

Spring Applications of PowerFlex on Wild Garlic.

Trial ID: 10-CP-S165

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 spring 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: SEEDED **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

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

Application Date: 03-19-10
Time of Day: 9:00
Application Method: Spray
Application Timing: SPRING
Application Placement: BROFOL
Applied By: DKT
Air Temperature, Unit: 63 F
% Relative Humidity: 46
Wind Velocity, Unit: 3 MPH
Wind Direction: S
Dew Presence (Y/N): N
Soil Temperature, Unit: 51 F
Soil Moisture: ABONOR
% Cloud Cover: 5

Crop stage at application: 03-19-10
 2 FK
Height Min, Max (inch): 2 4

Pest Stage At Each Application

Application Date: 03-19-10
Weed Code: ALLVI
Stage Majority (leaves): 3"NEWGROWTH
Stage Min, Max: 2 3
Height Majority: 8 IN
Height Min, Max: 4 10
Density, Unit: 5 FT2
Weed Code: CERVU
Stage Majority (leaves): 30
Stage Min, Max: 12 40
Height Majority: 1.5 IN
Height Min, Max: 0.5 2
Density, Unit: 1 FT2
Weed Code: POAAN
Stage Majority (leaves): 6
Stage Min, Max: 4 8
Height Majority: 1 IN
Height Min, Max: 0.5 1.5
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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Pest Code
Crop Code
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	SPRING	A	12.4	a	52.1
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			24
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A			ab
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A	12.2	ab	53.9
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A		a	25
2	AMS	100	SG		lb/a	2	lb/a	SPRING	A			a
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	11.0	ab	46.0
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A		ab	25
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			a
3	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A	12.1	ab	52.0
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A		ab	27
4	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			a
5	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	10.8	ab	45.1
5	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A		ab	26
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			a
5	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
6	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	11.7	ab	49.7
6	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A		ab	27
6	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A			a
7	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	11.7	ab	50.1
7	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A		ab	26
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			a
7	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
8	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	12.0	ab	50.8
8	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A		ab	26
8	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			a
8	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
9	HARMONY EXTRA SG	50	SG	0.028	lb ai/a	0.9	oz/a	SPRING	A	10.8	b	42.7
9	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A		b	24
9	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			ab
10	NONTREATED									11.3	ab	42.2
	LSD (P=.05)									1.63		10.84
	Replicate F									0.374		0.416
	Replicate Prob(F)									0.7725		0.7430
	Treatment F									1.088		1.237
	Treatment Prob(F)									0.4031		0.3146
												0.0978

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

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Pest Code Crop Code Rating Date Rating Data Type Rating Unit Rating Timing Trt-Eval Interval								TRZAW 03-22-10 Injury Percent	TRZAW 03-26-10 Injury Percent	TRZAW 04-02-10 Injury Percent	TRZAW 04-16-10 Injury Percent	TRZAW 04-30-10 Injury Percent
								3 DA-A	7 DA-A	14 DA-A	28 DA-A	42 DA-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	SPRING	A	0 a	0 a	0 a
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A			
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A	0 a	0 a	0 a
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
2	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	0 a	0 a	0 a
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A			
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
3	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A	0 a	0 a	0 a
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
4	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
5	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	0 a	0 a	0 a
5	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A			
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
5	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
6	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	0 a	0 a	0 a
6	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
6	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A			
7	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	0 a	0 a	0 a
7	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A			
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
7	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
8	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	0 a	0 a	0 a
8	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A			
8	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
8	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
9	HARMONY EXTRA SG	50	SG	0.028	lb ai/a	0.9	oz/a	SPRING	A	0 a	0 a	0 a
9	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			
9	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
10	NONTREATED									0 a	0 a	0 a
LSD (P=.05)								0.0	0.0	0.0	0.0	0.0
Replicate F								0.000	0.000	0.000	0.000	0.000
Replicate Prob(F)								1.0000	1.0000	1.0000	1.0000	1.0000
Treatment F								0.000	0.000	0.000	0.000	0.000
Treatment Prob(F)								1.0000	1.0000	1.0000	1.0000	1.0000

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

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								ALLVI	ALLVI	ALLVI	ALLVI	ALLVI
Pest Code								04-02-10	04-16-10	04-30-10	06-14-10	06-14-10
Crop Code								Control	Control	Control	Bulb Counts	Bulbs ODW
Rating Date								Percent	Percent	Percent	1.0 m2	gram
Rating Data Type												
Rating Unit												
Rating Timing												
Trt-Eval Interval								14 DA-A	28 DA-A	42 DA-A	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	SPRING	A	49 b	70 b	66 b
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			10.8 b
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A			3.35 c
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A	69 a	88 a	88 a
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.3 c
2	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			0.01 d
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	73 a	89 a	89 a
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A			1.0 c
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.09 d
3	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A	70 a	89 a	89 a
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.0 c
4	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			0.00 d
5	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	69 a	90 a	90 a
5	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A			0.0 c
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.00 d
5	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
6	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	30 c	38 c	35 c
6	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			16.8 a
6	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A			5.14 b
7	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	68 a	86 a	86 a
7	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A			1.3 c
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.24 d
7	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
8	OSPREY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	71 a	90 a	90 a
8	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A			0.8 c
8	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.10 d
8	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			
9	HARMONY EXTRA SG	50	SG	0.028	lb ai/a	0.9	oz/a	SPRING	A	66 a	90 a	90 a
9	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A			0.3 c
9	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A			0.01 d
10	NONTREATED									0 d	0 d	0 d
											19.0 a	7.18 a
LSD (P=.05)								7.5	8.9	7.3	4.17	1.538
Replicate F								4.104	0.620	0.764	1.409	0.721
Replicate Prob(F)								0.0160	0.6084	0.5241	0.2616	0.5480
Treatment F								85.813	97.563	149.366	27.403	25.035
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)

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Trial ID: 10-CP-S165

Location: Agronomy Res. Center

Pest Code	CERVU	CERVU	CERVU	POAAN	POAAN	POAAN
Crop Code						
Rating Date	04-02-10	04-16-10	04-30-10	04-02-10	04-16-10	04-30-10
Rating Data Type	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing						
Trt-Eval Interval	14 DA-A	28 DA-A	42 DA-A	14 DA-A	28 DA-A	42 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate 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	SPRING	A	71 ab	98 a	98 a	24 bc	23 c	21 bc
1	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
1	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A						
2	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A	68 ab	98 a	98 a	18 c	10 cde	9 cd
2	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
2	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
3	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	71 ab	98 a	97 a	28 bc	24 c	21 bc
3	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A						
3	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
3	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
4	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A	70 ab	98 a	98 a	23 bc	15 cd	15 cd
4	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
4	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
5	POWERFLEX	7.5	WG	0.0164	lb ai/a	3.5	oz/a	SPRING	A	70 ab	98 a	98 a	26 bc	40 b	36 b
5	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A						
5	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
5	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
6	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	48 c	91 b	91 b	39 a	71 a	69 a
6	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
6	AMS	100	SG	1.52	lb/a	1.52	lb/a	SPRING	A						
7	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	74 a	97 a	98 a	33 ab	74 a	73 a
7	HARMONY EXTRA SG	50	SG	0.014	lb ai/a	0.45	oz/a	SPRING	A						
7	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
7	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
8	OSPNEY	4.5	WG	0.0134	lb ai/a	4.76	oz/a	SPRING	A	70 ab	98 a	98 a	43 a	81 a	81 a
8	HARMONY EXTRA SG	50	SG	0.0234	lb ai/a	0.75	oz/a	SPRING	A						
8	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
8	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
9	HARMONY EXTRA SG	50	SG	0.028	lb ai/a	0.9	oz/a	SPRING	A	66 b	98 a	98 a	18 c	5 de	5 d
9	NIS (ACTIVATOR 90)	100	SL	0.5	% v/v	0.5	% v/v	SPRING	A						
9	AMS	100	SG	2	lb/a	2	lb/a	SPRING	A						
10	NONTREATED									0 d	0 c	0 c	0 d	0 e	0 d
LSD (P=.05)										6.9	2.6	2.5	10.2	14.0	15.9
Replicate F										3.963	1.054	1.556	1.536	3.432	3.812
Replicate Prob(F)										0.0183	0.3850	0.2231	0.2279	0.0310	0.0213
Treatment F										90.630	1223.445	1261.237	11.776	40.393	30.677
Treatment Prob(F)										0.0001	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 (NA10C2B001).
2. Ratings: CI 3, 7, 14, 28 + 42-56 DAT.
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, 28 + 42-56 DAT.
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. Application timing: Wild garlic with 2-4 inch of new growth in the spring but less than 12 inch in total height.
Apply to wheat from 3 leaf to jointing stage.
7. On 3-6-2010 wheat was just starting to greenup and ALLVI had frost die back on leaf tips and no new growth.
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.