Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans, Nashua, Iowa, 2000. Owen, Micheal D.K., James F. Lux, Damian D. Franzenburg, and James M. Lee. The purpose of this study was to evaluate alternative postemergence herbicide treatments for weed efficacy and crop phytotoxicity in glyphosate resistant soybeans. The soil was a Floyd, Kenyon, Ostrander loams, Clyde clay loam with a pH 6.85 and 3.5% organic matter. The experimental design was a randomized complete block with three replications and plots were 10 by 25 ft. The 1999 crop was corn. Tillage included a fall chisel plow and a spring field cultivation. Crop residue on the soil surface was 35 to 40% at planting. “Asgrow variety 2401 RR” soybeans were planted 2 inches deep on May 10, at 182,402 seeds/A in 30 inch rows. May rainfall included: 0.01, 0.46, 0.26, 0.15, 0.21, 0.13, 0.53, 0.23, 0.01, 0.88, 0.30, 0.02, 0.17 and 0.64 inches on May 1, 8, 11, 12, 16, 17, 18, 21, 22, 26, 27, 28, 30 and 31, respectively. Total rainfall for May was 4.0 inches. June rainfall included: 0.12, 0.02, 0.43, 0.36, 0.03, 2.72, 0.03, 0.34, 0.05, 0.01, 0.45, 0.27, 0.17, 0.10, 0.01, and 0.50 inches on June 1, 3, 4, 10, 12, 13, 14, 15, 16, 19, 20, 23, 24, 25, 26, and 28, respectively. Total rainfall for June was 5.61 inches. July rainfall included: 2.56 inches and 0.54 inches from July 1 through 15 and 16 through 31, respectively. Rainfall total for August was 3.46 inches. Application information is listed below:

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<th>Date</th>
<th>May 10</th>
<th>June 15</th>
<th>June 23</th>
<th>July 19</th>
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<td>1-4, 0-1 tiller</td>
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Velvetleaf
leaf no. - 3-4 2-7 -
height (inch) - 1.5-3 2.5-4 -
infestation (ft²) - 2-3 0-2 -

No soybean injury occurred from PRE applied herbicides when noted to May 30. On June 23, significant injury occurred from POST1 applications of Basagran plus Poast Plus plus Ultra Blazer, FirstRate plus Flexstar plus Select, FirstRate plus Flexstar plus Fusion and Touchdown plus Flexstar. Other POST1 treatments caused considerably less injury. Nearly all PRE applied followed by POST1 and POST1 treatments were very effective in controlling giant foxtail, velvetleaf, common waterhemp, common lambsquarters, and Pennsylvania smartweed on June 23. PRE applied Outlook, Micro-Tech and Dual II Magnum did not effectively control velvetleaf, common lambsquarters and Pennsylvania smartweed. Raptor plus Flexstar applied POST3 caused significant soybean injury when observed on July 19. All treatments demonstrated excellent giant foxtail, velvetleaf, common waterhemp, common lambsquarters and Pennsylvania smartweed control on July 19, except FirstRate plus Glyphomax Plus, FirstRate plus Flexstar plus Select and FirstRate plus Flexstar plus Fusion did not provide acceptable control of common lambsquarters. A similar trend was observed on August 8. POST2 applied Raptor plus Flexstar and PRE Outlook followed by POST1 Basagran, Poast Plus and Ultra Blazer each yielded 52 bu/A. The remaining treatments yielded from 57 to 62 bu/A, excluding the untreated check. (Dept. of Agronomy, Iowa State University, Ames)
**TRIAL #** US 073/00/01 000 A1 : NSC 2

**DATA MEAN**

**TITLE:** Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans.

**CREATED:** 04/24/2000  **REVISED:** 11/29/2000  **COMPLETED:** N

**PROJECT TYPE:** HERBICIDE  **RESEARCHED BY:** IA State University

**LOCATION:** NASHUA, IA  **DESIGN:** RANDOMIZED COMPLETE BLOCK DESIGN

**PLOT SIZE:** 10.00 FT WIDE X 25.00 FT LONG  **REPS:** 03

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**TITLE:** Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans.

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STANDARD DEVIATION | 0.00 | 1.58 | 0.869 | 0.00 | 0.00 |
**TRIAL # US 073/00/01 000 A1 : NSC 2**

**DATA MEAN**

**TITLE:** Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans.

**CREATED:** 04/24/2000  **REVISED:** 11/29/2000  **COMPLETED:** N

**PROJECT TYPE:** HERBICIDE  **RESEARCHED BY:** IA State University

**LOCATION:** NASHUA, IA  **DESIGN:** RANDOMIZED COMPLETE BLOCK DESIGN

**PLOT SIZE:** 10.00 FT WIDE X 25.00 FT LONG  **REPS:** 03

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**TITLE:** Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans.

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LSD (0.05) 4.29 11.23 3.73 4.36 3.53

STANDARD DEVIATION 2.10 5.50 1.83 2.14 1.73
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**TRIAL #** US 073/00/01 000 A1 : NSC 2

**TITLE:** Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans.

**CREATED:** 04/24/2000  **REVISED:** 11/29/2000  **COMPLETED:** N

**PROJECT TYPE:** HERBICIDE  **RESEARCHED BY:** IA State University  **LOCATION:** NASHUA, IA

**DESIGN:** RANDOMIZED COMPLETE BLOCK DESIGN  **PLOT SIZE:** 10.00 FT WIDE X 25.00 FT LONG

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**DATA MEAN**

**PROJECT TYPE:** HERBICIDE

**LOCATION:** NASHUA, IA

**RESEARCHED BY:** IA State University

**DESIGN:** RANDOMIZED COMPLETE BLOCK DESIGN

**PLOT SIZE:** 10.00 FT WIDE X 25.00 FT LONG

**REPS:** 03
**TITLE:** Evaluation of preemergence and postemergence applied herbicides for weed control in RR soybeans.

**DATA MEAN**

```
TRT TREATMENT NUM COMPONENT DOSAGE RATE UNIT TM 08/08/00 08/08/00 08/08/00 08/08/00 10/04/00
15A=FIRSTRATE 84 (WG) 1.016 LAA 2 99 99 53 98 58
B=FLEXSTAR HL 1.88 (SL) 0.235 LAA 2
C FUSION (2.66EC) 0.166 LAA 2
D=CROP OIL CONCENTRATE 1.00 PVM 2
16A=TOUCHDOWN (3SL) 0.56 LAA 2 99 99 99 99 57
B=FLEXSTAR HL 1.88 (SL) 0.294 LAA 2
C=AMMONIUM SULFATE 4.25 PGM 2
D=TOUCHDOWN (3SL) 0.75 LAA 4
E=AMMONIUM SULFATE 4.25 PGM 4
```

LSD (0.05) 1.00 7.68 15.62 4.39 4.49
STANDARD DEVIATION 0.471 3.76 7.65 2.15 2.20

**SUPPLEMENTAL CHEMICAL**

**TIMING CODES**

00 = UNTRCHR / UNTREATED TIMING (FP)
01 = PREPRE / PRE 05/10/2000(1)
02 = POSPOS / POST1 06/15/2000(2)
03 = POSPOS / POST2 06/23/2000(3)
04 = POSPOS / POST3 07/19/2000(4)

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**SPECIES COMMON NAME - CULTIVAR (IF APPLICABLE)**

02 = GIANT FOXTAIL
03 = VELVETLEAF
04 = COMMON LAMBSQUARTERS