

# University of Georgia

Seeded onion tolerance to Valor PRE and POST.

Trial ID: Onion1-03  
Location: VORF

Study Dir.: Stanley Culpepper  
Investigator: Stanley Culpepper

## GENERAL TRIAL INFORMATION

**Study Director:** Stanley Culpepper **Title:** Ext. Weed Science  
**Affiliation:** University of Georgia  
**Postal Code:** 31794  
**Investigator:** Stanley Culpepper **Title:** Ext. Weed Science  
**Affiliation:** University of Georgia  
**Postal Code:** 31794

## TRIAL LOCATION

**City:** Vidalia **Trial Status:** completed  
**State/Prov.:** GA **Trial Reliability:** excellent  
**Postal Code:** . **Initiation Date:** Oct-21-02  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	OEOLA	cutleaf eveningprimrose	
2.	COPSS	swinecress	
3.	LAMAM	henbit	

**Crop 1:** ALLCE ONION **Variety:** Grannex 33 PRR  
**Planting Date:** Oct-21-02 **Planting Method:** conventional  
**Rate:** 1 per 3" **Depth:** 0.25 in  
**Row Spacing:** 12 in **Spacing Within Row:** 3 inch **Seed Bed:** flat  
**Soil Temperature:** 79 F **Soil Moisture:** irrigated **Emergence Date:** Oct-31-02

## SITE AND DESIGN

**Plot Width, Unit:** 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4  
**Site Type:** VORF research station  
**Tillage Type:** CONVENTIONAL-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	none	non-crop	

## SOIL DESCRIPTION

**% Sand:** 86 **% OM:** 0.47 **Texture:** loamy sand  
**% Silt:** 10 **pH:** 5.8  
**% Clay:** 4

**Overall Moisture Conditions:** .

## APPLICATION DESCRIPTION

	A	B
<b>Application Date:</b>	Oct-21-02	Nov-21-02
<b>Time of Day:</b>	2 PM	3 PM
<b>Application Method:</b>	broadcast	broadcast
<b>Application Timing:</b>	PRE	POST
<b>Applic. Placement:</b>	surface	overtop
<b>Air Temp., Unit:</b>	80 F	72 F
<b>% Relative Humidity:</b>	47	45
<b>Wind Velocity, Unit:</b>	1 mph	1 mph
<b>Dew Presence (Y/N):</b>	n	n
<b>Soil Temp., Unit:</b>	79 F	69 F
<b>Soil Moisture:</b>	dry/irrig	moist
<b>% Cloud Cover:</b>	90	100

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## CROP STAGE AT EACH APPLICATION

	A	B
<b>Crop 1 Code, Stage:</b>	ALLCE PRE	ALLCE POST
<b>Stage Scale:</b>	.	2 leaf
<b>Height, Unit:</b>	0. .	2.5 inch

## WEED STAGE AT EACH APPLICATION

	A	B
<b>Weed 1 Code, Stage:</b>	OEOLA PRE	OEOLA POST
<b>Stage Scale:</b>	.	<0.75"
<b>Density, Unit:</b>	. .	12 ydsq
<b>Weed 2 Code, Stage:</b>	COPSS PRE	COPSS POST
<b>Stage Scale:</b>	.	<0.75"
<b>Density, Unit:</b>	. .	18 ydsq
<b>Weed 3 Code, Stage:</b>	LAMAM PRE	LAMAM POST
<b>Stage Scale:</b>	.	<0.5 inch
<b>Density, Unit:</b>	. .	4 ydsq

## APPLICATION EQUIPMENT

	A	B
<b>Appl. Equipment:</b>	backpack	backpack
<b>Operating Pressure:</b>	23	23
<b>Nozzle Type:</b>	flat fan	flat fan
<b>Nozzle Size:</b>	11002	11002
<b>Nozzle Spacing, Unit:</b>	18 inch	18 inch
<b>Boom Length, Unit:</b>	4.5 feet	4.5 feet
<b>Boom Height, Unit:</b>	15 inch	15 inch
<b>Ground Speed, Unit:</b>	3 mph	3 mph
<b>Carrier:</b>	water	water

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Weed Code		onion injury percent	onion injury percent	onion injury percent	onion injury percent	OEOLA control percent	OEOLA control percent	OEOLA control percent	OEOLA control percent
Crop Code		Nov-13-02	Jan-14-03	Feb-15-03	Mar-27-03	Nov-13-02	Jan-14-03	Feb-15-03	Mar-27-03
Rating Data Type		23 DA-A	85 DA-A	117 DA-A	157 DA-A	23 DA-A	85 DA-A	117 DA-A	157 DA-A
Rating Unit									
Rating Date									
Trt-Eval Interval									
Trt Treatment	Rate								
No. Name	Unit	1	2	3	4	5	6	7	8
1 Valor	0.25 oz/a	8.8	1.3	0.0	2.5	99.0	86.0	84.3	62.5
2 Valor	0.5 oz/a	40.0	42.5	37.5	45.0	99.0	99.0	94.3	94.3
3 Valor	0.75 oz/a	91.0	83.5	85.5	86.0	99.0	99.0	99.0	99.0
4 Valor	1 oz/a	99.0	95.8	96.8	93.5	99.0	99.0	89.3	97.8
5 Dacthal	4 lb/a	0.0	6.3	6.3	0.0	71.0	96.5	76.0	66.0
Valor	0.25 oz/a								
6 Dacthal	4 lb/a	0.0	15.0	7.5	0.0	66.3	96.8	89.8	77.8
Valor	0.5 oz/a								
7 Dacthal	4 lb/a	0.0	26.3	15.0	15.0	70.0	98.0	95.5	93.8
Valor	0.75 oz/a								
8 Dacthal	4 lb/a	0.0	26.3	13.8	16.3	64.3	98.0	94.5	99.0
Valor	1 oz/a								
9 Dacthal	4 lb/a	0.0	21.8	14.3	13.8	70.0	98.0	96.8	96.8
Valor	0.25 oz/a								
Prowl	2 pt/a								
10 Dacthal	4 lb/a	0.0	28.5	29.5	18.8	70.0	99.0	97.3	99.0
Valor	0.5 oz/a								
Prowl	2 pt/a								
11 Dacthal	4 lb/a	0.0	30.0	27.5	17.8	73.5	99.0	98.3	99.0
Valor	0.75 oz/a								
Prowl	2 pt/a								
12 Dacthal	4 lb/a	0.0	64.8	47.3	53.8	68.8	97.0	95.5	97.3
Valor	1 oz/a								
Prowl	2 pt/a								
13 non-treated		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSD (P=.05)		4.43	13.65	13.07	8.51	7.59	4.96	12.61	16.08
Standard Deviation		3.10	9.55	9.15	5.96	5.31	3.47	8.82	11.25
CV		16.88	28.11	31.23	21.37	7.27	3.87	10.33	13.52
Bartlett's X2		3.522	20.769	23.83	17.575	2.427	11.576	35.822	30.199
P(Bartlett's X2)		0.172	0.036*	0.005*	0.025*	0.932	0.072	0.001*	0.001*

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

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Weed Code	LAMAM	LAMAM	LAMAM	LAMAM	COPSS	COPSS	COPSS	COPSS
Crop Code								
Rating Data Type	control	control	control	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent	percent	percent	percent
Rating Date	Nov-13-02	Jan-14-03	Feb-15-03	Mar-27-03	Nov-13-02	Jan-14-03	Feb-15-03	Mar-27-03
Trt-Eval Interval	23 DA-A	85 DA-A	117 DA-A	157 DA-A	23 DA-A	85 DA-A	117 DA-A	157 DA-A
Trt Treatment								
No. Name Rate Unit	9	10	11	12	13	14	15	16
1 Valor 0.25 oz/a	96.5	94.8	91.0	48.8	99.0	99.0	93.5	93.3
2 Valor 0.5 oz/a	96.5	99.0	99.0	98.0	99.0	99.0	98.0	99.0
3 Valor 0.75 oz/a	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
4 Valor 1 oz/a	96.5	99.0	99.0	99.0	99.0	99.0	99.0	99.0
5 Dacthal 4 lb/a	89.8	98.0	99.0	99.0	71.0	76.0	16.3	23.8
Valor 0.25 oz/a								
6 Dacthal 4 lb/a	89.8	99.0	99.0	99.0	66.3	63.5	16.8	15.0
Valor 0.5 oz/a								
7 Dacthal 4 lb/a	89.8	99.0	99.0	99.0	70.0	76.3	43.8	25.0
Valor 0.75 oz/a								
8 Dacthal 4 lb/a	89.8	99.0	99.0	99.0	64.3	55.0	20.0	11.3
Valor 1 oz/a								
9 Dacthal 4 lb/a	89.8	99.0	99.0	99.0	70.0	82.3	48.8	37.5
Valor 0.25 oz/a								
Prowl 2 pt/a								
10 Dacthal 4 lb/a	89.8	99.0	98.0	99.0	70.0	89.5	58.8	48.3
Valor 0.5 oz/a								
Prowl 2 pt/a								
11 Dacthal 4 lb/a	89.8	99.0	99.0	99.0	73.5	94.3	65.0	32.5
Valor 0.75 oz/a								
Prowl 2 pt/a								
12 Dacthal 4 lb/a	89.8	99.0	99.0	99.0	68.8	83.3	52.5	47.5
Valor 1 oz/a								
Prowl 2 pt/a								
13 non-treated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSD (P=.05)	2.89	2.07	2.83	2.98	7.59	11.81	9.09	12.16
Standard Deviation	2.03	1.45	1.98	2.09	5.31	8.27	6.36	8.51
CV	2.38	1.59	2.18	2.39	7.27	10.58	11.63	17.52
Bartlett's X2	62.673	2.136	3.763	3.523	2.427	3.636	31.76	14.497
P(Bartlett's X2)	0.001*	0.144	0.052	0.172	0.932	0.821	0.001*	0.07

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

## Trial Comments

OBJECTIVE: Determine appropriate rate of Valor applied PRE or POST in seeded onion.

### RESULTS:

#### Onion response

- 1) Valor rate applied PRE in seeded onion will likely need to be between 0.15 and 0.25 oz of product per acre.
- 2) Valor rate applied POST to seeded onion will likely be between 0.25 and 0.5 oz of product per acre.
- 3) Mixing Prowl with Valor and applying POST is a no-no.

#### Primrose response:

- 1) Applied PRE, 0.25 oz/A provided excellent control for at least 6 weeks.
- 2) Applied POST following Dacthal, 0.25 oz/A controlled emerged primrose (<0.5 inch) and late-season flushes did not occur in Valor treated plots. Dacthal at this rate applied alone provided poor (<25%) control in an adjacent trial.

#### Henbit response:

- 1) Valor at 0.25 oz/A provided excellent control into February. However, a late-season flush was noted.
- 2) All other Valor applications provided excellent control.

#### Swinecress:

- 1) Valor applied PRE provided excellent season long control.
- 2) Valor POST was far less effective than applied PRE.

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3) Valor provided poor control when applied POST. Mixing Prowl with Valor did improve control but control was still poor.