

Oregon State University Columbia Basin Ag Research Center

BAS 777H and competitive standards in Spring wheat

Trial ID: 04-127

Location: CBARC-Pendleton

GENERAL TRIAL INFORMATION

Study Director: Larry Bennett **Title:** Research Assistant
Affiliation: OSU-CBARC
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Investigator: Daniel A Ball **Title:** Professor
Affiliation: OSU-CBARC
Postal Code: 97801

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1.	oats	oats
2.	nhtshd cutleaf	nightshade

Crop 1: wheat 2 gene cleafield spring wheat **Variety:** HRS 2G
Planting Date: Apr-1-04 **Planting Method:** Great Plains drill
Rate: 85 lb/A **Depth:** 1 in
Soil Moisture: good

SITE AND DESIGN

Plot Width, Unit: 9 FT **Plot Length, Unit:** 30 FT **Reps:** 3
Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% Sand: 26 **% OM:** 2.2 **Texture:** silt loam
% Silt: 59.6 **pH:** 5.7
% Clay: 14.4 **CEC:** 19.2

APPLICATION DESCRIPTION

A

Application Date: Apr-29-04
Time of Day: 4:00 pm
Application Method: Broadcast
Application Timing: EPOST
Applic. Placement: Foliar
Air Temp., Unit: 70 F
% Relative Humidity: 44
Wind Velocity, Unit: 2 mph
Dew Presence (Y/N): N
Soil Temp., Unit: 80 F
Soil Moisture: dry-surf
% Cloud Cover: 0

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CROP STAGE AT EACH APPLICATION

A

Crop 1 Code, Stage: wheat 3.5-4.5LF

Stage Scale: 1-2tiller

WEED STAGE AT EACH APPLICATION

A

Weed 1 Code, Stage: oats 1-1.5 lf

Weed 2 Code, Stage: nhtsh pre-2 lf

APPLICATION EQUIPMENT

A

Appl. Equipment: Hand boom

Operating Pressure: 20 psi

Nozzle Type: Flat fan

Nozzle Size: XR-80015

Nozzle Spacing, Unit: 18 in

Boom Length, Unit: 9 ft

Boom Height, Unit: 20 in

Ground Speed, Unit: 3.5 mph

Carrier: Water

Spray Volume, Unit: 10 gpa

Propellant: CO2

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Crop Code	Wheat	W. oats	Nightshd	W. oats
Part Rated	Crop	Weed	Weed	Weed
Rating Data Type	Injury	Control	Control	Control
Rating Unit	%	%	%	%
Rating Date	May-21-04	May-21-04	May-21-04	Jun-16-04

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Appl Code	Wheat	W. oats	Nightshd	W. oats
1	Untreated co					0	0	0	0
2	Beyond	SL		4.0 fl oz/a	A	0	93	99	98
2	R-11	SL		0.25 % v/v	A				
2	Soln 32	SL		2.5 % v/v	A				
3	BAS-777	EC		6.0 fl oz/a	A	0	92	100	98
3	R-11	SL		0.25 % v/v	A				
3	Soln 32	SL		2.5 % v/v	A				
4	Puma	1 EC		10.5 fl oz/a	A	0	63	0	62
5	Discover	0.5 EC		16 fl oz/a	A	0	95	0	98
LSD (P=.05)						NS	11	1	11
Replicate F						0.000	0.865	2.250	1.000
Replicate Prob(F)						1.0000	0.4570	0.1678	0.4096
Treatment F						0.000	159.919	33413.503	173.251
Treatment Prob(F)						1.0000	0.0001	0.0001	0.0001

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Crop Code	Nightshd	Wheat	Wheat
Part Rated	Weed	Crop	Crop
Rating Data Type	Control	Test Wt	Yield
Rating Unit	%	lb/bu	bu/A
Rating Date	Jun-16-04	Aug-2-04	Aug-2-04

Trt No.	Treatment Name	Form Conc	Form Type	Product Rate	Appl Code	Nightshd	Wheat Crop	Wheat Yield
1	Untreated co					0	54	44
2	Beyond	SL		4.0 fl oz/a A		99	61	43
2	R-11	SL		0.25 % v/v A				
2	Soln 32	SL		2.5 % v/v A				
3	BAS-777	EC		6.0 fl oz/a A		99	61	42
3	R-11	SL		0.25 % v/v A				
3	Soln 32	SL		2.5 % v/v A				
4	Puma	1 EC		10.5 fl oz/a A		17	58	46
5	Discover	0.5 EC		16 fl oz/a A		0	59	45
LSD (P=.05)						24	3	3
Replicate F						1.000	2.052	0.198
Replicate Prob(F)						0.4096	0.1908	0.8244
Treatment F						47.985	9.025	4.366
Treatment Prob(F)						0.0001	0.0046	0.0365

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Trial Comments

The purpose of this trial was to compare BAS-777H to Beyond, Puma, and Discover herbicides for control of oats and cutleaf nightshade in spring wheat. Oats were broadcast seeded with a rotary hand seeder and incorporated with spike-tooth harrow just prior to seeding of the wheat. Spring wheat, variety HRS 2G, was planted 4/1/04. Application of the various herbicides was made on 4/29/04 when the wheat was in the 4-6 leaf stage, oats were in the 1-2 leaf stage, and the nightshade was just emerging to the two-leaf stage. Crop injury and weed control ratings were taken on 5/21/04, 22 days after application. No crop injury was noted in any of the plots. Beyond, BAS-777H, and Discover all gave excellent oat control (92-95%) Puma gave only 63% control. Beyond and BAS-777H gave 99-100% control of nightshade, while Discover and Puma gave no control. The final weed control ratings were taken on 6/16/04, 48 days after application. Results were very similar to the earlier ratings. The plots were harvested 8/2/04 using a Hege small plot combine. The harvested wheat was further cleaned with an Almaco cleaner, weighed, and the yield converted to bu/A using a test weight of 60 lb/bu. Test weights were also taken on each plot. The lower test weight in the untreated control plots was probably due to contamination with oats that could not be completely cleaned from the samples with the equipment used. Yield results were variable, with the highest yields being in the Puma-treated plots, which, with the exception of the untreated check, had the least amount of weed control.