

The Ohio State University

Afforia Early Preplant No-Till Wheat

Trial ID: 16WHEAT1 Location: Western Branch F-9 E Trial Year: 2015
 Protocol ID: 16WHEAT1 Investigator: Dr. Mark M. Loux
 Project ID: USA-15-112 Study Director:
 Sponsor Contact: Marsha Martin, DuPont

General Trial Information

Investigator: Dr. Mark M. Loux

Initiation Date: 10-1-2015

Trial Location

City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368 **Climate Zone:** USWARM US Warm Continental

Conducted Under GLP: No

Conducted Under GEP: No

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: TRZAW Triticum aestivum (winter) Winter wheat
Variety: SC 1326
Description: Seed Consultants
Seed Size, Unit: 11000 S/LB
Planting Rate, Unit: 136 LB/A
Depth, Unit: 1.25 IN
Row Spacing, Unit: 7.5 IN
Planting Density, Unit: 1500000 S/A
Soil Temperature, Unit: 64 F
Soil Moisture: DAMP damp
Seed Bed: SMOTRA smooth/trashy
Planting Date: 10-8-2015
Planting Method: DRILLE drilled
Planting Equipment: FE Field Equipment
Emergence Date: 10-19-2015
Harvest Date: 7-11-2016
Harvested Width, Unit: 6.25 FT
Harvested Length, Unit: 40 FT
Harvest Equipment: Massey Ferguson 8 XP
% Standard Moisture: 14.5
Moisture Meter: Harvest Master
Weighing Equipment: Harvest Master HM 800

Pest Description

Pest 1 Type: W **Code:** LAMPU Lamium purpureum
Common Name: Purple deadnettel

Pest 2 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 40 FT
Treated Plot Area: 400 FT² **Treatments:** 4
Replications: 4
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: NOTILL no-till
Study Design: RACOB� Randomized Complete Block (RCB)

No. Previous Crop Year

1. Soybean 2015

Maintenance

No.	Date	Maintenance Product Name	Form Conc	Form Unit	Form Type	Rate	Unit
1.	10-1-2015	Roundup Powermax	4.5	LBAE/GA	SL	22	oz/a

Comment: Roundup Powermax added to all treatments at application and sprayed on the untreated check.

Soil Description

Description Name: F-9 East
% OM: 2.8 **Texture:** SICL silty clay loam
pH: 6.4 **Soil Name:** Kokomo
CEC: 19.6 **Fert. Level:** G good
Soil Drainage: G good

Additional Measured Elements

Date	Element	Quantity	Unit
3-30-2016	28% UAN	33	GAL/A

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Application Description

A
 Application Date: 10-1-2015
 Appl. Start Time: 9:00 AM
 Appl. Stop Time: 9:15 AM
 Application Method: SPRAY
 Application Timing: 7 EPP
 Application Placement: BROFOL
 Applied By: Dobbels
 Air Temperature, Unit: 54 F
 % Relative Humidity: 71
 Wind Velocity, Unit: 12 MPH
 Wind Direction: NNE
 Dew Presence (Y/N): N no
 Soil Temperature, Unit: 58 F
 Soil Moisture: SLIWET
 % Cloud Cover: 25
 Next Moisture Occurred On: 10-3-2015
 Time to Next Moisture, Unit: 2 DAY

Crop Stage At Each Application

A
 Crop 1 Code, BBCH Scale: TRZAW BCER

Pest Stage At Each Application

A
 Pest 1 Code, Type, Scale: LAMPU W
 Stage Majority, Percent: 14 80
 Stage Minimum, Percent: 14 80
 Stage Maximum, Percent: 16 20
 Diameter, Unit: 1 IN
 Height, Unit: 1 IN
 Height Minimum, Maximum: 0.5 1
 Density, Unit: 5 M2
 Pest 2 Code, Type, Scale: AMARE W
 Stage Majority, Percent: 69 100
 Height, Unit: 4 IN
 Height Minimum, Maximum: 4 6
 Density, Unit: 2 M2
 Pest 3 Code, Type, Scale: CHEAL W
 Stage Majority, Percent: 69 100
 Height, Unit: 4 IN
 Height Minimum, Maximum: 2 8
 Density, Unit: 2 M2

Application Equipment

A
 Appl. Equipment: 10' AI XR
 Equipment Type: SPRBAC
 Operation Pressure, Unit: 46 PSI
 Nozzle Type: AI XR
 Nozzle Size: 110015
 Nozzle Spacing, Unit: 18 IN
 Boom Length, Unit: 10 FT
 Boom Height, Unit: 20 IN
 Ground Speed, Unit: 3 MPH
 Carrier: WATER
 Spray Volume, Unit: 15 GPA
 Mix Size, Unit: 2 Liters
 Propellant: CO2

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Pest Type									W Weed	W Weed			
Pest Code									LAMPU	STEME			
Pest Name									Purple deadnet>	Common chickwe>			
Crop Code													
Crop Name									TRZAW	TRZAW			
									Winter wheat	Winter wheat			
Rating Date									10-22-2015	11-5-2015			
Rating Type									PHYGEN	PHYGEN			
Rating Unit									%	%			
Number of Subsamples									1	1			
Days After First/Last Applic.									21 21	35 35			
Trt-Eval Interval									21 DA-A	35 DA-A			
Days After Emergence									3 DE-1	17 DE-1			
ARM Action Codes										200 DE-1			
Number of Decimals									0	0			
Trt No.	Treatment Name	Form Conc	Form Unit	Rate Rate	Other Rate	Other Rate	Appl Unit Code		1*	2*	3*	4*	5*
1	Afforia 2.5 oz								0 -	0 -	0 -	84 a	99 -
	Thifensulfuron	50 %W/W	0.125 oz ai/a	0.25 oz/a	0.25 oz/a		A						
	Tribenuron	50 %W/W	0.125 oz ai/a	0.25 oz/a	0.25 oz/a		A						
	Valor SX	51 %AW/W	1.02 oz ai/a	2 oz/a	2 oz/a		A						
2	Afforia 5 oz								0 -	0 -	0 -	88 a	100 -
	Thifensulfuron	50 %W/W	0.25 oz ai/a	0.5 oz/a	0.5 oz/a		A						
	Tribenuron	50 %W/W	0.25 oz ai/a	0.5 oz/a	0.5 oz/a		A						
	Valor SX	51 %AW/W	2.04 oz ai/a	4 oz/a	4 oz/a		A						
3	Valor SX	51 %AW/W	1.02 oz ai/a	2 oz/a	2 oz/a		A		0 -	0 -	0 -	69 ab	95 -
4	utc								0 -	0 -	0 -	40 b	61 -
	LSD P=.05								.	.	.	34.3	32.2 - 38.1
	Standard Deviation								0.0	0.0	0.0	21.5	21.6t
	CV								0.0	0.0	0.0	30.68	28.57t
	Bartlett's X2								0.0	0.0	0.0	14.711	4.698
	P(Bartlett's X2)								.	.	.	0.002*	0.095
	Skewness								.	.	.	-1.9262*	-2.2249*
	Kurtosis								.	.	.	2.5914*	5.5161*
	Replicate F								0.000	0.000	0.000	2.575	1.048
	Replicate Prob(F)								1.0000	1.0000	1.0000	0.1187	0.4176
	Treatment F								0.000	0.000	0.000	4.039	2.449
	Treatment Prob(F)								1.0000	1.0000	1.0000	0.0449	0.1303

Means followed by same letter or symbol do not significantly differ (P=.05, LSD)
 t=Mean descriptions are reported in transformed data units, and are not de-transformed.
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 * Adjusted means
 Could not calculate LSD (% mean diff) for columns 1,2,3,6,7,8,9 because error mean square = 0.

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Pest Type	W Weed	W Weed	W Weed	W Weed				
Pest Code	ERICA	CAPBP	AMBTR	AMBTR				
Pest Name	Canada horsewe>	Shepherd's pur>	Giant ragweed	Giant ragweed				
Crop Code								
Crop Name								
Rating Date	5-6-2016	5-6-2016	5-6-2016	6-1-2016				
Rating Type								
Rating Unit								
Number of Subsamples	1	1	1	1				
Days After First/Last Applic.	218 218	218 218	218 218	244 244				
Trt-Eval Interval	218 DA-A	218 DA-A	218 DA-A	244 DA-A				
Days After Emergence	200 DE-1	200 DE-1	200 DE-1	226 DE-1				
ARM Action Codes								
Number of Decimals	0	0	0	0				
Trt Treatment	Form Form	Rate	Other Other	Appl	6*	7*	8*	9*
No. Name	Conc Unit	Rate Unit	Rate Rate	Unit Code				
1 Afforia 2.5 oz					100 -	100 -	100 -	100 -
Thifensulfuron	50 %W/W	0.125 oz ai/a	0.25 oz/a	A				
Tribenuron	50 %W/W	0.125 oz ai/a	0.25 oz/a	A				
Valor SX	51 %AW/W	1.02 oz ai/a	2 oz/a	A				
2 Afforia 5 oz					100 -	100 -	100 -	100 -
Thifensulfuron	50 %W/W	0.25 oz ai/a	0.5 oz/a	A				
Tribenuron	50 %W/W	0.25 oz ai/a	0.5 oz/a	A				
Valor SX	51 %AW/W	2.04 oz ai/a	4 oz/a	A				
3 Valor SX	51 %AW/W	1.02 oz ai/a	2 oz/a	A	100 -	100 -	100 -	100 -
4 utc					100 -	100 -	100 -	100 -
LSD P=.05					.	.	.	.
Standard Deviation					0.0	0.0	0.0	0.0
CV					0.0	0.0	0.0	0.0
Bartlett's X2					0.0	0.0	0.0	0.0
P(Bartlett's X2)					.	.	.	.
Skewness					.	.	.	.
Kurtosis					.	.	.	.
Replicate F					0.000	0.000	0.000	0.000
Replicate Prob(F)					1.0000	1.0000	1.0000	1.0000
Treatment F					0.000	0.000	0.000	0.000
Treatment Prob(F)					1.0000	1.0000	1.0000	1.0000

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Pest Type												
Pest Code												
Pest Name												
Crop Code												
Crop Name												
Rating Date												
Rating Type												
Rating Unit												
Number of Subsamples												
Days After First/Last Applic.												
Trt-Eval Interval												
Days After Emergence												
ARM Action Codes												
Number of Decimals												
Trt No.	Treatment Name	Form Conc	Form Unit	Rate Rate	Other Rate	Other Rate	Appl Unit Code	10*	11*	12*	13*	
1	Afforia 2.5 oz							36.5 -	10.5 -	110.8 -	69.7 -	
	Thifensulfuron	50 %W/W	0.125 oz ai/a	0.25 oz/a	0.25 oz/a		A					
	Tribenuron	50 %W/W	0.125 oz ai/a	0.25 oz/a	0.25 oz/a		A					
	Valor SX	51 %AW/W	1.02 oz ai/a	2 oz/a	2 oz/a		A					
2	Afforia 5 oz							34.7 -	10.8 -	105.2 -	70.4 -	
	Thifensulfuron	50 %W/W	0.25 oz ai/a	0.5 oz/a	0.5 oz/a		A					
	Tribenuron	50 %W/W	0.25 oz ai/a	0.5 oz/a	0.5 oz/a		A					
	Valor SX	51 %AW/W	2.04 oz ai/a	4 oz/a	4 oz/a		A					
3	Valor SX	51 %AW/W	1.02 oz ai/a	2 oz/a	2 oz/a		A	36.4 -	11.3 -	109.8 -	70.6 -	
4	utc							37.8 -	11.5 -	113.8 -	71.2 -	
	LSD P=.05							2.73	1.02	8.97	2.04	
	Standard Deviation							1.71	0.64	5.61	1.27	
	CV							4.69	5.77	5.1	1.81	
	Bartlett's X2							2.247	4.46	1.841	1.813	
	P(Bartlett's X2)							0.523	0.216	0.606	0.612	
	Skewness							0.2226	-0.7422	0.1425	-0.259	
	Kurtosis							-0.2283	-0.0039	-0.4286	-1.1227	
	Replicate F							1.091	3.757	0.807	8.175	
	Replicate Prob(F)							0.4016	0.0534	0.5209	0.0061	
	Treatment F							2.290	2.093	1.621	0.958	
	Treatment Prob(F)							0.1471	0.1714	0.2521	0.4533	

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Pest Type

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

Pest Code

LAMPU, Lamium purpureum, = US

STEME, Stellaria media, = US

ERICA, Conyza canadensis, = ERICA, Conyza canadensis,

CAPBP, Capsella bursa-pastoris, = US

AMBTR, Ambrosia trifida, = US

Crop Code

TRZAW, BCER, Triticum aestivum (winter), = TRZAW, BCER, Triticum aestivum (winter),

Rating Type

PHYGEN = phytotoxicity - general / injury

Weight = weight

MOICON = moisture content

YIELD = yield

WEITES = weight - test

Rating Unit

% = percent

BU = bushel

ARM Action Codes

AA = Automatic arcsine square root % transformation

TY1 = $2.904 * [10] * (100 - [11]) / 85.5$