

**Coffee Point Idaho Test Site  
1998 Progress Report  
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**INTRODUCTION**

The purpose of the Coffee Point Off-Center Advanced Test Site is to evaluate the potential of grasses for revegetation and forage for livestock and wildlife in areas of 8-10 inch annual precipitation in southeast Idaho. The site is in MLRA 11B, Snake River Plains of the Northwestern Wheat and Range region of the Intermountain United States.

The site is located in the Coffee Point Exclosure, approximately 25 miles northwest of Aberdeen on land administered by the USDI - Bureau of Land Management. The exclosure has been used by the Aberdeen Plant Materials Center for testing purposes since 1982. The off-center advanced test site is composed of two components, the inter-center strain trial and a display nursery and was seeded in November, 1994. For a detailed description of the project and site characteristics see the Coffee Point Off-Center Advanced Test Site - 1995 Progress Report.

**1998 EVALUATIONS AND DISCUSSION**

Precipitation data is collected with a direct reading rain gauge which is located at the southeast corner of the exclosure. During the 1998 crop year, the rain gauge was not operational so the following estimates are from data collected at the Aberdeen Research and Extension Center:

<u>Sampling period</u>	<u>Precipitation</u>
10/1/97 - 12/31/97	1.38 inches
1/1/98 - 3/31	3.31
4/1 - 6/30	2.30
7/1 - 9/30	2.77
Total	9.76 inches

Although no long term site specific precipitation data exists for the Coffee Point exclosure, it is in a 8 -12 inch precipitation zone. During the 1997 crop year, 7.30 inches were received.

The site was evaluated on May 19 and data was collected on plant height, percent stand, plant density and vigor. On July 14, plant height, forage production and vigor data were collected. A summary of this data is presented in Table 1. All evaluation data collected during 1998 was collected in an identical manner as in previous years.

Plant height data collected on May 19 ranged from 3.0 cm for 9040187 bottlebrush squirreltail to 27.0 cm for 'Magnar' basin wildrye. On July 14, plant height ranged from 15.3 cm for 9024804 Columbia needlegrass to 75.0 cm for 'Tetracan' Russian wildrye (Table 1).

Percent stand data ranged from 2.0 percent for 9040189 bottlebrush squirreltail to 82.0 percent for Syn A Russian wildrye. Percent stand data was analyzed utilizing analysis of variance (ANOVA)

and Duncan's Multiple Range Test. Means shown on Table 1 which are followed by the same letter are not significantly different.

Plant density ranged from 0.3 plants per foot<sup>2</sup> for 9024804 Columbia needlegrass to 6.0 plants per foot<sup>2</sup> for 'Bannock' and 'Critana' thickspike wheatgrass, and 'Sodar' streambank wheatgrass. 'Hycrest' crested wheatgrass and 'Trailhead' basin wildrye had the best vigor ratings (1.5) and 9040187 bottlebrush squirreltail had the worst vigor rating (8.0) during the May evaluation. In July, Hycrest had the best vigor rating (1.0) and 9024804 Columbia needlegrass had the worst vigor rating (8.3).

Forage production data was analyzed utilizing analysis of variance (ANOVA) and Duncan's Multiple Range Test. Table 1 is arranged in order by forage production from greatest to least. Means followed by the same letter are not significantly different. Bannock, 'P-27' Siberian wheatgrass and 'Nordan' crested wheatgrass were the top three forage producers in 1998.

Data was also collected from the non-replicated display plots and is also shown on Table 1. 'Parkway' crested wheatgrass had the highest forage production and 'Whitmar' beardless wheatgrass had the lowest forage production. The non-replicated forb and shrub plots were not sampled for forage production.

The only plants remaining in the non-replicated forb and shrub display plots include 'Timp' Utah sweetvetch, 'Immigrant' forage kochia, Pamirian winterfat, and the "Clearwater Selection" of alpine penstemon.

The Plant Materials Center will complete annual evaluations next year and a summary of the five years of evaluations will be prepared.

**Table 1.**  
**Coffee Point Inter-Center Strain Trial**  
**Summary of 1998 Evaluation data**

**Replicated Grass Display Plots**

Access'n	Comm. Name	Scientific Name	Plant Height (cm)		% Stand	Plant Density	Vigor Rating		Forage Product'n
			5/19	7/14	1/	2/	3/	(lbs/Ac) 4/	
Bannock	Thickspike Wheatgrass	Elymus lanceolatus ssp. Lanceolatus	21.0	55.0	62.8c	6.0	1.8	1.5	1236a
P-27	Siberian Wheatgrass	Agropyron fragile sibiricum	19.0	37.8	69.8ab c	3.8	2.8	2.5	1050ab
Nordan	Crested Wheatgrass	Agropyron desertorum	19.5	38.5	72.3ab c	4.5	2.5	2.5	1004abc
PI-275459	Siberian Wheatgrass	Agropyron sibiricum	16.0	36.0	69.8ab c	4.0	2.3	2.3	976abcd
Hycrest	Crested Wheatgrass	A. cristatum x desertorum	21.5	45.5	79.5ab	3.8	1.5	1.0	966abcd
Vavilov	Siberian Wheatgrass	Agropyron fragile sibiricum	19.5	38.5	80.3a	3.8	2.3	2.5	948abcde
Critana	Thickspike Wheatgrass	Elymus lanceolatus ssp. Lanceolatus	17.0	36.8	64.0bc	6.0	2.0	3.0	855abcde f
Ephraim	Crested Wheatgrass	Agropyron cristatum	13.5	39.3	77.0 abc	4.3	2.8	2.8	771 bcdefg
Tetracan	Russian Wildrye	Psathyrostachys juncea	25.3	75.0	77.8 abc	2.5	1.8	3.3	725 bcdefg
Schwendimar	Thickspike Wheatgrass	Elymus lanceolatus ssp. Lanceolatus	16.3	51.8	37.8d	2.5	4.0	3.0	688bcdef gh
Mankota	Russian Wildrye	Psathyrostachys juncea	19.8	66.0	74.8 abc	2.8	2.3	2.8	651bcdef gh
Magnar	Basin Wildrye	Leymus cinereus	27.0	64.8	72.3ab c	2.5	2.3	3.8	650bcdef gh
Trailhead	Basin Wildrye	Leymus cinereus	26.8	46.0	74.5ab c	3.0	1.5	2.8	627bcdef gh

Access'n	Comm. Name	Scientific Name	Plant Height (cm)		% Stand	Plant Density	Vigor Rating		Forage Product'n
			5/19	7/14	1/	2/	3/	(lbs/Ac) 4/	
Douglas	Crested Wheatgrass	Agropyron cristatum	14.3	34.3	67.8ab c	4.0	2.5	4.3	623bcdef gh
Bozoisky	Russian Wildrye	Psathyrostachys juncea	22.0	72.3	70.3ab c	2.8	1.8	2.8	609bcdef gh
Sodark	Streambank wheatgrass	Elymus lanceolatus ssp. Lanceolatus	10.0	27.0	71.5ab c	6.0	2.0	3.0	585cdefg h
Syn A	Russian Wildrye	Psathyrostachys juncea	22.3	62.5	82.0a	2.5	2.3	2.8	581cdefg h
SL-hybrid		Elymus x Pseudoroegneria	18.3	33.0	33.3d	2.8	3.5	4.3	520defgh i
Secar	Snake River Wheatgrass	Pseudoroegneria spicata ssp. Spicata	19.8	55.8	17.0e	1.0	3.8	3.3	502efghi
9019218	Bottlebrush Squirreltail	Elymus elymoides	14.5	21.8	42.5d	3.3	2.5	7.8	465fghi
9040187	Bottlebrush Squirreltail	Elymus elymoides	3.0	29.3	3.3f	0.5	8.0	5.8	455fghi
9019219	Bottlebrush Squirreltail	Elymus elymoides	12.8	29.5	39.0d	2.3	2.5	7.5	372ghij
9040137	Columbia Needlegrasses	Stipa nelsonii v. dorei	13.8	44.3	3.8f	0.5	6.0	6.8	242hij
9040189	Bottlebrush Squirreltail	Elymus elymoides	7.5	22.3	2.0f	0.5	6.8	6.3	242hij
9024804	Columbia Needlegrasses	Stipa nelsonii v. dorei	7.3	15.3	3.8f	0.3	7.8	8.3	112ij
Volga	Mammoth Wildrye	Leymus racemosus	0.0	0.0	0.0f	0.0	9.0	9.0	0j

1/ Percent stand is equal to basal cover. 5/19/98 percent stand data was analyzed utilizing Duncan's Multiple Range Test; P=0.05, CV=17.7; means followed by the same letters are not significantly different.

2/ Plant Density is the number of plants per foot<sup>2</sup>

3/ Rated 1-9 with 1 best, 9 worst.

4/ 7/14/98 harvest samples were air-dried and weighed. Means followed by the same letter are not significantly different as determined by Duncan's Multiple Range Test, P=0.05, CV=42.5.

**Table 1 continued.**  
**Coffee Point Inter-Center Strain Trial**  
**Summary of 1998 Evaluation data (Cont.)**

**Non-replicated Grass Display Plots**

Accession No.	Comm. Name	Scientific Name	Plant Height (cm)		% Stand	Plant Density	Vigor Rating		Forage Product'n
			5/19	7/14	1/	2/	3/	4/	
			5/17	7/14	5/17	5/17	5/17	7/14	pounds/a cre
Kirk	Crested wheatgrass	Agropyron cristatum	19	40	75	5	2	3	1115
Parkway	Crested wheatgrass	Agropyron cristatum	16	38	85	3	2	3	1226
Fairway	Crested wheatgrass	Agropyron cristatum	14	32	65	4	3	4	855
Pryor	Slender wheatgrass	Elymus trachycaulis	15	55	23	1	4	4	1041
San Luis	Slender wheatgrass	Elymus trachycaulis	0	0	0	0	9	9	0
Newhy	RS Hybrid	Elytrigia x Pseudoroegneria	20	53	63	4	4	3	1003
Canbar	Canby bluegrass	Poa secunda	10	22	25	3	3	8	0
Whitmar	Beardless wheatgrass	Pseudoroegneria spicata inermis	25	48	38	2	3	3	632

**Non-replicated Forb and Shrub Display Plots**

<b>Accession</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>Plant</b>	<b>No. of Plants/</b>	<b>Vigor</b>
			<b>Height (cm)</b>	<b>Sample Rows</b>	
			<b>5/17</b>	<b>5/17</b>	<b>5/17</b>
9021471	Fringed sage	<i>Artemisia frigida</i>	0	0	9
Lutana	Cicer	<i>Astragalus cicer</i>	0	0	9
	milkvetch				
Rincon	Fourwing	<i>Atriplex</i>	0	0	9
	Saltbush	<i>canescens</i>			
Wytana	Fourwing	<i>Atriplex</i>	0	0	9
	Saltbush	<i>canescens</i>			
9067480	Fourwing	<i>Atriplex</i>	0	0	9
	Saltbush	<i>canescens</i>			
Timp	Utah	<i>Hedysarum</i>	10	4	3
	Sweetvetch	<i>boreale</i>			
Immigrant	Forage	<i>Kochia prostrata</i>	9	9	3
	Kochia				
Pamirian	Winterfat	<i>Krascheninnikov</i>	12	1	3
		<i>ia ceratoides</i>			
9067481	Winterfat	<i>Krascheninnikov</i>	0	0	9
		<i>ia lanata</i>			
9063535	Winterfat	<i>Krascheninnikov</i>	0	0	9
		<i>ia lanata</i>			
Hatch	Winterfat	<i>Krascheninnikov</i>	0	0	9
		<i>ia lanata</i>			
Richfield sel.	Firecracker	<i>Penstemon</i>	0	0	9
	penstemon	<i>eatonii</i>			
Clearwater sel.	Alpine	<i>Penstemon</i>	4	1	4
	penstemon	<i>venustus</i>			

1/ Percent stand is also equal to basal cover.

2/ Rated 1-9 with 1 best, 9 worst.