

KIH-485 preemergence weed control in field corn at Perry, Illinois. Moody, James L., Douglas J. Maxwell, and Aaron G. Hager. The objectives of this study are to evaluate the 1X and 2X rates of KIH-485 60 WG, weed control spectrum of KIH-485, and to determine the optimum ratio of KIH-485 and atrazine as a premix. This study was established at the Orr Research Center at Perry, Illinois in 2004. The soil is a Rozzeta clay loam with an organic matter of 1.9% and a pH of 6.1. Conventional spring tillage and fertilization was done on the research area. Asgrow 715 RR was planted 1.5 inches deep on May 5 at 29,100 seeds per acre in 30 inch rows. The experimental design was a randomized complete block with 3 replications of plots 10 by 30 feet. Herbicides were applied with a CO₂ backpack sprayer delivering 20 gpa and equipped with a Teejet AI-110025. Application information is listed below:

| | |
|---------------------------|-------|
| Date | May 6 |
| Treatment | pre |
| Temperature | |
| Air | 82° F |
| Soil (4 inch) | 60° F |
| Relative Humidity (%) | 45 |
| Soil moisture | dry |
| Wind (mph) | 13 |
| Sky | clear |
| Precip. After application | |
| Week 1 (inch) | 1.04 |
| Week 2 (inch) | 0.50 |

Crop tolerance was excellent to all of the treatments in this trial by ratings taken at 64 days after treatment (DAT). All herbicide treatments showed good to excellent giant foxtail control at the last evaluation date. Excellent velvetleaf and common lambsquarters weed control was obtained by the KIH-485 plus atrazine premixes as well as s-metolachlor&atrazine&mesotrione&benoxacor and s-metolachlor&atrazine&benoxacor treatments at the last evaluation date. The large seeded broadleaves had near perfect control by s-metolachlor&atrazine&mesotrione&benoxacor at the last rating date. The KIH premix and standard commercial treatments with atrazine gave poor and variable control of the ivyleaf morningglory and jimson weed in this trial. Corn yields were excellent with all standards, KIH premixes, and the high rate of KIH alone. (Department of Crop Sciences, University of Illinois, Urbana).

Table 1. KIH-485 preemergence weed control in field corn at Perry, Illinois. (Moody, Maxwell and Hager).

| Treatment | Appl. Rate (lb/A) | Appl. time (%) | ZEAMD 5/28 (%) | SETFA 5/28 (%) | CHEAL 5/28 (%) | ABUTH 5/28 (%) | DATST 5/28 (%) | IPOHE 5/28 (%) |
|-----------------------------------|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| KIH-485 | 0.15 | pre | 1 | 99 | 97 | 98 | 82 | 76 |
| KIH-485 | 0.19 | pre | 2 | 99 | 98 | 98 | 87 | 88 |
| S-metolachlor&benoxacor | 1.27 | pre | 0 | 97 | 91 | 82 | 76 | 57 |
| KIH-485 | 0.22 | pre | 0 | 98 | 99 | 98 | 92 | 92 |
| S-metolachlor&benoxacor | 2.54 | pre | 1 | 99 | 97 | 97 | 87 | 82 |
| KIH-485 | 0.30 | pre | 0 | 99 | 99 | 99 | 97 | 96 |
| KIH-485&atrazine (B) ¹ | 0.15 + 0.95 | pre | 1 | 98 | 99 | 99 | 98 | 98 |
| S-metolachlor&atrazine&benoxacor | 0.96 + 1.23 | pre | 0 | 98 | 99 | 98 | 98 | 98 |
| KIH-485&atrazine (C) ² | 0.15 + 0.95 | pre | 1 | 91 | 99 | 99 | 99 | 99 |
| Untreated check | - | - | 0 | 0 | 0 | 0 | 0 | 0 |
| S-metolachlor&atrazine&benoxacor | 1.26 + 1.62 | pre | 0 | 99 | 99 | 98 | 99 | 96 |
| S-meto&atra&mesotrione&benoxacor | 1.67+0.62+0.17 | pre | 0 | 99 | 99 | 99 | 99 | 98 |
| LSD (0.05) | | | 1 | 4 | 6 | 8 | 12 | 15 |

¹ Formulation B premix of KIH-485&atrazine; ² Formulation C premix of KIH-485&atrazine.

Table 2. KIH-485 preemergence weed control in field corn at Perry Illinois. (Moody, Maxwell and Hager).

| Treatment | Appl. Rate | Appl. time | ZEAMD 6/17 | SETFA 6/17 | CHEAL 6/17 | ABUTH 6/17 | DATST 6/17 | IPOHE 6/17 |
|-----------------------------------|----------------|------------|------------|------------|------------|------------|------------|------------|
| | (lb/A) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| KIH-485 | 0.15 | pre | 0 | 98 | 65 | 72 | 42 | 40 |
| KIH-485 | 0.19 | pre | 2 | 96 | 92 | 85 | 71 | 58 |
| S-metolachlor&benoxacor | 1.27 | pre | 0 | 93 | 30 | 47 | 35 | 42 |
| KIH-485 | 0.22 | pre | 0 | 96 | 96 | 98 | 79 | 72 |
| S-metolachlor&benoxacor | 2.54 | pre | 3 | 98 | 72 | 70 | 70 | 55 |
| KIH-485 | 0.30 | pre | 0 | 99 | 89 | 94 | 89 | 85 |
| KIH-485&atrazine (B) ¹ | 0.15 + 0.95 | pre | 0 | 96 | 99 | 99 | 97 | 98 |
| S-metolachlor&atrazine&benoxacor | 0.96 + 1.23 | pre | 0 | 95 | 99 | 98 | 94 | 95 |
| KIH-485&atrazine (C) ² | 0.15 + 0.95 | pre | 0 | 91 | 99 | 99 | 96 | 98 |
| Untreated check | - | - | 0 | 0 | 0 | 0 | 0 | 0 |
| S-metolachlor&atrazine&benoxacor | 1.26 + 1.62 | pre | 0 | 99 | 99 | 96 | 98 | 97 |
| S-meto&atra&mesotrione&benoxacor | 1.67+0.62+0.17 | pre | 0 | 97 | 99 | 99 | 99 | 98 |
| LSD (0.05) | | | 3 | 5 | 21 | 25 | 23 | 27 |

¹ Formulation B premix of KIH-485&atrazine; ² Formulation C premix of KIH-485&atrazine.

Table 3. KIH-485 preemergence weed control in field corn at Perry, Illinois. (Moody, Maxwell and Hager).

| Treatment | Appl. Rate | Appl. time | ZEAMD 7/09 | SETFA 7/09 | CHEAL 7/09 | ABUTH 7/09 | DATST 7/09 | IPOHE 7/09 | Yield 10/25 |
|-----------------------------------|----------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| | (lb/A) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | Bu/A |
| KIH-485 | 0.15 | pre | 0 | 94 | 45 | 76 | 58 | 30 | 186.5 |
| KIH-485 | 0.19 | pre | 0 | 90 | 67 | 60 | 45 | 45 | 201.4 |
| S-metolachlor&benoxacor | 1.27 | pre | 0 | 81 | 20 | 33 | 28 | 20 | 174.8 |
| KIH-485 | 0.22 | pre | 0 | 88 | 86 | 73 | 71 | 53 | 204.8 |
| S-metolachlor&benoxacor | 2.54 | pre | 0 | 97 | 38 | 71 | 50 | 27 | 183.9 |
| KIH-485 | 0.30 | pre | 0 | 98 | 81 | 94 | 86 | 70 | 206.4 |
| KIH-485&atrazine (B) ¹ | 0.15 + 0.95 | pre | 0 | 94 | 99 | 97 | 82 | 95 | 211.1 |
| S-metolachlor&atrazine&benoxacor | 0.96 + 1.23 | pre | 0 | 95 | 99 | 98 | 67 | 94 | 212.3 |
| KIH-485&atrazine (C) ² | 0.15 + 0.95 | pre | 0 | 91 | 99 | 98 | 90 | 86 | 206.6 |
| Untreated check | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 106.3 |
| S-metolachlor&atrazine&benoxacor | 1.26 + 1.62 | pre | 0 | 96 | 99 | 88 | 76 | 94 | 204.3 |
| S-meto&atra&mesotrione&benoxacor | 1.67+0.62+0.17 | pre | 0 | 95 | 99 | 99 | 98 | 96 | 215.3 |
| LSD (0.05) | | | 4 | 9 | 24 | 27 | 32 | 27 | 21 |

¹ Formulation B premix of KIH-485&atrazine; ² Formulation C premix of KIH-485&atrazine.