

Southern Illinois University

Evaluation of NUP-12004 for Preplant and Preemergence Burndown Applications in No-Till Corn.

Trial ID: 12-1-MMW40

Location: Belleville Res. Center

Investigator: Bryan Young

**General Trial Information**

**Study Director:** Bryan Young  
**Investigator:** Bryan Young **Title:** Professor

**Trial Status:** F - one-year/final  
**Initiation Date:** 4-26-12

**Trial Location**

**City:** Belleville  
**State/Prov.:** IL  
**Postal Code:** 62221  
**Country:** USA

**Objectives:**

Evaluate efficacy of NUP-12004 for the burndown of annual broadleaf weeds when applied 7 days prior to planting field corn and 3 to 5 days after corn planting.

**Personnel**

**Study Director:** Bryan Young  
**Investigator:** Bryan Young **Title:** Professor  
**Affiliation:** Southern Illinois University  
**Address:** 1205 Lincoln Drive - AG 176 - MC 4415  
**Location:** Carbondale IL  
**Postal Code:** 62901 **E-mail:** bgyoung@siu.edu  
**Phone No.:** 618-453-7679 **Mobile No.:** 618-713-6471

**Crop Description**

**Crop 1:** ZEAMD Zea mays indentata Dent corn  
**Variety:** DKC 61-06 **Description:** RR2/LL  
**BCH Scale:** BCOR **Planting Date:** 5-11-12  
**Planting Method:** SEEDDED Seeded **Rate, Unit:** 28000 S/A  
**Depth, Unit:** 1.5 IN  
**Row Spacing, Unit:** 30 IN

**Pest Description**

**Pest 1 Type:** W **Code:** AMBTR - Ambrosia trifida L.  
**Common Name:** ragweed, giant  
**Pest 2 Type:** W **Code:** AMBEL - Ambrosia artemisiifolia L.  
**Common Name:** ragweed, common

**Site and Design**

**Plot Width, Unit:** 10 FT **Site Type:** FIELD field  
**Plot Length, Unit:** 27 FT  
**Plot Area, Unit:** 270 FT2 **Tillage Type:** NOTILL no-till  
**Replications:** 3 **Study Design:** RACOB L Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	GLXMA	2011

**Maintenance**

No.	Maintenance Treatment Name
1.	N 150 LB/A, P205 50 LB/A, K20 150 LB/A

**Soil Description**

**% OM:** 1.5 **Texture:** SIL SILT LOAM  
**pH:** 6.4 **Soil Name:** WINFIELD  
**CEC:** 6

**Additional Measured Elements**

Element	Quantity	Unit
P1	72	LB/A
K	313	LB/A

**Moisture and Weather Conditions**

**Overall Moisture Conditions:** BELNOR below normal  
**Closest Weather Station:** ICN - Belleville IL **Distance, Unit:** 0.5 MI

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Application Description		
	A	B
Application Date:	4-26-12	5-14-12
Time of Day:	8:00	7:00
Application Method:	Spray	Spray
Application Timing:	7DBP	3-5DAP
Application Placement:	BROFOL	BROFOL
Applied By:	RFK	RFK
Air Temperature, Unit:	69 F	60 F
% Relative Humidity:	66	50
Wind Velocity, Unit:	5 MPH	3 MPH
Wind Direction:	S	N
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	62 F	65 F
Soil Moisture:	NORMAL	NORMAL
% Cloud Cover:	0	0
Next Rain Occurred On:	4-29-12	5-21-12

Crop Stage At Each Application		
	A	B
Crop 1 Code, BBCH Scale:	ZEAMD BCOR	ZEAMD BCOR
Stage Scale Used:	DESC	DESC
Stage Majority, Percent:	NA	NA

Pest Stage At Each Application				
	A		B	
Pest 1 Code, Type, Scale:	AMBTR	W DESC	AMBTR	W DESC
Stage Majority, Percent:	8		10+	
Stage Minimum, Percent:	4		8	
Stage Maximum, Percent:	8		10+	
Height, Unit:	4	IN	10	IN
Height Minimum, Maximum:	4	6	6	12
Density, Unit:	0.1	FT2	0.1	FT2
Pest 2 Code, Type, Scale:	AMBEL	W DESC	AMBEL	W DESC
Stage Majority, Percent:	6		8	
Stage Minimum, Percent:	5		8	
Stage Maximum, Percent:	6		10	
Height, Unit:	4	IN	6	IN
Height Minimum, Maximum:	4	6	4	8
Density, Unit:	0.01	FT2	0.01	FT2

Application Equipment				
	A		B	
Appl. Equipment:	CO2 sprayer		CO2 sprayer	
Equipment Type:	BACSPR		BACSPR	
Operation Pressure, Unit:	30	PSI	30	PSI
Nozzle Type:	XR		XR	
Nozzle Size:	8002		8002	
Boom Length, Unit:	7.5	FT	7.5	FT
Spray Volume, Unit:	15	GPA	15	GPA

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Pest Code								ZEAMD	ZEAMD	ZEAMD	ZEAMD	
Crop Code								Necrosis	Necrosis	Epinasty	Epinasty	
Rating Date								Percent	Percent	Percent	Percent	
Rating Type												
Rating Unit												
Rating Timing												
Trt-Eval Interval								14 DAT	28 DAT	14 DAT	28 DAT	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Unit Stage	Appl Code				
1	NONTREATED								0 a	0 a	0 a	0 a
2	NUP-12004 NIS (ACTIVATOR 90)	3.52 EC 100 SL		0.33 lb ae/a 0.25 % v/v	12 fl oz/a 0.25 % v/v		7DBP 7DBP	A A		0 a		0 a
3	NUP-12004 NIS (ACTIVATOR 90)	3.52 EC 100 SL		0.495 lb ae/a 0.25 % v/v	18 fl oz/a 0.25 % v/v		7DBP 7DBP	A A		0 a		0 a
4	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 EC 100 SL		0.48 lb ae/a 0.25 % v/v	16 fl oz/a 0.25 % v/v		7DBP 7DBP	A A		0 a		0 a
5	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 EC 100 SL		0.66 lb ae/a 0.25 % v/v	22 fl oz/a 0.25 % v/v		7DBP 7DBP	A A		0 a		0 a
6	NONTREATED								0 a	0 a	0 a	0 a
7	NUP-12004 NIS (ACTIVATOR 90)	3.52 EC 100 SL		0.33 lb ae/a 0.25 % v/v	12 fl oz/a 0.25 % v/v		3-5DAP 3-5DAP	B B	0 a	0 a	0 a	0 a
8	NUP-12004 NIS (ACTIVATOR 90)	3.52 EC 100 SL		0.495 lb ae/a 0.25 % v/v	18 fl oz/a 0.25 % v/v		3-5DAP 3-5DAP	B B	0 a	0 a	0 a	0 a
9	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 EC 100 SL		0.48 lb ae/a 0.25 % v/v	16 fl oz/a 0.25 % v/v		3-5DAP 3-5DAP	B B	0 a	0 a	0 a	0 a
10	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 EC 100 SL		0.66 lb ae/a 0.25 % v/v	22 fl oz/a 0.25 % v/v		3-5DAP 3-5DAP	B B	0 a	0 a	0 a	0 a
LSD (P=.05)								0.0	0.0	0.0	0.0	
Standard Deviation								0.0	0.0	0.0	0.0	
CV								0.0	0.0	0.0	0.0	
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	

Means followed by same letter do not significantly differ (P=.05, LSD)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								AMBTR	AMBTR	AMBTR	AMBTR	AMBEL	AMBEL	AMBEL	AMBEL	
								Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	Control Percent	
								3 DAT	7 DAT	14 DAT	28 DAT	3 DAT	7 DAT	14 DAT	28 DAT	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	NONTREATED								0 e	0 d	0 e	0 b	0 d	0 d	0 d	0 b
2	NUP-12004 NIS (ACTIVATOR 90)	3.52 100	EC SL	0.33 lb 0.25 %	ae/a v/v	12 fl 0.25 %	oz/a v/v	7DBP A 7DBP A	90 a	99 a	99 a	96 a	90 a	99 a	99 a	98 a
3	NUP-12004 NIS (ACTIVATOR 90)	3.52 100	EC SL	0.495 lb 0.25 %	ae/a v/v	18 fl 0.25 %	oz/a v/v	7DBP A 7DBP A	90 a	99 a	99 a	96 a	90 a	99 a	99 a	98 a
4	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 100	EC SL	0.48 lb 0.25 %	ae/a v/v	16 fl 0.25 %	oz/a v/v	7DBP A 7DBP A	90 a	99 a	99 a	98 a	90 a	99 a	99 a	99 a
5	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 100	EC SL	0.66 lb 0.25 %	ae/a v/v	22 fl 0.25 %	oz/a v/v	7DBP A 7DBP A	90 a	99 a	99 a	99 a	90 a	99 a	99 a	99 a
6	NONTREATED								0 e	0 d	0 e	0 b	0 d	0 d	0 d	0 b
7	NUP-12004 NIS (ACTIVATOR 90)	3.52 100	EC SL	0.33 lb 0.25 %	ae/a v/v	12 fl 0.25 %	oz/a v/v	3-5DAP B 3-5DAP B	50 c	57 bc	77 c	99 a	57 b	63 b	80 b	99 a
8	NUP-12004 NIS (ACTIVATOR 90)	3.52 100	EC SL	0.495 lb 0.25 %	ae/a v/v	18 fl 0.25 %	oz/a v/v	3-5DAP B 3-5DAP B	62 b	67 b	83 b	98 a	60 b	63 b	83 b	99 a
9	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 100	EC SL	0.48 lb 0.25 %	ae/a v/v	16 fl 0.25 %	oz/a v/v	3-5DAP B 3-5DAP B	32 d	47 c	67 d	99 a	33 c	37 c	65 c	99 a
10	WEEDONE LV 4 EC NIS (ACTIVATOR 90)	3.84 100	EC SL	0.66 lb 0.25 %	ae/a v/v	22 fl 0.25 %	oz/a v/v	3-5DAP B 3-5DAP B	38 d	50 c	80 bc	99 a	43 c	47 c	80 b	99 a
LSD (P=.05)								7.9	10.4	5.7	4.3	11.9	11.3	9.6	1.7	
Standard Deviation								4.6	6.1	3.3	2.5	7.0	6.6	5.6	1.0	
CV								8.46	9.83	4.72	3.2	12.59	10.91	7.95	1.23	
Replicate F								1.705	1.909	2.345	1.295	3.366	0.915	2.416	2.250	
Replicate Prob(F)								0.2099	0.1770	0.1245	0.2983	0.0573	0.4183	0.1176	0.1342	
Treatment F								187.687	123.561	408.301	814.694	79.573	106.969	144.052	5476.938	
Treatment Prob(F)								0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	

Trial Comments

1. Protocol: Nufarm (H 2012-101-IL; H 2012-102-IL).
2. Ratings: CI; Distinguish between necrosis and epinasty and evaluate at 14 and 28 DA-A (trts 1-5) and 14 and 28 DA-B (trts 6-10).  
WC at 3, 7 14, and 28 DA-A (trts 1-5) and 3, 7 14, and 28 DA-B (trts 6-10).
3. Ideally, weed heights should be less than 4 inch in size.
4. Take digital photos to demonstrate treatment differences.
5. Rainfall following the 7DBP application was; 3.06 inch 3 days later, 0.66 inch 4 days later, 0.13 inch 5 days later, 0.25 inch 8 days later, and 0.29 inch 11 days later.
6. The planned May 3 planting date was delayed due to wet soil conditions, thus it was not possible to rate crop injury at 14 days after the 7DBP application.  
There was no observable crop injury at any time.
7. DAT = Days after either the 7DBP or the 3-5DAP application.  
Ratings at 3 days after the 7DBP and 3-5DAP applications were on 4-29-12 and 5-17-12, respectively.  
Ratings at 7 days after the 7DBP and 3-5DAP applications were on 5-3-12 and 5-21-12, respectively.  
Ratings at 14 days after the 7DBP and 3-5DAP applications were on 5-10-12 and 5-28-12, respectively.  
Ratings at 28 days after the 7DBP and 3-5DAP applications were on 5-24-12 and 6-11-12, respectively.
8. Not harvested.