

Kochia Control in Spring Wheat with Postemergence Herbicides at Hettinger, ND, 2025.

A trial was conducted to evaluate postemergence herbicides for control of kochia and other weeds in spring wheat. Spring wheat was planted on May 5. Herbicide treatments were applied on June 18 when wheat was 14 inches in height (see Table 1 for treatments and Table 2 for description of application). At time of application, kochia averaged 4 inches in height and was found at a density averaging 15 kochia per square foot. Other weeds present included common lambsquarters (2.1 in) and green foxtail (3.1 in). Kochia control was 65% 30 days after treatment (DAT) with fluroxypyr alone (Starane Ultra), the addition of bromoxynil increased kochia control to 73, 80, and 85% with increasing rates of bromoxynil (Maestro 2 EC). Kochia control was 87 to 93% with premixes Huskie FX, Huskie Complete, Talinor, and Tolvera. The premix Carnivore and Bison resulted in the lowest kochia control (76 to 82%). The addition of fluroxypyr to Bison increased kochia control to 88 to 90%. Fluroxypyr alone provided poor control of common lambsquarters. All other treatments resulted in 89 to 100% control. Foxtail control was 89% with Tolvera. Huskie FX, Huskie Complete, and Talinor provided some control of green foxtail. Wheat yield was similar for all herbicide treatments. While there was no yield increase, uncontrolled weeds increase soil seed bank levels and could be more troublesome in rotational crops.

Table 1. Evaluation of postemergence herbicides for weed control in spring wheat.

| Treatment ^a | Rate oz/A | Kochia | | Common lambsquarters | Green foxtail | Wheat yield |
|------------------------|--------------|-----------|--------|----------------------|---------------|-------------|
| | | 15 DAT | 30 DAT | 15 DAT | 15 DAT | 69 DAT |
| | | % control | | | | Bu/A |
| 1 Untreated | | 0h | 0i | 0f | 0e | 69.7- |
| 2 Starane Ultra | 5.6 | 62g | 65h | 31e | 0e | 61.9- |
| 3 Starane Ultra | 5.6 | 73f | 79fg | 89c | 0e | 63.4- |
| Maestro 2EC | 16 | | | | | |
| 4 Starane Ultra | 5.6 | 80d | 84c-f | 97ab | 0e | 59.9- |
| Maestro 2EC | 24 | | | | | |
| 5 Starane Ultra | 5.6 | 85abc | 91ab | 99a | 0e | 63.5- |
| Maestro 2EC | 32 | | | | | |
| 6 Huskie FX | 13.5 | 90a | 93a | 98ab | 54d | 64.0- |
| 7 Huskie Complete | 13.7 | 88a | 91ab | 99a | 78b | 68.2- |
| 8 Talinor | 13.7 | 81cd | 87bcd | 94b | 65c | 64.0- |
| 9 Tolvera | 11 | 87ab | 87bcd | 100a | 89a | 63.2- |
| 10 Carnivore | 16 | 74ef | 76g | 96ab | 0e | 58.5- |
| 11 Carnivore | 24 | 79d | 82d-g | 98a | 0e | 62.0- |
| 12 Bison | 24 | 78de | 79efg | 97ab | 0e | 64.9- |
| 13 Bison | 24 | 83bcd | 88abc | 98ab | 0e | 62.5- |
| Starane Ultra | 2.8 | | | | | |
| 14 Bison | 24 | 82bcd | 90abc | 98ab | 0e | 57.4- |
| Starane Ultra | 5.6 | | | | | |
| LSD P=.05 | | 5.2 | 5.8 | 4.6 | 5.4 | 8.38 |
| Standard Deviation | | 4.4 | 4.9 | 3.9 | 4.5 | 7.04 |
| CV | | 5.84 | 6.21 | 4.63 | 22.28 | 11.18 |
| Treatment F | | 99.848 | 88.194 | 229.265 | 227.492 | 0.814 |
| Treatment Prob(F) | | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.6502 |

^aStarane Ultra, fluroxypyr (2.8 lb ae/gal), Maestro 2 EC, bromoxynil (2 lb ai/gal); Huskie FX, bromoxynil + pyrasulfotole + fluroxypyr (2.3 lb ai/gal); Huskie Complete, bromoxynil + pyrasulfotole + thien carbazon, Talinor, bicyclopyrone + bromoxynil (1.77 lb ai/gal); Tolvera, tolpyralate + bromoxynil (1.71 lb ai/gal); Carnivor, MCPA + fluroxypyr + bromoxynil (4.01 lb ae/gal); Bison, MCPA + bromoxynil (4 lb ae/gal).

^bAbbreviations: DAT, days after treatment; lb ai/gal, pounds active ingredient per gallon.

Table 2. Application environment and equipment for postemergence weed control in spring wheat.

| Application Description | | Application equipment | |
|---------------------------------|-----------------|-----------------------|-----------------|
| Date | Jun-18-2025 | Equipment Type | Tractor mounted |
| Start, Stop Time | 11:02, 11:48 AM | Operation Pressure | 40 PSI |
| Air Temperature Start, Stop | 76.6, 77.2 F | Nozzle Model | 11002DG |
| % Relative Humidity Start, Stop | 46.8, 46.4 | Nozzle Spacing | 20 IN |
| Wind Velocity+Dir. | 4 MPH, WSW | Boom Height | 22.0 IN |
| Wind Velocity+Dir. Max | 8.5 MPH, SSW | Ground Speed | 4.1 MPH |
| Soil Temperature | 53 F | Application Amount | 10 GAL/AC |