

PROJECT TITLE: Curtail / Assert Plantback Study, Initial Year

YEAR/PROJECT: 1989/754

PROJECT PERSONNEL: Leader - Vern R. Stewart, Todd K. Keener - Research Specialist, NWARC - Kalispell, MT.

OBJECTIVE: To evaluate the residual effect of both Curtail and Assert to subsequent plantings of sensitive crops.

SUMMARY: This was the establishment year of this trial on spring barley. Both herbicides gave excellent broadleaf weed control and did not adversely effect the crop.

RESEARCH METHODS:

Herbicides were applied post emergence to Moravian spring barley using a tractor-mounted research-type sprayer in 24.85 gpa at 32 psi. Plots 10' X 24' were established in a solid seeded field with three replications in a randomized block design.

Planting data:

Moravian spring barley was planted on April 21, 1989 at 60#/A using an International press-type drill with 7" spacing. Seed was planted 1 1/2 inches in a seedbed that had been first fall plowed, spring disced, cultivated and then packed. The previous crop was spring barley.

Application data:

Date: 6/7/89 Air temp: 76 F Soil Temp: 70 F rel Humid: 25
Wind: 0-2 mph, ssw Cloud cover: clear
Soil: top/good sub/v.good Crop stage: tiller, 5 leaf
Weed stages: Fanweed (Thlaspi arvense) 6-10 lvs
Henbit (Lamium amplexicauli) 2 lf, seedlings
Silene (Silene noctiflora) 4-6 lvs

RESULTS:

Excellent broadleaf weed control was obtained with all treatments. Yield data, test weights, percent plumps, and height measurements were all similar and not adversely effected by any of the treatments. Table 1 and 2.

FUTURE PLANS:

This study was begun in 1989 and will continue at least two more years to determine the residual effect of these herbicides on future crops.

Table 1. Agronomic data from the Curtail/Assert Study grown on the Northwestern Agricultural Research Center, Kalispell, MT. in 1989. Field R4

Date planted: April 20, 1989

Date harvested: Sept. 12, 1989

Treatment	Prod/Acre or (ai/A)	Percent Weed Control 1/				N F C
		Fanweed	Wild Buck	Chickweed	Henbit	
Curtail	2 pt (.58#)	100.0	100.0	100.0	100.0	100.0
Curtail	2 2/3 pt (.79#)	100.0	100.0	96.67	98.33	100.0
Curtail M	1 3/4 pt (.6#)	100.0	100.0	100.0	95.67	100.0
Curtail M	2 1/3 pt (.8#)	100.0	100.0	99.00	100.0	100.0
Assert	1.2 pt (.375#)	100.0	100.0	90.00	100.0	100.0
Assert	1.5 pt (.47#)	100.0	100.0	91.67	100.0	95.00
Assert + Curtail	1.2 pt + 2 pt (.375#+.59#)	100.0	100.0	98.33	100.0	100.0
Assert + Curtail M	1.2 pt + 1 3/4 pt (.375#+.6#)	100.0	100.0	98.33	100.0	100.0
Glean + surf.	1/3 oz. (.25oz)	100.0	100.0	100.0	100.0	100.0
Check		.0000	.0000	.0000	.0000	.0000
OVERALL MEAN =		90.00	90.00	87.40	89.40	89.50
F-RATIO TRTS =		.0000	.0000	91.15	837.7	396.5
P-VALUE TRTS =		.0000	.0000	.0000	.0000	.0000
CV (SE/MEAN) =		.0000	.0000	3.704	1.215	1.767
LSD(0.05 by t)=		.0000	.0000	9.620	3.228	4.698

1/ Percent weed control, ocular rating by percentage of control in comparison to check.

Fanweed = *Thlaspi arvense* Wild Buckwheat = *Polygonum convolvulus*
 Chickweed = *Stellaria media* Henbit = *Lamium amplexicauli*
 N F C = night flowering catchfly, *Silene noctiflora*)

Table 2. Agronomic data from the Curtail/Assert Study grown on the North-western Agricultural Research Center, Kalispell, MT. in 1989.

Date planted: April 20, 1989

Date harvested: Sept. 12, 1989

Treatment	Prod/Acre or (ai/A)	Yield Bu/A	Test Wt Lbs/Bu	Percent Plump	Height Inches
Curtail	2 pt (.58#)	72.3	49.07	97.07	37.3
Curtail	2 2/3 pt (.79#)	69.4	48.97	97.17	37.8
Curtail M	1 3/4 pt (.6#)	64.7	49.37	96.80	37.1
Curtail M	2 1/3 pt (.8#)	67.7	49.23	95.90	36.7
Assert	1.2 pt (.375#)	60.9	48.77	95.63	36.2
Assert	1.5 pt (.47#)	72.2	49.17	96.30	36.2
Assert + Curtail	1.2 pt + 2 pt (.375#+.59#)	66.3	49.17	97.07	35.8
Assert + Curtail	1.2 pt + 1 3/4 pt (.375#+.6#)	65.3	49.53	97.60	36.2
Glean + surf.f.	1/3 oz. (.25oz)	65.3	49.40	97.03	37.4
Check		66.8	48.87	96.03	36.7
OVERALL MEAN =		67.08	49.15	96.66	36.78
F-RATIO TRTS =		.7004	1.019	.4700	1.788
P-VALUE TRTS =		.7127	.4657	.8883	.1361
CV (SE/MEAN) =		6.214	.4899	.9785	1.252
LSD(0.05 by t)=		12.38	.7155	2.810	1.368