Herbicide performance in corn at Waseca, MN giant ragweed site in 2005. Hoverstad, Thomas R. and Jeffrey L. Gunsolus. The objective of this trial was to evaluate weed management systems available to corn producers in southern Minnesota on several annual weed species. This site had an especially high population of giant ragweed. The research site was a Webster clay loam soil containing 7% organic matter, pH = 6.7 and soil test P and K levels of 32 and 166 ppm, respectively. The previous crop was soybean that had been chisel plowed in the fall. The area was fertilized in the spring with 150 lb N/A as anhydrous ammonia and field cultivated once to a depth of 3 inches prior to planting to prepare a seedbed. Pioneer '38H69' was planted on May 23, 2005 in 30-inch rows. All treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 40 psi using 8002 flat-fan nozzle tips. Visual estimates of weed control were taken on September 1, 2005. Application dates, environmental conditions, crop and weed stages are listed below.

| Date | May 24 | June 9 | June 13 | June 16 |
|---|---|---|---|---|
| Treatment | Pre | Post I | Post II | Post III |
| air temp °F | 75 | 79 | 75 | 83 |
| soil temp (4-inch) °F | 70 | 66 | 68 | 66 |
| Relative humidity (%) | 35 | 40 | 45 | 21 |
| Wind | N 12 | E 1 | E 5 | NE 3 |
| Soil moisture | Moist | Wet | Moist | Moist |
| Corn | | | | |
| Stage | - | V2 | V3 | V4 |
| height (inch) | - | 4 | 5 | 6 |
| Giant foxtail | | | | |
| leaf no. | - | 2 | 3 | 4 |
| height (inch) | - | 1 | 2 | 4 |
| Giant ragweed | | | | |
| leaf no. | - | 3 | 3 | 4 |
| height (inch) | - | 3 | 4 | 6 |
| Common cocklebur | | | | |
| leaf no. | - | 3 | 4 | 4 |
| height (inch) | - | 2 | 3 | 4 |
| Velvetleaf | | | | |
| leaf no. | - | 2 | 3 | 3 |
| height (inch) | - | 1 | 2 | 3 |
| | | | | |
| Rainfall after application (inch) | | | | |
| Week 1 | 0.74 | 0.55 | 0.32 | 1.00 |
| Week 2 | 0.37 | 0.99 | 1.94 | 2.54 |
| Week 3 | 1.76 | 2.55 | 1.95 | 0.35 |

Giant ragweed control was excellent with all treatments except preemergence Lumax. Preemergence Keystone LA plus Hornet resulted in poor velvetleaf control. Several treatments resulted in fair to poor giant foxtail control including 1.) preemergence Lumax, 2.) preemergence KIH-485 followed by Hornet plus Callisto plus atrazine, 3.) preemergence Dual II Magnum followed by Callisto plus atrazine and 4.) preemergence Outlook followed by Aim plus atrazine plus Clarity. (University of Minnesota, Southern Research and Outreach Center, Waseca, MN and Dept of Agronomy and Plant Genetics, University of Minnesota, St Paul).

Table. Herbicide performance in corn at a giant ragweed site at Waseca, MN in 2005 (Hoverstad and Gunsolus).

| Treatment | Rate | Giant foxtail | Giant ragweed | Common cocklebur | Velvetleaf | Yield |
|---|---|---|---|---|---|---|
| | (Product/A) | | -------(% control)------- | | | Bu/A[a] |
| Preemergence | | | | | | |
| Keystone LA + Hornet WDG | 2.2 qt + 4oz | 96 | 97 | 97 | 79 | 180 |
| Lumax | 6 pt | 74 | 81 | 93 | 99 | 175 |
| Preemergence/POST III (V4 corn) | | | | | | |
| Surpass / Hornet + Callisto + atrazine + COC + AMS | 2.75 pt / 3 oz + 0.75 oz + 8 oz + 1% + 3 qt | 97 | 99 | 99 | 99 | 209 |
| KIH-485 / Hornet + Callisto + atrazine + COC + AMS | 8 oz / 3 oz + 0.75 oz + 8 oz + 1% + 3 qt | 85 | 99 | 99 | 99 | 205 |
| Outlook / Distinct + atrazine + NIS + AMS | 21 oz / 4 oz + 16 oz + 0.25% + 2.5 lb | 98 | 99 | 99 | 98 | 196 |
| Define SC/ Liberty+atrazine+AMS | 12 oz / 32 oz + 16 oz + 3.5 qt | 99 | 99 | 99 | 98 | 198 |
| Define SC/ Option+Distinct+MSO+28% | 12 oz / 1.5 oz + 2 oz + 1.5 pt + 3 pt | 99 | 99 | 99 | 97 | 196 |
| Cinch/ Steadfast+ Callisto+atrazine+COC+AMS | 1 pt / 0.75 oz + 2 oz + 16 oz +1% + 4.7 pt | 98 | 99 | 99 | 99 | 187 |
| Dual II Magnum/ Callisto+atrazine+COC+28%N | 2 pt / 3 oz + 16 oz + 1% + 2.5% | 86 | 99 | 99 | 99 | 200 |
| Outlook/ Aim+atrazine+Clarity+NIS | 21 oz / 0.5 oz + 16 oz + 3 oz + 0.25% | 83 | 97 | 99 | 99 | 198 |
| Harness/ Roundup WeatherMax+AMS | 1.25 pt / 22 oz + 3 qt | 99 | 98 | 99 | 97 | 207 |
| Keystone LA / Glyphomax XRT + AMS | 2.2 pt / 24 oz + 3 qt | 99 | 99 | 99 | 98 | 191 |
| Outlook/ Distinct + RoundupWeatherMax + NIS + AMS | 12 oz / 3 oz + 11 oz + 0.25% + 3 qt | 99 | 99 | 99 | 99 | 207 |
| Basis + atrazine/ Roundup OriginalMax | 0.4 oz + 12 oz/ 22 oz | 97 | 99 | 99 | 97 | 199 |
| POST I (V2 Corn) | | | | | | |
| Basis + Lumax + NIS | 0.33 oz + 3.5 pt + 0.25% | 93 | 99 | 99 | 99 | 201 |
| Lumax + Touchdown Total + AMS | 3 pt + 24oz + 2 qt | 98 | 99 | 99 | 99 | 210 |
| Lumax + Liberty + AMS | 3 pt + 20oz + 2 qt | 98 | 99 | 99 | 98 | 204 |
| Steadfast + Lumax + NIS | 0.75 oz + 2 pt + 0.25% | 96 | 99 | 99 | 99 | 207 |
| POST II (V3 corn) | | | | | | |
| Option + Callisto + MSO + 28%N | 1.5 oz + 1.5 oz + 1.5 pt + 3 pt | 93 | 99 | 99 | 98 | 199 |
| POST III (V4 corn) | | | | | | |
| Steadfast + Callisto + Atrazine + COC + AMS | 0.75 oz + 2 oz + 16 oz +1% + 4.7 pt | 98 | 99 | 99 | 99 | 211 |
| Resolve + Roundup OriginalMax + AMS | 1 oz + 22 oz + 4.7 pt | 96 | 97 | 99 | 97 | 195 |
| Resolve + atrazine + Roundup OriginalMax + AMS | 1 oz + 16 oz + 22 oz + 4.7 pt | 96 | 99 | 99 | 97 | 218 |
| Checks | | | | | | |
| Weedy | - | 0 | 0 | 0 | 0 | 74 |
| Hand-Weeded | - | 0 | 0 | 0 | 0 | 196 |
| | LSD (0.10) | 4 | 9 | 3 | 5 | 18 |

[a] Yield adjusted to 15.5% moisture.