**2009 Weed Management in Liberty Link Soybean (L0936).**

A field study was initiated near Lincoln, Nebraska to evaluate different weed control programs for efficacy and crop safety in LibertyLink soybean systems. The experimental design was a randomized complete block with four replications. Plots were 10 feet wide by 30 feet long and located on a Sharpesburg silty clay loam soil with an organic matter of 3.1 % and a pH of 6.6. 'S080135 LL' was planted on May 18. Soybeans emerged on May 29. Preemergent herbicides were applied on May 21, midpost herbicides on June 24, and late post herbicides on July 6. Herbicides were applied with a tractor mounted sprayer calibrated to deliver 15 gallons per acre at 40 psi with Teejet 110015 AIXR nozzles. The environmental conditions at the time of spraying are given in Table 1. Rainfall received May 11 – May 31 and June 15 – July 16 is listed in Table 2.

Major weeds consisted of velvetleaf (Abuthilon theophrasti), sunflower (Helianthus annuus), palmer amaranth (Amaranthus palmeri), and yellow foxtail (Setaria glauca) species at average densities of 10, 2, 5, and 2 plants/ft$^2$. Weed densities were taken at the time of spraying in the center of the plot, two ft$^2$ samples were taken. Plots were evaluated using visual ratings. No crop injury was observed on any treatment. The soybeans were planted into very cloddy soil, but generally emerged well. Weed control from the preemergence herbicide applications varied according to product. Enlite was the most consistent on the weed species present in the trial. The limited control of sunflower from Authority First and Valor was expected. Ignite at application time B was inconsistent at controlling velvetleaf. Control of all species after application C was excellent. Velvetleaf control with only one application of Ignite was less than control with two applications, consistent with many other studies.

Table 1. Environmental conditions at the Time of Herbicide Application.

| Date | Air Temperature (F) | Soil Temperature At 4 in (F) | Humidity | Wind Speed & direction (mph) | Time of Day | Application Timing | Weed Heights (inches) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | ABUTH | HELAN | AMAPA | SETGL |
| May 21 | 73 | 74 | 43 | 8 SW | 10:30 am | PRE | NA | NA | NA | NA |
| June 24 | 78 | 84 | 65 | 4 SSE | 9:00 am | MPOST | 3 | 4 | 2 | 1 |
| July 6 | 71 | 76 | 72 | 3 WSW | 9:30 am | LPOST | 3 | | 2 | 2 |

Table 2. Rainfall received May 11 – May 31 and June 15 – July 16.

| Date | Amount (in) | Date | Amount (in) |
|---|---|---|---|
| May 12 | 0.14 | July 6 | 0.13 |
| May13 | 0.39 | July 14 | 0.11 |
| May 26 | 0.12 | July 16 | 0.3 |
| May 27 | 0.56 | | |
| June 15 | 0.24 | | |
| June 16 | 0.11 | | |
| June 19 | 0.71 | | |
| June 20 | 0.27 | | |
| June 21 | 0.23 | | |
| June 22 | 0.73 | | |
| July 3 | 0.88 | | |

Table 3. Weed Management in Liberty Link Soybean

| Treatment | Rate | Unit | Application Timing | Velvetlf CONTOL % 6/24/09 | Palmr amth CONTOL % 6/24/09 | Sunflwr CONTOL % 6/24/09 | Yel foxtl CONTOL % 6/24/09 | Velvetlf CONTOL % 7/9/09 | Palmr amth CONTOL % 7/9/09 | Sunflwr CONTOL % 7/9/09 | Yel foxtl CONTOL % 7/9/09 | Velvetlf CONTOL % 8/13/09 | Palmr amth CONTOL % 8/13/09 | Sunflwr CONTOL % 8/13/09 | Yel foxtl CONTOL % 8/13/09 | YIELD bu/acre |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Untreated | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15.6 |
| Valor | 2 | oz/a | PRE | 68.3 | 63.3 | 63.3 | 66.7 | 91.7 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 26.2 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Valor | 2 | oz/a | PRE | 65 | 58.3 | 63.3 | 66.7 | 93 | 99 | 97.7 | 96 | 93 | 99 | 97.7 | 96 | 31.7 |
| Ignite + AMS | 36 | oz/a | MPOST | | | | | | | | | | | | | |
| Authority First | 4 | oz/a | PRE | 68.3 | 81.7 | 46.7 | 66.7 | 93.3 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 28.4 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Authority First | 4 | oz/a | PRE | 70 | 83.3 | 46.7 | 65 | 91.7 | 99 | 99 | 93 | 91.3 | 99 | 99 | 93 | 23.8 |
| Ignite + AMS | 36 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 36 | oz/a | MPOST | 0 | 0 | 0 | 0 | 85 | 97.7 | 97.7 | 96 | 76.7 | 97.7 | 97.7 | 96 | 21.4 |
| Ignite + AMS | 22 | oz/a | MPOST | 0 | 0 | 0 | 0 | 93.3 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 27.5 |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Sharpen | 1 | oz/a | PRE | 63.3 | 81.7 | 80 | 86.7 | 95 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 33.2 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Optill | 2 | oz/a | PRE | 66.7 | 81.7 | 81.7 | 90 | 95 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 34.4 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prefix | 2 | pt/a | PRE | 61.7 | 81.7 | 61.7 | 85 | 91.7 | 99 | 99 | 99 | 96 | 99 | 99 | 99 | 38.5 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Valor XLT | 3 | oz/a | PRE | 81.7 | 88.3 | 88.3 | 78.3 | 95 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 30.2 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Enlite | 2.8 | oz/a | PRE | 88.3 | 90 | 90 | 90 | 95 | 99 | 99 | 99 | 99 | 99 | 99 | 99 | 34.7 |
| Classic | 0.32 | oz/a | PRE | | | | | | | | | | | | | |
| Valor | 2 | oz/a | PRE | | | | | | | | | | | | | |
| Harmony SG | 0.5 | oz/a | PRE | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| Intrro | 2.5 | qt/a | PRE | 56.7 | 80 | 60 | 78.3 | 86.7 | 96 | 99 | 99 | 93 | 97.7 | 99 | 99 | 33 |
| Ignite + AMS | 22 | oz/a | MPOST | | | | | | | | | | | | | |
| Ignite + AMS | 22 | oz/a | LPOST | | | | | | | | | | | | | |
| LSD (P=.05) | | | | 5.75 | 6.02 | 8..07 | 5.43 | 6.99 | 2.57 | 1.46 | 3.97 | 8.37 | 1.46 | 1.46 | 3.97 | 14.45 |