

Fall Applications of PowerFlex on Wild Garlic.

Trial ID: 10-CP-N60

Location: Agronomy Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Carbondale IL 62901 USA
 Trial Status: FINAL Initiation Date: 10-21-09

Objectives: Determine the efficacy of fall applied PowerFlex alone and tank-mixed with Harmony Extra for control of wild garlic in winter wheat.

Crop 1: TRZAW Winter wheat Variety: P25R78
 Planting Method: SEEDS Planting Date: 10-21-09
 Rate, Unit: 1.3 mil. S/A Depth, Unit: 1 IN
 Row Spacing, Unit: 7.5 IN

Pest 1 Type: W Code: ALLVI Allium vineale L. garlic, wild
 Pest 2 Type: W Code: CERVU Cerastium vulgatum L. chickweed, mouseear
 Pest 3 Type: W Code: POAAN Poa annua L. bluegrass, annual
 Pest 4 Type: W Code: LAMPU Lamium purpureum L. deadnettle, purple

Plot Width, Unit: 15 FT Site Type: FIELD
 Plot Length, Unit: 30 FT Tillage Type: NO-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2009

Field Prep./Maintenance: Fall; N 27 LB/A, P205 69 LB/A, K20 0 LB/A (150 lb/A DAP)
 Spring; DO NOT APPLY SPRING NITROGEN

Application Description A

Application Date: 11-13-09
 Time of Day: 16:00
 Application Method: Spray
 Application Timing: FALL
 Application Placement: BROFOL
 Applied By: NVH
 Air Temperature, Unit: 65 F
 % Relative Humidity: 41
 Wind Velocity, Unit: 3 MPH
 Wind Direction: SW
 Dew Presence (Y/N): N
 Soil Temperature, Unit: 56 F
 Soil Moisture: ABONOR
 % Cloud Cover: 30

11-13-09
 Crop stage at application: 3 LVS
 Height Min, Max (inch): 3 3

Pest Stage At Each Application

Application Date: 11-13-09
 Weed Code: ALLVI
 Stage Majority (leaves): 4
 Stage Min, Max: 2 6
 Height Majority: 7 IN
 Height Min, Max: 2 12
 Density, Unit: 8 FT2
 Weed Code: CERVU
 Stage Majority (leaves): 5
 Stage Min, Max: 3 8
 Height Majority: 3 IN
 Height Min, Max: 2 4
 Density, Unit: 0.5 FT2
 Weed Code: POAAN
 Stage Majority (leaves): 4
 Stage Min, Max: 2 8
 Height Majority: 2 IN
 Height Min, Max: 1 4
 Density, Unit: 0.2 FT2
 Weed Code: LAMPU
 Stage Majority (leaves): 3
 Stage Min, Max: 2 4
 Height Majority: 0.5 IN
 Height Min, Max: 0.5 1
 Density, Unit: 2 FT2

Application Equipment

Appl. Equipment: CO2 sprayer
 Operating Pressure: 30 PSI
 Nozzle Type: Flat fan
 Nozzle Size: XR 8002
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 15 GPA

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Rating Date
Rating Data Type
Rating Unit
Rating Timing
Trt-Eval Interval

TRZAW TRZAW TRZAW
06-22-10 06-22-10 06-22-10
Moisture Test wt. Yield
Percent lb/bu bu/A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	12.4 a	54.2 a	40 a
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A			
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A	12.0 a	54.4 a	38 a
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
2	AMS	100	SG	2	lb/a	2	lb/a	FALL	A			
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	11.7 a	51.3 ab	43 a
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A			
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
3	AMS	100	SG	2	lb/a	2	lb/a	FALL	A			
4	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	12.3 a	51.4 ab	37 a
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
4	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A			
5	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	11.8 a	52.0 ab	39 a
5	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A			
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
5	AMS	100	SG	2	lb/a	2	lb/a	FALL	A			
6	NONTREATED									12.4 a	47.4 b	23 b
LSD (P=.05)										0.84	6.09	6.4
Replicate F										0.712	0.568	0.514
Replicate Prob(F)										0.5598	0.6443	0.6787
Treatment F										1.244	1.604	10.592
Treatment Prob(F)										0.3376	0.2191	0.0002

Means followed by same letter do not significantly differ (P=.05, LSD)

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Crop Code
Rating Date
Rating Data Type
Rating Unit
Rating Timing
Trt-Eval Interval

TRZAW 11-16-09 Injury Percent	TRZAW 11-20-09 Injury Percent	TRZAW 11-27-09 Injury Percent	TRZAW 12-11-09 Injury Percent	TRZAW 03-24-10 Injury Percent
3 DA-A	7 DA-A	14 DA-A	28 DA-A	14 DA-SGU

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	0 a	5 a	3 a	2 ab	0 a
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A					
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A	0 a	3 ab	0 a	0 b	0 a
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
2	AMS	100	SG	2	lb/a	2	lb/a	FALL	A					
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	0 a	5 a	3 a	3 a	1 a
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A					
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
3	AMS	100	SG	2	lb/a	2	lb/a	FALL	A					
4	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	0 a	6 a	1 a	2 ab	0 a
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
4	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A					
5	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	0 a	3 ab	3 a	2 ab	0 a
5	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A					
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
5	AMS	100	SG	2	lb/a	2	lb/a	FALL	A					
6	NONTREATED									0 a	0 b	0 a	0 b	0 a
LSD (P=.05)										0.0	4.9	3.7	2.6	1.5
Replicate F										0.000	0.364	0.172	2.424	1.000
Replicate Prob(F)										1.0000	0.7798	0.9134	0.1062	0.4199
Treatment F										0.000	2.007	1.000	1.816	1.000
Treatment Prob(F)										1.0000	0.1360	0.4509	0.1702	0.4509

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								ALLVI	ALLVI	ALLVI	ALLVI	ALLVI	ALLVI
Pest Code								03-24-10	04-02-10	04-16-10	05-14-10	06-14-10	06-14-10
Crop Code								Control	Control	Control	Control	Bulb Count	Bulbs ODW
Rating Date								Percent	Percent	Percent	Percent	1.0 m2	gram
Rating Data Type													
Rating Unit													
Rating Timing													
Trt-Eval Interval								14 DA-SGU	14 DA-SAS	28 DA-SAS	56 DA-SAS	EOS	EOS
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	79 a	53 c	53 b	46 c
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A				9.5 bc
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A				2.61 b
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A	88 a	81 ab	79 a	80 a
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A				4.8 c
2	AMS	100	SG	2	lb/a	2	lb/a	FALL	A				1.11 b
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	86 a	63 bc	60 b	63 b
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A				5.5 c
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A				1.48 b
3	AMS	100	SG	2	lb/a	2	lb/a	FALL	A				
4	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	35 b	24 d	28 c	25 d
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A				20.5 a
4	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A				7.70 a
5	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	89 a	89 a	88 a	88 a
5	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A				9.8 bc
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A				1.87 b
5	AMS	100	SG	2	lb/a	2	lb/a	FALL	A				
6	NONTREATED									0 c	0 e	0 d	0 e
													16.8 ab
													7.24 a
	LSD (P=.05)									15.3	22.6	15.7	16.0
													10.56
													2.899
	Replicate F									0.734	1.078	1.720	1.133
	Replicate Prob(F)									0.5476	0.3884	0.2057	0.3673
	Treatment F									52.573	20.663	39.249	39.956
	Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001
													0.0365
													0.0003

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Fall Applications of PowerFlex on Wild Garlic.

Trial ID: 10-CP-N60

Location: Agronomy Res. Center

Pest Code	CERVU	CERVU	CERVU
Crop Code			
Rating Date	03-24-10	04-02-10	04-16-10
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	14 DA-SGU	14 DA-SAS	28 DA-SAS

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	99 a	99 a	99 a
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A			
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A	99 ab	98 ab	99 a
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
2	AMS	100	SG	2	lb/a	2	lb/a	FALL	A			
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	99 a	99 a	99 a
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A			
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
3	AMS	100	SG	2	lb/a	2	lb/a	FALL	A			
4	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	96 b	95 b	99 a
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
4	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A			
5	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	99 a	99 a	99 a
5	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A			
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A			
5	AMS	100	SG	2	lb/a	2	lb/a	FALL	A			
6	NONTREATED									0 c	0 c	0 b
LSD (P=.05)										2.8	3.6	0.0
Replicate F										0.742	0.569	0.000
Replicate Prob(F)										0.5437	0.6440	1.0000
Treatment F										1921.325	1150.018	0.000
Treatment Prob(F)										0.0001	0.0001	1.0000

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Pest Code										POAAN	POAAN	POAAN	POAAN	LAMPU
Crop Code														
Rating Date										03-24-10	04-02-10	04-16-10	05-14-10	04-16-10
Rating Data Type										Control	Control	Control	Control	Control
Rating Unit										Percent	Percent	Percent	Percent	Percent
Rating Timing														
Trt-Eval Interval										14 DA-SGU	14 DA-SAS	28 DA-SAS	56 DA-SAS	28 DA-SAS
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	45 b	48 b	60 b	63 b	85 ab
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A					
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A	24 c	25 c	15 c	16 c	79 b
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
2	AMS	100	SG	2	lb/a	2	lb/a	FALL	A					
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	FALL	A	39 b	48 b	68 b	65 b	84 ab
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A					
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
3	AMS	100	SG	2	lb/a	2	lb/a	FALL	A					
4	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	99 a	99 a	99 a	99 a	90 ab
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
4	AMS	100	SG	1.52	lb/a	1.52	lb/a	FALL	A					
5	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	FALL	A	99 a	99 a	99 a	99 a	99 a
5	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	FALL	A					
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	FALL	A					
5	AMS	100	SG	2	lb/a	2	lb/a	FALL	A					
6	NONTREATED									0 d	0 d	0 c	0 c	0 c
LSD (P=.05)										12.3	18.9	16.0	17.9	15.9
Replicate F										1.938	1.064	0.823	0.421	2.660
Replicate Prob(F)										0.1669	0.3938	0.5013	0.7407	0.0858
Treatment F										97.651	40.266	61.279	48.393	47.336
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Dow AgroSciences (NA09C2B044).
2. Ratings: CI 3, 7, 14 + 28 DAT and 14 days after spring greenup.
Specify type of injury (growth reduction, chlorosis, malformation) and rate separately if needed.
Evaluate wheat head size and fill and check for delayed maturity.
Wild garlic control at 14 days after spring greenup and at 2, 4, and 8 WA spring application in the adjoining study.
Prior to harvest, collect and counts aerial bulblets in (2) 0.5 m2 quads per plot and report as per 1.0 m2.
Oven dry weight of collected aerial bulblets reported as per 1.0 m2.
3. Yield.
4. Do NOT apply spring nitrogen as to keep the wheat from becoming too competitive and impeding wild garlic growth.
5. If Lolium is present, overspray entire area with Axial, overspray was not required.
6. Crop injury at 7 and 14 DA-A was primarily chlorosis.
On 3-6-2010 wheat was just starting to greenup and ALLVI had frost die back on leaf tips and no new growth.
By 56 DA-SAS CERVU and LAMPU were senescing naturally in the nontreated plots and could not be evaluated.
7. 14 DA-SGU = 14 days after spring greenup. 14 DA-SAS = 14 days after the spring application in the adjoining study.
1.0 m2 = One square meter. ODW = Oven dry weight per one square meter. EOS = End of season.
8. Harvested 6-22-10, (8) 7.5 inch rows by 27 ft.