

Broadleaf Weed Control with ET Herbicide in Spring Wheat at Hettinger. Reeder hard red spring wheat was seeded on April 15. Treatments were applied to 4 leaf wheat, to ½" tall kochia, 5 leaf dandelion, 2" tall wild buckwheat, 1" tall Russian thistle, 4" long field bindweed and to 6" tall alfalfa on May 28 with 54° F, 91% RH, clear sky and calm wind. Treatments were applied with a tractor mounted CO<sup>2</sup> propelled plot sprayer delivering 10 gpa at 40 psi through 8001.5 flat fan nozzles to a 5 foot wide area the length of 10 by 28 foot plots. The experiment was a randomized complete block design with four replications. Kochia, dandelion, wild buckwheat, Russian thistle, field bindweed and alfalfa populations were 50+, 0.75, 1, 3, 0.25 and 0.1 plants per sq. foot, respectively. The trial sustained frost on May 13 (16°F) and on June 18 (25°F), and received a total of 5.4 inches of growing season rainfall (April 1 - July 31). Evaluations for crop injury were on June 3 and July 13, and for weed control on June 17 and July 13. The trial was not harvested.

Treatment	Rate	June 3		June 17				July 13		
		HRSW	kocz	fibw	dand	ruth	alfa	wibw	HRSW	kocz
	oz/A	----- % Control -----								
1 Untreated	0	0	0	0	0	0	0	0	0	0
2 ET	0.5	1.2	62	63	59	60	65	82	0	22
3 ET	1.5	7.5	74	40	65	84	--	81	5.0	65
4 ET + MVO	0.5 + 1%	7.5	72	47	58	88	33	90	5.0	30
5 ET + MVO	1.5 + 1%	13.8	92	40	75	96	68	81	5.0	80
6 ET + NIS	0.5 + 0.25%	1.2	65	69	78	93	65	87	5.0	50
7 ET + NIS	1.5 + 0.25%	5.5	89	37	38	96	--	63	7.5	54
8 ET + 2,4-D ester + NIS	0.5 + 8 + 0.25%	14.2	89	94	94	96	90	95	10.0	68
9 ET + Clarity + NIS	0.5 + 2 + 0.25%	3.0	94	90	91	96	90	93	5.0	94
10 ET+Bronate Adv.+NIS	0.5 + 12.8 + 0.25%	11.2	96	90	89	99	90	99	0.0	82
11 ET+Harmony GT+NIS	0.5 + 0.3 + 0.25%	5.0	76	40	68	97	50	97	10.0	40
12 ET + 2,4-D ester	1.5 + 8	7.5	81	85	91	96	92	92	1.2	70
13 ET + Clarity	1.5 + 2	6.8	93	78	89	94	95	95	0.0	92
14 ET + Bronate Advance	1.5 + 12.8	15.0	96	70	81	97	87	99	16.2	92
15 ET+Harmony GT+NIS	1.5 + 0.3 + 0.25%	10.0	92	20	87	99	65	98	2.5	79
16 2,4-D ester	8	6.2	58	83	79	94	92	86	8.8	55
17 Clarity	2	6.8	90	40	35	70	--	90	21.2	66
18 Bronate Advance	12.8	4.2	84.8	87	80	97	--	97	0.0	86
19 Harmony GT + NIS	0.3 + 0.25%	3.8	28	15	45	90	60	92	15.0	48
C.V. %		89.8	17.8	30.3	29.5	15.5	21.3	14.7	166	35.9
LSD 5%		8.8	19	24	29	19	23	18	NS	31

#### Summary

Crop injury was observed on all herbicide treatments on June 3. This injury tended to diminish over time except for Harmony GT treatments 15 and 19 and Clarity treatment 17 which tended to increase. Kochia control was significantly higher for the higher rate of ET herbicide alone (trt 3) and ET + adjuvant (trts 5 and 7) than for the lower rate of ET herbicide alone (trt 2) or ET + adjuvant (trts 4 and 6). Weed control tended to not be as rate dependant for ET herbicide when applied in a tank mix. The addition of either a non-ionic surfactant (NIS) or methylated vegetable oil (MVO) to ET herbicide tended to enhance weed control. All tank mix combinations (trts 8 - 15) tended to have enhanced weed control over individual components applied alone.