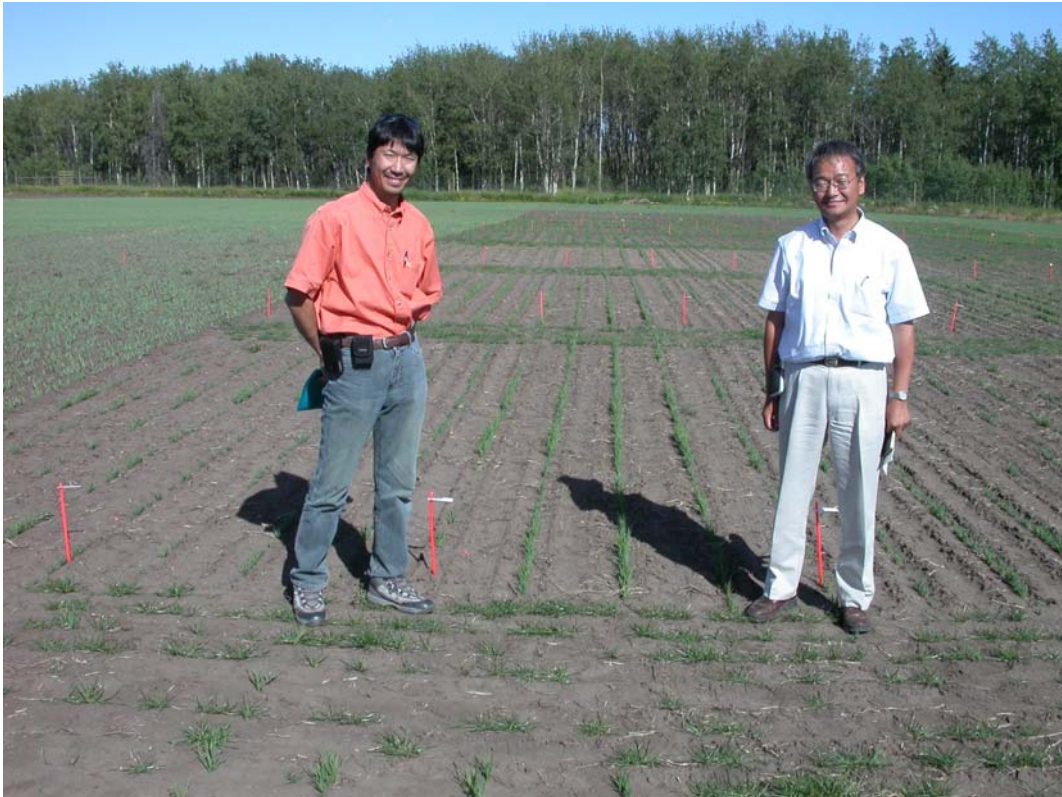


Western Canadian Grass Seed Testing Program



2008 Report

Coordinated by:



Peace Region Forage Seed Association
Sandra Burton

With Cooperating Research Sites in:
British Columbia Alberta

Manitoba

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Introduction

This report provides a summary of the grass seed trials conducted under the Western Grass Seed Testing Program during 2007. The main objective of these trials is to determine the seed production potential and adaptability of grass varieties for contract seed production for the domestic and export market. All attempts have been made to ensure the success of these trials; however, at times environmental conditions may adversely affect the yield results regardless of the management practices followed.

We thank the following companies and agencies for their seed entries and sponsorship of our 2008 research endeavours:

Agriculture & Agri-Food Canada
Barenbrug USA
Brett Young
DLF International/Trifolium
Snow Brand Seeds
Turf Care

The following groups are also thanked for their cooperation with the program and research site management:

Alberta Research Council
Alberta Agriculture & Rural Development
Agriculture & Agri-Food Canada
Manitoba Forage Seed Association
Peace Region Forage Seed Association

WGST Co-operating Research Sites and Contacts

Fort St. John, BC & Baldonnel, BC	Sandra Burton, PRFSA Coordinator Peace Region Forage Seed Association Box 6135, Fort St. John, BC V1J 4H6 Phone 877 630 2198 or (250) 789 6885 Fax (250) 789 6884 Email : coordinator@peaceforageseed.ca	Vicki Moser, PRFSA Summer Student c/o Peace Region Forage Seed Association Box 6135, Fort St. John, BC V1J 4H6 Phone 877 630 2198 or (250) 789 6885 Fax (250) 789 6884 Email : coordinator@peaceforageseed.ca
Beaverlodge, AB	Sandra Burton (<i>interim contact</i>) Peace Region Forage Seed Association Box 6135, Fort St. John, BC V1J 4H6 Phone 877 630 2198 or (250) 789 6885 Fax (250) 789 6884 Email : coordinator@peaceforageseed.ca	Owen Lee, Forage Technician Agriculture & AgriFood Canada Box 29, Beaverlodge, AB. T0M 0C0 Phone (780) 354-5140 Fax (780) 354-8171 Email : leo@agr.gc.ca
Vegreville, AB	Jay Woosaree, Researcher Alberta Research Council Hwy. 16A, 75 Street Vegreville, Alberta Phone: (780) 632-8209 Fax: (780) 632-8612 E-mail: jay@arc.ab.ca	Marshall McKenzie, Technician Alberta Research Council Hwy. 16A, 75 Street Vegreville, Alberta Phone: (780) 632-8254 Fax: (780) 632-8612 E-mail: Marshall.McKenzie@arc.ab.ca
Arborg, MB	Heather McBey, MFSA Administrator Manitoba Forage Seed Association Box 2000 Arborg, MB. R0C 0A0 Phone (204) 376-3309 Fax (204) 376-3311 Email: hmcbey@forageseed.mb.ca	Laura Wolonshyn, MFSA Researcher Manitoba Forage Seed Association Box 2000 Arborg, MB. R0C 0A0 Phone (204) 376-3314 Fax (204) 376-3311 Email: lwolonshyn@forageseed.mb.ca

Date Collection Procedures

Seed Yield	reported on a clean seed basis in kg per ha (kg per ha x 0.9 = lbs per ac)
Harvest Date	date the variety was swathed or cut
Plant Height	measured in centimeters and is the height of the plant at harvest from ground level to the tip of the seed head (cm x 2.54 = inches)

Trial Procedures

For information on specific trial procedures, contact the respective location representative listed on this page.

* Please Note * Statistical Analysis Procedures *

Some varieties in this report have been tested for shorter periods of time than others. It is advised not to use average yield figures to make variety comparisons for single year data. Only after a **minimum of 3 years of testing**, should data be considered as 90% reliable. In some cases, data may not be reported due to extreme variations that cannot be accounted for in the statistical design.

Statistical information for this report was generated through an Analysis of Variance (ANOVA). Least significant difference (LSD) values are presented at the bottom of each table, when statistically significant differences are present at the 5% level of significance. This means there is a 95% probability that you can reject the hypothesis that the treatments are the same; in other words there is only a 5% probability that the treatment differences occurred by chance. If the difference in treatment values is less than the LSD value, the treatments are not considered to be significantly different.

Disclaimer

Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement is implied.

Protocol for Western Grass Seed Testing (WGST) Program

Revised January 2008

1. Research Sponsorship

The research sponsorship of \$120 CAN/entry/year/location is requested on an annual basis, as years of production will vary with the species being tested, and applies to the establishment year as well. Peace Region Forage Seed Association will coordinate and administer funds for the Western Grass Seed Testing Program.

2. Eligibility of Entries

Released and experimental lines of all tame and native grass species will be considered if they are of interest to commercial seed companies. We reserve the right not to initiate tests:

- if seed arrives late
- if there is lack of space in any year at a particular location
- if there are too few entries in any year for a particular location

3. Seed Requirements and Deadline for Seed Entry

The applicant will provide for **EACH TEST LOCATION**:

- 50 gm of bentgrass, Kentucky bluegrass or timothy
- 100 gm of orchardgrass; creeping red, chewings, hard, meadow, sheep or tall fescue; annual or perennial ryegrass
- 200 gm of meadow or smooth bromegrass, wheatgrasses

Submitted seed shall be supplied by **March 1** of the establishment year **and will include the percent germination and relative maturity (early, medium or late) of each variety**. Please indicate whether the submission is a forage or turf type. For fescues please indicate whether the submission is a creeping, chewings, hard, meadow, sheep or tall fescue.

4. Use of Seed

Seed submitted will only be used to establish the agreed upon trials. The seed will **NOT** be used for increase, selection or distribution.

5. Test Locations

1. Fort St. John, British Columbia
2. Beaverlodge, Alberta
3. Vegreville, Alberta
4. Arborg, Manitoba

The applicant selects the locations where their material is to be tested.



6. Test Description

Due to plot equipment differences and land availability at the various test sites, certain conditions must be met in establishing trials. Each test will be a randomized complete block consisting of a minimum of 4 replicates. No test will have more than 25 entries of a particular species. Plots will be seeded at appropriate seeding rates for the species being tested and normal cultural practices for the area will be carried out. A minimum of 3 sq. m will be harvested.

Species, check varieties and years of testing (establishment year and seed production years):

Bentgrasses - 18th Green - 4 yrs.	Tall fescue - Courtenay - 4 yrs
Kentucky bluegrass - Abbey - 4 yrs	Orchardgrass - Kay - 3 yrs
Meadow brome grass - Fleet - 3 yrs	Annual ryegrass - Aubade - 1 yr
Smooth brome grass - Carlton - 4 yrs	Perennial ryegrass - Norlea - 2 yr
Meadow fescue - Mimer - 4 yrs	Timothy - Climax - 4 yrs
Red fescue - Boreal - 3 yrs	

Information to be recorded will include clean seed yield, % stand in fall and spring, plant height, harvest date and if available, climatic data for each test site.

7. Publication of Results

Data will undergo appropriate statistical analyses and each applicant will be provided with an annual report. Information on varieties will be made available in various annual reports and to seed producers upon request.

8. All reasonable care will be taken to ensure a successful test; however, a guarantee cannot be made that a particular test will be successful. If required a test will be reseeded.

9. For further information, contact:

Sandra Burton, Coordinator
Peace Region Forage Seed Association
Box 6135
Fort St. John, British Columbia
Canada V1J 4H6
Telephone: 1 877 630 2198 or (250) 789 6885
Fax: (250) 789-6884
Email: coordinator@peaceforageseed.ca

**Kentucky Bluegrass Trials Established in 2007
Arborg, Manitoba: 2008 Seed Production Results**

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	BAR PP 0468	191	30-Jul	73
	BAR VV 8536	579	30-Jul	75
Check	Abbey	504	30-Jul	74
Mean		425		74
CV (%)		8.2		26.6
LSD (0.05)		255.9		13.8

**Summary of Seed Yield (kg per ha) for Kentucky Bluegrass
in Western Canada WGST 2007-2008**

Year of Seeding	Company	Variety	Seed yield / production year		
			Arborg		
			1	2	3
2007	Barenbrug USA	BAR PP 0468	191		
		BAR VV 8536	579		
	Check	Abbey	504		

**Fine Fescue Trials Established in 2006
Beaverlodge, Alberta 2008 Seed Production Results**

Company	Variety	Seed Yield (kg /ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	01-FR-1	733	21-Jul	63
	Barena III	459	21-Jul	70
	Barthema	325	21-Jul	74
	Barustic	527	21-Jul	66
Turf Care	TL 10709	502	21-Jul	63
Check	Boreal	778	21-Jul	78
	Mean	554		69
	CV (%)	11.0		8.6
	LSD (0.05)	91.6		9.0

**Fine Fescue Trials Established in 2007
Fort St. John, British Columbia 2008 Seed Production Results**

Company	Variety	Seed Yield (kg /ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Hardtop	470	17-Jul	62
Check	Boreal	762	23-Jul	78
	Mean	616		70
	CV (%)	9.7		6.8
	LSD (0.05)	134		11

**Fine Fescue Trials Established in 2007
Beaverlodge, Alberta 2008 Seed Production Results**

Company	Variety	Seed Yield (kg /ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Hardtop	349	16-Jul	71
Brett Young	IS FRR 23	769	21-Jul	73
	IS FRR 29	798	21-Jul	72
Check	Boreal	931	21-Jul	81
	Mean	712		74
	CV (%)	15.1		6.3
	LSD (0.05)	172		7.4

**Summary of Seed Yield (kg per ha) for Fine Fescues
in Western Canada WGST 2006-2008**

Year of seeding	Species	Company	Variety	Seed yield / production year			
				Beaverlodge		Fort St. John	
				1	2	1	2
2006	Creeping red	Barenbrug USA	01-FR-1	856	733		
			Barena III	439	459		
			Barthema	451	325		
			Barustic	742	527		
		Turf Care	TL10709	945	502		
		Check	Boreal	978	778		
2007	Hard fescue	Barenbrug USA	Hardtop	349		470	
	Creeping red	Brett Young	IS FRR 23	769			
			IS FRR 29	798			
		Check		Boreal	931		762

**Tall Fescue Trials Established in 2007
Beaverlodge, Alberta 2008 Seed Production Results**

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	BARFA 1005	1305	28-Jul	64
	BAR 3FABRT9	780	28-Jul	89
	Bariane	713	28-Jul	93
	Barcarella	903	22-Jul	95
Check	Courtenay	982	22-Jul	104
	Mean	937		89
	CV (%)	10.0		6.3
	LSD (0.05)	144		8.6

**Summary of Seed Yield (kg per ha) for Tall Fescues
in Western Canada WGST 2007-2008**

Year of seeding	Company	Variety	Type	Seed yield / production year					
				Beaverlodge			Fort St. John		
				1	2	3	1	2	3
2007	Barenbrug USA	BARFA 1005	Forage	1305					
		BAR 3FABRT9	Forage	780					
		Bariane	Forage	713					
		Barcarella	Forage	903					
	Check	Courtenay	Forage	982					

**Orchard Grass Trials Established in 2007
Arborg, Manitoba: 2008 Seed Production Results**

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Baridana	320	25-Jul	130
	Intensiv	373	25-Jul	131
Check	Kay	368	25-Jul	130
	Mean	353		130.5
	CV (%)	22.8		1.3
	LSD (0.05)	139		4

**Orchard Grass Trials Established in 2007
Beaverlodge, Alberta: 2008 Seed Production Results**

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Baridana	346	23-Jul	97
	Intensiv	351	23-Jul	113
Check	Kay	346	23-Jul	105
	Mean	348		105
	CV (%)	19.1		4.6
	LSD (0.05)	115		8

**Summary of Seed Yield (kg per ha) for Orchard Grass
in Western Canada WGST 2007-2008**

Year of seeding	Company	Variety	Type	Seed yield / production year					
				Arborg			Beaverlodge		
				1	2	3	1	2	3
2007	Barenbrug USA	Baridana	Forage	320			346		
		Intensiv	Forage	373			351		
	Check	Kay	Forage	368			346		

**Perennial Ryegrass Trials Established in 2007
Arborg, Manitoba: 2008 Seed Production Results**

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Remington	584	Aug 21	91
Check	Norlea	396	Aug 29	84
	Mean	490		88
	CV (%)	20.6		5.4
	LSD (0.05)	354		17

**Perennial Ryegrass Trials Established in 2007
Vegreville, Alberta: 2008 Seed Production Results**

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Remington	NA	NA	NA
Check	Norlea	NA	NA	NA
	Mean			
	CV (%)			
	LSD (0.05)			

**Summary of Seed Yield (kg per ha) for Perennial Ryegrass
in Western Canada WGST 2007-2008**

Year of Seeding	Company	Variety	Seed yield / production year
			Arborg
2007	Barenbrug USA	Remington	584
	Check	Norlea	396

Timothy Trials Established in 2005
Arborg, Manitoba 2008 Seed Production Results

Company	Variety	Seed Yield (kg / ha)	Harvest Date	Plant Height (cm)
DLF International	DP 70-4731	109	21-Aug	97
	DP 70-4752	165	21-Aug	100
	Niklas	106	21-Aug	100
	Promesse	179	21-Aug	106
	Tundra	111	21-Aug	103
	Viking	108	21-Aug	98
	Winnetou	129	21-Aug	105
Check	Climax	74	21-Aug	105
	Mean	123		102
	CV (%)	33.9		8.7
	LSD (0.05)	61		13

Timothy Trials Established in 2005
Beaverlodge, Alberta 2008 Seed Production Results

Company	Variety	Seed Yield (kg / ha)	Harvest Date	Plant Height (cm)
AAFC Beaverlodge	BRFLAL1	359	07-Aug	94
DLF International	Viking	370	07-Aug	86
Check	Climax	445	07-Aug	99
	Mean	391		94
	CV (%)	10.9		6.8
	LSD (0.05)	74		11

Note: Viking poor germination in first year

Timothy Trials Established in 2005
Baldonnel, British Columbia 2008 Seed Production Results

Company	Variety	Seed Yield (kg / ha)	Harvest Date	Plant Height (cm)
AAFC Beaverlodge	BRFLAL1	481	07-Aug	91
Check	Climax	293	07-Aug	84
	Mean	387		89
	CV (%)	4.9		7.6
	LSD (0.05)	42		15

Timothy Trials Established in 2006
Beaverlodge, Alberta 2008 Seed Production Results

Company	Variety	Seed Yield (kg / ha)	Harvest Date	Plant Height (cm)
Brett Young	BY 19004	145	07-Aug	81
	BY 98665	257	07-Aug	90
	BY 98667	213	07-Aug	81
	BY 99966	341	07-Aug	77
	BY 99984	236	07-Aug	94
	CT70-9704	123	07-Aug	76
	FLP 07	57	07-Aug	83
	INDH 9803	276	07-Aug	90
Check	Climax	220	07-Aug	97
	Mean	208		85
	CV (%)	30.0		14.0
	LSD (0.05)	90		17

Timothy Trials Established in 2007
Arborg, Manitoba: 2008 Seed Production Results

Company	Variety	Seed Yield (kg/ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Bor 9911	439	14-Aug	102
	Bor 2005	568	14-Aug	102
Check	Climax	516	14-Aug	103
	Mean	508		102
	CV (%)	16.2		3.4
	LSD (0.05)	143		6

Timothy Trials Established in 2007
Fort St. John, British Columbia 2008 Seed Production Results

Company	Variety	Seed Yield (kg /ha)	Harvest Date	Plant Height (cm)
Barenbrug USA	Bor 9911	291	05-Aug	75
	Bor 2005	220	06-Aug	72
Brett Young	BY 19004	170	05-Aug	74
	BY 98665	285	06-Aug	75
	BY 98667	214	06-Aug	71
	BY 99966	328	06-Aug	76
	BY 99984	228	05-Aug	79
	CT 70-9704	132	06-Aug	67
	FLP07	103	06-Aug	73
Check	INPH 9803	351	05-Aug	81
	Climax	283	06-Aug	74
	Mean	237		74
	CV (%)	21.7		7.2
	LSD (0.05)	74		8

Summary of Seed Yield (kg per ha) for Timothy in Western Canada 2005-2008

Etabl.	Year	Company	Variety	Seed yield / production year										
				Arborg				Beaverlodge				FSJ/ Baldonne		
				1	2	3	4	1	2	3	4	1	2	3
2005	AAFC	Beaverlodge	BRFLAL1					527	604	359		616	807	481
		DLF-International	DP 70-4731	369	247	109								
			DP 70-4752	383	289	165								
			Niklas	100	102	106								
			Promesse	351	259	179								
			Tundra	289	242	111								
			Viking *	*	*	108				370				
			Winnetou	392	342	129								
		Check	Climax	289	416	74		600	538	445		419	517	293
2006	Brett Young		BY 19004					221	145					
			BY 98665					452	257					
			BY 98667					387	213					
			BY 99966					425	341					
			BY 99984					242	236					
			CT 70-9704					371	123					
			FLP07					281	57					
			INPH 9803					392	276					
		Check	Climax					404	220					
2007	Barenbrug USA		Bor 9911									291		
			Bor 2005									220		
	Brett Young		BY 19004									170		
			BY 98665									285		
			BY 98667									214		
			BY 99966									328		
			BY 99984									228		
			CT 70-9704									132		
			FLP07									103		
			INPH 9803									351		
		Check	Climax									283		

Western Grass Seed Testing 2008 Seeding Summary

Species	Company	Variety	Type	Fort St. John	Beaverlodge	Vegreville	Arborg
Fine Fescue							
	Brett Young	IS-FRR 29	turf	2008	2008 *		
		IS-FRR 23	turf	2008	2008 *		
	Barenbrug USA	Hardtop	turf		2008 *		
	Check	Boreal	turf		2008 *		
Tall Fescue							
	Barenbrug USA	BARFA 1005	turf	2008 **			2008 *
		BAR3FA BTR9	turf	2008 **			2008 *
		Bariane	forage	2008 **			2008 *
		Barcarella	forage	2008 **			2008 *
	Check	Courtney	forage	2008 **			2008 *
Orchardgrass							
	Barenbrug USA	Baridana	forage	2008 **			
		Intensiv	forage	2008 **			
	Check	Kay	forage	2008 **			
Timothy							
	Snow Brand Seeds	Hokuei	forage	2008	2008	2008	2008
		Horizon	forage	2008	2008	2008	2008
		Sirius	forage	2008	2008	2008	2008
		Zepher	forage	2008	2008	2008	2008
		SBT0001	forage	2008	2008	2008	2008
		SBT0301	forage	2008	2008	2008	2008
		SBT0308	forage	2008	2008	2008	2008
		SBT0309	forage	2008	2008	2008	2008
		SBT0310	forage	2008	2008	2008	2008
	Check	Climax	forage	2008	2008	2008	2008

Notes:

**FSJ: reseeding 2007 entries from Beaverlodge that did not establish due to dry conditions, with good results.

* Beaverlodge: very droughty conditions and poor establishment for both current and reseeded entries in 2008.

*Arborg: reseeded tall fescue varieties with good results.

Arborg: reasonably good establishment but above average ppt & wet conditions in 2008.

Brooks & Bow Island: no entries seeded or harvested due to AAF program restructuring.