

Table 1. Comparison of postemergence herbicide treatments for weed control in spring wheat at Hettinger, ND, 2023.

Herbicide treatment <sup>a</sup>	Rate oz/A	Kochia <sup>b</sup>			Wheat yield Bu/A
		14	32	68	
		percent control			
1 Untreated		0	0	0	102 -
2 Starane Ultra	5.3	72 de	75 fg	75 d	99 -
3 OpenSky	16	83 abc	84 b-f	79 cd	106 -
4 Quelex	0.75	85 ab	86 bcd	82 bcd	100 -
Starane Ultra	5.3				
5 Quelex	0.75	81 bc	86 bc	82 bcd	101 -
OpenSky	16				
6 WideMatch	21.3	67 e	74 g	77 d	103 -
7 WideMatch	21.3	74 cde	77 d-g	76 d	97 -
MCPE	8				
8 WideMatch	21.3	80 bcd	87 bc	89 ab	100 -
Quelex	0.75				
9 PerfectMatch	16	80 bcd	85 b-e	80 bcd	97 -
10 Supremacy	4	85 ab	85 b-e	81 bcd	99 -
11 Talinor	13.7	82 abc	81 b-g	88 abc	98 -
12 Huskie Complete	13.7	86 ab	90 ab	88 abc	107 -
13 Huskie FX	18	91 a	98 a	97 a	98 -
14 Carnivore	16	74 cde	76 efg	75 d	96 -
LSD P=.05		8.8	9.3	9.4	NS
Standard Deviation		6.2	6.5	6.6	7.6
CV		8.2	8.4	8.8	7.6
Treatment F		45.42	43.85	40.00	1.00
Treatment Prob(F)		0.0001	0.0001	0.0001	0.4751

<sup>a</sup> Starane Ultra, fluroxypyr; OpenSky, fluroxypyr plus pyroxsulam; Quelex, Halauxifen plus florasulam; WideMatch; fluroxypyr plus clopyralid; MCPE, MCPA-ester; PerfectMatch, fluroxypyr plus clopyralid plus pyroxsulam; Supremacy, fluroxypyr plus thifensulfuron plus tribenuron; Talinor, bromoxynil plus bicyclopyrone; Huskie FX, fluroxypyr plus bromoxynil plus pyrasulfotole; Carnivore, fluroxypyr plus MCPA plus bromoxynil. Treatments were applied to spring wheat in the early tillering phase when kochia averaged 2.8 inches.

<sup>b</sup> Kochia was evaluated for control at 14, 32, and 68 days after treatments were applied.

Table 2. Description of herbicide application and equipment for treatments applied for weed control in spring wheat at Hettinger, ND, 2023.

Application Description		Application Equipment	
Date	6/8/2023	Sprayer Type	Tractor
Start Time	10:44 AM	Pressure	37 PSI
Stop Time	11:50 AM	Nozzle Model	11003
Air Temp	90 F	Nozzle Spacing	20 IN
Rel Humidity	45	Boom Length	100 IN
Wind Speed	1.2 MPH	Boom Height	28 IN
Soil Temp	69 F	Ground Speed	4.5 MPH
% Cloud Cover	20	Application Amount	10 GAL/AC
		Propellant	CO2

A trial was conducted to evaluate postemergence herbicide combinations for control of kochia in spring wheat. Spring wheat ‘Lang’ was planted on May 1, 2023 using a no-till drill at a depth of 2 inches; wheat emerged on May 9. At time of planting, soil conditions were dry due to limited rainfall during the month of April 2023 and there were few weeds present. In the two weeks following planting, over 5 inches of rainfall occurred which allowed for emergence of both crop and weeds. All treatments in this trial contained the active ingredient fluroxypyr. Fluroxypyr alone (Starane Ultra) provided just 75% control at 68 days after application. Similarly, Widematch (fluroxypyr plus clopyralid), WideMatch plus MCPE, and Carnivore (fluroxypyr plus MCPA plus bromoxynil) controlled kochia at 75 to 77%. Most other treatments controlled kochia at 80 to 88%, with the exception of Huskie FX, where kochia control was 97%. Wheat yield ranged from 96 to 106 bu/A and there was no significant difference in wheat yield due to herbicide treatment, even when no herbicide was applied. The lack of rainfall during April delayed the emergence of kochia in this trial until after wheat had been planted and was already emerged. This resulted in wheat having a competitive advantage which it maintained throughout the growing season due to the above average rainfall that occurred during the 2023 cropping season. Wheat yield, which often surpassed 100 bu/A was also much higher than the average for this location which is typically around 40 bu/A.