Spring dandelion control in soybean. Huntington, IN, 2003. Dewell, Reece A., William G. Johnson, Jeff W. Barnes, J. Earl Creech, Vince Davis, and Eric Ott. A field study was conducted to evaluate various herbicide combinations for spring dandelion control in soybean. The study was conducted in a cooperator's field near Huntington, IN, about 10 to 15 miles SSE of the Northeast Purdue Agricultural Center (NEPAC). Treatments were arranged in a randomized complete block with four replications. Individual plot dimensions were 10 by 50 feet. Glyphosate-resistant soybeans were drilled about 1 inch deep into a no-till seedbed on May 31 in 7-inch rows as part of the cooperator's normal planting practices. Preplant burndown herbicide treatments were applied with a $CO_2$ backback sprayer delivering 20 gpa and equipped with XR8003 flat fan nozzles. A late postemergence (LPOST) blanket application of 0.5625 lb/A glyphosate (Roundup Weathermax) + AMS was made by the cooperator on July 3 while bulk spraying the rest of the surrounding field. Application date, weed growth stage, and weather data are listed below:

| Date | April 26 | July 3 |
|---|---|---|
| Treatment | Burndown | LPOST[a] |
| Temperature | | |
| Air (F) | 63 | 73 |
| Soil (C) | 8 | 78 F |
| Soil moisture | moist | na |
| Wind (mph) | 6 | na |
| Sky cover (%) | 0 | na |
| Relative humidity (%) | 50 | na |
| Precipitation | | |
| Prior week (inch) | 0.44 | 0.68 |
| Week 1 (inch) | 0.67 | 4.34 |
| Week 2 (inch) | 4.79 | 0.08 |
| Dandelion (rosettes) | 12 to 24 inch | na |

[a] Weather data obtained from NEPAC weather station archives (daily average)

At the May 15 rating, the addition of 2,4-D to all glyphosate combinations decreased dandelion control. In contrast, the addition of 2,4-D to paraquat combinations resulted in increased dandelion control. By the June 2 rating, these 2,4-D interactions were only observed with glyphosate + flumioxazin (94% vs. 58%) and glyphosate + carfentrazone (87% vs. 74%). Glyphosate at 1.16 lb/A, glyphosate + 2,4-D (0.77 + 0.94 lb/A), and paraquat + chlorimuron ethyl&sulfentrazone +2,4-D were the only treatments still providing >85% control on July 8. An attempted rating on August 7 indicated that the late postemergence application (0.5625 lb/A glyphosate) made by the cooperating farmer on July 3, temporarily provided near complete dandelion control. A post harvest rating on October 31 showed that all chlorimuron ethyl&sulfentrazone (with or without 2,4-D) treatments were still providing >85% control. At this post harvest rating, glyphosate alone (both rates), glyphosate + 2,4-D (0.77 + 0.94 lb/A), and glyphosate + flumioxazin were providing >85% control also. (Dept. Botany and Plant Pathology, Purdue University, West Lafayette, IN).

Table. Spring dandelion control in soybean. Huntington, IN, 2003. (Dewell, Johnson, Barnes, Creech, Davis, and Ott).

| Treatment[a] | Rate | Application | May 15 (19 DAT-burndown) | June 2 (37 DAT-burndown) | July 8 (73 DAT-burndown)[b] | July 21 (86 DAT-burndown)[c] | Oct 31 (188 DAT-burndown)[d] |
|---|---|---|---|---|---|---|---|
| | (lb/A) | | TAROF (% Control) | | | | |
| Glyphosate(WMAX) +AMS/ | 0.77 +5% v/v / | burndown/ LPOST[e] | 60 | 93 | 63 | 77 | 86 |
| Glyphosate(WMAX) +AMS/ | 1.16 +5% v/v / | burndown/ LPOST[e] | 70 | 97 | 94 | 91 | 99 |
| Glyphosate(WMAX)+2,4-D(EH)[f] +AMS/ | 0.77+0.47 +5% v/v / | burndown/ LPOST[e] | 42 | 87 | 71 | 79 | 73 |
| Glyphosate(WMAX)+2,4-D(EH)[f] +AMS/ | 0.77+0.94 +5% v/v / | burndown/ LPOST[e] | 42 | 91 | 87 | 89 | 96 |
| Glyphosate(WMAX)+flumioxazin +AMS/ | 0.77+0.06375 +5% v/v / | burndown/ LPOST[e] | 81 | 94 | 74 | 79 | 91 |
| Glyphosate(WMAX)+flumioxazin +2,4-D(EH)[f]+AMS/ | 0.77+0.06375 +0.47+5% v/v / | burndown/ LPOST[e] | 60 | 58 | 33 | 58 | 74 |
| Glyphosate(WMAX)+carfentrazone +AMS/ | 0.77+0.0125 +5% v/v / | burndown/ LPOST[e] | 60 | 87 | 46 | 70 | 78 |
| Glyphosate(WMAX)+carfentrazone +2,4-D(EH)[f]+AMS/ | 0.77+0.0125 +0.47+5% v/v / | burndown/ LPOST[e] | 37 | 74 | 66 | 68 | 83 |
| Glyphosate(WMAX) +chlorimuron ethyl&sulfentrazone +AMS/ | 0.77+0.0125 +0.02&0.103 +5% v/v / | burndown/ LPOST[e] | 60 | 97 | 73 | 88 | 97 |
| Glyphosate(WMAX) +chlorimuron ethyl&sulfentrazone +2,4-D(EH)[f]+AMS/ | 0.77+0.0125 +0.02&0.103 +0.47+5% v/v / | burndown/ LPOST[e] | 48 | 95 | 88 | 90 | 99 |
| Paraquat +chlorimuron ethyl&sulfentrazone +AMS/ | 0.5 +0.02&0.103 +5% v/v / | burndown/ LPOST[e] | 24 | 82 | 33 | 67 | 85 |
| Paraquat +chlorimuron ethyl&sulfentrazone +2,4-D(EH)[f]+AMS/ | 0.5 +0.02&0.103 +0.47+5% v/v / | burndown/ LPOST[e] | 47 | 90 | 51 | 71 | 92 |
| Paraquat+metribuzin+2,4-D(EH)[f] +COC/ | 0.5+0.375+0.47 +1% v/v / | burndown/ LPOST[e] | 22 | 30 | 33 | 56 | 68 |
| Paraquat+metribuzin +chlorimuron ethyl&sulfentrazone +COC/ | 0.5+0.1875 +0.02&0.103 +1% v/v / | burndown/ LPOST[e] | 36 | 89 | 56 | 87 | 92 |
| Paraquat+metribuzin+2,4-D(EH)[f] +chlorimuron ethyl&sulfentrazone +COC/ | 0.5+0.1875+0.47 +0.02&0.103 +1% v/v / | burndown/ LPOST[e] | 43 | 89 | 54 | 84 | 97 |
| Untreated Check | | LPOST[e] | 0 | 0 | 0 | 0 | 0 |
| LSD (0.05) | | | 18 | 12 | 21 | 20 | 18 |

[a] Glyphosate(WMAX) = Roundup Weathermax from Monsanto
[b] Evaluation (July 8) is also 5 DAT – LPOST
[c] Evaluation (July 21) is also 18 DAT – LPOST
[d] Evaluation (October 31) is also 120 DAT - LPOST
[e] Late postemergence application (07/03/2003) made by cooperator: Glyphosate(WMAX) (0.5625 lb/A) + AMS
[f] 2,4-D(EH) = ethylhexyl ester