

MSU Weed Science Research Program

Black and small red bean tolerance to NAI-1333 tank-mixtures

Trial ID: DB03-13
Conducted: SVREC

Study Dir.: Sprague, Powell
Investigator: Christy Sprague

| | | | |
|----------------------|--------------|---------------------|---------------------------|
| Date Planted: | Jun/13/2013 | Row Spacing: | 30 IN |
| Variety: | see comments | No. of Reps: | 4 |
| Population: | see comments | % OM: | 4.1 |
| Soil Type: | Clay Loam | pH: | 7.7 |
| Plot Size: | 10 X 30 FT | Design: | RANDOMIZED COMPLETE BLOCK |

Tillage: Fall moldboard plow. Spring field cultivate, spring soil finnish.
Previous crop corn.

| | |
|------------------|--------------------|
| Crop Code | Common Name |
| 1. PHSVX | BEAN, DRY |

Application Description

| | |
|------------------------------|-------------|
| Application Timing: | A POST |
| Date Treated: | Jul/03/2013 |
| Time Treated: | 11:30 AM |
| % Cloud Cover: | 25 |
| Air Temp., Unit: | 72 F |
| % Relative Humidity: | 75 |
| Wind Speed/Unit/Dir: | 4 mph NE |
| Soil Temp., Unit: | 73 F |
| Soil/Leaf Surface M: | 5 5 |
| Soil Moist (1=w 5=d): | 3 |

Crop Stage at Each Application

| | |
|----------------------|------------|
| Crop Name: | A PHSVX |
| Height (In.): | 3-7 (5) |
| Stage (L): | V1- V2 |

Application Equipment

| | | | | | | | | | | | |
|-------------|----------------|--------------|---------------|---------------|---------------|---------------|-------------|--------------|------------|----------------|------------|
| Appl | Sprayer | Speed | Nozzle | Nozzle | Nozzle | Nozzle | Boom | Width | GPA | Carrier | PSI |
| A | cub | 3.8 | AirMix | 11003 | 24" | 20" | 100" | 19 | water | 30 | |

Comments: Variety: Zorro planted at 106,000 seeds/A
Merlot planted at 90,000 seeds/A

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Black and small red bean tolerance to NAI-1333 tank-mixtures

Trial ID: DB03-13
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| Weed Code | Crop Code | Rating Data Type | Rating Unit | Rating Date | Trt-Eval Interval | # Subsamples, Dec. | PHSVX injury percent Jul/10/2013 7 DA-A 0 | PHSVX injury percent Jul/17/2013 14 DA-A 0 | PHSVX injury percent Jul/31/2013 28 DA-A 0 | PHSVX maturity percent Sep/06/2013 65 DA-A 0 | PHSVX maturity percent Sep/12/2013 71 DA-A 0 | |
|-----------|---------------------|------------------|-------------|-------------|-------------------|--------------------|--|---|---|---|---|------|
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Form Rate | Grow Stg | Appl Code | | | | | |
| 1 | 'Zorro' blacks | | | | | | | 19 | 19 | 16 | 53 | 82 |
| | NAI-1333 2.5% | EC 0.2 | EC | 1 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 2 | 'Zorro' blacks | | | | | | | 16 | 16 | 11 | 63 | 82 |
| | NAI-1333 2.5% | EC 0.2 | EC | 1 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 3 | 'Zorro' blacks | | | | | | | 24 | 26 | 21 | 41 | 66 |
| | NAI-1333 2.5% | EC 0.2 | EC | 2 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 4 | 'Zorro' blacks | | | | | | | 28 | 30 | 24 | 38 | 64 |
| | NAI-1333 2.5% | EC 0.2 | EC | 2 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 5 | 'Zorro' blacks | | | | | | | 3 | 0 | 1 | 71 | 91 |
| | Raptor | 1 | L | 4 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 12 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 6 | 'Zorro' blacks | | | | | | | 0 | 0 | 0 | 75 | 90 |
| | Untreated | | | | | | | | | | | |
| 7 | 'Merlot' small reds | | | | | | | 26 | 19 | 13 | 26 | 65 |
| | NAI-1333 2.5% | EC 0.2 | EC | 1 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 8 | 'Merlot' small reds | | | | | | | 23 | 16 | 11 | 26 | 64 |
| | NAI-1333 2.5% | EC 0.2 | EC | 1 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 9 | 'Merlot' small reds | | | | | | | 33 | 31 | 18 | 20 | 59 |
| | NAI-1333 2.5% | EC 0.2 | EC | 2 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 10 | 'Merlot' small reds | | | | | | | 30 | 25 | 16 | 26 | 60 |
| | NAI-1333 2.5% | EC 0.2 | EC | 2 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 11 | 'Merlot' small reds | | | | | | | 8 | 6 | 6 | 40 | 75 |
| | Raptor | 1 | L | 4 | fl oz/a | POST | A | | | | | |
| | Basagran | 4 | L | 12 | fl oz/a | POST | A | | | | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | | | | |
| 12 | 'Merlot' small reds | | | | | | | 0 | 0 | 0 | 45 | 78 |
| | Untreated | | | | | | | | | | | |
| | LSD (P=.05) | | | | | | | 4.8 | 5.1 | 6.5 | 7.7 | 9.5 |
| | CV | | | | | | | 19.11 | 22.72 | 39.53 | 12.16 | 9.03 |

Means followed by same letter do not significantly differ (P=.05, LSD)

MSU Weed Science Research Program

| | | |
|--------------------|-------------|-------------|
| Weed Code | | |
| Crop Code | PHSVX | PHSVX |
| Rating Data Type | moisture | yield |
| Rating Unit | percent | cwr/acre |
| Rating Date | Oct/02/2013 | Oct/02/2013 |
| Trt-Eval Interval | 91 DA-A | at 18% M |
| # Subsamples, Dec. | 1 | 1 |

| Trt No. | Treatment Name | Form Conc | Form Type | Rate Rate | Rate Unit | Grow Stg | Appl Code | | |
|---------|---------------------|-----------|-----------|-----------|-----------|----------|-----------|------|------|
| 1 | 'Zorro' blacks | | | | | | | 16.1 | 28.8 |
| | NAI-1333 2.5% EC | 0.2 | EC | 1 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 2 | 'Zorro' blacks | | | | | | | 15.9 | 27.8 |
| | NAI-1333 2.5% EC | 0.2 | EC | 1 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 3 | 'Zorro' blacks | | | | | | | 16.0 | 26.3 |
| | NAI-1333 2.5% EC | 0.2 | EC | 2 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 4 | 'Zorro' blacks | | | | | | | 16.1 | 26.2 |
| | NAI-1333 2.5% EC | 0.2 | EC | 2 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 5 | 'Zorro' blacks | | | | | | | 15.9 | 28.6 |
| | Raptor | 1 | L | 4 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 12 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 6 | 'Zorro' blacks | | | | | | | 16.0 | 27.9 |
| | Untreated | | | | | | | | |
| 7 | 'Merlot' small reds | | | | | | | 14.3 | 22.4 |
| | NAI-1333 2.5% EC | 0.2 | EC | 1 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 8 | 'Merlot' small reds | | | | | | | 14.4 | 22.7 |
| | NAI-1333 2.5% EC | 0.2 | EC | 1 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 9 | 'Merlot' small reds | | | | | | | 14.5 | 22.0 |
| | NAI-1333 2.5% EC | 0.2 | EC | 2 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 32 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 10 | 'Merlot' small reds | | | | | | | 14.4 | 22.1 |
| | NAI-1333 2.5% EC | 0.2 | EC | 2 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 16 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 11 | 'Merlot' small reds | | | | | | | 14.1 | 24.4 |
| | Raptor | 1 | L | 4 | fl oz/a | POST | A | | |
| | Basagran | 4 | L | 12 | fl oz/a | POST | A | | |
| | Surfactant | | L | 0.25 | % v/v | POST | A | | |
| 12 | 'Merlot' small reds | | | | | | | 14.0 | 23.9 |
| | Untreated | | | | | | | | |
| | LSD (P=.05) | | | | | | | 0.39 | 3.03 |
| | CV | | | | | | | 1.81 | 8.32 |

Means followed by same letter do not significantly differ (P=.05, LSD)