

PROJECT TITLE: Spring Wheat Tolerance to Fargo

PROJECT LEADERS: Bob Stougaard and Todd Keener, NWARC, Kalispell, MT

OBJECTIVE: To evaluate spring wheat tolerance to Fargo.

RESULTS: There was a direct relationship between Fargo rate and stand loss for all cultivars tested. With respect to stand reduction, cultivar tolerance to Fargo from most to least was: Fortuna = Penewawa > Hi-Line > Amidon = Pondera > Border = Lew > Newana. Although stand reductions were observed, this did not necessarily result in a corresponding yield reduction. Up to a point, yields for some cultivars increased with stand reduction, possibly due to increased tillering. In terms of yield, cultivar tolerance to Fargo was: Fortuna = Penewawa = Amidon > Hi-Line > Lew > Pondera > Border > Newana.

SUMMARY: Spring wheat varieties varied in their tolerance to Fargo. Fortuna and Penewawa were most tolerant and Newana the least tolerant. Although everything possible was done to cause spring wheat injury, Fargo damage should not be of concern if applied at the proper rate.

FUTURE PLANS:

Apply Fargo to all small grain nurseries to evaluate herbicide tolerance.

Montana State University

SPRING WHEAT TOLERANCE TO FARGO

Project Code:94-FSW-R5
 Cooperator :DOUG RYERSON

Location :KALISPELL, MT
 By:Bob Stougaard

Weed/Crop Code	WHEAT	WHEAT	YIELD
Rating Data Type	GWTH RED	GWTH RED	BU/A
Rating Unit	%	%	
Rating Date	5-31-94	6-17-94	8-17-94

Trt No	Treatment Name	Form	Fm	Ds	Rate	Grow Stg	Appl Code	WHEAT GWTH	WHEAT RED	YIELD BU/A
14	FARGO	4	EC	1.25	PPI	A		10.0	11.0	51.3
14	PONDERA									
22	FARGO	4	EC	2.0	PPI	A		16.0	20.0	46.9
22	PONDERA									
7	FARGO	4	EC	0	PPI	A		4.3	6.7	46.6
7	BORDER									
15	FARGO	4	EC	1.25	PPI	A		6.0	13.3	46.4
15	BORDER									
23	FARGO	4	EC	2.0	PPI	A		25.7	36.7	37.6
23	BORDER									
8	FARGO	4	EC	0	PPI	A		0.0	0.0	51.7
8	PENEWAWA									
16	FARGO	4	EC	1.25	PPI	A		9.0	7.3	57.7
16	PENEWAWA									
24	FARGO	4	EC	2.0	PPI	A		11.7	8.3	55.6
24	PENEWAWA									

LSD (.05) =	9.7	10.7	9.2
Standard Dev.=	5.85199	6.46922	5.55567
CV =	62.24	53.97	11.30
Block F	1.830	0.034	9.384
Block Prob(F)	0.1719	0.9664	0.0004
Treatment F	6.778	9.434	2.864
Treatment Prob(F)	0.0001	0.0001	0.0013

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 Cooperator :DOUG RYERSON

Location :KALISPELL, MT
 By:Bob Stougaard

Site Description

Crop: SPRING WHEAT Variety: VARIOUS Planting Date: 4-25-94
 Planting Method: PLOT DRILL Rate, Unit: 60 , LB/A Depth, Unit: 2.0 , "
 Perennial Age, Unit: , Row Spacing, Unit: 12 , "
 Soil Temp., Unit: , Soil Moisture: Emergence Date: 5-8-94

Plot Width/Area, Unit: 4 , FT Plot Length, Unit: 10 , FT Reps: 3
 Site Type: Seed Bed Desc.: Ground Cover:
 Tillage Type: Study Design: RCB
 Field Preparation/Plot Maintenance: FALL PLOW, SPRING DISC AND VIBRA-SHANK.
 CULTIPACKED PRIOR TO SEEDING

Soil Description

Texture: FINE SANDY LOAM % OM: 3.4 % Sand: 60 % Silt: 30 % Clay: 10
 pH: 7.4 CEC: Soil Name: KALISPELL FSL Fertility Level:

Moisture Conditions

Moisture On:	Date	Amount	Unit	Type	Date	Amount	Unit	Type
1.					2.			
3.					4.			
5.					6.			
7.					8.			

Overall Moisture Conditions:

Application Information

	A	B	C	D	E	F
Application Date:	4-25-94					
Time of Day:	2:30 PM					
Application Method:	BACKPACK					
Application Timing:	PPI					
Air Temp., Unit:	51 ,F	,	,	,	,	,
% Relative Humidity:	26					
Wind Velocity, Unit:	2 ,MPH	,	,	,	,	,
Dew Presence (Y/N):	N					
Water Hardness:	N					
Soil Temp., Unit:	52 ,F	,	,	,	,	,
Soil Moisture:	GOOD					
% Cloud Cover:	99					

Weed Species Weed Stage, Density at Application

NA	/	/	/	/	/	/
	/	/	/	/	/	/
	/	/	/	/	/	/
	/	/	/	/	/	/
	/	/	/	/	/	/

Application Equipment

Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Nozzle Width	Boom GPA	Carrier	PSI
A. BACKPACK	2.5	FLAT FAN	11002XR	14"	20"	10'	20	H2O	20
B.									

Disced on 4-25-94. Packed twice, Fargo sprayed, PPI twice, and then packed again. Seeded with Research seeder like a variety nursery. Fertilizer applied on 5-24-94 (200 lb/A of 24/14/0).