

EFFICACY AND SELECTIVITY OF SOLIDA WHEN APPLIED PRE AND EARLY POST TO POTATO, 2010

Trial ID: P0210 Protocol ID: P0210
 Location: Montcalm Co. Study Director: Andy Chomas
 Project ID: Investigator: Wesley Everman

General Trial Information

Study Director: Andy Chomas
Investigator: Wesley Everman

Personnel

Study Director: Andy Chomas
Investigator: Wesley Everman

Crop Description

Crop 1: SOLTU Solanum tuberosum Potato
Variety: SNOWDEN
BBCH Scale: BPOT
Planting Date: May-17-10
Rate, Unit: 1 S/FT
Row Spacing, Unit: 34 IN
Harvested Width, Unit: 2.833 FT
Harvested Length, Unit: 25 FT

Pest Description

Pest 1 Type: W **Code:** ANGR
Common Name: annual grass
Pest 2 Type: W **Code:** CHEAL Chenopodium album L.
Common Name: Lambsquarters, common
Pest 3 Type: W **Code:** AMARE Amaranthus retroflexus L.
Common Name: Pigweed, redroot
Pest 4 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: Velvetleaf

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 25 FT
Plot Area, Unit: 250 FT2 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Trial Initiation Comments:
 Spring Disk X3, Chisel, Field Cultivated. Cultivated on , Hilled on .

Field Prep./Maintenance:
 Broadcast 200 lbs/A K-mag, 10 lbs/A Boron, 2 ton/A Chicken Manure. 5 gal/A 10-34-0, 23 gal/A 28%N at Plant, 100 lbs/A 46-0-0 Broadcast.

Soil Description

% OM: 2.2 **Texture:** LS loamy sand
pH: 5.1

Application Description

| | A | B |
|--------------------------------|----------|-----------|
| Application Date: | Jun-1-10 | Jun-11-10 |
| Time of Day: | 2:30 pm | 9:45 am |
| Application Method: | SPRAY | SPRAY |
| Application Timing: | OVERLAY | EP |
| Application Placement: | BROADC | BROADC |
| Air Temperature, Unit: | 80 F | 70 F |
| % Relative Humidity: | 35 | 73 |
| Wind Velocity, Unit: | 5 MPH | 2 MPH |
| Wind Direction: | W | SE |
| Soil Temperature, Unit: | 75 F | 61 F |
| Soil Moisture: | 2 | |
| % Cloud Cover: | 5 | 80 |

Crop Stage At Each Application

| | A | B |
|---------------------------------|------------|------------|
| Crop 1 Code, BBCH Scale: | SOLTU BPOT | SOLTU BPOT |
| Stage Scale Used: | BBCH | |
| Stage Majority, Percent: | CRACK | |
| Height, Unit: | | 6 IN |
| Height Minimum, Maximum: | | 1 7 |

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Pest Stage At Each Application

| | A | | B | |
|----------------------------------|----------|----|----------|-----|
| Pest 1 Code, Type, Scale: | ANGR | W | ANGR | W |
| Stage Majority, Percent: | COT | | COT | |
| Stage Minimum, Percent: | | | COT | |
| Stage Maximum, Percent: | | | L3 | |
| Height, Unit: | 0.25 | IN | 0.25 | IN |
| Height Minimum, Maximum: | | | 0.25 | 3 |
| Density, Unit: | | | 7 | FT2 |
| Pest 2 Code, Type, Scale: | CHEAL | W | CHEAL | W |
| Stage Majority, Percent: | COT | | COT | |
| Stage Minimum, Percent: | | | COT | |
| Stage Maximum, Percent: | | | L6 | |
| Height, Unit: | 0.25 | IN | 0.8 | IN |
| Height Minimum, Maximum: | | | 0.25 | 3 |
| Density, Unit: | | | 4 | FT2 |
| Pest 3 Code, Type, Scale: | AMARE | W | AMARE | W |
| Stage Majority, Percent: | | | L6 | |
| Stage Minimum, Percent: | | | COT | |
| Stage Maximum, Percent: | | | L8 | |
| Height, Unit: | | | 1 | IN |
| Height Minimum, Maximum: | | | 0.25 | 2.5 |
| Density, Unit: | | | 5 | FT2 |
| Pest 4 Code, Type, Scale: | ABUTH | W | ABUTH | W |

Application Equipment

| | A | | B | |
|----------------------------------|----------|--------|----------|--------|
| Equipment Type: | BKPK | | BKPK | |
| Operating Pressure, Unit: | 30 | PSI | 30 | PSI |
| Nozzle Type: | FF | | FF | |
| Nozzle Size: | 8003 | | 8003 | |
| Nozzle Spacing, Unit: | 20 | IN | 20 | IN |
| Boom Length, Unit: | 100 | IN | 100 | IN |
| Boom Height, Unit: | 18 | IN | 23 | IN |
| Ground Speed, Unit: | 3.5 | MPH | 3.5 | MPH |
| Carrier: | WATER | | WATER | |
| Spray Volume, Unit: | 20 | gal/ac | 20 | gal/ac |
| Mix Size, Unit: | 2 | liters | 2 | liters |

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| Pest Code | | | | | ANGR | CHEAL | AMARE | ABUTH | ANGR | CHEAL | AMARE | ABUTH | | |
|-------------------|--------------------|-----------|-----------|------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|------|------|
| Crop Code | | | | | | | | | | | | | | |
| Rating Date | | | | | Jun-9-10 | Jun-9-10 | Jun-9-10 | Jun-9-10 | Jun-15-10 | Jun-15-10 | Jun-15-10 | Jun-15-10 | | |
| Rating Type | | | | | control | control | control | control | control | control | control | control | | |
| Rating Unit | | | | | percent | percent | percent | percent | percent | percent | percent | percent | | |
| Trt-Eval Interval | | | | | 7 DA crack | 7 DA crack | 7 DA crack | 7 DA crack | 14 DA crack | 14 DA crack | 14 DA crack | 14 DA crack | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Growth Unit | Stage | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Solida | 25 | DF | 0.75 oz/a | EP | CRACK | 100 | 86 | 99 | 98 | 96 | 79 | 100 | 98 |
| 2 | Solida | 25 | DF | 1.5 oz/a | EP | CRACK | 100 | 89 | 100 | 98 | 100 | 91 | 100 | 100 |
| 3 | Solida | 25 | DF | 3 oz/a | EP | CRACK | 100 | 93 | 100 | 100 | 100 | 93 | 100 | 100 |
| 4 | Matrix | 25 | WG | 1.5 oz/a | EP | CRACK | 100 | 89 | 100 | 98 | 100 | 89 | 100 | 98 |
| 5 | Solida | 25 | DF | 0.75 oz/a | EP | | | | | | 68 | 43 | 45 | 43 |
| 5 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | |
| 6 | Solida | 25 | DF | 1.5 oz/a | EP | | | | | | 78 | 45 | 45 | 45 |
| 6 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | |
| 7 | Solida | 25 | DF | 3 oz/a | EP | | | | | | 89 | 45 | 48 | 48 |
| 7 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | |
| 8 | Matrix | 25 | WG | 1.5 oz/a | EP | | | | | | 75 | 50 | 50 | 47 |
| 8 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | |
| 9 | Non-Treated | | | | | | | | | | 0 | 0 | 0 | 0 |
| | LSD (P=.05) | | | | | | 0.0 | 8.1 | 2.0 | 6.7 | 14.0 | 8.3 | 6.1 | 7.6 |
| | Standard Deviation | | | | | | 0.0 | 5.1 | 1.3 | 4.2 | 9.6 | 5.7 | 4.2 | 5.2 |
| | CV | | | | | | 0.0 | 5.72 | 1.25 | 4.25 | 12.25 | 9.62 | 6.43 | 8.09 |

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| Pest Code | | | | | | ANGR | CHEAL | AMARE | ABUTH | ANGR | CHEAL | AMARE | ABUTH | | |
|-------------------|--------------------|-----------|-----------|------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------|------|
| Crop Code | | | | | SOLTU | Jun-18-10 | Jun-18-10 | Jun-18-10 | Jun-18-10 | Jun-25-10 | Jun-25-10 | Jun-25-10 | Jun-25-10 | | |
| Rating Date | | | | | injury | control | control | control | control | control | control | control | control | | |
| Rating Type | | | | | percent | percent | percent | percent | percent | percent | percent | percent | percent | | |
| Rating Unit | | | | | 7 DAP | 7 DAP | 7 DAP | 7 DAP | 7 DAP | 14 DAEP | 14 DAEP | 14 DAEP | 14 DAEP | | |
| Trt-Eval Interval | | | | | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Growth Unit | Stage | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 1 | Solida | 25 | DF | 0.75 oz/a | CRACK | | 0 | 100 | 91 | 100 | 99 | 100 | 88 | 100 | 100 |
| 2 | Solida | 25 | DF | 1.5 oz/a | CRACK | | 0 | 100 | 96 | 100 | 100 | 100 | 95 | 100 | 99 |
| 3 | Solida | 25 | DF | 3 oz/a | CRACK | | 0 | 100 | 98 | 100 | 100 | 100 | 94 | 100 | 99 |
| 4 | Matrix | 25 | WG | 1.5 oz/a | CRACK | | 0 | 100 | 94 | 100 | 100 | 100 | 98 | 99 | 100 |
| 5 | Solida | 25 | DF | 0.75 oz/a | EP | | 0 | 97 | 90 | 99 | 98 | 100 | 89 | 100 | 100 |
| 5 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | | |
| 6 | Solida | 25 | DF | 1.5 oz/a | EP | | 0 | 96 | 90 | 99 | 98 | 100 | 94 | 100 | 100 |
| 6 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | | |
| 7 | Solida | 25 | DF | 3 oz/a | EP | | 0 | 97 | 92 | 98 | 97 | 100 | 93 | 100 | 100 |
| 7 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | | |
| 8 | Matrix | 25 | WG | 1.5 oz/a | EP | | 0 | 96 | 92 | 99 | 98 | 100 | 88 | 100 | 100 |
| 8 | Activator 90 | 100 | L | 0.25 % v/v | EP | | | | | | | | | | |
| 9 | Non-Treated | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | LSD (P=.05) | | | | | | 0.0 | 2.5 | 4.5 | 1.7 | 2.9 | 0.0 | 9.2 | 1.2 | 1.8 |
| | Standard Deviation | | | | | | 0.0 | 1.7 | 3.1 | 1.1 | 2.0 | 0.0 | 6.3 | 0.8 | 1.2 |
| | CV | | | | | | 0.0 | 1.99 | 3.75 | 1.28 | 2.24 | 0.0 | 7.73 | 0.94 | 1.36 |

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| | | | |
|-------------------|-----------|----------|-----------|
| Pest Code | CHEAL | CHEAL | |
| Crop Code | | | SOLTU |
| Rating Date | Jun-29-10 | Aug-2-10 | Sep-23-10 |
| Rating Type | control | control | yield |
| Rating Unit | percent | percent | cwt/ac |
| Trt-Eval Interval | 21 DAEP | 56 DAEP | HARVEST |

| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Growth Stage | 18 | 19 | 21 |
|--------------------|----------------|-----------|-----------|------|-----------|--------------|------|-------|-------|
| 1 | Solida | 25 | DF | 0.75 | oz/a | CRACK | 93 | 89 | 309.3 |
| 2 | Solida | 25 | DF | 1.5 | oz/a | CRACK | 96 | 84 | 379.4 |
| 3 | Solida | 25 | DF | 3 | oz/a | CRACK | 93 | 90 | 362.8 |
| 4 | Matrix | 25 | WG | 1.5 | oz/a | CRACK | 95 | 93 | 345.6 |
| 5 | Solida | 25 | DF | 0.75 | oz/a | EP | 83 | 73 | 376.4 |
| 5 | Activator 90 | 100 | L | 0.25 | % v/v | EP | | | |
| 6 | Solida | 25 | DF | 1.5 | oz/a | EP | 92 | 80 | 387.4 |
| 6 | Activator 90 | 100 | L | 0.25 | % v/v | EP | | | |
| 7 | Solida | 25 | DF | 3 | oz/a | EP | 91 | 85 | 307.5 |
| 7 | Activator 90 | 100 | L | 0.25 | % v/v | EP | | | |
| 8 | Matrix | 25 | WG | 1.5 | oz/a | EP | 87 | 78 | 330.2 |
| 8 | Activator 90 | 100 | L | 0.25 | % v/v | EP | | | |
| 9 | Non-Treated | | | | | | 0 | 0 | 262.9 |
| LSD (P=.05) | | | | | | | 11.2 | 12.3 | 66.05 |
| Standard Deviation | | | | | | | 7.6 | 8.4 | 45.25 |
| CV | | | | | | | 9.44 | 11.35 | 13.3 |