PROJECT TITLE: Broadleaf Herbicide Screen

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PROJECT PERSONNEL: Doug Holen, Research Associate, NWARC

OBJECTIVES:

To evaluate crop tolerance and efficacy of standard broadleaf herbicides available for use in small grains when applied at the high and lower end of their respective labeled rates.

RESULTS:

WestBred 926 was broadcast seeded at 90 lb/A on 4-13-99. Herbicides were applied on 5-19-99 when most weeds were in the 1 to 3 leaf stage and the spring wheat was in the fourth leaf stage of growth.

The poorest control was obtained from banvel and starane treatments, principly due to the lack of volunteer canola control. The lower rate of aim also failed to provide acceptable weed control unless it was tank-mixed with 2,4-D. The sulfonylureas provided the best control of catchfly, as did the highest rate of banvel. Most treatments afforded acceptable control of wild buckwheat, the exceptions being MCPA and the lower rate of express.

Crop injury was initially visible in those plots treated with aim. However, most symptoms had disappeared by the time of the first scheduled rating. Crop injury was also notable with the high rate of bronate, express, and harmony extra. The handweeded plots were also treated with harmony extra, and similar crop injury symptoms were present here as well. Those treatments which yielded less than the handweeded check includes starane at both rates, the low rate of banvel, and three out of the four aim treatments.

SUMMARY:

All herbicides evaluated have strengths in term of being able to control specific weed species. However, the diverse species composition present in most small grain fields requires that broadleaf herbicides be tank-mixed in order to control the entire weed complex. This requires that farmers know which weed are present and the efficacy of available herbicides.

FUTURE PLANS:

This study will be continued in order to assess the strengths and weaknesses of small grain broadleaf herbicides.

	Weed Weight Grams/M^2 6-16-99		Crop Injury % 5-26-99		Yield Bu/A 9-7-99	
Herbicide	1X	1/2X	1X	1/2X	1X	1/2X
Aim	52	206	13	10	113	111
Aim + 2,4-D	29	22	13	35	112	119
Bronate	54	8	20	6	120	126
Buctril	31	68	3	5	120	123
Banvel	660	375	2	2	121	107
Express	14	36	36	21	124	132
Harmony Ex	14	26	35	18	128	126
MCPA	23	35	10	6	129	128
2,4-D ester	38	83	16	11	119	124
Starane	348	399	16	2	110	111
Nontreated	1260		0		92	
Handweeded	2		25		133	
LSD	344		16		19	

Percent Control: 7-28-99

	Canola		Catchfly		W. Buckwheat	
Herbicide	1X	1/2X	1X	1/2X	1X	1/2X
Aim	92	85	74	89	93	95
Aim + 2,4-D	100	97	78	66	88	68
Bronate	100	98	64	82	94	90
Buctril	99	99	50	65	93	89
Banvel	80	56	92	100	100	99
Express	100	99	100	100	85	69
Harmony Ex	100	100	100	100	90	97
MCPA	100	100	95	95	43	17
2,4-D ester	100	100	92	86	90	88
Starane	70	63	95	92	98	96
Nontreated	0		0		0	
Handweeded	100		100		100	
LSD	11		34		20	