

# LSU Northeast Research Station

## Effect of barnyardgrass growth stage on the efficacy of Regiment.

Trial ID: SJ06R024                      Protocol ID: SJ06R024  
 Location: Bay1: 2nd Paddy N End      Study Director:  
    Investigator: Bill Williams

### General Trial Information

**Investigator:** Bill Williams

### Objectives:

- 1.) To determine the effect of barnyardgrass grass growth stage on Regiment efficacy.
- 2.) To compare DynaPak and Kinetic as adjuvants for Regiment.

### Conclusions:

Treatments were applied on 14th, 16th and 18th June. Individual plants of different growth stages were tagged in each plot and herbicide activity on these tagged plants was recorded. Four growth stages: 4-5 leaf, 1 tiller, 2 tiller, and 3-4 tiller were tagged. Visual control ratings were recorded on July 12, 2006.

Statistically, few differences between treatments could be identified at the 5% level. However, several important trends were observed. Regiment plus Dyne-A-Pak controlled 4-5 leaf and 1 tiller barnyardgrass at least 80 percent. Barnyardgrass control dropped to around 50 percent at the 2 and 3-4 tiller stages. The level of control obtained with Regiment plus Kinetic was lower (usually around 30 percent) than that observed with Regiment plus Dyne-A-Pak.

The higher level of barnyardgrass control obtained with Regiment plus Dyne-A-Pak compared to Regiment plus Kinetic, underlines the important role surfactant plays in enhancing activity of Regiment. It is interesting to note, that barnyardgrass control was highest in the wetter plots nearest the back levee. The effect of adjuvant was also less pronounced in plots nearest the back levee. Overall, this research indicates that Dyne-A-Pak can help address some of the variability in size and soil moisture observed in grower's fields. Still, there is limit to the size of barnyard grass that Regiment can control.

### Crop Description

**Crop 1:** NONE      No crop present.

### Pest Description

**Pest 1 Type:** W      **Code:** ECHCG      Echinochloa crus-galli  
**Common Name:** Common barnyardgrass  
**Description:** Very dense natural population.

### Site and Design

**Plot Width, Unit:** 6.67      FT  
**Plot Length, Unit:** 15      FT  
**Replications:** 3                      **Study Design:** Randomized Complete Block

### Soil Description

**Description Name:** Bay1: North End  
**% Sand:** 24      **% OM:** 2.01      **Texture:** Clay  
**% Silt:** 34      **pH:** 7.96      **Soil Name:** Sharkey  
**% Clay:** 42      **CEC:** 21.9      **Fert. Level:** Excellent

### Moisture Conditions

**Overall Moisture Conditions:** DRY  
**Closest Weather Station:** Northeast Research Station      **Distance:** 0.25      **Unit:** MI

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	Date	Time	Amount	Unit	Type	Interval	Unit
1.	5/26/06				Flush		
2.	5/28/06	5:00 pm	0.18	In	Rain	1	Hou
3.	5/29/06	2:30 pm	0.46	In	Rain	2.5	Hou
4.	5/30/06	1:30 pm	0.79	In	Rain	3	Hou
5.	6/2/06	6:30 pm	0.03	In	Rain	1	Hou
6.	6/5/06				Flush		
7.	6/12/06				Flush		
8.	6/17/06	7:00 pm	0.03	In	Rain	1	Hou
9.	6/18/06	10:00 p	0.01	In	Rain	1	Hou
10.	6/19/06	10:00 p	0.05	In	Rain	1	Hou
11.	6/20/06	2:30 pm	0.19	In	Rain	1	Hou
12.	6/24/06	9:00 pm	0.07	In	Rain	1	Hou
13.	6/28/06				Permanent Flood		
14.	7/3/06	1:00 pm	0.07	In	Rain	0.5	Hou
15.	7/4/06	3:00 pm	0.69	In	Rain	1.5	Hou
16.	7/4/06	7:00 am				1	Hou
17.	7/5/06	12:00 a	1.25	In	Rain	0.75	Hou
18.	7/5/06	6:00pm				1.5	Hou
19.	7/6/06	6:00 pm	0.35	In	Rain	3.5	Hou
20.	7/11/06	2:00 pm	0.45	In	Rain	2	Hou

### Application Description

	A
Application Date:	6/16/06
Time of Day:	4.00 pm
Application Method:	SPRAY
Application Timing:	NCPOPE
Application Placement:	BROFOL
Air Temperature, Unit:	85.8 F
% Relative Humidity:	74
Wind Velocity, Unit:	4.5 MPH
Wind Direction:	S
Soil Temperature, Unit:	88.0 F
Soil Moisture:	WET
% Cloud Cover:	80

### Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE

### Pest Stage At Each Application

	A
Pest 1 Code, Disc., Scale:	ECHCG W

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## Application Equipment

	A
<b>Appl. Equipment:</b>	Backpack
<b>Operating Pressure, Unit:</b>	31 PSI
<b>Nozzle Type:</b>	Greenleaf
<b>Nozzle Size:</b>	11002
<b>Nozzle Spacing, Unit:</b>	20 IN
<b>Nozzles/Row:</b>	2
<b>Ground Speed, Unit:</b>	2.8 MPH
<b>Carrier:</b>	Water
<b>Spray Volume, Unit:</b>	15 GAL/AC
<b>Propellant:</b>	CO2

**Equipment Comment:** Hou

7/6/06	6:00 pm	0.35	In	Rain	3.5	Hou
7/11/06	2:00 pm	0.45	In	Rain	2	Hou

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Protocol ID: SJ06R024

Location: Bayl: 2nd Paddy N End

Study Director:

Investigator: Bill Williams

Pest Type	W Weed
Pest Code	ECHCG
Pest Name	Common barn>
Part Rated	PLATOT P
Rating Date	7/12/06
Rating Data Type	CONTROL
Rating Unit	%
Days After First/Last Applic.	26 26
Trt-Eval Interval	2-3 WAA
Trt Treatment	Rate
No. Name	Rate Unit
1 Regiment	0.5 oz/a
Dyne-A-Pak	1.5 % v/v
2 Regiment	0.5 oz/a
Kinetic	0.25 % v/v
3 Regiment	0.5 oz/a
Dyne-A-Pak	1.5 % v/v
4 Regiment	0.5 oz/a
Kinetic	0.25 % v/v
5 Regiment	0.5 oz/a
Dyne-A-Pak	1.5 % v/v
6 Regiment	0.5 oz/a
Kinetic	0.25 % v/v
7 Regiment	0.5 oz/a
Dyne-A-Pak	1.5 % v/v
8 Regiment	0.5 oz/a
Kinetic	0.25 % v/v
LSD (P=.05)	39.66
Standard Deviation	22.65
CV	50.54
Bartlett's X2	9.683
P(Bartlett's X2)	0.139
Replicate F	5.649
Replicate Prob(F)	0.0159
Treatment F	5.172
Treatment Prob(F)	0.0044

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.