A&L Great Lakes Laboratories, Inc. Report #: F07320-0472

Additional Measured Elements

Element	Quantity	Unit
P	13	ppm
K	68	ppm
Mg	155	ppm
Ca	600	ppm

Moisture and Weather Conditions

Closest Weather Station: On research farm **Distance, Unit:** 0.5 MI

Application Description

	A	B
Application Date:	6/2/2008	6/18/2008
Time of Day:	3:45 PM	10:10 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PREPRE	EAPOCR
Application Placement:	BROFOL	BROFOL
Applied By:	PM MK	AR VMD
Air Temperature, Unit:	88 F	78 F
% Relative Humidity:	73	60
Wind Velocity, Unit:	4 MPH	2 MPH
Wind Direction:	SE	W
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	86 F	54 F
Soil Moisture:	MOIST	MOIST
% Cloud Cover:	50	0

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:	BCOR	BCOR
Stage Majority, Percent:	N/A	V3
Stage Minimum, Percent:		V3

Stage Maximum, Percent:	V4
Height, Unit:	10 IN
Height Minimum, Maximum:	8 12

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	ERICA W	ERICA W
Height, Unit:	9 IN	9 IN
Height Minimum, Maximum:	4 12	3 16
Density, Unit:	7 YD2	7 YD2
Pest 2 Code, Type, Scale:	TAROF W	TAROF W
Stage Majority, Percent:	FLOWER	
Stage Minimum, Percent:	COTY	
Stage Maximum, Percent:	FLOWER	
Height, Unit:	4 IN	7 IN
Height Minimum, Maximum:	0 8	0 14
Density, Unit:	2 YD2	7 YD2
Pest 3 Code, Type, Scale:	AMBEL W	AMBEL W
Stage Majority, Percent:	COTY	
Stage Minimum, Percent:	COTY	
Stage Maximum, Percent:	1 NODE	
Height, Unit:	1 IN	
Height Minimum, Maximum:	1 2	
Density, Unit:	6 YD2	
Pest 4 Code, Type, Scale:	RANAB W	RANAB W
Stage Majority, Percent:	FLOWER	
Stage Minimum, Percent:	COTY	
Stage Maximum, Percent:	FLOWER	
Density, Unit:	6 YD2	
Pest 5 Code, Type, Scale:	XANST W	XANST W

Application Equipment

	A	B
Appl. Equipment:	CO2 Backpack	CO2 Backpack
Operating Pressure, Unit:	17 PSI	17 PSI
Nozzle Type:	Flat Fan	Flat Fan
Nozzle Size:	XR11002	XR11002
Nozzle Spacing, Unit:	15 IN	15 IN
Nozzles/Row:	6	6
Boom Length, Unit:	7.5 FT	7.5 FT
Boom Height, Unit:	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	H2O	H2O
Water Hardness (ppm CaCO3):	150	150
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	1.8 Liters	1.8 Liters
Propellant:	CO2	CO2
Tank Mix (Y/N):	N no	N no

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Trial ID: 08S-SEP-NTC-12 Protocol ID: 08S-SEP-NTC-12
 Location: SEPAC Study Director: Melissa Kruger
 Project ID: Investigator: Dr. Bill Johnson
 Sponsor Contact:

Pest Type		W Weed	W Weed		W Weed	W Weed				
Pest Code		ERICA	TAROF		ERICA	TAROF				
Pest Scientific Name		Erigeron canad>	Taraxacum offi>		Erigeron canad>	Taraxacum offi>				
Pest Name		Horseweed	Common dandel>		Horseweed	Common dandel>				
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX				
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn				
Crop Variety	Pioneer 34A20	Pioneer 34A20	Pioneer 34A20	Pioneer 34A20	Pioneer 34A20	Pioneer 34A20				
Description	JD 7000; RR/LL>	JD 7000; RR/LL>	JD 7000; RR/LL>	JD 7000; RR/LL>	JD 7000; RR/LL>	JD 7000; RR/LL>				
Part Rated	PLOT C	PLOT C	PLOT C	PLOT C	PLOT C	PLOT C				
Rating Date	6/18/2008	6/18/2008	6/18/2008	7/8/2008	7/8/2008	7/8/2008				
Rating Type	PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%	%				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority	V3	V3	V3	V6	V6	V6				
Crop Stage Minimum/Maximum				24-36"	24-36"	24-36"				
Pest Stage Minimum/Maximum		3-16"	0-14"		0-20"	4-12"				
Pest Density, Unit		7 YD2	7 YD2		12 YD2	3 YD2				
Assessed By	MK	MK	MK	AR	AR	AR				
Days After First/Last Applic.	16 0	16 0	16 0	36 20	36 20	36 20				
Plant-Eval Interval	16 DP-1	16 DP-1	16 DP-1	36 DP-1	36 DP-1	36 DP-1				
Days After Emergence	10 DE-	10 DE-	10 DE-	30 DE-	30 DE-	30 DE-				
Trt No.	Treatment Name	Rate	Appl Unit	Code	1	2	3	4	5	6
1	Untreated Check				0.0 a	0.0 b	0.0 b	0.0 a	0.0 b	0.0 b
2	Corvus Atrazine	0.0925 lb ai/a 1.5 lb ai/a	A A		0.0 a	100.0 a	92.3 a	1.8 a	100.0 a	86.3 a
3	Corvus Atrazine	0.115 lb ai/a 1.5 lb ai/a	A A		0.0 a	100.0 a	95.3 a	0.8 a	92.5 a	85.0 a
4	Balance Flexx Atrazine	0.078 lb ai/a 1.5 lb ai/a	A A		0.0 a	100.0 a	78.8 a	2.3 a	100.0 a	82.0 a
5	Balance Flexx Atrazine	0.094 lb ai/a 1.5 lb ai/a	A A		0.0 a	100.0 a	97.5 a	1.5 a	100.0 a	97.5 a
6	Lexar	2.78 lb ai/a	A		0.0 a	100.0 a	97.8 a	1.5 a	100.0 a	95.0 a
7	Corvus Atrazine	0.0925 lb ai/a 1.5 lb ai/a	B B					5.3 a	100.0 a	96.3 a
8	Corvus Atrazine	0.115 lb ai/a 1.5 lb ai/a	B B					0.5 a	99.3 a	98.5 a
9	Balance Flexx Atrazine	0.078 lb ai/a 1.5 lb ai/a	B B					0.5 a	100.0 a	98.8 a
10	Balance Flexx Atrazine	0.094 lb ai/a 1.5 lb ai/a	B B					3.5 a	100.0 a	97.5 a
11	Lexar	2.78 lb ai/a	B					3.8 a	100.0 a	95.0 a
12	Untreated				0.0 a	0.0 b	0.0 b	0.0 a	0.0 b	0.0 b
	LSD (P=.05)				0.00	0.00	16.21	4.93	6.30	13.06
	Standard Deviation				0.00	0.00	10.91	3.41	4.36	9.04
	CV				0.0	0.0	16.55	192.81	5.28	11.65
	Bartlett's X2				0.0	0.0	22.946	33.369	9.583	19.525
	P(Bartlett's X2)				.	.	0.001*	0.001*	0.002*	0.021*
	Replicate F				0.000	0.000	0.755	1.146	0.928	0.419
	Replicate Prob(F)				1.0000	1.0000	0.5337	0.3452	0.4379	0.7407
	Treatment F				0.000	0.000	69.507	0.934	313.850	65.911
	Treatment Prob(F)				1.0000	1.0000	0.0001	0.5215	0.0001	0.0001

Pest Type	W Weed		W Weed	W Weed	W Weed			
Pest Code	XANST		ERICA	TAROF	XANST			
Pest Scientific Name	Xanthium strum>		Erigeron canad>	Taraxacum offi>	Xanthium strum>			
Pest Name	Common cockleb>		Horseweed	Common dandel>	Common cockleb>			
Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays							
Crop Name	Corn	Corn	Corn	Corn	Corn			
Crop Variety	Pioneer 34A20							
Description	JD 7000; RR/LL>							
Part Rated	PLOT C							
Rating Date	7/8/2008	8/7/2008	8/7/2008	8/7/2008	8/7/2008			
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO	CONTRO			
Rating Unit	%	%	%	%	%			
Number of Subsamples	1	1	1	1	1			
Crop Stage Majority	V6	R2-R3	R2-R3	R2-R3	R2-R3			
Crop Stage Minimum/Maximum	24-36"	6.5-8'	6.5-8'	6.5-8'	6.5-8'			
Pest Stage Minimum/Maximum	2-8"		5-36"	0-12"	6-40"			
Pest Density, Unit	3 YD2		12 YD2	7 YD2	3 YD2			
Assessed By	AR	MK PM	MK PM	MK PM	MK PM			
Days After First/Last Applic.	36 20	66 50	66 50	66 50	66 50			
Plant-Eval Interval	36 DP-1	66 DP-1	66 DP-1	66 DP-1	66 DP-1			
Days After Emergence	30 DE-	60 DE-	60 DE-	60 DE-	60 DE-			
Trt No.	Treatment	Rate	Appl Code	7	8	9	10	11
1	Untreated Check			0.0 b	0.0 a	0.0 c	0.0 c	0.0 b
2	Corvus	0.0925 lb ai/a	A	96.8 a	0.0 a	94.3 ab	60.0 b	95.5 a
	Atrazine	1.5 lb ai/a	A					
3	Corvus	0.115 lb ai/a	A	92.0 a	0.0 a	88.3 b	74.5 ab	81.3 a
	Atrazine	1.5 lb ai/a	A					
4	Balance Flexx	0.078 lb ai/a	A	94.3 a	0.0 a	95.5 ab	79.3 ab	92.5 a
	Atrazine	1.5 lb ai/a	A					
5	Balance Flexx	0.094 lb ai/a	A	100.0 a	0.0 a	94.3 ab	83.5 ab	91.8 a
	Atrazine	1.5 lb ai/a	A					
6	Lexar	2.78 lb ai/a	A	95.5 a	0.0 a	95.0 ab	93.8 a	88.8 a
7	Corvus	0.0925 lb ai/a	B	100.0 a	0.0 a	98.0 a	86.8 ab	100.0 a
	Atrazine	1.5 lb ai/a	B					
8	Corvus	0.115 lb ai/a	B	100.0 a	0.0 a	99.3 a	93.3 a	100.0 a
	Atrazine	1.5 lb ai/a	B					
9	Balance Flexx	0.078 lb ai/a	B	97.5 a	0.0 a	98.5 a	98.0 a	96.8 a
	Atrazine	1.5 lb ai/a	B					
10	Balance Flexx	0.094 lb ai/a	B	98.8 a	0.0 a	100.0 a	96.3 a	98.3 a
	Atrazine	1.5 lb ai/a	B					
11	Lexar	2.78 lb ai/a	B	96.3 a	0.0 a	97.3 a	94.5 a	97.3 a
12	Untreated			0.0 b	0.0 a	0.0 c	0.0 c	0.0 b
LSD (P=.05)		8.49		0.00		5.88		14.25
Standard Deviation		5.88		0.00		4.07		9.87
CV		7.27		0.0		5.09		12.57
Bartlett's X2		13.143		0.0		19.106		27.445
P(Bartlett's X2)		0.041*		.		0.014*		0.001*
Replicate F		0.445		0.000		1.068		0.972
Replicate Prob(F)		0.7223		1.0000		0.3761		0.4177
Treatment F		165.980		0.000		339.656		56.358
Treatment Prob(F)		0.0001		1.0000		0.0001		0.0001

Means followed by same letter do not significantly differ ($P=0.05$, Student-Newman-Keuls)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Corvus and Balance applied PRE and Early Post Crop for a one pass weed control in corn.

Trial ID: 08S-SEP-NTC-12 Protocol ID: 08S-SEP-NTC-12
Location: SEPAC Study Director: Melissa Kruger
Project ID: Investigator: Dr. Bill Johnson
Sponsor Contact:

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

TAROF, Taraxacum officinale, = US

XANST, Xanthium strumarium, = US

Crop Code

ZEAMX, BCOR, Zea mays, = US

C = Crop is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

Rating Unit

% = percent

YD2 = per square yard

Plant-Eval Interval

16 DP-1 = 1 6/2/2008

36 DP-1 = 1 6/2/2008

66 DP-1 = 1 6/2/2008