

# University of Georgia

**Wheat, Rye, Oats, and ryegrass response to Chateau and Dual Magnum.**

Trial ID: Wheat4-08  
Location: Ponder Farm

Study Dir.: Stanley Culpepper  
Investigator: Stanley Culpepper

Reps: 3                      Plots: 24 by 15 feet  
Spray vol: 14.8 gal/ac      Mix size: 1 liters (min 1.389)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Form Rate	Rate Unit	Grow Stg	Appl Code	Amt to Measure	Product			Plot No. By Rep		
										1	2	3	1	2	3
1	PRE Chateau	51		DG	3	OZ/A		A	1.518 g/mx	101	204	302			
2	PRE Chateau	51		DG	6	OZ/A		A	3.036 g/mx	102	211	303			
3	PRE Dual Magnum	7.64		L	1	PT/A		A	8.445 ml/mx	103	206	308			
4	PRE Chateau	51		DG	3	OZ/A		A	1.518 g/mx	104	207	304			
	Dual Magnum	7.64		L	1	PT/A		A	8.445 ml/mx						
5	PRE Non-treated							A		105	214	309			
6	Spike Chateau	51		DG	3	OZ/A		B	1.518 g/mx	106	205	311			
7	Spike Chateau	51		DG	6	OZ/A		B	3.036 g/mx	107	210	306			
8	Spike Dual Magnum	7.64		L	1	PT/A		B	8.445 ml/mx	108	201	313			
9	Spike Chateau	51		DG	3	OZ/A		B	1.518 g/mx	109	202	315			
	Dual Magnum	7.64		L	1	PT/A		B	8.445 ml/mx						
10	Spike Non-treated							B		110	212	307			
11	One-three leaf Chateau	51		DG	3	OZ/A		C	1.518 g/mx	111	203	301			
12	One-three leaf Chateau	51		DG	6	OZ/A		C	3.036 g/mx	112	209	314			
13	One-three leaf Dual Magnum	7.64		L	1	PT/A		C	8.445 ml/mx	113	208	312			
14	One-three leaf Chateau	51		DG	3	OZ/A		C	1.518 g/mx	114	215	310			
	Dual Magnum	7.64		L	1	PT/A		C	8.445 ml/mx						
15	One-three leaf Non-treated							C		115	213	305			

Sort Order: Treatment

Product quantities required for listed treatments and applications in one trial:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
22.771	g	Chateau	51	DG	
63.338	ml	Dual Magnum	7.64	L	

\* 'Per area' calculations based on spray volume= 14.8 gal/ac, mix size= 1 liters (mix size basis).

\* Product amount calculations increased 25 % for overage adjustment.

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### Trial Comments

OBJECTIVE: Determine ryegrass, wheat, oat, and rye response to Chateau and Dual applied at planting and POST.

#### Ryegrass Response:

1. Ryegrass was not tolerant to Chateau (either rate) or Dual Magnum applied at planting or POST. The greatest level of tolerance was noted with the 1-leaf application compared to a spike or PRE application.

#### Wheat and Rye Response:

1. Wheat was safe with 3 oz of Chateau or Dual Magnum applied to the 2-leaf stage only. Injury was also less than 15% with the 6 oz of Chateau but greater than 20% with Chateau + Dual applied at this growth stage.

#### Oat Response:

1. Injury was severe with all at plant or spike applications. Only Dual Magnum applied to 1 leaf oat caused less than 15% injury.

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Trial ID: Wheat4-08

Study Dir.: Stanley Culpepper

Location: Ponder Farm

Investigator: Stanley Culpepper

Crop Code	LOLMU	LOLMU	LOLMU	LOLMU	LOLMU	TRZAW	TRZAW	TRZAW		
Rating Data Type	injury	injury	injury	injury	injury	injury	injury	injury		
Rating Unit	%	%	%	%	%	%	%	%		
Rating Date	Dec-31-08	Jan-07-08	Jan-21-08	Feb-26-08	May-05-08	Dec-31-08	Jan-07-08	Jan-21-08		
Assessed By	SC	SC	SC	SC	SC	SC	SC	SC		
Trt-Eval Interval	379 DA-B	20 DA-B	34 DA-B	70 DA-B	139 DA-B	379 DA-B	20 DA-B	34 DA-B		
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate		
		Unit	Unit	Unit	Unit	Unit	Unit	Unit		
1	PRE Chateau	3 OZ/A	96 a	99 a	96 a	93 a	80 b	23 d	45 c	38 cde
2	PRE Chateau	6 OZ/A	99 a	99 a	99 a	98 a	99 a	40 c	65 b	68 b
3	PRE Dual Magnum	1 PT/A	99 a	96 a	99 a	99 a	95 a	17 de	27 de	30 de
4	PRE Chateau Dual Magnum	3 OZ/A 1 PT/A	99 a	99 a	99 a	99 a	98 a	90 a	95 a	98 a
5	PRE Non-treated		0 d	0 e	0 e	0 e	0 e	0 f	0 f	0 g
6	Spike Chateau	3 OZ/A	87 b	96 a	99 a	91 ab	70 bc	13 def	28 de	40 cd
7	Spike Chateau	6 OZ/A	96 a	99 a	99 a	99 a	92 a	13 def	35 cd	49 c
8	Spike Dual Magnum	1 PT/A	42 c	68 b	59 b	80 b	63 c	7 ef	10 f	23 ef
9	Spike Chateau Dual Magnum	3 OZ/A 1 PT/A	98 a	99 a	99 a	99 a	99 a	70 b	86 a	96 a
10	Spike Non-treated		0 d	0 e	0 e	0 e	0 e	0 f	0 f	0 g
11	One-three leaf Chateau	3 OZ/A	0 d	15 d	27 cd	58 c	37 d	0 f	0 f	7 g
12	One-three leaf Chateau	6 OZ/A	0 d	18 d	47 bc	94 a	73 bc	0 f	6 f	13 fg
13	One-three leaf Dual Magnum	1 PT/A	0 d	0 e	8 de	38 d	12 e	0 f	0 f	0 g
14	One-three leaf Chateau Dual Magnum	3 OZ/A 1 PT/A	0 d	27 c	50 b	99 a	91 a	0 f	22 e	12 fg
15	One-three leaf Non-treated		0 d	0 e	0 e	0 e	0 e	0 f	0 f	0 g
LSD (P=.05)			7.5	7.9	21.2	11.2	11.1	12.1	11.0	14.4
Standard Deviation			4.5	4.7	12.7	6.7	6.6	7.2	6.6	8.6
CV			9.45	8.71	21.6	9.57	10.94	39.49	23.52	27.25
Bartlett's X2			9.393	3.827	12.443	11.966	23.433	10.88	7.466	19.597
P(Bartlett's X2)			0.052	0.575	0.029*	0.035*	0.009*	0.144	0.589	0.033*

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

# University of Georgia

Crop Code	TRZAW	TRZAW	SECCE	SECCE	SECCE	SECCE	SECCE	SECCE	AVESA	
Rating Data Type	injury	injury	injury	injury	injury	injury	injury	injury	injury	
Rating Unit	%	%	%	%	%	%	%	%	%	
Rating Date	Feb-26-08	May-05-08	Dec-31-08	Jan-07-08	Jan-21-08	Feb-26-08	May-05-08	Dec-31-08	Dec-31-08	
Assessed By	SC	SC	SC	SC	SC	SC	SC	SC	SC	
Trt-Eval Interval	70 DA-B	139 DA-B	379 DA-B	20 DA-B	34 DA-B	70 DA-B	139 DA-B	379 DA-B	379 DA-B	
Trt No.	Treatment Name	Rate	Rate	Rate	Rate	Rate	Rate	Rate	Rate	
		Unit								
1	PRE Chateau	3 OZ/A	38 c	15 cd	43 c	45 d	29 cd	30 c	15 de	82 b
2	PRE Chateau	6 OZ/A	53 b	38 b	63 b	72 c	60 b	43 b	33 bc	93 ab
3	PRE Dual Magnum	1 PT/A	22 d	10 cd	12 e	20 e	30 cd	12 def	13 de	43 c
4	PRE Chateau Dual Magnum	3 OZ/A 1 PT/A	90 a	73 a	94 a	98 a	98 a	97 a	80 a	97 a
5	PRE Non-treated		0 f	0 d	0 f	0 f	0 f	0 f	0 e	0 d
6	Spike Chateau	3 OZ/A	35 c	20 bcd	25 d	28 e	25 d	16 cde	17 de	40 c
7	Spike Chateau	6 OZ/A	38 c	25 bc	28 d	38 d	42 c	25 cd	23 cd	43 c
8	Spike Dual Magnum	1 PT/A	13 de	7 cd	11 ef	8 f	20 de	8 ef	7 de	32 c
9	Spike Chateau Dual Magnum	3 OZ/A 1 PT/A	93 a	65 a	70 b	83 b	93 a	93 a	48 b	88 ab
10	Spike Non-treated		0 f	0 d	0 f	0 f	0 f	0 f	0 e	0 d
11	One-three leaf Chateau	3 OZ/A	2 f	7 cd	0 f	0 f	6 f	3 ef	7 de	0 d
12	One-three leaf Chateau	6 OZ/A	12 e	8 cd	0 f	7 f	12 ef	13 def	12 de	0 d
13	One-three leaf Dual Magnum	1 PT/A	5 ef	3 d	0 f	0 f	0 f	5 ef	0 e	0 d
14	One-three leaf Chateau Dual Magnum	3 OZ/A 1 PT/A	13 de	13 cd	0 f	22 e	11 ef	17 cde	8 de	0 d
15	One-three leaf Non-treated		0 f	0 d	0 f	0 f	0 f	0 f	0 e	0 d
LSD (P=.05)			9.1	17.5	9.7	9.0	12.3	13.1	15.8	11.0
Standard Deviation			5.4	10.4	5.8	5.4	7.4	7.9	9.4	6.6
CV			19.7	54.99	25.26	19.22	25.88	32.51	53.78	19.06
Bartlett's X2			12.447	17.975	10.43	11.072	18.273	24.21	14.054	8.485
P(Bartlett's X2)			0.256	0.055	0.165	0.271	0.051	0.012*	0.171	0.292

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)

## University of Georgia

Crop Code	AVESA	AVESA	AVESA	AVESA			
Rating Data Type	injury	injury	injury	injury			
Rating Unit	%	%	%	%			
Rating Date	Jan-07-08	Jan-21-08	Jan-21-08	May-05-08			
Assessed By	SC	SC	SC	SC			
Trt-Eval Interval	20 DA-B	34 DA-B	34 DA-B	139 DA-B			
Trt No.	Treatment Name	Rate	Unit	17	18	19	20
1	PRE Chateau	3	OZ/A	94 a	82 bc	67 d	35 c
2	PRE Chateau	6	OZ/A	98 a	96 a	90 ab	77 a
3	PRE Dual Magnum	1	PT/A	72 b	55 d	20 ef	15 cde
4	PRE Chateau Dual Magnum	3 1	OZ/A PT/A	99 a	99 a	99 a	93 a
5	PRE Non-treated			0 e	0 g	0 g	0 e
6	Spike Chateau	3	OZ/A	67 b	70 c	72 cd	27 cd
7	Spike Chateau	6	OZ/A	88 a	90 ab	82 bc	57 b
8	Spike Dual Magnum	1	PT/A	30 c	30 ef	27 e	10 de
9	Spike Chateau Dual Magnum	3 1	OZ/A PT/A	99 a	99 a	98 a	91 a
10	Spike Non-treated			0 e	0 g	0 g	0 e
11	One-three leaf Chateau	3	OZ/A	10 de	20 f	32 e	25 cd
12	One-three leaf Chateau	6	OZ/A	13 d	33 ef	85 abc	35 c
13	One-three leaf Dual Magnum	1	PT/A	2 e	0 g	12 fg	2 e
14	One-three leaf Chateau Dual Magnum	3 1	OZ/A PT/A	28 c	37 e	67 d	18 cde
15	One-three leaf Non-treated			0 e	0 g	0 g	0 e
LSD (P=.05)				10.2	13.2	13.0	19.8
Standard Deviation				6.1	7.9	7.8	11.9
CV				13.04	16.71	15.62	36.72
Bartlett's X2				17.94	11.15	5.557	13.511
P(Bartlett's X2)				0.036*	0.193	0.851	0.196

Means followed by same letter do not significantly differ (P=.05, Duncan's New MRT)



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**Crop 4:** AVESA OAT, COMMON **Variety:** Horizon  
**Planting Date:** Dec-05-07 **Planting Method:** drilled  
**Rate:** 15 ft **Depth:** 0.5 in **Perennial Age:** \_\_\_\_  
**Row Spacing:** 7.5 in **Spacing Within Row:** \_\_\_\_ **Seed Bed:** flat  
**Soil Temperature:** 60 F **Soil Moisture:** moist **Emergence Date:** Dec-10-07

### SITE AND DESIGN

**Plot Width, Unit:** 24 FT **Plot Length, Unit:** 15 FT **Reps:** 3  
**Site Type:** Ponder Farm  
**Tillage Type:** Conventional **Study Design:** FACTORIAL

**Trial Initiation Comments:**

	Previous Crops	Previous Pesticides	Year
1.			

### MAINTENANCE

**Field Prep./Maintenance:**

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

### SOIL DESCRIPTION

**% Sand:** 92 **% OM:** 1.3 **Texture:** Sand  
**% Silt:** 4 **pH:** 6.0 **Soil Name:** Tifton sandy loam  
**% Clay:** 4 **CEC:** \_\_\_\_\_ **Fert. Level:** \_\_\_\_\_

### ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

### MOISTURE CONDITIONS

Date	Time	Amount	Unit	Type	Interval	Unit
1.						

**Overall Moisture Conditions:** moist

**Closest Weather Station:** \_\_\_\_\_ **Distance:** \_\_\_\_ **Unit:** \_\_

### APPLICATION DESCRIPTION

	A	B	C
<b>Application Date:</b>	Dec-05-07	Dec-18-07	Dec-31-07
<b>Time of Day:</b>	11 am	3:00 pm	5:00 pm
<b>Application Method:</b>	broadcast	broadcast	broadcast
<b>Application Timing:</b>	A	B	C
<b>Applic. Placement:</b>	overtop	overtop	overtop
<b>Air Temp., Unit:</b>	60 F	58 f	72 f
<b>% Relative Humidity:</b>	50	47	54
<b>Wind Velocity, Unit:</b>	3 mph	0 mph	0 mph
<b>Dew Presence (Y/N):</b>	n	n	n
<b>Water Hardness:</b>			
<b>Soil Temp., Unit:</b>	60 F	55 f	62 f
<b>Soil Moisture:</b>	moist	moist	wet
<b>% Cloud Cover:</b>	50	100	0

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### CROP STAGE AT EACH APPLICATION

	A	B	C
<b>Crop 1 Code, Stage:</b>	LOLMU A	LOLMU B	LOLMU C
<b>Stage Scale:</b>	PRE	spike	1 leaf
<b>Height, Unit:</b>	0 in	0.25 in	2 inch
<b>Crop 2 Code, Stage:</b>	TRZAW A	TRZAW B	TRZAW C
<b>Stage Scale:</b>	PRE	spike	2 leaf
<b>Height, Unit:</b>	0 in	0.5 in	3.5 inch
<b>Crop 3 Code, Stage:</b>	SECCE A	SECCE B	SECCE C
<b>Stage Scale:</b>	PRE	1 leaf	3 leaf
<b>Height, Unit:</b>	0 in	1 inch	4 inch
<b>Crop 4 Code, Stage:</b>	AVESA A	AVESA B	AVESA C
<b>Stage Scale:</b>	PRE	1 leaf	2 leaf
<b>Height, Unit:</b>	0 in	0.5 in	3.5 in

### WEED STAGE AT EACH APPLICATION

	A	B	C
<b>Weed 1 Code, Stage:</b>	.	.	.
<b>Stage Scale:</b>	.		
<b>Density, Unit:</b>	.		

### APPLICATION EQUIPMENT

	A	B	C
<b>Appl. Equipment:</b>	backpack	backpack	backpack
<b>Operating Pressure:</b>	24	24	24
<b>Nozzle Type:</b>	flat fan	flat fan	flat fan
<b>Nozzle Size:</b>	11002	11002	11002
<b>Nozzle Spacing, Unit:</b>	18 in	18 in	18 in
<b>Nozzles/Row:</b>	2	2	2
<b>Band Width, Unit:</b>			
<b>Boom Length, Unit:</b>	4.5 ft	4.5 ft	4.5 ft
<b>Boom Height, Unit:</b>	15 in	15 in	15 in
<b>Ground Speed, Unit:</b>	3 mph	3 mph	3 mph
<b>Incorporation Equip.:</b>			
<b>Hours to Incorp.:</b>			
<b>Incorp. Depth, Unit:</b>			
<b>Carrier:</b>	water	water	water
<b>Spray Volume, Unit:</b>	14.8 GPA	14.8 GPA	14.8 GPA
<b>Spray pH:</b>			
<b>Propellant:</b>	CO2	CO2	CO2
<b>Tank Mix (Y/N):</b>	Y	Y	Y

Trt No	Treatment Application Comment