Total postemergence herbicides for weed control in soybean. Perry, Illinois, 2003. Nordby, Dawn E., Ryan F. Hasty, and Douglas J. Maxwell. The objective of this research was to evaluate total postemergence herbicides for weed control in soybean. The study was established at the Orr Agricultural Research and Demonstration Center, Perry. The soil was a Keomah silt loam with a pH of 6.1 and 1.5% organic matter. Asgrow 3701 soybean was planted 1.5 inches deep on May 13 in 30 inch rows. Treatments were arranged in randomized complete blocks with three replications of plots 7.5 by 32 feet. Herbicides were applied with a $CO_2$ backpack sprayer delivering 20 gpa and equipped with 8003 flat fan nozzles. Application information is listed below:

| | |
|---|---|
| Date | June 19 |
| Application | post |
| Temperature (F) | |
| Air | 70 |
| Soil | 67 |
| Soil Moisture | Moist |
| Wind (mph) | 5-NE |
| Sky Cover (%) | 0 |
| Precip. after application | |
| Week 1 (inch) | 1.72 |
| Week 2 (inch) | 0.00 |
| Relative humidity (%) | 46 |
| | |
| Soybean | |
| Leaf no. | 3 |
| Height (inch) | 6 |
| Giant Foxtail | |
| Leaf no. | 4 |
| Height (inch) | 6 |
| Common Lambsquarters | |
| Leaf no. | >8 |
| Height (inch) | 3 |
| Velvetleaf | |
| Leaf no. | 3 |
| Height (inch) | 1.5 |
| Jimsonweed | |
| Leaf no. | 5 |
| Height (inch) | 4 |
| Ivyleaf Morningglory | |
| Leaf no. | 2 |
| Height (inch) | 1 |

Soybeans exhibited some injury from various treatments the first week after application, however injury was not detectable later on. Ivyleaf morningglory control was good to very good early, with some treatments improving over time such as those including lactofen and glyphosate. Velvetleaf and jimsonweed control was excellent for all treatments except the 0.15 lb/A lactofen & 0.0039 lb/A thifensulfuron & 0.125 lb/A clethodim and 0.094 lb/A clethodim & 0.125 lb/A lactofen treatments where velvetleaf control was only 80%. Common lambsquarters control was highly variable with the most consistent control from treatments that included glyphosate. Control of giant foxtail was also variable with most treatments providing good to very good control early on, with some ratings tending to slip by the last evaluation. (Dept. of Crop Sciences, University of Illinois, Urbana).

Table 1. Total postemergence herbicides for weed control in soybean. Perry, Illinois, 2003. (Nordby, Hasty, and Maxwell).

| Treatment | Appl Rate | Time | Glxma 6-30 | Glxma 7-13 | Setfa 7-13 | Cheal 7-13 | Abuth 7-13 | Datst 7-13 | Ipohe 7-13 |
|---|---|---|---|---|---|---|---|---|---|
| | (lb/A) | | ---% injury--- | | ---------- % control ---------- | | | | |
| Lactofen[1]+thifensulfuron+clethodim +activator 90[6] | 0.15+0.0039+0.125 0.25% | post | 22 | 0 | 84 | 73 | 96 | 99 | 68 |
| Lactofen[1]+cloransulam+clethodim +activator 90 | 0.15+0.016+0.125 0.25% | post | 20 | 0 | 81 | 73 | 96 | 99 | 98 |
| Lactofen[1]+thifensulfuron+clethodim +Hi-Per Oil[7] | 0.15+0.0039+0.125 0.31% | post | 23 | 0 | 90 | 78 | 96 | 96 | 72 |
| Lactofen[1]+cloransulam+clethodim +Hi-Per Oil | 0.15+0.016+0.125 0.31% | post | 13 | 0 | 91 | 72 | 99 | 99 | 96 |
| Cloransulam+glyphosate+N-PaK AMS[8] | 0.016+0.75+3.67% | post | 5 | 0 | 98 | 99 | 99 | 99 | 98 |
| Clethodim+lactofen[2]+Herbimax[9] | 0.094+0.125+1.0% | post | 22 | 0 | 86 | 68 | 90 | 99 | 85 |
| Check | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fomesafen+fluazifop-P&fenoxaprop +MSO[10]+28% N | 0.294+0.164+0.046 1.0%+2.5% | post | 18 | 0 | 90 | 78 | 99 | 99 | 93 |
| Imazamox+MSO+N-PaK AMS | 0.039+1.0%+2.5% | post | 12 | 0 | 93 | 90 | 99 | 99 | 90 |
| Imazamox+acifluorfen +MSO+N-PaK AMS | 0.039+0.188 1.0%+2.5% | post | 30 | 0 | 83 | 96 | 99 | 99 | 96 |
| Imazethapyr&glyphosate +Activator 90+N-PaK AMS | 0.058+0.752 0.25%+2.5% | post | 13 | 0 | 99 | 99 | 99 | 99 | 95 |
| Glyphosate[3]+N-PaK AMS | 0.75+2.5% | post | 0 | 0 | 96 | 99 | 99 | 98 | 91 |
| Glyphosate[4]+N-PaK AMS | 0.75+2.5% | post | 0 | 0 | 93 | 99 | 99 | 99 | 83 |
| Glyphosate[5]+N-PaK AMS | 0.75+2.5% | post | 0 | 0 | 93 | 98 | 98 | 99 | 93 |
| Glyphosate[5]+carfentrazone +N-PaK AMS | 0.75+0.004 2.5% | post | 13 | 0 | 89 | 98 | 99 | 99 | 77 |
| Glyphosate[5]+2,4-DB+N-PaK AMS | 0.75+0.031+2.5% | post | 12 | 0 | 93 | 99 | 99 | 98 | 92 |
| Glyphosate[5]+2,4-DB+N-PaK AMS | 0.75+0.063+2.5% | post | 23 | 0 | 94 | 98 | 99 | 99 | 87 |
| Glyphosate[5]+bentazon+N-PaK AMS | 0.56+0.5+2.5% | post | 10 | 0 | 93 | 98 | 99 | 95 | 82 |
| LSD (0.05) | | | 5 | 0 | 9 | 6 | 5 | 3 | 10 |

[1] Phoenix; [2] Cobra; [3] Glyphomax HC; [4] Touchdown; [5] Roundup Weathermax; [6] Activator 90 is a non-ionic surfactant from Loveland Indus.; [7] Hi-Per Oil is a Hi-load paraffinic oil and surfactant blend from Agriliance LLC; [8] N-PaK AMS is an ammonium sulfate solution from Agriliance LLC; [9] Herbimax is a paraffinic oil and surfactant blend from Loveland Indus.; [10] MSO is a methylated seed oil and non-ionic surfactant blend from Loveland Indus.

Table 2. Total postemergence herbicides for weed control in soybean. Perry, Illinois, 2003. (Nordby, Hasty, and Maxwell).

| Treatment | Appl Rate | Time | Glxma 7-31 | Setfa 7-31 | Cheal 7-31 | Abuth 7-31 | Datst 7-31 | Ipohe 7-31 |
|---|---|---|---|---|---|---|---|---|
| | (lb/A) | | % inj | ---------- | % control | ---------- | | |
| Lactofen[1]+thifensulfuron+clethodim +activator 90[6] | 0.15+0.0039+0.125 0.25% | post | 0 | 78 | 78 | 80 | 99 | 99 |
| Lactofen[1]+cloransulam+clethodim +activator 90 | 0.15+0.016+0.125 0.25% | post | 0 | 78 | 72 | 99 | 99 | 99 |
| Lactofen[1]+thifensulfuron+clethodim +Hi-Per Oil[7] | 0.15+0.0039+0.125 0.31% | post | 0 | 93 | 72 | 98 | 99 | 96 |
| Lactofen[1]+cloransulam+clethodim +Hi-Per Oil | 0.15+0.016+0.125 0.31% | post | 0 | 85 | 65 | 99 | 99 | 99 |
| Cloransulam+glyphosate+N-PaK AMS[8] | 0.016+0.75+3.67% | post | 0 | 98 | 99 | 99 | 99 | 99 |
| Clethodim+lactofen[2]+Herbimax[9] | 0.094+0.125+1.0% | post | 0 | 77 | 58 | 77 | 99 | 99 |
| Check | - | - | 0 | 0 | 0 | 0 | 0 | 0 |
| Fomesafen+fluazifop-P&fenoxaprop +MSO[10]+28% N | 0.294+0.164+0.046 1.0%+2.5% | post | 0 | 83 | 75 | 99 | 99 | 99 |
| Imazamox+MSO+N-PaK AMS | 0.039+1.0%+2.5% | post | 0 | 85 | 88 | 99 | 99 | 99 |
| Imazamox+acifluorfen +MSO+N-PaK AMS | 0.039+0.188 1.0%+2.5% | post | 0 | 75 | 96 | 99 | 99 | 99 |
| Imazethapyr&glyphosate +Activator 90+N-PaK AMS | 0.058+0.752 0.25%+2.5% | post | 0 | 98 | 99 | 99 | 99 | 99 |
| Glyphosate[3]+N-PaK AMS | 0.75+2.5% | post | 0 | 96 | 99 | 99 | 99 | 98 |
| Glyphosate[4]+N-PaK AMS | 0.75+2.5% | post | 0 | 88 | 96 | 99 | 99 | 99 |
| Glyphosate[5]+N-PaK AMS | 0.75+2.5% | post | 0 | 93 | 99 | 99 | 99 | 99 |
| Glyphosate[5]+carfentrazone +N-PaK AMS | 0.75+0.004 2.5% | post | 0 | 82 | 99 | 99 | 99 | 99 |
| Glyphosate[5]+2,4-DB+N-PaK AMS | 0.75+0.031+2.5% | post | 0 | 87 | 99 | 99 | 99 | 98 |
| Glyphosate[5]+2,4-DB+N-PaK AMS | 0.75+0.063+2.5% | post | 0 | 90 | 98 | 99 | 98 | 99 |
| Glyphosate[5]+bentazon+N-PaK AMS | 0.56+0.5+2.5% | post | 0 | 88 | 99 | 99 | 96 | 95 |
| LSD (0.05) | | | 5 | 0 | 9 | 6 | 5 | 3 |

[1] Phoenix; [2] Cobra; [3] Glyphomax HC; [4] Touchdown; [5] Roundup Weathermax; [6] Activator 90 is a non-ionic surfactant from Loveland Indus.; [7] Hi-Per Oil is a Hi-load paraffinic oil and surfactant blend from Agriliance LLC; [8] N-PaK AMS is an ammonium sulfate solution from Agriliance LLC; [9] Herbimax is a paraffinic oil and surfactant blend from Loveland Indus.; [10] MSO is a methylated seed oil and non-ionic surfactant blend from Loveland Indus.