PROJECT TITLE: Achieve Reduced Rate

PROJECT LEADERS: Bob Stougaard and Doug Holen, NWARC, Kalispell, MT.

OBJECTIVE:
To evaluate the response of wild oats to reduced rate applications of Achieve.

RESULTS:
Wild oat control increased as rates increased, but was maximized when Achieve was applied at about 75% of the full rate. Likewise, wild oat dry matter decreased and barley yields increased as Achieve rates increased, but the response of both variables leveled off without substantial improvement when Achieve was applied at about 37% of the full rate.

SUMMARY:
While this data indicates that reduced rates might be feasible, it is important to realize that the highest yielding Achieve treatment still produced barley yields 10% less than the hand weeded control treatment.

FUTURE PLANS:
Continued evaluation of management practices both effective and profitable for wild oat control in small grains.

Achieve Reduced Rate Study

Trt No	Treatment Name	Form Amt	Fm Ds	Rate	Rate Unit	WILD OAT CONTROL PERCENT 7-28-96	WILD OAT DRY WT GRAM/M2 7-29-96	SPR WHT YIELD BU/ACRE 9-9-96
1	ACHIEVE	40	WG	.022	lb ai/A	20.0	329.6	59.6
1	TF 8035	1	EC	.25	% v/v			
2	ACHIEVE	40	WG	.046	lb ai/A	52.7	142.9	70.1
2	TF 8035	1	EC	.25	% v/v			
3	ACHIEVE	40	WG	.067	lb ai/A	85.7	72.4	74.6
3	TF 8035	1	EC	.25	% v/v			
4	ACHIEVE	40	WG	.089	lb ai/A	88.0	37.5	74.0
4	TF 8035	1	EC	.25	% v/v			
5	ACHIEVE	40	WG	.134	lb ai/A	96.7	14.0	78.0
5	TF 8035	1	EC	.25	% v/v			
6	ACHIEVE	40	WG	.178	lb ai/A	97.0	10.9	78.0
6	TF 8035	1	EC	.25	% v/v			
7	UNTREATED					0.0	503.2	51.2
8	HAND WEEDED					100.0	0.0	85.7
LSD (.05) =						26.3	121.4	8.3
Standard Dev.=						15.0291	69.3078	4.73778
CV =						22.27	49.93	6.64
Block F						0.619	3.341	23.858
Block Prob(F)						0.5525	0.0651	0.0001
Treatment F						20.036	20.975	16.401
Treatment Prob(F)						0.0001	0.0001	0.0001

Achieve Reduced Rate Study

Site Description

Crop: Spring Wheat | Variety: Hi-line | Planting Date: 4-26-96
Planting Method: Field Drill | Seeding Rate: 60 Lbs | Depth, Unit: 1.5"
Row Spacing, Unit: 7" | Soil Moisture: Wet | Emergence Date: 5-14-96

Plot Width, Unit: 10 FT | Plot Length, Unit: 18.3 FT
Reps: 3 | Site Type: F-4 | Study Design: RCB
Field Preparation/Plot Maintenance: Conventional Seedbed Preparation
Fertility: 200 Lbs. of 27-14-0 on 4-26-96 With Seed

Application Information

Application Date:	5-24-96
Time of Day:	1:30PM
Application Method:	BACKPACK
Application Timing:	POST
Air Temp., Unit:	68 F
% Relative Humidity:	46
Wind Velocity, Unit:	1 MPH
Dew Presence (Y/N):	N
Soil Temp., Unit:	60 F
Soil Moisture:	FIELD CAPACITY
% Cloud Cover:	20

Plant Species	Plant Stage	Density at Application
Wild Oat	2 Leaf	24/ft2
Spring Wheat	2.5- 3 Leaf	

Application Equipment

Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
Backpack	2.5	Flatfan	11002XR	14"	20"	10'	20	H20	20

Wild oats seeded with plot seeder perpendicular to spring wheat rows to insure uniform populations.