

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15 Study Dir.: Sprague, Powell
 Conducted: Campus C-27 Investigator: Christy Sprague

Date Planted: Apr/29/2015 Row Spacing: 30 IN
 Variety: Dekalb 49-72 No. of Reps: 4
 Population: 32,000 seeds/A % OM: 3.1
 Soil Type: Sandy loam pH: 6.2
 Plot Size: 10 X 35 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow; spring soil finish
 Fertilizer: 300lb/A Urea broadcasted and incorporated; 150lb/A 19-19-19 starter

Crop and Weed Description

| Weed | Code | Common Name | Scientific Name |
|------|-------|------------------------|-----------------------------|
| 1. | ANGR | mainly foxtail species | SETARIA SP. |
| 2. | CHEAL | LAMBSQUARTERS, COMMON | CHENOPODIUM ALBUM L. |
| 3. | AMAPO | AMARANTH, POWELL | AMARANTHUS POWELLII S.WATS. |
| 4. | AMBEL | RAGWEED, COMMON | AMBROSIA ARTEMISIIFOLIA L. |
| 5. | ABUTH | VELVETLEAF | ABUTILON THEOPHRASTI MEDIK. |
| Crop | Code | Common Name | |
| 1. | ZEAMX | CORN, FIELD | |

Application Description

A
 Application Timing: EPOS
 Date Treated: May/28/2015
 Time Treated: 11:40AM
 % Cloud Cover: 0
 Air Temp., Unit: 80 F
 % Relative Humidity: 48
 Wind Speed/Unit/Dir: 3 mph SW
 Soil Temp., Unit: 63 F
 Soil/Leaf Surface M: 4 5
 Soil Moist (1=w 5=d): 4

Crop Stage at Each Application

A
 Crop Name: ZEAMX
 Height (In.): 8"
 Stage (L): V3-V4

Weed Stage at Each Application

A
 Weed 1 Name: ANGR
 Height (In.): 2"
 Stage (L): 2
 Weed 2 Name: CHEAL
 Height (In.): 1"
 Stage (L): 4
 Weed 3 Name: AMAPO
 Height (In.): 0.75"
 Stage (L): 4
 Weed 4 Name: AMBEL
 Height (In.): 0.75"
 Stage (L): 4
 Weed 5 Name: ABUTH
 Height (In.): 1"
 Stage (L): 2

Weed Density (plants/sq. ft.)

| Date: | 1 | 2 | 3 | 4 | 5 |
|-------------|-------------|-------------|-------------|-------------|-------------|
| Jun/09/2015 | Jun/09/2015 | Jun/09/2015 | Jun/09/2015 | Jun/09/2015 | Jun/09/2015 |
| Weed Name: | ANGR | CHEAL | AMAPO | AMBEL | ABUTH |
| Density: | 1 | 17 | 2 | 2 | <1 |

Application Equipment

| Appl | Sprayer | Speed | Nozzle | Nozzle | Nozzle | Nozzle | Boom | | | |
|------|---------|-------|--------|--------|--------|---------|-------|-----|---------|-----|
| | Type | MPH | Type | Size | Height | Spacing | Width | GPA | Carrier | PSI |
| A | Cub | 3.8 | AIXR | 11003 | 26" | 20" | 100" | 19 | Water | 28 |

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
 Conducted: Campus C-27

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

| | | | | | | | | ZEAMX | ANGR | CHEAL | AMAPO |
|-------------|----------------------|------|------|----------------|------|------|----|-------------|-------------|-------------|-------------|
| | | | | | | | | injury | control | control | control |
| | | | | | | | | percent | percent | percent | percent |
| | | | | | | | | Jun/04/2015 | Jun/04/2015 | Jun/04/2015 | Jun/04/2015 |
| | | | | | | | | 7 DA-A | 7 DA-A | 7 DA-A | 7 DA-A |
| | | | | | | | | 0 | 0 | 0 | 0 |
| Trt | Treatment | Form | Form | Rate | Grow | Appl | | | | | |
| No. | Name | Conc | Type | Unit | Stg | Code | | | | | |
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 fl oz/a | EPOS | A | 1 | 97 | 96 | 99 | |
| 1 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 1 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 fl oz/a | EPOS | A | 0 | 99 | 94 | 99 | |
| 2 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 2 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 fl oz/a | EPOS | A | 1 | 99 | 99 | 99 | |
| 3 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 3 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 3 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 fl oz/a | EPOS | A | 6 | 99 | 99 | 99 | |
| 4 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 4 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 4 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 fl oz/a | EPOS | A | 14 | 99 | 99 | 99 | |
| 5 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 pt/a | EPOS | A | | | | | |
| 5 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 5 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 fl oz/a | EPOS | A | 19 | 99 | 99 | 99 | |
| 6 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 6 | Breakfree NXT | 7 | L | 2 pt/a | EPOS | A | | | | | |
| 6 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 6 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 7 | Untreated | | | | | | 0 | 0 | 0 | 0 | |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 fl oz/a | EPOS | A | 5 | 99 | 99 | 99 | |
| 8 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 fl oz/a | EPOS | A | | | | | |
| 8 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 8 | AMS | | WG | 17 lb/100 gal | EPOS | A | | | | | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 fl oz/a | EPOS | A | 3 | 99 | 99 | 99 | |
| 9 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 9 | Status | 56 | WG | 5 oz/a | EPOS | A | | | | | |
| 9 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 9 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 10 | Callisto | 4 | L | 3 fl oz/a | EPOS | A | 1 | 99 | 99 | 99 | |
| 10 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 10 | Crop oil concentrate | | L | 1 % v/v | EPOS | A | | | | | |
| 10 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 11 | Impact | 2.8 | L | 1 fl oz/a | EPOS | A | 1 | 99 | 99 | 99 | |
| 11 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 11 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 11 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| 12 | Laudis | 3.5 | L | 3 fl oz/a | EPOS | A | 2 | 99 | 99 | 99 | |
| 12 | Atrazine | 90 | WG | 1.1 lb/a | EPOS | A | | | | | |
| 12 | MSO | | L | 1 % v/v | EPOS | A | | | | | |
| 12 | AMS | | WG | 8.5 lb/100 gal | EPOS | A | | | | | |
| LSD (P=.05) | | | | | | | | 2.3 | 1.0 | 2.6 | 0.0 |
| CV | | | | | | | | 37.95 | 0.79 | 2.01 | 0.0 |

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

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
 Conducted: Campus C-27

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

| Weed Code | | | | | | | | AMBEL | ABUTH | CAPBU | ZEAMX | ANGR |
|--------------------|----------------------|-----------|-----------|------|------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | | | | | |
| Rating Data Type | | | | | | | | control | control | control | injury | control |
| Rating Unit | | | | | | | | percent | percent | percent | percent | percent |
| Rating Date | | | | | | | | Jun/04/2015 | Jun/04/2015 | Jun/04/2015 | Jun/11/2015 | Jun/11/2015 |
| Trt-Eval Interval | | | | | | | | 7 DA-A | 7 DA-A | 7 DA-A | 14 DA-A | 14 DA-A |
| # Subsamples, Dec. | | | | | | | | 0 | 0 | 0 | 0 | 0 |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Unit | Grow Stg | Appl Code | | | | | |
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 88 | 98 | 99 | 0 | 99 |
| 1 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 1 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 87 | 98 | 99 | 0 | 97 |
| 2 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 2 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 3 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 3 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 3 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 4 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 4 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 4 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 3 | 99 |
| 5 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 | pt/a | EPOS | A | | | | | |
| 5 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 5 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 8 | 99 |
| 6 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 6 | Breakfree NXT | 7 | L | 2 | pt/a | EPOS | A | | | | | |
| 6 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 6 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 7 | Untreated | | | | | | | 0 | 0 | 0 | 0 | 0 |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 8 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 | fl oz/a | EPOS | A | | | | | |
| 8 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 8 | AMS | | WG | 17 | lb/100 gal | EPOS | A | | | | | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 9 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 9 | Status | 56 | WG | 5 | oz/a | EPOS | A | | | | | |
| 9 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 9 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 10 | Callisto | 4 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 98 |
| 10 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 10 | Crop oil concentrate | | L | 1 | % v/v | EPOS | A | | | | | |
| 10 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 11 | Impact | 2.8 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 98 |
| 11 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 11 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 11 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 12 | Laudis | 3.5 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 12 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 12 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 12 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| LSD (P=.05) | | | | | | | | 2.5 | 1.1 | 0.0 | 0.6 | 2.1 |
| CV | | | | | | | | 1.94 | 0.85 | 0.0 | 48.34 | 1.63 |

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

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
 Conducted: Campus C-27

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

| Weed Code | | | | | | | | CHEAL | AMBEL | ABUTH | SOLPT | CAPBU |
|--------------------|----------------------|-----------|-----------|------|------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | | | | | |
| Rating Data Type | | | | | | | | control | control | control | control | control |
| Rating Unit | | | | | | | | percent | percent | percent | percent | percent |
| Rating Date | | | | | | | | Jun/11/2015 | Jun/11/2015 | Jun/11/2015 | Jun/11/2015 | Jun/11/2015 |
| Trt-Eval Interval | | | | | | | | 14 DA-A | 14 DA-A | 14 DA-A | 14 DA-A | 14 DA-A |
| # Subsamples, Dec. | | | | | | | | 0 | 0 | 0 | 0 | 0 |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | Appl Code | | | | | |
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 98 | 99 | 99 |
| 1 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 1 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 98 | 99 | 99 | 99 | 99 |
| 2 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 2 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 3 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 3 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 3 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 4 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 4 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 4 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 98 | 99 | 99 |
| 5 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 | pt/a | EPOS | A | | | | | |
| 5 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 5 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 6 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 6 | Breakfree NXT | 7 | L | 2 | pt/a | EPOS | A | | | | | |
| 6 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 6 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 7 | Untreated | | | | | | | 0 | 0 | 0 | 0 | 0 |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 8 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 | fl oz/a | EPOS | A | | | | | |
| 8 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 8 | AMS | | WG | 17 | lb/100 gal | EPOS | A | | | | | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 9 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 9 | Status | 56 | WG | 5 | oz/a | EPOS | A | | | | | |
| 9 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 9 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 10 | Callisto | 4 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 10 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 10 | Crop oil concentrate | | L | 1 | % v/v | EPOS | A | | | | | |
| 10 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 11 | Impact | 2.8 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 11 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 11 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 11 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 12 | Laudis | 3.5 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 99 |
| 12 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 12 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 12 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| LSD (P=.05) | | | | | | | | 0.8 | 0.0 | 1.1 | 0.0 | 0.0 |
| CV | | | | | | | | 0.61 | 0.0 | 0.86 | 0.0 | 0.0 |

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

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
 Conducted: Campus C-27

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

| Weed Code | | | | | | | | ZEAMX | ANGR | CHEAL | AMAPO |
|--------------------|----------------------|-----------|-----------|------|------------|----------|-----------|-------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | injury | control | control | control |
| Rating Data Type | | | | | | | | percent | percent | percent | percent |
| Rating Unit | | | | | | | | Jun/25/2015 | Jun/25/2015 | Jun/25/2015 | Jun/25/2015 |
| Rating Date | | | | | | | | 28 DA-A | 28 DA-A | 28 DA-A | 28 DA-A |
| Trt-Eval Interval | | | | | | | | 0 | 0 | 0 | 0 |
| # Subsamples, Dec. | | | | | | | | | | | |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Unit | Grow Stg | Appl Code | | | | |
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 0 | 98 | 98 | 98 |
| 1 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 1 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 0 | 98 | 97 | 96 |
| 2 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 2 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 3 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 3 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 3 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 4 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 4 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 4 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 5 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 | pt/a | EPOS | A | | | | |
| 5 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 5 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 6 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 6 | Breakfree NXT | 7 | L | 2 | pt/a | EPOS | A | | | | |
| 6 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 6 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 7 | Untreated | | | | | | | 0 | 0 | 0 | 0 |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 8 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 | fl oz/a | EPOS | A | | | | |
| 8 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 8 | AMS | | WG | 17 | lb/100 gal | EPOS | A | | | | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 9 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 9 | Status | 56 | WG | 5 | oz/a | EPOS | A | | | | |
| 9 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 9 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 10 | Callisto | 4 | L | 3 | fl oz/a | EPOS | A | 0 | 98 | 99 | 99 |
| 10 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 10 | Crop oil concentrate | | L | 1 | % v/v | EPOS | A | | | | |
| 10 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 11 | Impact | 2.8 | L | 1 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 11 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 11 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 11 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| 12 | Laudis | 3.5 | L | 3 | fl oz/a | EPOS | A | 0 | 99 | 99 | 99 |
| 12 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | |
| 12 | MSO | | L | 1 | % v/v | EPOS | A | | | | |
| 12 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | |
| LSD (P=.05) | | | | | | | | 0.0 | 1.1 | 0.9 | 1.9 |
| CV | | | | | | | | 0.0 | 0.82 | 0.68 | 1.46 |

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

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
 Conducted: Campus C-27

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

| Weed Code | | | | | | | | AMBEL | ABUTH | CAPBU | ZEAMX | ANGR |
|--------------------|----------------------|-----------|-----------|------|------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | | | | | |
| Rating Data Type | | | | | | | | control | control | control | injury | control |
| Rating Unit | | | | | | | | percent | percent | percent | percent | percent |
| Rating Date | | | | | | | | Jun/25/2015 | Jun/25/2015 | Jun/25/2015 | Jul/23/2015 | Jul/23/2015 |
| Trt-Eval Interval | | | | | | | | 28 DA-A | 28 DA-A | 28 DA-A | 56 DA-A | 56 DA-A |
| # Subsamples, Dec. | | | | | | | | 0 | 0 | 0 | 0 | 0 |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Unit | Grow Stg | Appl Code | | | | | |
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 98 | 97 | 99 | 0 | 97 |
| 1 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 1 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 97 | 97 | 97 | 0 | 98 |
| 2 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 2 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 3 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 3 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 3 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 4 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 4 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 4 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 98 | 99 | 0 | 99 |
| 5 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 | pt/a | EPOS | A | | | | | |
| 5 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 5 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 6 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 6 | Breakfree NXT | 7 | L | 2 | pt/a | EPOS | A | | | | | |
| 6 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 6 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 7 | Untreated | | | | | | | 0 | 0 | 0 | 0 | 0 |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 8 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 | fl oz/a | EPOS | A | | | | | |
| 8 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 8 | AMS | | WG | 17 | lb/100 gal | EPOS | A | | | | | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 9 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 9 | Status | 56 | WG | 5 | oz/a | EPOS | A | | | | | |
| 9 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 9 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 10 | Callisto | 4 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 90 |
| 10 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 10 | Crop oil concentrate | | L | 1 | % v/v | EPOS | A | | | | | |
| 10 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 11 | Impact | 2.8 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 99 |
| 11 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 11 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 11 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 12 | Laudis | 3.5 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 0 | 98 |
| 12 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 12 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 12 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| LSD (P=.05) | | | | | | | | 2.1 | 2.2 | 1.8 | 0.0 | 1.6 |
| CV | | | | | | | | 1.58 | 1.71 | 1.4 | 0.0 | 1.2 |

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

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
 Conducted: Campus C-27

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

| Weed Code | | | | | | | | CHEAL | AMAPO | AMBEL | ABUTH | ZEAMX |
|--------------------|----------------------|-----------|-----------|------|------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| Crop Code | | | | | | | | | | | | moisture |
| Rating Data Type | | | | | | | | control | control | control | control | percent |
| Rating Unit | | | | | | | | percent | percent | percent | percent | percent |
| Rating Date | | | | | | | | Jul/23/2015 | Jul/23/2015 | Jul/23/2015 | Jul/23/2015 | Oct/16/2015 |
| Trt-Eval Interval | | | | | | | | 56 DA-A | 56 DA-A | 56 DA-A | 56 DA-A | 141 DA-A |
| # Subsamples, Dec. | | | | | | | | 0 | 0 | 0 | 0 | 1 |
| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | Appl Code | | | | | |
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 98 | 98 | 98 | 97 | 17.0 |
| 1 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 1 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 97 | 96 | 97 | 99 | 16.9 |
| 2 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 2 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 16.9 |
| 3 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 3 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 3 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 17.7 |
| 4 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 4 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 4 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 98 | 18.1 |
| 5 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 | pt/a | EPOS | A | | | | | |
| 5 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 5 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 18.4 |
| 6 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 6 | Breakfree NXT | 7 | L | 2 | pt/a | EPOS | A | | | | | |
| 6 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 6 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 7 | Untreated | | | | | | | 0 | 0 | 0 | 0 | 17.4 |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 16.9 |
| 8 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 | fl oz/a | EPOS | A | | | | | |
| 8 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 8 | AMS | | WG | 17 | lb/100 gal | EPOS | A | | | | | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 17.1 |
| 9 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 9 | Status | 56 | WG | 5 | oz/a | EPOS | A | | | | | |
| 9 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 9 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 10 | Callisto | 4 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 17.3 |
| 10 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 10 | Crop oil concentrate | | L | 1 | % v/v | EPOS | A | | | | | |
| 10 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 11 | Impact | 2.8 | L | 1 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 17.4 |
| 11 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 11 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 11 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| 12 | Laudis | 3.5 | L | 3 | fl oz/a | EPOS | A | 99 | 99 | 99 | 99 | 17.3 |
| 12 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | | | | | |
| 12 | MSO | | L | 1 | % v/v | EPOS | A | | | | | |
| 12 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | | | | | |
| LSD (P=.05) | | | | | | | | 1.0 | 1.9 | 2.2 | 1.2 | 1.28 |
| CV | | | | | | | | 0.79 | 1.45 | 1.7 | 0.95 | 5.12 |

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

MSU Weed Science Research Program

Evaluation of tolpyralate (SL-573) for weed control in corn

Trial ID: C05-15
Conducted: Campus C-27Study Dir.: Sprague, Powell
Investigator: Christy Sprague

| | |
|--------------------|-------------|
| Weed Code | |
| Crop Code | |
| Rating Data Type | ZEAMX |
| Rating Unit | yield |
| Rating Date | bu/acre |
| Trt-Eval Interval | Oct/16/2015 |
| # Subsamples, Dec. | at 15% M |
| | 0 |

| Trt No. | Treatment Name | Form Conc | Form Type | Rate | Rate Unit | Grow Stg | Appl Code | |
|-------------|----------------------|-----------|-----------|------|------------|----------|-----------|------|
| 1 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 244 |
| 1 | MSO | | L | 1 | % v/v | EPOS | A | |
| 1 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 2 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 250 |
| 2 | MSO | | L | 1 | % v/v | EPOS | A | |
| 2 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 3 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 239 |
| 3 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 3 | MSO | | L | 1 | % v/v | EPOS | A | |
| 3 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 4 | Tolpyralate (SL-573) | 3.33 | L | 1.35 | fl oz/a | EPOS | A | 246 |
| 4 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 4 | MSO | | L | 1 | % v/v | EPOS | A | |
| 4 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 5 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 251 |
| 5 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 5 | Dual II Magnum | 7.64 | L | 1.5 | pt/a | EPOS | A | |
| 5 | MSO | | L | 1 | % v/v | EPOS | A | |
| 5 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 6 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 245 |
| 6 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 6 | Breakfree NXT | 7 | L | 2 | pt/a | EPOS | A | |
| 6 | MSO | | L | 1 | % v/v | EPOS | A | |
| 6 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 7 | Untreated | | | | | | | 185 |
| 8 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 244 |
| 8 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 8 | Roundup PowerMax | 4.5 | SL | 22 | fl oz/a | EPOS | A | |
| 8 | MSO | | L | 1 | % v/v | EPOS | A | |
| 8 | AMS | | WG | 17 | lb/100 gal | EPOS | A | |
| 9 | Tolpyralate (SL-573) | 3.33 | L | 1 | fl oz/a | EPOS | A | 209 |
| 9 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 9 | Status | 56 | WG | 5 | oz/a | EPOS | A | |
| 9 | MSO | | L | 1 | % v/v | EPOS | A | |
| 9 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 10 | Callisto | 4 | L | 3 | fl oz/a | EPOS | A | 248 |
| 10 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 10 | Crop oil concentrate | | L | 1 | % v/v | EPOS | A | |
| 10 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 11 | Impact | 2.8 | L | 1 | fl oz/a | EPOS | A | 246 |
| 11 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 11 | MSO | | L | 1 | % v/v | EPOS | A | |
| 11 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| 12 | Laudis | 3.5 | L | 3 | fl oz/a | EPOS | A | 242 |
| 12 | Atrazine | 90 | WG | 1.1 | lb/a | EPOS | A | |
| 12 | MSO | | L | 1 | % v/v | EPOS | A | |
| 12 | AMS | | WG | 8.5 | lb/100 gal | EPOS | A | |
| LSD (P=.05) | | | | | | | | 16.2 |
| CV | | | | | | | | 4.72 |

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