

# **Maritime Forage Cultivar Evaluation**

## **2014-2017**

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Combined site report 2015-2016-2017



Prepared by:

**Atlantic Forage and Corn Team**

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## PREFACE

The data in this report is from regional plots seeded in 2014 and harvested in 2015, 2016 and 2017. The data was collected and analyzed by the Atlantic Forage and Corn Team (AFACT) with the participation of the following: Agriculture and Agri-Food Canada Nappan and Kentville, Nova Scotia and Harrington, PEI; Dalhousie Faculty of Agriculture, Truro, Nova Scotia; Perennia, Truro, Nova Scotia; Nova Scotia Soil and Crop Improvement Association; New Brunswick Department of Agriculture, Aquaculture and Fisheries; New Brunswick Soil and Crop Improvement Association.

For further information contact the coordinator:

Bill Thomas  
Chair  
Atlantic Forage and Corn Team

Phone: 902-890-4555          Email: [btagronomy@gmail.com](mailto:btagronomy@gmail.com)

Publication of data from this report may not be made without written authorization from the administrator.

Site Cooperators:      Dr. Yousef Papadopoulos, Agriculture and Agri-Food Canada, PO Box 550, 58 River Rd.,  
Truro, NS. B2N 5E3. Email: [yousef.papadopoulos@agr.gc.ca](mailto:yousef.papadopoulos@agr.gc.ca)

Dr. Nancy McLean, Dalhousie Faculty of Agriculture, PO Box 550, Truro, NS. B2N 5E3. Email:  
[nancy.mclean@dal.ca](mailto:nancy.mclean@dal.ca)

Bill Thomas, Agronomist, Atlantic Forage and Corn Team, Email: [btagronomy@gmail.com](mailto:btagronomy@gmail.com)

Dan MacEachern, Agriculture and Agri-Food Canada, 440 University Avenue, Charlottetown,  
PEI. C1A 4N6. Email: [Dan.MacEachern@canada.ca](mailto:Dan.MacEachern@canada.ca).

Walter J Brown, Research coordinator, New Brunswick Soil and Crop Improvement  
Association (NBSCIA). Email: [qcci@bellaliant.net](mailto:qcci@bellaliant.net).

Statistical and Software Programming support:

Sherry Fillmore, Agriculture and Agri-Food Canada, 32 Main Street, Kentville, NS. B4N 1J5.  
Email: [sherry.fillmore@agr.gc.ca](mailto:sherry.fillmore@agr.gc.ca)



## LIST OF FORAGE SPECIES AND CULTIVARS UNDER TEST

### LEGUMES

Alfalfa		
1	GS-11-03	General Seeds
2	GS-11-08	General Seeds
3	GS-14-01	General Seeds
4	Cornerstone	General Seeds
5	Actis	Elite Seeds
6	Magnum VI	Elite Seeds
7	AAC-Nikon	Elite Seeds
8	Algonquin	Atlantic Farm Services
9	AC Caribou	Atlantic Farm Services
10	GS-14-05	General Seeds
11	GS-14-06	General Seeds
12	54Q14	Pioneer
13	55V50	Pioneer
14	55Q27	Pioneer

### GRASSES

Tall fescue		
1	Cajun II	Smith Seeds
2	BarElite	Barenburg
3	Bariane	Barenburg
4	Barcarella	Barenburg
5	Bardurum	Barenburg
6	Bar FaFL118701	Barenburg
7	PPG-FTF-101 (Teton II)	General Seeds
8	PPG-FTF-104	General Seeds
9	PPG-FTF-105	General Seeds
10	Hymark	Fraser Seeds
11	Kora	Atlantic Farm Services
12	Cowgirl (QS-CG)	Quality Seeds

Meadow fescue		
1	BOR 20614	Barenburg
2	Cosmonaut	Barenburg
3	Pradel	Barenburg
4	Preval	Atlantic Farm Services



## SUMMARIZING YIELD AND RELATIVE PERSISTENCE OVER CROPPING YEARS

The task of summarizing the yield of perennial crops requires special attention. Each plot in the Atlantic forage trials has a cropping record over three years with multiple harvests each year (unless a site is replanted or lost due to establishment failure or winter kill). Two statistics are used in these reports to summarize the yield of each cultivar: **mean annual yield** (MAY) and **relative persistence** over cropping years. While MAY is well known and used, relative persistence requires an explanation.

Plant count is often used to measure how well cultivars survive over cropping years. The change in a cultivar's yield over three (two or four) cropping years, relative to the check, also indicates how well a cultivar survives over years. Given the seasonal mean yields, the ratio of the last to first seasonal yield ( $R_i$ ) is calculated for each plot. Seasonal yields do depend on the weather, so the ratios have no reliable meaning in and of themselves. Their relative values, however, can be compared one with each other. If one cultivar is defined as the standard (one which has been evaluated over several years and has proven to be consistent) then **relative persistence** for the cultivar  $i$  can be defined as  $\text{LOG}_{10} (R_i/R_{\text{std}})$ .

The log transformation is used to improve the distributional properties for analysis by the ANOVA procedure. After analysis, the mean log ratio can be back-transformed to a meaningful scale. In our presentations, the mean log ratios are back-transformed to the percentage scale, with an approximate SEM that depends on the magnitude of the percent difference.

The column labelled *% Persistence* in the combined year report is a relative measure (to the standard) in percentage units. If the standard has the same yield in the final year as in the first crop year, then *% Persistence* for each cultivar will be the percentage change; i.e., the final-year yield relative to the first-year yield. A value of 10% would indicate that the final year yield was 10% more than the first year yield. In general, *% Persistence* is the percent change in final year over the first **relative to the ratio in the standard**. If the final/first year yield ratio for a cultivar is less than the standard, the resulting negative *% Persistence* indicates a less persistent cultivar.

Example: In the site report for timothy at Fredericton, planted in 1988, we have

Cultivar	1989	1990	Ratio (1990/1989)	% Persistence (Std + Farol)
Farol	9.90	8.89	0.90	0.0 %
Comtal	8.06	9.58	1.19	32.4 %

The value of 32.4 %, calculated from the means in the table, is close to the value of 32.6 % from the ANOVA, which was calculated on the logarithmic scale and back-transformed to the percentage scale. It highlights the improved second season yield for Comtal compared with Farol; this improvement is not immediately obvious from the individual season analyses.

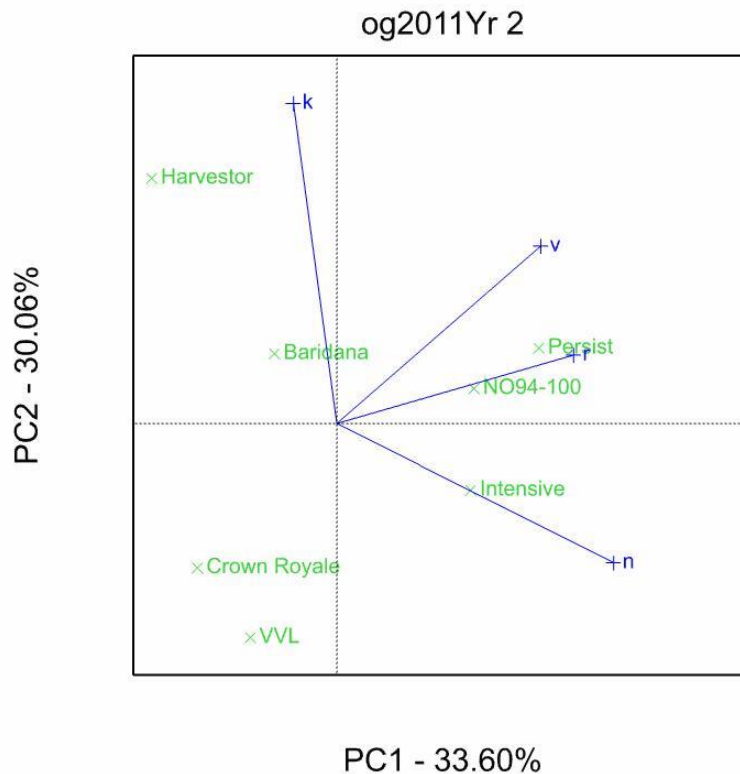
Prepared by: Kenneth B. McRae, Agriculture & Agri-Food Canada, Kentville, Nova Scotia.

## EVALUATING A PCA BI-PLOT

The PCA bi-plot is a visual way to express the variation and relationship between cultivars and sites. The following graph expresses the second year data for the orchard grass trial seeded in 2011 (og2011Yr2). The % variation in the data is shown on the x and y axis. PC1 – 33.6% represents the variation explained in the data along the horizontal axis. PC2 – 30.1% - represents the variation explained in the data along the vertical axis. The axis with the greater % variation more clearly displays the relationship between sites and cultivars.

Cultivars are positioned relative to each other on the graph. Cultivars that appear close together have yields in common. For example; Crown Royale and VVL are low yielding at the V (Berwick) and R (New Brunswick) sites. Persist, Intensive and NO94-100 are the highest yielding cultivars at the V, R and N (Nappan) sites. Cultivars that appear near the origin show little change or difference between sites.

Sites are represented as vectors displaying high values of yield at that site. The vectors can be extended in the opposite direction to represent the low values at the site. Sites (vectors) that are less than  $90^\circ$  (V and R) relative to each other have positive or similar cultivar yields in this data set. Site vectors that are greater than  $90^\circ$  (K (Kentville) and N) relative to each other have a negative or opposite cultivar yields in this data set. Sites that are at or near  $90^\circ$  (K and R) have no relationship to each other in this data set. A perpendicular line from the cultivar to the site vector represents that cultivars yield relative to other cultivars. For example Harvester is the largest yielding cultivar at the K site, while VVL is the lowest. Harvester is the lowest yielding cultivar at site N while Intensive is the highest.



## 2015-2016-2017 ALFALFA COMBINED SITE REPORT

### Sites Used

### Years Harvested

NBSCIA, Woodstock, NB	*	2016	2017
Perennia-AAFC, Nappan, NS	2015	2016	2017
Dal Faculty of Agriculture, Truro, NS	*	2016	2017
AAFC, Kentville, NS	2015	2016	2017
AAFC, Harrington, PEI	2015	2016	2017

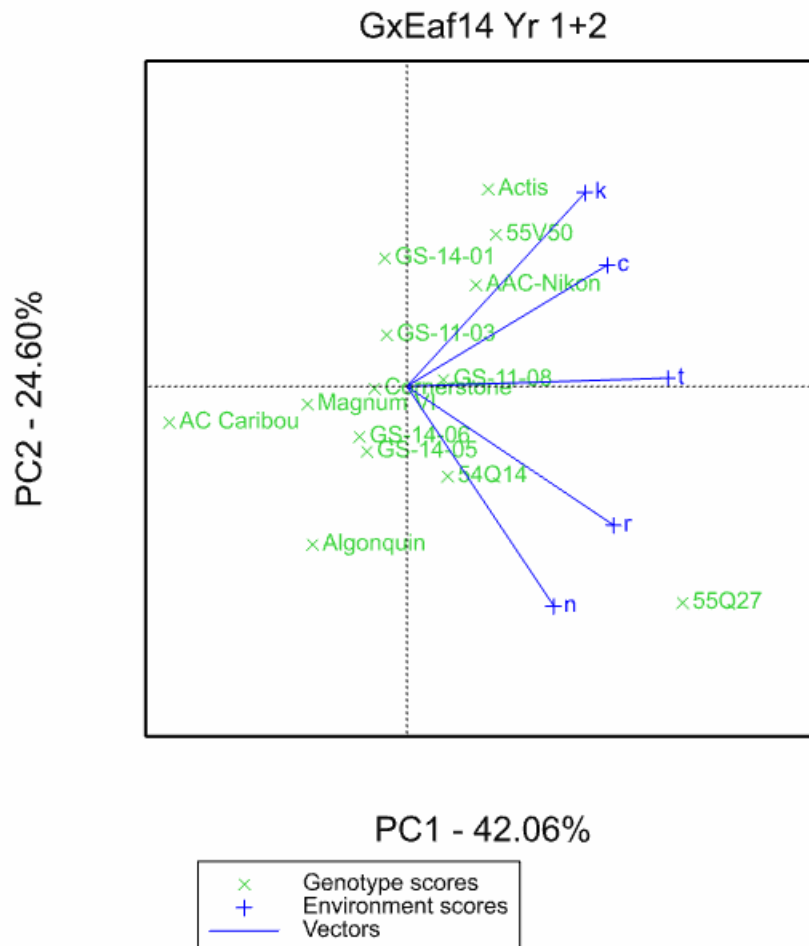
**TABLE 1: ALFALFA FIRST CUT AND SEASONAL DRY MATTER YIELDS OVER 5 SITES FOR YEARS 1 AND 2, 3 SITES FOR YEAR 3, AND FOR COMBINED YEARS 1, 2, AND 3.**

Cultivar	First Cut Dry Matter Yield (t/ha)			Seasonal Dry Matter Yield (t/ha)			Years 1 +2	2 years % persist	Years 1 +2 +3	3 years % persist
	Year	Year	Year	Year	Year	Year				
	1	2	3	1	2	3				
Algonquin	4.61	5.50	5.26	8.94	9.26	8.27	9.09	-5.5	8.16	-5.4
<b>AC Caribou</b>	<b>4.62</b>	<b>5.12</b>	<b>5.03</b>	<b>8.70</b>	<b>8.99</b>	<b>8.81</b>	<b>8.87</b>	<b>-3.9</b>	<b>8.35</b>	<b>2.9</b>
Magnum VI	4.56	5.55	5.36	8.94	9.46	9.52	9.22	-1.8	8.71	15.4
GS-11-03	4.31	5.71	5.43	8.97	9.85	9.13	9.40	4.7	8.52	14.9
GS-11-08	4.70	5.88	4.99	9.77	9.85	8.43	9.77	-5.2	8.83	-16.6
GS-14-01	4.41	5.60	5.64	9.40	9.70	9.99	9.58	1.4	9.12	5.5
Cornerstone	4.45	5.51	4.89	8.83	9.74	8.98	9.29	3.5	8.53	-2.4
Actis	4.56	5.54	5.97	9.95	9.81	10.11	9.93	-6.4	9.38	14.8
GS-14-05	4.31	5.54	4.97	9.07	9.68	8.66	9.34	-1.2	8.57	-7.5
GS-14-06	4.34	5.57	5.33	8.95	9.65	8.95	9.29	4.8	8.41	5.0
AAC-Nikon	5.04	5.74	5.63	9.60	9.87	10.16	9.71	-2.6	8.98	12.2
54Q14	4.80	5.99	5.64	9.44	10.19	10.68	9.79	2.9	9.28	26.4
55V50	4.87	6.08	5.45	9.89	10.35	9.41	10.11	0.7	9.51	-11.3
55Q27	4.73	5.80	5.63	10.89	10.13	9.31	10.55	-8.7	9.78	-23.4
Cumulative Std	4.53	5.25	4.84	8.51	9.03	8.21	8.77	*	8.58	*
Grand Mean	4.60	5.65	5.37	9.38	9.75	9.32	9.57	*	8.87	*
Std Error	0.291	0.200	0.448	0.525	0.305	0.671	0.348	*	0.441	*
F prob	0.325	0.002	0.450	0.003	0.002	0.017	<0.001	*	0.009	*

Site Variation <sup>1</sup>	First cut			Seasonal				
	Year	Year	Year	Year	Year	Year	Years	Years
	1	2	3	1	2	3	1+2	1+2+3
NBSCIA, Woodstock, NB	0.57	0.24	*	2.79	0.83	*	1.36	*
Perennia-AAFC, Nappan, NS	0.35	1.83	0.67	4.66	2.08	1.37	1.90	1.07
Dal Faculty of Agriculture, Truro, NS	0.87	0.36	*	1.26	0.56	*	0.62	*
AAFC, Kentville, NS	1.41	1.64	5.41	4.85	2.16	6.30	1.92	2.20
AAFC, Harrington, PEI	0.72	0.12	0.61	1.18	0.31	1.59	0.47	0.48

<sup>1</sup> The lower the number, the lower the site variation, and the more weight this site has in the analysis.

**The standard used was: AC Caribou.**



**FIGURE 1: ALFALFA - PERSISTENCE RELATIONSHIP BETWEEN CULTIVARS AND SITES FOR YEARS 2015-2016-2017.**

\*Alfalfa was reseeded in 2015 at NBSCIA and Dal AC Truro.

Trial Sites:

- r = NBSCIA, Woodstock, NB
- n = Perennia-AAFC, Nappan, NS
- t = Dal Faculty of Agriculture, Truro, NS
- k = AAFC, Kentville, NS
- c = AAFC, Harrington, PEI

## 2016 ALFALFA, WOODSTOCK

Crop: Alfalfa, Regional	Harvest Year: 2016
Location: NBSCIA, Woodstock, NB	Cooperator: Walter J. Brown
Soil: Caribou series (gravely loam)	Experimental Design: RCB
Plot Site: 1.5m x 6.4m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24, 2015
Previous Crop: Alfalfa/grass mix	Pest Control: clipped in seeding year

Soil Analysis:	% OM	pH	P <sub>2</sub> O <sub>5</sub> (kg/ha)	K <sub>2</sub> O (kg/ha)	Ca (kg/ha)	Mg (kg/ha)
	7.2%	6.5	163	215	2295	530

Fertilization: May 19th: 200 kg/ha 10-24-26 + 0.3 B  
 July 5th: 160 kg/ha 0-0-60  
 October 26: 1200 kg/ha Calcitic Limestone

Dates of Harvest:      Cut #1: June 23                      Cut#2: July 25                      Cut #3: Sep 1

**TABLE 2: 2016-ALFALFA DRY MATTER YIELDS, YEAR 1 (2015 SEEDING YEAR); NBSCIA, WOODSTOCK, NB.**

Cultivar	2016 Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Algonquin	6.69	2.81	2.54	12.04
<b>AC Caribou</b>	5.53	2.43	1.42	9.38
Magnum VI	6.20	2.63	1.97	10.80
GS-11-03	6.64	2.01	1.81	10.47
GS-11-08	6.66	2.62	1.98	11.26
GS-14-01	5.65	1.56	1.35	8.56
Cornerstone	6.01	2.32	1.92	10.25
Actis	6.13	2.83	2.29	11.25
GS-14-05	5.60	2.53	1.98	10.11
GS-14-06	6.10	2.43	1.99	10.51
AAC-Nikon	6.35	2.75	1.88	10.98
54Q14	6.19	2.54	2.05	10.78
55V50	5.86	2.46	1.80	10.12
55Q27	6.08	3.24	2.61	11.94
Mean	6.12	2.51	1.97	10.60
SEM (df=26,n=3)	0.361	0.332	0.309	0.819
F prob	0.400	0.219	0.280	0.281

## 2017 ALFALFA, WOODSTOCK

Crop: Alfalfa, Regional	Harvest Year: 2017
Location: NBSCIA, Woodstock, NB	Cooperator: Walter J. Brown
Soil: Caribou series (gravely loam)	Experimental Design: RCB
Plot Site: 1.5m x 6.4m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24, 2015
Previous Crop: Alfalfa/grass mix	Pest Control: nil

Soil Analysis: % OM	pH	P <sub>2</sub> O <sub>5</sub> (kg/ha)	K <sub>2</sub> O (kg/ha)	Ca (kg/ha)	Mg (kg/ha)
7.2%	6.5	163	215	2295	530

Fertilization: May 9th: 200 kg/ha 10-24-26 + 0.3 B  
 June 27th: 160 kg/ha 0-0-60

Dates of Harvest:      Cut #1: June 21                      Cut#2: August 10

**TABLE 3: 2017-ALFALFA DRY MATTER YIELDS, YEAR 2 (2015 SEEDING YEAR); NBSCIA, WOODSTOCK, NB.**

Cultivar	2017		Total
	Cut #1	Cut #2	
Algonquin	5.62	3.00	8.62
<b>AC Caribou</b>	5.32	2.34	7.66
Magnum VI	5.92	2.80	8.72
GS-11-03	5.96	3.10	9.06
GS-11-08	6.43	3.32	9.75
GS-14-01	6.26	2.50	8.75
Cornerstone	6.17	3.11	9.27
Actis	5.41	3.15	8.56
GS-14-05	6.00	3.13	9.13
GS-14-06	5.99	3.25	9.23
AAC-Nikon	5.75	3.25	9.00
54Q14	6.59	2.96	9.56
55V50	6.57	2.56	9.13
55Q27	6.32	3.55	9.87
Mean	6.02	3.00	9.02
SEM (df=26,n=3)	0.259	0.285	0.465
F prob	0.028	0.206	0.203

**TABLE 4: ALFALFA DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR AC CARIBOU, AT NBSCIA, WOODSTOCK, NB, FOR YEARS 2016-2017.**

<b>Standard</b>	<b>AC Caribou</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2016</b>	x	x	x		
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means		Year
	DM Yld	%Change	DM Yld	%Change	%Diff
Cultivar	(t/ha)	from Std	(t/ha)	from Std	Persist
55Q27	6.20	14.2	10.90	28.0	1.5
GS-11-08	6.54	20.5	10.50	23.3	5.5
Algonquin	6.15	13.4	10.33	21.2	-12.6
54Q14	6.39	17.7	10.16	19.3	8.5
AAC-Nikon	6.05	11.5	9.99	17.2	0.7
Actis	5.77	6.3	9.90	16.3	-8.0
GS-14-06	6.04	11.3	9.87	15.9	8.9
Cornerstone	6.09	12.2	9.76	14.6	10.3
GS-11-03	6.30	16.1	9.76	14.6	6.1
Magnum VI	6.06	11.6	9.76	14.5	-2.0
55V50	6.22	14.6	9.62	13.0	12.0
GS-14-05	5.80	6.9	9.62	12.9	11.0
GS-14-01	5.95	9.7	8.65	1.6	24.7
<b>AC Caribou</b>	<b>5.43</b>	<b>0.0</b>	<b>8.52</b>	<b>0.0</b>	<b>0.0</b>
Mean	6.07		9.81		4.4
SEM(df=26)	3		1.00		6.64

## 2015 ALFALFA, NAPPAN

Crop: Alfalfa, Regional	Harvest Year: 2015				
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas				
Soil: Tormentine series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 6m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14				
Previous Crop: Corn	Pest Control: Clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.6	6.5	1730	677	3004	462
Fertilization: May 13/15: 300 kg/ha 3-15-6 + 0.3% B and 300kg/ha 5-20-20					
After 1 <sup>st</sup> cut: 200 kg/ha 0-0-60					
Dates of Harvest: Cut #1: June 11		Cut#2: Aug 13			

**TABLE 5: 2015-ALFALFA DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Algonquin	2.81	4.11	6.92
<b>AC Caribou</b>	<b>3.31</b>	<b>4.12</b>	<b>7.43</b>
Magnum VI	2.91	4.11	7.01
GS-11-03	1.92	3.87	5.79
GS-11-08	2.53	5.07	7.60
GS-14-01	2.45	5.05	7.50
Cornerstone	2.97	4.64	7.60
Actis	2.41	3.24	5.65
GS-14-05	2.77	5.82	8.59
GS-14-06	2.58	3.81	6.39
AAC-Nikon	3.57	3.32	6.89
54Q14	3.35	3.38	6.72
55V50	2.99	4.25	7.25
55Q27	2.71	9.92	12.64
Mean	2.81	4.62	7.43
SEM (df=26,n=3)	0.305	1.119	1.053
F prob	0.065	0.035	0.020

## 2016 ALFALFA, NAPPAN

Crop: Alfalfa, Regional	Harvest Year: 2016				
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas				
Soil: Tormentine series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 6m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14				
Previous Crop: Corn	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.6	6.5	1730	677	3004	462
Fertilization: After 1 <sup>st</sup> cut: 200 kg/ha 7-0-40					
Dates of Harvest: Cut #1: June 23		Cut#2: July 27			

**TABLE 6: 2016-ALFALFA DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Algonquin	8.55	3.65	12.20
<b>AC Caribou</b>	<b>7.31</b>	<b>4.02</b>	<b>11.33</b>
Magnum VI	7.07	3.94	11.01
GS-11-03	7.33	3.53	10.86
GS-11-08	6.99	3.69	10.68
GS-14-01	7.80	3.74	11.54
Cornerstone	7.59	4.14	11.73
Actis	7.52	4.11	11.63
GS-14-05	7.23	4.10	11.33
GS-14-06	8.15	3.40	11.55
AAC-Nikon	6.59	3.77	10.36
54Q14	8.49	3.98	12.47
55V50	6.50	3.80	10.30
55Q27	8.71	3.79	12.50
Mean	7.56	3.83	11.39
SEM (df=26,n=3)	0.811	0.239	0.827
F prob	0.702	0.573	0.723

## 2017 ALFALFA, NAPPAN

Crop: Alfalfa, Regional	Harvest Year: 2017				
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas				
Soil: Tormentine series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 6m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14				
Previous Crop: Corn	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.6	6.5	1730	677	3004	462
Fertilization: May 17: 200 kg/ha 12-24-24					
June 29: 250 kg/ha 0-0-60					
Dates of Harvest: Cut #1: June 27		Cut#2: August 2			

**TABLE 7: 2017-ALFALFA DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2017 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Algonquin	5.24	1.49	6.73
<b>AC Caribou</b>	4.68	3.66	8.34
Magnum VI	5.02	3.41	8.43
GS-11-03	5.10	2.05	7.16
GS-11-08	4.50	2.30	6.80
GS-14-01	6.04	3.63	9.67
Cornerstone	5.01	2.96	7.97
Actis	6.45	2.74	9.19
GS-14-05	4.85	2.02	6.86
GS-14-06	4.77	2.52	7.29
AAC-Nikon	5.33	4.01	9.34
54Q14	5.20	3.95	9.60
55V50	4.95	2.32	7.58
55Q27	5.81	1.68	7.49
Mean	5.21	2.77	8.03
SEM (df=24,n=3)	0.425	0.508	0.605
F prob	0.137	0.015	0.008

**TABLE 8: ALFALFA DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR AC CARIBOU, AT PERENNIA-AAFC, NAPPAN, NS, FOR YEARS 2015-2016-2017.**

Standard	AC Caribou				
	Cuts Harvested				
Year Harvested	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
55Q27	5.74	12.6	10.87	20.4	-45.9
GS-14-01	5.43	6.4	9.57	5.9	14.2
54Q14	5.68	11.3	9.13	1.1	27.9
Cornerstone	5.19	1.7	9.10	0.7	-7.3
<b>AC Caribou</b>	<b>5.10</b>	<b>0.0</b>	<b>9.03</b>	<b>0.0</b>	<b>0.0</b>
GS-14-05	4.95	-3.0	8.93	-1.2	-30.2
AAC-Nikon	5.16	1.2	8.86	-1.9	18.7
Actis	5.46	7.1	8.82	-2.3	40.7
Magnum VI	5.00	-2.0	8.82	-2.4	9.9
Algonquin	5.53	8.5	8.62	-4.6	-14.5
55V50	4.82	-5.6	8.59	-5.0	-18.5
GS-14-06	5.17	1.3	8.41	-6.9	0.1
GS-11-08	4.67	-8.4	8.36	-7.5	-21.3
GS-11-03	4.78	-6.2	7.93	-12.2	9.1
Mean	5.19		8.94		-4.5
SEM(df=24)	3		2.04		17.04

## 2016 ALFALFA, DAL AC, TRURO

Crop: Alfalfa, Regional	Harvest Year: 2016				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loamy)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: 2015				
Previous Crop: grass forage	Pest Control: clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: April 27: 380 kg/ha 5-13-25					
June 27: 200 kg/ha 5-4-40					
July 28: 160 kg/ha 2-2-50					
Dates of Harvest:	Cut #1: June 24	Cut#2: July 28	Cut #3: Sept 6		

**TABLE 9: 2016-ALFALFA DRY MATTER YIELDS, YEAR 1(2015 SEEDING YEAR); DAL AC, TRURO, NS.**

Cultivar	2016			
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Algonquin	5.93	3.82	3.24	12.99
<b>AC Caribou</b>	5.63	3.86	3.16	12.66
Magnum VI	5.49	4.07	3.25	12.81
GS-11-03	5.49	4.12	3.97	13.58
GS-11-08	5.74	4.26	3.58	13.58
GS-14-01	5.54	4.65	3.84	14.03
Cornerstone	5.58	4.23	3.36	13.16
Actis	5.57	4.42	3.55	13.54
GS-14-05	6.53	4.19	3.41	14.13
GS-14-06	5.78	4.14	3.29	13.21
AAC-Nikon	6.43	4.32	3.47	14.22
54Q14	5.87	4.46	3.47	13.81
55V50	6.00	4.38	3.44	13.82
55Q27	6.42	4.61	3.67	14.70
Mean	5.86	4.25	3.48	13.59
SEM (df=26,n=3)	0.591	0.203	0.145	0.559
F prob	0.964	0.191	0.022	0.416

## 2017 ALFALFA, DAL AC, TRURO

Crop: Alfalfa, Regional	Harvest Year: 2017				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: 2015				
Previous Crop: grass forage	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: May 10: 400 kg/ha 5-10-33					
June 12: 175 kg/ha 0-23-30					

Dates of Harvest:      Cut #1: June 12                      Cut#2: July 21                      Cut #3: Sept 1

**TABLE 10: 2017-ALFALFA DRY MATTER YIELDS, YEAR 2(2015 SEEDING YEAR); DAL AC, TRURO, NS.**

Cultivar	2017			
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Algonquin	4.92	3.73	1.55	10.21
<b>AC Caribou</b>	3.95	4.03	1.69	9.66
Magnum VI	4.33	4.03	1.86	10.22
GS-11-03	5.03	4.10	2.25	11.38
GS-11-08	3.99	3.78	2.20	9.96
GS-14-01	4.21	3.81	2.35	10.36
Cornerstone	4.18	4.05	2.29	10.52
Actis	4.41	3.78	2.38	10.56
GS-14-05	3.92	3.82	2.20	9.94
GS-14-06	4.62	4.27	2.47	11.37
AAC-Nikon	5.04	3.94	2.09	11.07
54Q14	5.08	3.97	2.15	11.19
55V50	4.72	3.96	2.44	11.12
55Q27	5.27	3.72	2.30	11.29
Mean	4.55	3.93	2.16	10.63
SEM (df=26,n=3)	0.290	0.210	0.103	0.375
F prob	0.019	0.842	<0.001	0.022;

**TABLE 11: ALFALFA DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR AC CARIBOU, AT DAL AC, TRURO, NS. , FOR YEARS 2016-2017.**

<b>Standard</b>	<b>AC Caribou</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2016</b>	x	x	X		
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means	Year	
	DM Yld	%Change	DM Yld	%Change	%Diff
Cultivar	(t/ha)	from Std	(t/ha)	from Std	Persist
55Q27	5.84	22.0	13.00	16.5	0.6
AAC-Nikon	5.73	19.7	12.65	13.3	1.9
54Q14	5.47	14.3	12.50	12.0	6.1
GS-11-03	5.26	9.8	12.48	11.8	9.7
55V50	5.36	11.9	12.47	11.8	5.3
GS-14-06	5.20	8.6	12.29	10.1	12.7
GS-14-01	4.87	1.7	12.19	9.3	-3.4
Actis	4.99	4.1	12.05	8.0	2.5
GS-14-05	5.22	9.0	12.04	7.9	-8.0
Cornerstone	4.88	1.8	11.84	6.1	4.7
GS-11-08	4.86	1.5	11.77	5.5	-3.7
Algonquin	5.42	13.2	11.60	3.9	2.9
Magnum VI	4.91	2.5	11.51	3.2	4.3
<b>AC Caribou</b>	<b>4.79</b>	<b>0.0</b>	<b>11.16</b>	<b>0.0</b>	<b>0.0</b>
Mean	5.20		12.11		2.4
SEM(df=26)	3		0.00		4.18

## 2015 ALFALFA, KENTVILLE

Crop: Alfalfa, Regional	Harvest Year: 2015
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos
Soil: Pugwash series (sandy loam)	Experimental Design: RCB
Quadrat size: 0.25 m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14
Previous Crop: hay	Pest Control: Clipped in seeding year, Basagran, Poast applied– hand weeded in 2015

Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.4	5.9	368	203	1316	277

Fertilization: Aug 14: 88 kg/ha 5-20-20

Dates of Harvest:      Cut #1: June 24                      Cut#2: Aug 4

**TABLE 12: 2015-ALFALFA DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Algonquin	3.97	4.17	8.15
<b>AC Caribou</b>	3.99	2.44	6.43
Magnum VI	3.36	3.73	7.09
GS-11-03	4.17	4.89	9.07
GS-11-08	4.19	4.47	8.65
GS-14-01	5.01	3.93	8.95
Cornerstone	4.41	4.88	9.29
Actis	4.32	6.09	10.41
GS-14-05	3.57	4.03	7.60
GS-14-06	3.76	6.03	9.79
AAC-Nikon	5.08	4.81	9.89
54Q14	3.71	3.88	7.59
55V50	5.11	3.63	8.73
55Q27	3.03	5.20	8.23
Mean	4.12	4.44	8.56
SEM (df=26,n=3)	0.663	0.806	1.206
F prob	0.549	0.198	0.586

## 2016 ALFALFA, KENTVILLE

Crop: Alfalfa, Regional	Harvest Year: 2016				
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Quadrat size: 0.25 m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14				
Previous Crop: hay	Pest Control: hand weeded				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.4	5.9	368	203	1316	277
Fertilization: April 29: 290 kg/ha 20-10-10					

Dates of Harvest:      Cut #1: June 17                      Cut#2: July 21                      Cut #3: Aug 16

**TABLE 13: 2016-ALFALFA DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)			Total
	Cut #1	Cut #2	Cut #3	
Algonquin	5.65	2.75	1.40	9.80
<b>AC Caribou</b>	5.64	2.97	1.76	10.37
Magnum VI	6.77	3.07	1.85	11.69
GS-11-03	5.17	3.44	1.95	10.56
GS-11-08	5.92	3.53	1.61	11.07
GS-14-01	6.55	3.72	1.69	11.96
Cornerstone	5.87	3.83	2.15	11.84
Actis	5.91	4.39	1.92	12.21
GS-14-05	6.25	3.45	2.09	11.80
GS-14-06	3.96	3.24	1.56	8.76
AAC-Nikon	5.68	4.07	1.79	11.53
54Q14	5.00	3.37	1.55	9.92
55V50	5.77	4.09	1.68	11.55
55Q27	5.37	4.96	1.70	12.04
Mean	5.68	3.63	1.76	11.08
SEM (df=26,n=3)	0.718	0.307	0.139	0.736
F prob	0.542	0.002	0.032	0.066

## 2017 ALFALFA, KENTVILLE

Crop: Alfalfa, Regional	Harvest Year: 2017				
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Quadrat size: 0.25 m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14				
Previous Crop: hay	Pest Control: hand weeded				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O (Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.8	5.9	742	326	2785	474
Fertilization: April 27: 4 T/ha lime					
Dates of Harvest:      Cut #1: June 22                      Cut#2: Aug 2                      Cut #3: Aug 29					

**TABLE 14: 2017-ALFALFA DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2017 Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Algonquin	6.20	4.20	2.05	12.45
<b>AC Caribou</b>	6.35	2.76	1.91	11.01
Magnum VI	8.37	3.35	1.92	13.64
GS-11-03	8.93	4.51	2.73	16.17
GS-11-08	5.72	3.53	2.03	11.28
GS-14-01	5.99	4.41	2.60	13.00
Cornerstone	6.21	4.03	3.17	13.41
Actis	7.31	4.25	2.92	14.48
GS-14-05	8.09	4.05	2.48	14.63
GS-14-06	7.73	4.05	2.91	14.69
AAC-Nikon	8.52	3.85	2.41	14.79
54Q14	9.48	4.19	2.25	15.92
55V50	6.61	3.60	2.07	12.28
55Q27	7.78	5.08	2.67	15.52
Mean	7.38	3.99	2.44	13.81
SEM (df=26,n=3)	1.355	0.407	0.264	1.386
F prob	0.658	0.078	0.026	0.223

**TABLE 15: ALFALFA DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR AC CARIBOU, AT AAFC, KENTVILLE, NS., FOR YEARS 2015-2016-2017.**

<b>Standard</b>	<b>AC Caribou</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x	X		
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means	Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
Actis	5.84	9.8	12.37	33.4	-21.9
AAC-Nikon	6.43	20.7	12.07	30.2	-16.1
GS-11-03	6.09	14.4	11.93	28.7	4.3
55Q27	5.39	1.3	11.93	28.7	8.2
Cornerstone	5.50	3.3	11.52	24.2	-18.4
GS-14-05	5.97	12.2	11.34	22.3	8.8
GS-14-01	5.85	9.8	11.30	21.9	-19.0
54Q14	6.06	13.9	11.14	20.2	20.8
GS-14-06	5.15	-3.3	11.08	19.5	-9.0
55V50	5.83	9.5	10.85	17.1	-20.1
Magnum VI	6.17	15.9	10.81	16.6	9.6
GS-11-08	5.28	-0.9	10.33	11.5	-26.6
Algonquin	5.28	-0.9	10.13	9.3	-13.3
<b>AC Caribou</b>	<b>5.32</b>	<b>0.0</b>	<b>9.27</b>	<b>0.0</b>	<b>0.0</b>
Mean	5.73		11.15		-7.7
SEM(df=26)	3		0.00		13.81

## 2015 ALFALFA, HARRINGTON

Crop: Alfalfa	Harvest Year: 2015				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: June 30: 200 kg/ha 0-0-60					
Dates of Harvest: Cut #1: June 30 Cut#2: Aug 6					

**TABLE 16: 2015-ALFALFA DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Algonquin	3.47	2.15	5.63
<b>AC Caribou</b>	4.19	2.46	6.65
Magnum VI	4.28	2.29	6.57
GS-11-03	3.88	2.01	5.90
GS-11-08	4.61	2.88	7.49
GS-14-01	4.18	2.93	7.11
Cornerstone	3.14	2.32	5.46
Actis	4.83	3.28	8.11
GS-14-05	2.93	2.53	5.47
GS-14-06	3.39	2.44	5.83
AAC-Nikon	3.77	2.61	6.38
54Q14	4.25	2.76	7.01
55V50	4.97	3.19	8.16
55Q27	5.16	3.01	8.17
Mean	4.08	2.63	6.708
SEM (df=26,n=3)	0.382	0.227	0.559
F prob	0.006	0.010	0.006

## 2016 ALFALFA, HARRINGTON

Crop: Alfalfa	Harvest Year: 2016				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: May 4: 200 kg/ha 10-26-240 + 0.3B					
June 28: 80 kg/ha 0-0-60					
Dates of Harvest:    Cut #1: June 23        Cut#2: July 27					

**TABLE 17: 2016-ALFALFA DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Algonquin	4.21	1.81	6.03
<b>AC Caribou</b>	4.03	2.12	6.14
Magnum VI	4.38	1.96	6.34
GS-11-03	4.54	2.08	6.62
GS-11-08	4.95	2.15	7.10
GS-14-01	4.33	2.32	6.65
Cornerstone	4.26	2.19	6.45
Actis	4.62	2.20	6.82
GS-14-05	4.49	2.27	6.76
GS-14-06	4.42	1.86	6.28
AAC-Nikon	4.71	2.07	6.78
54Q14	4.70	2.44	7.14
55V50	5.07	2.69	7.77
55Q27	4.37	2.15	6.52
Mean	4.50	2.17	6.67
SEM (df=26,n=3)	0.200	0.182	0.313
F prob	0.059	0.163	0.052

## 2017 ALFALFA, HARRINGTON

Crop: Alfalfa	Harvest Year: 2017				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: Early May: 75kg/ha 34-0-0					
June 16: 250 kg/ha 0-0-60 plus boron					

Dates of Harvest:      Cut #1: June 15      Cut#2: July 27      Cut#3: Sept 21

**TABLE 18: 2017-ALFALFA DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2017			Total
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	
Algonquin	3.46	1.18	0.84	5.48
<b>AC Caribou</b>	3.49	1.04	0.74	5.28
Magnum VI	3.63	1.63	0.96	6.22
GS-11-03	3.63	1.51	0.98	6.12
GS-11-08	3.64	1.49	0.94	6.07
GS-14-01	3.54	1.50	1.05	6.08
Cornerstone	2.94	1.58	0.99	5.51
Actis	3.69	1.71	1.15	6.55
GS-14-05	3.03	1.59	1.08	5.71
GS-14-06	3.86	1.07	0.97	5.90
AAC-Nikon	3.88	1.56	0.99	6.43
54Q14	3.90	1.81	1.22	6.93
55V50	4.06	1.89	1.24	7.20
55Q27	3.54	1.62	1.18	6.34
Mean	3.59	1.51	1.02	6.13
SEM (df=26,n=3)	0.311	0.152	0.136	0.371
F prob	0.476	0.013	0.405	0.045

**TABLE 19: ALFALFA DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR AC CARIBOU, AT AAFC, HARRINGTON, PEI, FOR YEARS 2015-2016-2017.**

Standard	AC Caribou				
	Year Harvested	Cuts Harvested			
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
55V50	4.70	20.5	7.71	28.0	13.5
Actis	4.38	12.2	7.16	18.8	2.9
54Q14	4.29	9.8	7.03	16.6	26.6
55Q27	4.35	11.5	7.01	16.3	-0.7
GS-11-08	4.40	12.7	6.88	14.3	2.9
GS-14-01	4.02	2.9	6.61	9.8	10.4
AAC-Nikon	4.12	5.6	6.53	8.4	30.7
Magnum VI	4.10	4.9	6.37	5.8	22.9
GS-11-03	4.02	3.0	6.21	3.1	32.2
<b>AC Caribou</b>	<b>3.90</b>	<b>0.0</b>	<b>6.02</b>	<b>0.0</b>	<b>0.0</b>
GS-14-06	3.89	-0.3	6.00	-0.3	29.0
GS-14-05	3.49	-10.7	5.98	-0.7	33.5
Cornerstone	3.45	-11.7	5.80	-3.6	28.4
Algonquin	3.72	-4.8	5.71	-5.2	23.4
Mean	4.06		6.50		17.6
SEM(df=26)	3		1.62		13.37

**TABLE 20: CUMULATIVE SUMMARY FOR ALFALFA SEEDED FROM 1987 – 2014**

Cultivar	Yr MAY		Yr MAY		Yr MAY		MAY Yr	2 Yr	MAY Yr	3 Yr
	1	Yr 1	2	Yr 2	3	Yr 3	1+2	%	1+2+3	%
	n	(t/ha)	n	(t/ha)	n	(t/ha)	(t/ha)	Persit	(t/ha)	Persit
<b>AC Caribou</b>	<b>53</b>	<b>8.02</b>	<b>45</b>	<b>8.54</b>	<b>31</b>	<b>8.35</b>	<b>8.30</b>	<b>4.1</b>	<b>8.51</b>	<b>6.4</b>
Apica	51	8.37	41	8.61	28	8.33	8.54	0.3	8.78	0.2
Saranac	36	8.24	24	8.30	9	7.87	8.31	-3.0	8.39	-0.6
Iroquois	35	8.23	23	8.37	10	7.81	8.29	-0.2	8.35	-2.3
<b>Magnum VI</b>	<b>16</b>	<b>7.96</b>	<b>15</b>	<b>8.45</b>	<b>11</b>	<b>8.65</b>	<b>8.15</b>	<b>5.3</b>	<b>8.44</b>	<b>16.2</b>
AC Brador	14	8.23	13	8.58	10	8.23	8.51	1.8	8.54	4.5
5312	13	8.27	8	8.20	5	7.46	8.19	-6.2	8.07	-5.3
Abby	11	8.22	10	8.36	8	8.37	8.40	2.3	8.65	4.4
Bishop 134	11	8.07	10	8.34	8	8.62	8.25	2.8	8.61	7.5
<b>Algonquin</b>	<b>11</b>	<b>8.01</b>	<b>10</b>	<b>8.68</b>	<b>7</b>	<b>7.90</b>	<b>8.37</b>	<b>5.1</b>	<b>8.21</b>	<b>5.8</b>
AC Viva	11	8.40	7	8.56	3	6.49	8.21	2.4	7.06	0.2
VW 34-2	10	7.93	8	8.53	3	7.86	8.26	3.2	8.42	-3.1
5373	10	8.13	8	8.09	3	7.73	8.09	-3.7	8.09	-4.8
Legend 2	10	7.86	6	7.71	4	7.07	7.79	3.0	8.04	-1.8
Bell Ringer	9	8.09	7	8.30	*	*	8.28	-3.4	*	*
PS8925MF	8	7.75	8	8.25	6	8.30	7.99	1.1	8.30	10.7
53Q60	8	8.00	8	8.67	6	8.39	8.39	3.2	8.62	9.9
NK 91800	8	7.78	4	7.59	1	6.11	7.65	-10.4	7.09	-20.0
Achieva	8	8.45	4	7.69	1	4.76	8.08	-12.9	6.87	-33.6
53V08	7	8.25	7	8.40	6	8.28	8.35	-3.1	8.56	2.4
AC Longview	7	7.80	7	8.36	6	8.00	8.16	0.7	8.23	2.0
WL327	7	7.90	7	8.50	6	8.60	8.28	7.2	8.62	7.3
CRS1001	7	7.61	7	8.12	6	8.06	7.88	5.6	8.15	10.1
DK124	7	8.16	7	8.60	6	8.35	8.39	1.7	8.57	5.3
DK140	7	7.95	7	8.52	6	8.40	8.24	2.6	8.47	6.4
<b>55V50</b>	<b>7</b>	<b>8.69</b>	<b>7</b>	<b>9.36</b>	<b>5</b>	<b>8.15</b>	<b>8.99</b>	<b>1.2</b>	<b>8.73</b>	<b>-2.8</b>
54V46	7	8.07	6	8.71	4	8.48	8.37	11.7	8.51	13.3
Victory	7	8.45	6	8.77	3	7.59	8.62	0.6	8.44	-3.3
Oneida VR	7	7.67	6	8.66	2	7.92	8.14	8.6	8.26	-0.5
54V54	7	7.88	5	8.46	4	8.31	8.04	3.9	8.20	9.9
Anchor	7	7.70	4	7.54	3	6.86	7.59	-8.0	7.58	-9.1
Prowler 1	7	8.08	4	8.00	3	6.98	7.95	-1.0	7.80	-6.2
Rushmore	7	7.98	4	7.78	3	6.34	7.91	-1.2	7.27	-13.9
AC Melodie	7	7.86	4	8.45	3	7.60	8.13	10.5	8.03	6.7
Forerunner	7	8.31	4	7.31	3	6.75	7.63	-10.3	7.74	-10.1
5454	7	8.23	2	7.64	2	7.00	7.80	-10.3	7.72	-10.2
OAC Minto	6	8.06	6	8.53	5	7.77	8.34	5.1	8.37	-0.4
AgriMaster	6	7.54	6	7.76	5	7.45	7.79	1.3	7.81	-2.8
Quattro HR	6	7.93	6	8.07	5	7.66	7.99	2.8	8.01	-3.6
5396	6	7.98	6	8.50	5	8.26	8.28	6.3	8.36	8.5
55V48	6	7.91	5	8.03	4	7.83	8.10	0.1	8.22	-3.9
PS 8920	6	8.08	4	7.98	2	7.43	7.84	-9.8	7.74	-1.3
Apollo Suprem	5	8.32	5	8.11	*	*	8.23	-8.8	*	*
Champion	5	7.93	5	7.88	*	*	7.87	-2.8	*	*
G2841	5	8.21	5	7.98	*	*	8.02	-8.3	*	*
G2852	5	7.87	5	7.91	*	*	7.71	1.0	*	*
Pinnacle	5	8.10	5	8.05	*	*	8.10	-3.7	*	*
Shield	5	8.09	5	7.55	*	*	7.81	-15.1	*	*
Sparta	5	7.94	5	8.12	*	*	8.03	-2.2	*	*
Verta +	5	8.04	5	7.50	*	*	7.85	-13.6	*	*
<b>GS-11-03</b>	<b>5</b>	<b>8.05</b>	<b>5</b>	<b>9.11</b>	<b>3</b>	<b>8.41</b>	<b>8.55</b>	<b>9.2</b>	<b>8.30</b>	<b>21.2</b>
<b>GS-11-08</b>	<b>5</b>	<b>8.84</b>	<b>5</b>	<b>9.09</b>	<b>3</b>	<b>7.71</b>	<b>8.91</b>	<b>-2.4</b>	<b>8.58</b>	<b>-11.1</b>

Cultivar	Yr MAY	Yr MAY	Yr MAY	MAY Yr	2 Yr	MAY Yr	3 Yr
	1 Yr 1	2 Yr 2	3 Yr 3	1+2	%	1+2+3	%
	n (t/ha)	n (t/ha)	n (t/ha)	(t/ha)	Persit	(t/ha)	Persit
<b>GS-14-01</b>	<b>5 8.48</b>	<b>5 8.95</b>	<b>3 9.34</b>	<b>8.73</b>	<b>3.9</b>	<b>8.96</b>	<b>6.5</b>
<b>Cornerstone</b>	<b>5 7.91</b>	<b>5 9.00</b>	<b>3 8.30</b>	<b>8.46</b>	<b>6.8</b>	<b>8.41</b>	<b>4.7</b>
<b>Actis</b>	<b>5 9.02</b>	<b>5 9.07</b>	<b>3 9.44</b>	<b>9.07</b>	<b>-0.7</b>	<b>9.16</b>	<b>10.1</b>
<b>GS-14-05</b>	<b>5 8.16</b>	<b>5 8.93</b>	<b>3 7.94</b>	<b>8.51</b>	<b>5.9</b>	<b>8.42</b>	<b>6.2</b>
<b>GS-14-06</b>	<b>5 8.03</b>	<b>5 8.92</b>	<b>3 8.24</b>	<b>8.45</b>	<b>3.6</b>	<b>8.23</b>	<b>11.6</b>
<b>AAC-Nikon</b>	<b>5 8.67</b>	<b>5 9.12</b>	<b>3 9.49</b>	<b>8.87</b>	<b>0.1</b>	<b>8.80</b>	<b>15.4</b>
<b>54Q14</b>	<b>5 8.51</b>	<b>5 9.45</b>	<b>3 10.02</b>	<b>8.95</b>	<b>8.1</b>	<b>9.09</b>	<b>31.0</b>
<b>55Q27</b>	<b>5 9.97</b>	<b>5 9.40</b>	<b>3 8.60</b>	<b>9.73</b>	<b>-8.5</b>	<b>9.69</b>	<b>-11.8</b>
AP46	4 7.97	4 8.39	1 7.39	8.16	7.1	8.08	-2.6
Barrier	4 7.48	4 7.78	1 7.13	7.67	9.4	7.64	17.1
Centurion	4 8.10	4 8.23	1 7.96	8.14	-0.8	8.40	-9.9
Profit	4 8.12	4 8.59	1 7.51	8.35	6.7	8.16	-9.4
Ultra	4 8.23	4 8.40	1 7.74	8.30	0.3	8.46	-12.2
5432	4 8.27	4 8.37	1 7.79	8.34	0.1	8.28	-9.7
Advance	4 7.82	3 8.41	* *	8.13	4.8	*	*
Ambassador	4 8.22	3 8.33	* *	8.28	-2.9	*	*
Arrow	4 8.08	3 8.38	* *	8.26	3.7	*	*
DK-125	4 7.37	3 8.12	* *	7.75	7.9	*	*
Sure	4 8.09	3 8.52	* *	8.38	6.8	*	*
Surpass	4 7.65	3 8.37	* *	8.10	3.1	*	*
WL 316	4 7.56	3 8.34	* *	8.04	6.2	*	*
5444	4 7.86	3 8.14	* *	7.98	3.9	*	*
88	4 7.45	3 7.93	* *	7.70	6.4	*	*
Magnum 3801 W	4 7.85	3 8.91	2 9.63	8.48	21.3	9.35	34.9
L447HD	4 8.28	3 8.62	2 8.90	8.51	5.6	8.88	20.8
Valiant	4 7.79	3 8.44	2 8.54	8.20	9.9	8.44	25.7
SF2004	4 7.91	3 8.45	2 8.38	8.13	7.1	8.42	11.2
CW24033	4 7.90	3 8.36	2 8.27	8.17	7.6	8.41	15.5
Ascend	4 7.66	3 7.83	2 8.02	7.86	2.9	8.05	17.8
Magnum III We	4 8.25	3 8.68	2 8.66	8.68	6.5	9.02	17.6
CW85029	4 8.28	3 8.52	2 8.89	8.49	3.8	8.91	17.2
CW94023	4 7.97	3 8.26	2 8.97	8.30	4.7	8.79	25.9
Guardsmen II	4 8.02	3 8.61	2 8.68	8.34	5.6	8.47	22.9
53Q30	4 7.50	3 8.31	2 7.71	7.89	7.7	7.87	10.6
Renaissance	4 8.02	2 8.52	1 8.86	8.17	9.7	8.58	21.9
PS2065MF	4 8.20	2 9.07	1 8.36	8.34	15.7	8.53	11.5
Starbuck	4 7.82	2 8.10	1 7.69	7.60	9.3	7.55	19.8
Legend	4 7.63	1 9.03	* *	8.19	11.7	*	*
XAE92	4 8.03	1 8.58	* *	8.18	6.9	*	*
XAM93	4 7.64	1 8.58	* *	7.89	14.8	*	*
SF 8803	3 8.19	3 8.58	* *	8.34	-5.8	*	*
SF 8804	3 8.23	3 8.25	* *	8.21	-6.8	*	*
Admiral	3 7.69	3 8.38	2 7.54	8.08	4.5	8.27	-5.0
Alouette	3 7.96	3 8.40	2 7.77	8.23	4.9	8.22	-5.1
Apollo II	3 7.67	3 8.40	2 7.45	8.04	4.0	8.11	-5.7
DK-135	3 8.09	3 8.12	2 7.76	8.11	-6.0	8.24	-3.8
Excalibur	3 8.11	3 8.65	2 8.08	8.32	2.5	8.62	-3.1
Riel	3 7.89	3 8.28	2 7.78	8.01	3.2	8.07	-3.8
Thunder	3 7.65	3 8.21	2 7.04	7.85	3.3	8.08	-13.9
Trumpetor	3 7.76	3 7.96	2 7.72	7.80	-3.2	7.99	-3.4
Vertibenda	3 8.43	3 8.87	2 8.08	8.52	3.9	8.80	-8.8
54Q25	3 8.06	3 8.46	2 8.33	8.25	15.0	8.68	1.8
SF 8801	3 8.13	3 8.71	1 8.01	8.44	5.8	8.42	-3.9
SF 8802	3 7.91	3 8.17	1 7.75	8.02	2.9	7.97	1.2
B13	3 6.55	1 7.86	* *	7.08	8.0	*	*

Cultivar	Yr MAY	Yr MAY	Yr MAY	MAY Yr	2 Yr	MAY Yr	3 Yr
	1 Yr 1	2 Yr 2	3 Yr 3	1+2	%	1+2+3	%
	n (t/ha)	n (t/ha)	n (t/ha)	(t/ha)	Persit	(t/ha)	Persit
YAL06	3 7.69	1 7.34	1 6.02	7.59	-7.2	7.28	-17.9
NA89-100	3 7.78	1 8.15	1 6.39	7.91	0.9	7.62	-11.8
NA87-111	3 7.56	1 8.19	1 3.90	7.89	2.2	6.77	-44.5
NA87-104	3 7.38	1 7.19	1 2.50	6.46	9.3	5.35	-55.1
NA87-102	2 7.89	* *	* *	*	*	*	*
Maska	2 7.19	2 8.48	2 7.79	7.89	17.7	8.02	13.8
PS11A01	2 7.54	2 8.63	2 8.75	8.05	8.9	8.34	24.3
54Q32	2 7.61	2 8.27	2 8.61	7.87	-0.4	8.17	24.2
CW045025	2 7.45	2 8.46	2 7.93	7.96	12.1	8.04	3.1
Adrenalin	2 7.56	2 8.35	2 7.98	7.96	8.5	8.09	12.2
2010	2 7.79	2 8.87	2 8.39	8.41	15.8	8.44	12.5
OAC Superior	2 7.91	2 8.40	2 8.19	8.09	-0.1	8.25	12.1
CW073012	2 7.27	2 8.84	2 8.30	8.07	21.3	8.25	18.8
CW064006	2 7.60	2 8.27	2 8.33	8.02	6.1	8.22	16.5
CW065006	2 8.16	2 9.18	2 8.19	8.79	16.4	8.75	0.6
CW054004	2 8.43	2 9.56	2 8.41	9.09	11.7	8.97	-0.2
TA081003	2 8.44	2 8.92	2 8.29	8.69	5.3	8.69	0.6
044031	2 7.72	2 8.70	2 8.02	8.12	5.3	8.21	1.2
065030	2 8.12	2 8.21	2 8.09	8.19	-2.1	8.26	-2.5
055023	2 8.08	2 8.21	2 8.36	8.13	-5.0	8.28	5.8
Response WT	2 8.21	2 9.36	2 8.20	8.82	14.5	8.70	-6.3
NA87-100	1 8.13	* *	* *	*	*	*	*
Webfoot	1 7.82	1 8.94	* *	8.76	-1.7	*	*
Cumulative Std	8.17	8.44	7.95	8.31		8.19	
Grand Mean	8.07	8.42	8.09	8.19		8.26	
Std Error	0.416	0.456	0.536	0.394		0.415	
F prob	<0.001	<0.001	<0.001	<0.001		<0.001	

## 2015-2016-2017 TALL FESCUE COMBINED SITE REPORT

### Sites Used

### Years Harvested

NBSCIA, Woodstock, NB	*	2016	2017
Perennia-AAFC, Nappan, NS	2015	2016	2017
Dal Faculty of Agriculture, Truro, NS	2015	2016	2017
AAFC, Kentville, NS	2015	2016	2017
AAFC, Harrington, PEI	2015	2016	2017

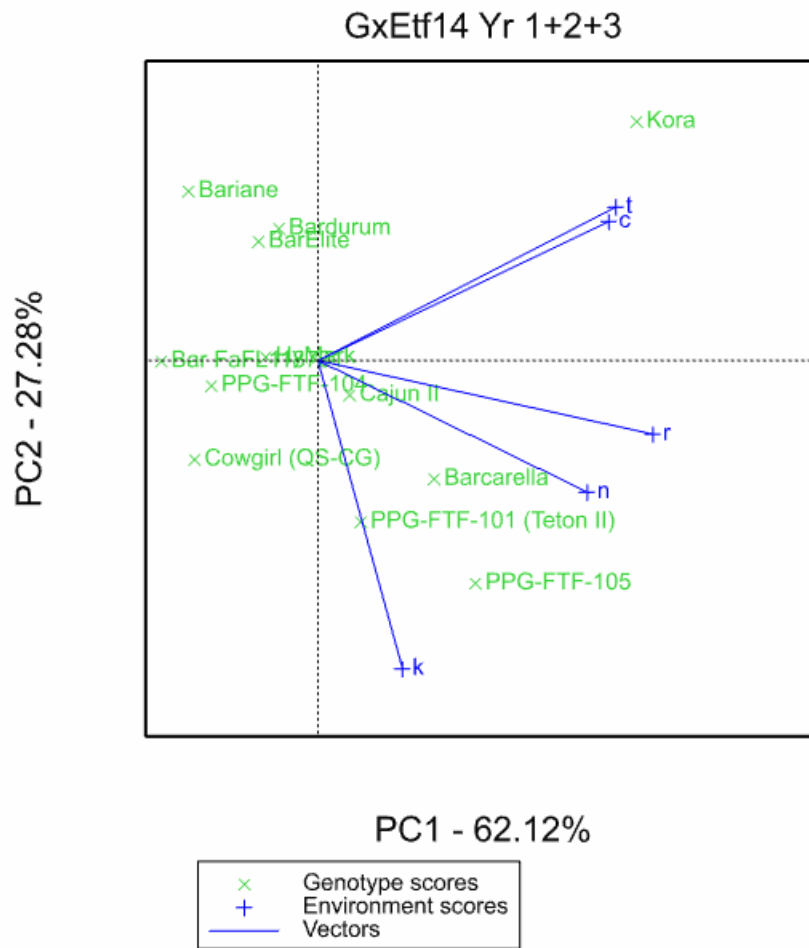
**TABLE 21: TALL FESCUE FIRST CUT AND SEASONAL DRY MATTER YIELDS OVER 4 SITES FOR YEAR 1, 5 SITES FOR YEARS 2 AND 3, AND FOR COMBINED YEARS 1, 2 AND 3.**

Cultivar	First Cut Dry Matter Yield (t/ha)			Seasonal Dry Matter Yield (t/ha)			Years 1 +2	2 years % persist	Years 1 +2 +3	3 years % persist
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3				
BarElite	3.28	6.54	3.86	7.46	8.44	6.28	8.00	-1.5	7.36	1.4
<b>Kora</b>	4.12	6.73	4.31	8.46	9.18	7.44	8.87	-0.7	8.36	1.6
<b>HyMark</b>	3.60	6.88	4.00	7.63	8.85	6.26	8.13	5.1	7.36	-1.2
Cajun II	3.90	6.70	4.10	7.56	8.81	6.60	8.13	5.4	7.54	3.8
Bariane	3.57	6.12	3.77	7.37	8.15	6.37	7.74	2.0	7.13	4.6
Barcarella	3.87	7.10	4.24	7.82	9.04	6.70	8.42	5.5	7.67	4.8
Bardurum	3.09	6.39	3.76	7.27	8.93	6.43	8.14	7.6	7.48	7.7
Bar	3.42	6.30	4.07	7.03	8.03	6.43	7.53	5.3	7.04	12.0
FaFL118701										
PPG-FTF-101	3.89	6.13	4.11	7.93	8.22	6.69	8.05	-2.4	7.49	2.5
PPG-FTF-104	3.65	6.04	3.89	7.30	7.84	6.45	7.61	-0.8	7.13	8.3
PPG-FTF-105	3.88	6.53	4.14	7.72	8.95	6.99	8.33	8.3	7.77	9.9
Cowgirl	3.40	6.54	3.97	7.09	8.27	6.01	7.74	10.3	7.07	1.6
Cumulative Std	3.91	6.64	3.98	8.04	8.79	6.69	8.42	*	7.84	*
Grand Mean	3.64	6.50	4.02	7.55	8.56	6.55	8.06	*	7.45	*
Std Error	0.194	0.228	0.179	0.294	0.328	0.269	0.256	*	0.220	*
F prob	<0.001	<0.001	0.048	<0.001	<0.001	<0.001	<0.001	*	<0.001	*

Site Variation <sup>1</sup>	First cut			Seasonal				
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Years 1+2	Years 1+2+3
NBSCIA, Woodstock, NB	1.39	1.71	*	2.25	1.72	*	1.68	*
Perennia-AAFC, Nappan, NS	0.12	2.32	0.25	0.46	2.57	0.38	0.80	0.49
Dal Faculty of Agriculture, Truro, NS	0.86	0.30	0.13	1.52	0.77	0.27	0.44	0.28
AAFC, Kentville, NS	0.89	2.21	1.69	1.36	2.35	2.03	1.08	0.81
AAFC, Harrington, PEI	0.16	0.12	0.12	0.27	0.29	0.41	0.20	0.14

<sup>1</sup> The lower the number, the lower the site variation, and the more weight this site has in the analysis.

**The standards used were: Kora and HyMark.**



**FIGURE 2: TALL FESCUE - PERSISTENCE RELATIONSHIP BETWEEN CULTIVARS AND SITES FOR YEARS 2015-2016-2017.**

Trial Sites:

- r = NBSCIA, Woodstock, NB
- n = Perennia-AAFC, Nappan, NS
- t = Dal Faculty of Agriculture, Truro, NS
- k = AAFC, Kentville, NS
- c = AAFC, Harrington, PEI

## 2016 TALL FESCUE, WOODSTOCK

Crop: Tall fescue, Regional	Harvest Year: 2016
Location: NBSCIA, Woodstock, NB	Cooperator: Walter J. Brown
Soil: Caribou series (gravely loam)	Experimental Design: RCB
Plot Site: 1.5m x 6.4m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24, 2015
Previous Crop: Alfalfa/grass mix	Pest Control: clipped in seeding year

Soil Analysis:	% OM	pH	P <sub>2</sub> O <sub>5</sub> (kg/ha)	K <sub>2</sub> O (kg/ha)	Ca (kg/ha)	Mg (kg/ha)
	7.2%	6.5	163	215	2295	530

Fertilization: May 19th: 250 kg/ha 21-6-18  
 July 5th: 250 kg/ha 21-6-18  
 Aug. 5th: 200 kg/ha 30-0-0-5S  
 October 26: 1200 kg/ha Calcitic Limestone

Dates of Harvest:      Cut #1: June 23                      Cut#2: July 25                      Cut #3: Sep 1

**TABLE 22: 2016-TALL FESCUE DRY MATTER YIELDS, YEAR 1 (2015 SEEDING YEAR); NBSCIA, WOODSTOCK, NB.**

Cultivar	2016 Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
BarElite	5.79	0.99	2.95	9.73
<b>Kora</b>	6.17	1.65	2.54	10.36
<b>HyMark</b>	6.85	1.47	2.71	11.02
Cajun II	6.72	1.25	2.38	10.35
Bariane	6.88	1.07	2.48	10.43
Barcarella	6.52	1.30	2.83	10.64
Bardurum	6.40	1.65	2.86	10.90
Bar FaFL118701	5.54	1.43	3.17	10.14
PPG-FTF-101	5.87	1.38	2.47	9.71
PPG-FTF-104	6.20	1.52	2.79	10.50
PPG-FTF-105	6.92	1.47	2.74	11.12
Cowgirl	5.48	1.28	2.15	8.90
Mean	6.28	1.37	2.67	10.32
SEM (df=22,n=3)	0.617	0.237	0.176	0.74
F prob	0.717	0.680	0.030	0.700

## 2017 TALL FESCUE, WOODSTOCK

Crop: Tall fescue, Regional	Harvest Year: 2017
Location: NBSCIA, Woodstock, NB	Cooperator: Walter J. Brown
Soil: Caribou series (gravely loam)	Experimental Design: RCB
Plot Site: 1.5m x 6.4m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24, 2015
Previous Crop: Alfalfa/grass mix	Pest Control: nil

Soil Analysis:	% OM	pH	P <sub>2</sub> O <sub>5</sub> (kg/ha)	K <sub>2</sub> O (kg/ha)	Ca (kg/ha)	Mg (kg/ha)
	7.2%	6.5	163	215	2295	530

Fertilization: May 9: 330 kg/ha 21-0-0-24S  
 June 27: 250 kg/ha 21-6-18

Dates of Harvest:      Cut #1: June 21                      Cut#2: Aug 10

**TABLE 23: 2017-TALL FESCUE DRY MATTER YIELDS, YEAR 2 (2015 SEEDING YEAR); NBSCIA, WOODSTOCK, NB.**

Cultivar	2017 Dry Matter Yield (t/ha)	
	Cut #1	Total
BarElite	6.65	6.65
<b>Kora</b>	7.64	7.64
<b>HyMark</b>	7.78	7.78
Cajun II	6.90	6.90
Bariane	6.85	6.85
Barcarella	7.41	7.41
Bardurum	7.30	7.30
Bar FaFL118701	7.20	7.20
PPG-FTF-101	6.62	6.62
PPG-FTF-104	6.74	6.74
PPG-FTF-105	7.68	7.68
Cowgirl	6.75	6.75
Mean	7.13	7.13
SEM (df=22,n=3)	0.69	0.69
F prob	0.948	0.948

**TABLE 24: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR KORA, NBSCIA, WOODSTOCK, NB. , FOR YEARS 2016-2017.**

Standard	Kora				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2016</b>	x	x	x		
<b>2017</b>	x				
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
PPG-FTF-105	7.30	5.7	9.40	4.5	-7.3
Hymark	7.31	5.9	9.40	4.5	-5.8
Bardurum	6.85	-0.8	9.10	1.2	-8.8
Barcarella	6.96	0.8	9.02	0.3	-6.8
<b>Kora</b>	<b>6.90</b>	<b>0.0</b>	<b>9.00</b>	<b>0.0</b>	<b>0.0</b>
Bar FaFL118701	6.37	-7.7	8.67	-3.6	-4.3
Bariane	6.87	-0.5	8.64	-4.0	-9.6
Cajun II	6.81	-1.4	8.62	-4.2	-10.8
PPG-FTF-104	6.47	-6.3	8.62	-4.2	-15.0
BarElite	6.22	-10.0	8.19	-9.0	-11.6
PPG-FTF-101 (Teton II)	6.25	-9.5	8.17	-9.2	-8.0
Cowgirl (QS-CG)	6.12	-11.4	7.83	-13.0	2.2
Mean	6.70		8.72		-7.3
SEM(df=22)	3		1.06		8.62

**TABLE 25: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR HYMARK, NBSCIA, WOODSTOCK, NB. , FOR YEARS 2016-2017.**

Standard	HyMark				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2016</b>	x	x	x		
<b>2017</b>	x				
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
PPG-FTF-105	7.30	-0.2	9.40	0.0	-1.5
<b>Hymark</b>	<b>7.31</b>	<b>0.0</b>	<b>9.40</b>	<b>0.0</b>	<b>0.0</b>
Bardurum	6.85	-6.4	9.10	-3.2	-3.1
Barcarella	6.96	-4.8	9.02	-4.0	-1.0
Kora	6.90	-5.6	9.00	-4.3	6.2
Bar FaFL118701	6.37	-12.9	8.67	-7.8	1.7
Bariane	6.87	-6.1	8.64	-8.1	-4.0
Cajun II	6.81	-6.9	8.62	-8.3	-5.3
PPG-FTF-104	6.47	-11.6	8.62	-8.3	-9.7
BarElite	6.22	-15.0	8.19	-12.9	-6.1
PPG-FTF-101 (Teton II)	6.25	-14.6	8.17	-13.1	-2.3
Cowgirl (QS-CG)	6.12	-16.4	7.83	-16.8	8.6
Mean	6.70		8.72		-1.5
SEM(df=22)	3		1.06		8.62

## 2015 TALL FESCUE, NAPPAN

Crop: Tall fescue, Regional	Harvest Year: 2015
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas
Soil: Tormentine series (sandy loam)	Experimental Design: RCB
Plot Site: 1.5m x 6m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14
Previous Crop: Corn	Pest Control: Clipped in seeding year
Soil Analysis: % O.M      pH      P <sub>2</sub> O <sub>5</sub> (Kg/ha)      K <sub>2</sub> O(Kg/ha)      Ca (Kg/ha)      Mg (Kg/ha)	
3.6                      6.5                      1730                      677                      3004                      462	
Fertilization: May 13: 500 kg/ha 15-5-15 After 1 <sup>st</sup> cut: 175 kg/ha 34-0-0	
Dates of Harvest:      Cut #1: June 11                      Cut#2: Aug 14	

**TABLE 26: 2015-TALL FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	2.35	6.32	8.67
<b>Kora</b>	3.55	6.90	10.45
<b>HyMark</b>	2.90	6.59	9.49
Cajun II	3.69	5.95	9.65
Bariane	3.05	6.04	9.90
Barcarella	3.31	6.39	9.69
Bardurum	2.16	6.20	8.36
Bar FaFL118701	2.94	5.55	8.49
PPG-FTF-101	3.40	6.51	9.91
PPG-FTF-104	3.10	6.00	9.09
PPG-FTF-105	3.34	6.52	9.86
Cowgirl	2.80	5.85	8.65
Mean	3.05	6.23	9.283
SEM (df=22,n=3)	0.177	0.259	0.338
F prob	<0.001	0.068	0.004

## 2016 TALL FESCUE, NAPPAN

Crop: Tall fescue, Regional	Harvest Year: 2016
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas
Soil: Tormentine series (sandy loam)	Experimental Design: RCB
Plot Site: 1.5m x 6m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14
Previous Crop: Corn	Pest Control: nil
Soil Analysis: % O.M      pH      P <sub>2</sub> O <sub>5</sub> (Kg/ha)      K <sub>2</sub> O(Kg/ha)      Ca (Kg/ha)      Mg (Kg/ha)	
3.6                      6.5                      1730                      677                      3004                      462	
Fertilization: After 1 <sup>st</sup> cut: 175 kg/ha 34-0-0	
Dates of Harvest:      Cut #1: June 21                      Cut#2: Aug 3	

**TABLE 27: 2016-TALL FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	8.30	2.45	10.74
<b>Kora</b>	10.46	2.22	12.67
<b>HyMark</b>	9.12	2.19	11.31
Cajun II	9.32	2.14	11.46
Bariane	9.33	2.30	11.63
Barcarella	10.96	2.33	13.29
Bardurum	8.86	1.96	10.82
Bar FaFL118701	8.64	2.06	10.71
PPG-FTF-101	9.55	2.54	12.09
PPG-FTF-104	9.81	2.30	12.10
PPG-FTF-105	11.16	2.38	13.55
Cowgirl	10.57	1.91	12.48
Mean	9.67	2.23	11.9
SEM (df=22,n=3)	0.795	0.155	0.822
F prob	0.256	0.194	0.253

## 2017 TALL FESCUE, NAPPAN

Crop: Tall fescue, Regional	Harvest Year: 2017				
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas				
Soil: Tormentine series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 6m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14				
Previous Crop: Corn	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.6	6.5	1730	677	3004	462
Fertilization: May 17: 350 kg/ha 21-6-18					
June 29: 250 kg/ha 25-0-15					
Dates of Harvest: Cut #1: June 22		Cut#2: Aug 2			

**TABLE 28: 2017-TALL FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2017 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	5.32	1.76	7.08
<b>Kora</b>	6.39	1.84	8.22
<b>HyMark</b>	5.40	1.67	7.07
Cajun II	5.44	1.70	7.14
Bariane	5.27	2.01	7.28
Barcarella	6.31	2.09	8.40
Bardurum	5.02	1.87	6.89
Bar FaFL118701	5.58	1.79	7.37
PPG-FTF-101	5.72	2.15	7.88
PPG-FTF-104	5.70	2.21	7.92
PPG-FTF-105	6.00	2.10	8.10
Cowgirl	5.41	1.52	6.92
Mean	5.63	1.89	7.52
SEM (df=22,n=3)	0.272	0.265	0.348
F prob	0.041	0.745	0.036

**TABLE 29: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR KORA, PERENNIA-AAFC, NAPPAN, NS. , FOR YEARS 2015-2016-2017.**

Standard	Kora				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
PPG-FTF-105	6.84	0.5	10.50	0.5	4.2
Barcarella	6.86	0.9	10.46	0.1	9.3
<b>Kora</b>	<b>6.80</b>	<b>0.0</b>	<b>10.45</b>	<b>0.0</b>	<b>0.0</b>
PPG-FTF-101 (Teton II)	6.23	-8.4	9.96	-4.7	0.9
PPG-FTF-104	6.20	-8.8	9.70	-7.1	10.8
Cajun II	6.15	-9.5	9.41	-9.9	-5.6
Cowgirl (QS-CG)	6.26	-7.9	9.35	-10.5	1.5
Bariane	5.88	-13.5	9.33	-10.7	1.6
Hymark	5.81	-14.6	9.29	-11.1	-5.6
Bar FaFL118701	5.72	-15.9	8.85	-15.3	10.7
BarElite	5.32	-21.7	8.83	-15.5	3.6
Bardurum	5.35	-21.3	8.69	-16.9	4.8
Mean	6.12		9.57		2.9
SEM(df=22)	3		1.17		5.72

**TABLE 30: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR HYMARK, PERENNIA-AAFC, NAPPAN, NS., FOR YEARS 2015-2016-2017.**

Standard	HyMark				
	Cuts				
Year Harvested	Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means	Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
PPG-FTF-105	6.84	17.7	10.50	13.0	10.4
Barcarella	6.86	18.1	10.46	12.6	15.7
Kora	6.80	17.0	10.45	12.5	5.9
PPG-FTF-101 (Teton II)	6.23	7.2	9.96	7.2	6.8
PPG-FTF-104	6.20	6.8	9.70	4.4	17.3
Cajun II	6.15	5.9	9.41	1.3	-0.1
Cowgirl (QS-CG)	6.26	7.7	9.35	0.6	7.5
Bariane	5.88	1.3	9.33	0.4	7.6
<b>Hymark</b>	<b>5.81</b>	<b>0.0</b>	<b>9.29</b>	<b>0.0</b>	<b>0.0</b>
Bar FaFL118701	5.72	-1.5	8.85	-4.7	17.2
BarElite	5.32	-8.4	8.83	-5.0	9.7
Bardurum	5.35	-7.9	8.69	-6.5	11.0
Mean	6.12		9.57		8.9
SEM(df=22)	3		1.17		5.72

## 2015 TALL FESCUE, DAL AC, TRURO

Crop: Tall fescue, Regional	Harvest Year: 2015				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: May 30/14				
Previous Crop: grass forage	Pest Control: clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: May 21: 350 kg/ha 24-12-16					
June 24: 240 kg/ha 28-0-0					
Dates of Harvest: Cut #1: June 23		Cut#2: Aug 26			

**TABLE 31: 2015-TALL FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); DAL AC, TRURO, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	2.74	6.20	8.94
<b>Kora</b>	3.48	6.73	10.21
<b>HyMark</b>	2.86	5.01	7.87
Cajun II	2.42	5.54	7.96
Bariane	2.00	5.71	7.71
Barcarella	2.93	5.54	8.48
Bardurum	2.50	5.80	8.30
Bar FaFL118701	2.14	5.86	8.00
PPG-FTF-101	2.60	5.54	8.14
PPG-FTF-104	2.76	5.59	8.35
PPG-FTF-105	2.99	5.09	8.07
Cowgirl	2.47	5.55	8.02
Mean	2.66	5.68	8.336
SEM (df=22,n=3)	0.359	0.366	0.626
F prob	0.326	0.174	0.367

## 2016 TALL FESCUE, DAL AC, TRURO

Crop: Tall fescue, Regional	Harvest Year: 2016				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: May 30/14				
Previous Crop: grass forage	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: April 27: 375 kg/ha 20-5-24					
June 17: 226 kg/ha 27-0-0					
Dates of Harvest:		Cut #1: June 16	Cut#2: Aug 25		

**TABLE 32: 2016-TALL FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); DAL AC, TRURO, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	5.48	3.43	8.91
<b>Kora</b>	5.72	4.31	10.03
<b>HyMark</b>	5.32	3.09	8.41
Cajun II	6.01	3.38	9.39
Bariane	5.29	3.57	8.86
Barcarella	5.98	3.14	9.11
Bardurum	5.25	3.71	8.96
Bar FaFL118701	5.08	3.17	8.25
PPG-FTF-101	4.97	3.69	8.65
PPG-FTF-104	4.69	3.24	7.93
PPG-FTF-105	5.53	3.56	9.09
Cowgirl	5.26	2.96	8.22
Mean	5.38	3.44	8.82
SEM (df=22,n=3)	0.297	0.168	0.384
F prob	0.132	<0.001	0.051

## 2017 TALL FESCUE, DAL AC, TRURO

Crop: Tall fescue, Regional	Harvest Year: 2017				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: May 30/14				
Previous Crop: grass forage	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: May 10: 260 kg/ha 30-6-6					
June 8-12: 260 kg/ha 27-0-0					
July 27: 270 kg/ha 27-0-0					

Dates of Harvest:      Cut #1: June 7                      Cut#2: July 19                      Cut #3: Aug 30

**TABLE 33: 2017-TALL FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); DAL AC, TRURO, NS.**

Cultivar	2017			
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
BarElite	2.00	1.88	1.34	5.22
<b>Kora</b>	2.50	2.17	1.75	6.41
<b>HyMark</b>	2.07	1.82	1.43	5.33
Cajun II	2.28	2.07	1.43	5.78
Bariane	2.09	2.10	1.48	5.67
Barcarella	2.38	1.82	1.38	5.58
Bardurum	1.94	2.06	1.53	5.53
Bar FaFL118701	2.07	1.85	1.47	5.40
PPG-FTF-101	2.12	1.84	1.62	5.58
PPG-FTF-104	1.66	1.98	1.27	4.92
PPG-FTF-105	2.38	1.99	1.47	5.84
Cowgirl	2.10	1.73	1.27	5.10
Mean	2.13	1.94	1.45	5.53
SEM (df=22,n=3)	0.164	0.125	0.07	0.261
F prob	0.094	0.350	0.004	0.052

**TABLE 34: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR KORA, DAL AC, TRURO, NS, FOR YEARS 2015-2016-2017.**

Standard	Kora				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means	%Change	Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
<b>Kora</b>	<b>3.90</b>	<b>0.0</b>	<b>8.89</b>	<b>0.0</b>	<b>0.0</b>
Barcarella	3.76	-3.4	7.72	-13.1	4.3
Cajun II	3.57	-8.4	7.71	-13.2	14.4
BarElite	3.41	-12.6	7.69	-13.4	-7.2
PPG-FTF-105	3.63	-6.8	7.67	-13.7	13.7
Bardurum	3.23	-17.2	7.59	-14.5	5.2
PPG-FTF-101 (Teton II)	3.23	-17.2	7.46	-16.1	10.3
Bariane	3.13	-19.8	7.41	-16.6	16.1
Bar FaFL118701	3.10	-20.5	7.21	-18.8	8.8
Hymark	3.42	-12.3	7.20	-19.0	6.9
Cowgirl (QS-CG)	3.28	-15.9	7.11	-19.9	0.2
PPG-FTF-104	3.04	-22.1	7.06	-20.5	-6.8
Mean	3.39		7.56		5.2
SEM(df=22)	3		1.52		9.76

**TABLE 35: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR HYMARK, DAL AC, TRURO, NS , FOR YEARS 2015-2016-2017.**

Standard	HyMark					
	Cuts Harvested					
Year Harvested	Cut #1	Cut #2	Cut #3			
<b>2015</b>	x	x				
<b>2016</b>	x	x				
<b>2017</b>	x	x	x			
Combined Years	Cut	Means	Means		Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist	
Kora	3.90	14.0	8.89	23.4	-6.5	
Barcarella	3.76	10.1	7.72	7.3	-2.5	
Cajun II	3.57	4.5	7.71	7.1	7.0	
BarElite	3.41	-0.3	7.69	6.8	-13.2	
PPG-FTF-105	3.63	6.3	7.67	6.5	6.3	
Bardurum	3.23	-5.6	7.59	5.5	-1.6	
PPG-FTF-101 (Teton II)	3.23	-5.6	7.46	3.6	3.2	
Bariane	3.13	-8.6	7.41	2.9	8.6	
Bar FaFL118701	3.10	-9.4	7.21	0.2	1.8	
<b>Hymark</b>	<b>3.42</b>	<b>0.0</b>	<b>7.20</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Cowgirl (QS-CG)	3.28	-4.1	7.11	-1.2	-6.3	
PPG-FTF-104	3.04	-11.2	7.06	-1.9	-12.8	
Mean	3.39		7.56		-1.6	
SEM(df=22)	3		1.52		9.76	

## 2015 TALL FESCUE, KENTVILLE

Crop: Tall fescue, Regional	Harvest Year: 2015				
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Quadrat size: 0.25 m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14				
Previous Crop: hay	Pest Control: Clipped in seeding year, 2,4-D				
	Hand weeded in 2015				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	5.4	157	192	1293	204
Fertilization: May 14: 205 kg/ha 34-0-0					
June 26: 205 kg/ha 34-0-0					
Aug 14: 45 kg/ha 5-20-20					
Aug 21: 125 kg/ha 34-0-0					
Dates of Harvest: Cut #1: June 12		Cut#2: Aug 4			

**TABLE 36: 2015-TALL FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	4.13	2.04	6.17
<b>Kora</b>	4.08	1.92	6.00
<b>HyMark</b>	4.87	1.88	6.75
Cajun II	3.96	1.55	5.51
Bariane	3.51	1.97	5.48
Barcarella	5.15	2.04	7.19
Bardurum	3.27	1.56	4.83
Bar FaFL118701	4.13	1.99	6.12
PPG-FTF-101	5.09	1.99	7.08
PPG-FTF-104	4.32	1.69	6.01
PPG-FTF-105	4.24	1.72	5.96
Cowgirl	4.61	1.49	6.11
Mean	4.28	1.82	6.1
SEM (df=26,n=3)	0.511	0.329	0.641
F prob	0.298	0.945	0.406

## 2016 TALL FESCUE, KENTVILLE

Crop: Tall fescue, Regional	Harvest Year: 2016				
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Quadrat size: 0.25 m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14				
Previous Crop: hay	Pest Control: hand weeded				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	5.4	157	192	1293	204
Fertilization: April29: 150 kg/ha 20-10-10 and 50kg/ha 34-0-0					
June : not fertilized due to lack of moisture					
Dates of Harvest:      Cut #1: June 17                      Cut#2: July 21					

**TABLE 37: 2016-TALL FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	5.41	1.47	6.88
<b>Kora</b>	5.85	1.57	7.43
<b>HyMark</b>	6.15	1.55	7.69
Cajun II	7.19	1.44	8.63
Bariane	5.84	1.69	7.53
Barcarella	6.53	1.20	7.73
Bardurum	7.92	1.29	9.21
Bar FaFL118701	6.24	1.48	7.72
PPG-FTF-101	6.49	1.88	8.37
PPG-FTF-104	6.23	1.47	7.69
PPG-FTF-105	8.04	1.91	9.95
Cowgirl	7.45	1.19	8.64
Mean	6.61	1.51	8.12
SEM (df=22,n=3)	0.691	0.254	0.760
F prob	0.198	0.610	0.296

## 2017 TALL FESCUE, KENTVILLE

Crop: Tall fescue, Regional	Harvest Year: 2017				
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Quadrat size: 0.25 m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14				
Previous Crop: hay	Pest Control: hand weeded				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	5.4	157	192	1293	204
Fertilization: April 27: 4 T/ha lime					
May 25: 60 kg/ha 34-0-0					
July 7: 60 kg/ha 34-0-0					
Dates of Harvest: Cut #1: June 22		Cut#2: Aug 1			

**TABLE 38: 2017-TALL FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2017 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	7.19	1.11	8.29
<b>Kora</b>	5.79	1.21	7.00
<b>HyMark</b>	5.68	1.92	7.60
Cajun II	7.67	1.23	8.89
Bariane	5.05	1.23	6.28
Barcarella	6.81	1.29	8.11
Bardurum	6.11	1.45	7.56
Bar FaFL118701	6.67	1.43	8.09
PPG-FTF-101	6.79	1.52	8.31
PPG-FTF-104	5.97	1.56	7.53
PPG-FTF-105	7.04	1.64	8.68
Cowgirl	6.49	1.35	7.84
Mean	6.44	1.41	7.85
SEM (df=22,n=3)	0.724	0.285	0.789
F prob	0.448	0.783	0.607

**TABLE 39: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR KORA, AAFC, KENTVILLE, NS, FOR YEARS 2015-2016-2017.**

Standard	Kora				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
PPG-FTF-105	6.44	22.9	8.20	20.4	28.5
PPG-FTF-101 (Teton II)	6.12	16.9	7.92	16.3	0.9
Barcarella	6.16	17.6	7.68	12.7	-2.9
Cajun II	6.27	19.7	7.68	12.7	38.7
Cowgirl (QS-CG)	6.19	18.1	7.53	10.6	9.4
Hymark	5.56	6.2	7.35	7.9	-3.2
Bar FaFL118701	5.68	8.4	7.31	7.4	11.5
Bardurum	5.76	10.0	7.20	5.7	36.0
BarElite	5.58	6.4	7.12	4.5	15.8
PPG-FTF-104	5.51	5.1	7.08	4.0	9.2
<b>Kora</b>	<b>5.24</b>	<b>0.0</b>	<b>6.81</b>	<b>0.0</b>	<b>0.0</b>
Bariane	4.80	-8.4	6.43	-5.5	-0.8
Mean	5.78		7.36		11.1
SEM(df=22)	3		0.00		17.06

**TABLE 40: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR HYMARK, AAFC, KENTVILLE, NS, FOR YEARS 2015-2016-2017.**

Standard	HyMark				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means	%Change	Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
PPG-FTF-105	6.44	15.7	8.20	11.6	32.8
PPG-FTF-101 (Teton II)	6.12	10.1	7.92	7.8	4.2
Barcarella	6.16	10.8	7.68	4.5	0.3
Cajun II	6.27	12.7	7.68	4.5	43.3
Cowgirl (QS-CG)	6.19	11.2	7.53	2.5	13.0
<b>Hymark</b>	<b>5.56</b>	<b>0.0</b>	<b>7.35</b>	<b>0.0</b>	<b>0.0</b>
Bar FaFL118701	5.68	2.1	7.31	-0.5	15.2
Bardurum	5.76	3.6	7.20	-2.0	40.5
BarElite	5.58	0.2	7.12	-3.1	19.7
PPG-FTF-104	5.51	-1.0	7.08	-3.6	12.8
Kora	5.24	-5.8	6.81	-7.3	3.3
Bariane	4.80	-13.7	6.43	-12.5	2.5
Mean	5.78		7.36		14.7
SEM(df=22)	3		0.00		17.06

## 2015 TALL FESCUE, HARRINGTON

Crop: Tall Fescue	Harvest Year: 2015				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: May 14: 50 kg/ha 34-0-0					
June 17: 50 kg/ha 34-0-0					
Dates of Harvest: Cut #1: June 15		Cut#2: October 6			

**TABLE 41: 2015-TALL FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	1.95	1.93	3.88
<b>Kora</b>	2.53	2.10	4.63
<b>HyMark</b>	1.85	1.80	3.65
Cajun II	1.90	1.84	3.73
Bariane	1.95	1.76	3.71
Barcarella	2.02	1.76	3.78
Bardurum	1.77	2.11	3.88
Bar FaFL11870	1.69	1.51	3.20
PPG-FTF-101	2.11	1.97	4.08
PPG-FTF-104	1.91	1.41	3.32
PPG-FTF-105	2.13	1.61	3.74
Cowgirl	1.70	1.68	3.38
Mean	1.96	1.79	3.747
SEM (df=22,n=3)	0.195	0.159	0.290
F prob	0.258	0.099	0.145

## 2016 TALL FESCUE, HARRINGTON

Crop: Tall Fescue	Harvest Year: 2016				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: May 2: 350 kg/ha 21-6-18					
June 28: 175 kg/ha 34-0-0					

Dates of Harvest:      Cut #1: June 23      Cut#2: Oct 6

**TABLE 42: 2016-TALL FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
BarElite	3.95	3.01	6.96
<b>Kora</b>	3.95	3.47	7.42
<b>HyMark</b>	4.39	3.14	7.53
Cajun II	3.82	3.30	7.11
Bariane	3.27	2.99	6.26
Barcarella	4.37	3.07	7.44
Bardurum	3.60	3.82	7.42
Bar FaFL11870	3.64	2.65	6.29
PPG-FTF-101	3.38	2.97	6.34
PPG-FTF-104	3.34	2.66	6.00
PPG-FTF-105	3.54	3.41	6.95
Cowgirl	3.79	2.71	6.50
Mean	3.75	3.10	6.85
SEM (df=22,n=3)	0.206	0.175	0.324
F prob	0.010	0.002	0.017

## 2017 TALL FESCUE, HARRINGTON

Crop: Tall Fescue	Harvest Year: 2017				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: Early May: 100 kg/ha 34-0-0					
June 9: 183 kg/ha 34-0-0 and 75 kg/ha 0-0-60					

Dates of Harvest:      Cut #1: June 8              Cut#2: July 17              Cut#3: Sept 21

**TABLE 43: 2017-TALL FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2017			Total
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	
BarElite	1.72	1.86	1.59	5.17
<b>Kora</b>	1.96	2.24	2.61	6.81
<b>HyMark</b>	2.07	1.60	1.40	5.07
Cajun II	1.95	1.60	1.81	5.36
Bariane	1.59	1.88	1.53	5.00
Barcarella	1.85	1.64	1.33	4.82
Bardurum	1.74	1.98	1.92	5.63
Bar FaFL11870	2.08	1.81	1.30	5.20
PPG-FTF-101	2.07	1.56	1.68	5.30
PPG-FTF-104	2.01	1.78	1.73	5.52
PPG-FTF-105	1.73	1.94	2.06	5.74
Cowgirl	1.90	1.09	1.58	4.58
Mean	1.89	1.75	1.71	5.35
SEM (df=22,n=3)	0.193	0.230	0.217	0.384
F prob	0.712	0.192	0.018	0.060

**TABLE 44: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR KORA, AAFC, HARRINGTON, PEI, FOR YEARS 2015-2016-2017.**

<b>Standard</b>	<b>Kora</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means	Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
<b>Kora</b>	<b>2.81</b>	<b>0.0</b>	<b>6.29</b>	<b>0.0</b>	<b>0.0</b>
Bardurum	2.37	-15.7	5.64	-10.2	-1.3
PPG-FTF-105	2.47	-12.3	5.47	-12.9	5.1
Hymark	2.77	-1.5	5.41	-13.8	-6.1
Cajun II	2.55	-9.2	5.40	-14.1	-1.5
Barcarella	2.75	-2.3	5.35	-14.9	-14.0
BarElite	2.54	-9.6	5.34	-15.1	-9.4
PPG-FTF-101 (Teton II)	2.52	-10.4	5.24	-16.6	-11.8
Bariane	2.27	-19.3	4.99	-20.6	-8.1
PPG-FTF-104	2.42	-13.9	4.95	-21.3	12.3
Bar FaFL118701	2.47	-12.2	4.89	-22.1	10.2
Cowgirl (QS-CG)	2.46	-12.3	4.82	-23.3	-9.2
Mean	2.53		5.32		-3.2
SEM(df=22)	3		1.15		12.12

**TABLE 45: TALL FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDRAD CULTIVAR HYMARK, AAFC, HARRINGTON, PEI, FOR YEARS 2015-2016-2017.**

Standard	HyMark				
	Cut #1	Cut #2	Cut #3		
Year Harvested	Cuts Harvested				
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
Kora	2.81	1.5	6.29	16.1	6.5
Bardurum	2.37	-14.5	5.64	4.2	5.1
PPG-FTF-105	2.47	-11.0	5.47	1.1	11.9
<b>Hymark</b>	<b>2.77</b>	<b>0.0</b>	<b>5.41</b>	<b>0.0</b>	<b>0.0</b>
Cajun II	2.55	-7.8	5.40	-0.3	4.9
Barcarella	2.75	-0.8	5.35	-1.2	-8.4
BarElite	2.54	-8.3	5.34	-1.4	-3.5
PPG-FTF-101 (Teton II)	2.52	-9.1	5.24	-3.2	-6.1
Bariane	2.27	-18.1	4.99	-7.9	-2.1
PPG-FTF-104	2.42	-12.6	4.95	-8.6	19.6
Bar FaFL118701	2.47	-10.9	4.89	-9.6	17.3
Cowgirl (QS-CG)	2.46	-11.0	4.82	-11.0	-3.3
Mean	2.53		5.32		3.1
SEM(df=22)	3		1.15		12.12

**TABLE 46: CUMULATIVE SUMMARY FOR TALL FESCUE SEEDED FROM 1991 - 2014**

Cultivar	Yr MAY	Yr MAY	Yr MAY	MAY Yr	2 Yr	MAY Yr	3 Yr
	1 Yr 1	2 Yr 2	3 Yr 3	1+2	%	1+2+3	%
	n (t/ha)	n (t/ha)	n (t/ha)	(t/ha)	Persit	(t/ha)	Persit
Courtenay	16 9.64	16 8.74	13 7.62	9.15	-2.1	8.72	-4.7
<b>BarElite</b>	<b>13 8.42</b>	<b>13 7.48</b>	<b>12 6.81</b>	<b>8.05</b>	<b>-4.4</b>	<b>7.55</b>	<b>0.1</b>
<b>Kora</b>	<b>13 9.28</b>	<b>13 8.65</b>	<b>12 7.66</b>	<b>8.95</b>	<b>0.6</b>	<b>8.46</b>	<b>0.7</b>
<b>HyMark</b>	<b>13 8.69</b>	<b>13 7.90</b>	<b>12 6.97</b>	<b>8.30</b>	<b>-3.4</b>	<b>7.74</b>	<b>-3.8</b>
Festorina	12 8.62	12 8.36	8 7.40	8.42	1.4	8.00	1.7
<b>Cajun II</b>	<b>9 8.56</b>	<b>9 7.86</b>	<b>9 7.10</b>	<b>8.21</b>	<b>0.7</b>	<b>7.72</b>	<b>4.3</b>
<b>Bariane</b>	<b>9 8.43</b>	<b>9 7.32</b>	<b>9 6.72</b>	<b>7.89</b>	<b>-2.9</b>	<b>7.32</b>	<b>-3.7</b>
<b>Barcarella</b>	<b>9 8.78</b>	<b>9 7.62</b>	<b>9 7.12</b>	<b>8.30</b>	<b>-6.2</b>	<b>7.73</b>	<b>-2.2</b>
<b>Bardurum</b>	<b>9 8.37</b>	<b>9 7.74</b>	<b>9 6.86</b>	<b>8.18</b>	<b>4.2</b>	<b>7.61</b>	<b>0.9</b>
Johnstone	8 8.28	8 8.14	5 7.40	8.24	2.0	7.86	2.9
Stef	8 9.24	8 8.62	5 7.40	8.90	-2.2	8.31	-7.3
AC Graze	8 8.80	8 8.38	5 7.62	8.53	0.7	8.17	5.7
<b>Bar FaFL11870</b>	<b>5 8.02</b>	<b>5 7.07</b>	<b>4 6.88</b>	<b>7.59</b>	<b>2.5</b>	<b>7.21</b>	<b>10.8</b>
<b>PPG-FTF-101</b>	<b>5 8.91</b>	<b>5 7.28</b>	<b>4 7.14</b>	<b>8.10</b>	<b>-3.0</b>	<b>7.66</b>	<b>0.2</b>
<b>PPG-FTF-104</b>	<b>5 8.28</b>	<b>5 6.89</b>	<b>4 6.89</b>	<b>7.66</b>	<b>-1.3</b>	<b>7.30</b>	<b>6.6</b>
<b>PPG-FTF-105</b>	<b>5 8.70</b>	<b>5 8.01</b>	<b>4 7.44</b>	<b>8.38</b>	<b>11.2</b>	<b>7.94</b>	<b>13.0</b>
<b>Cowgirl (QS-C)</b>	<b>5 8.08</b>	<b>5 7.31</b>	<b>4 6.46</b>	<b>7.80</b>	<b>8.5</b>	<b>7.24</b>	<b>0.7</b>
Barolex	4 8.39	4 6.89	5 6.78	7.62	-13.7	7.12	-5.8
Kokanee	4 9.70	4 8.60	3 7.71	9.17	0.8	8.65	-2.6
HJA 2170	2 9.20	2 6.82	* *	8.02	-17.2	*	*
Fuego	1 6.47	1 7.81	1 7.90	7.11	12.0	7.32	24.3
K198588	1 9.74	1 8.45	1 7.63	9.06	-7.3	8.54	-7.6
Maximize	1 6.50	1 7.76	1 7.37	7.10	11.0	7.14	16.6
Cumulative Std	8.99	8.25	7.36	8.62		8.20	
Grand Mean	8.74	7.95	7.17	8.20		7.79	
Std Error	0.347	0.338	0.342	0.276		0.256	
F prob	<0.001	<0.001	<0.001	<0.001		<0.001	

## 2015-2016-2017 MEADOW FESCUE COMBINED SITE REPORT

### Sites Used

### Years Harvested

NBSCIA, Woodstock, NB	*	2016	2017
Perennia-AAFC, Nappan, NS	2015	2016	2017
Dal Faculty of Agriculture, Truro, NS	2015	2016	2017
AAFC, Kentville, NS	2015	2016	*
AAFC, Harrington, PEI	2015	2016	2017

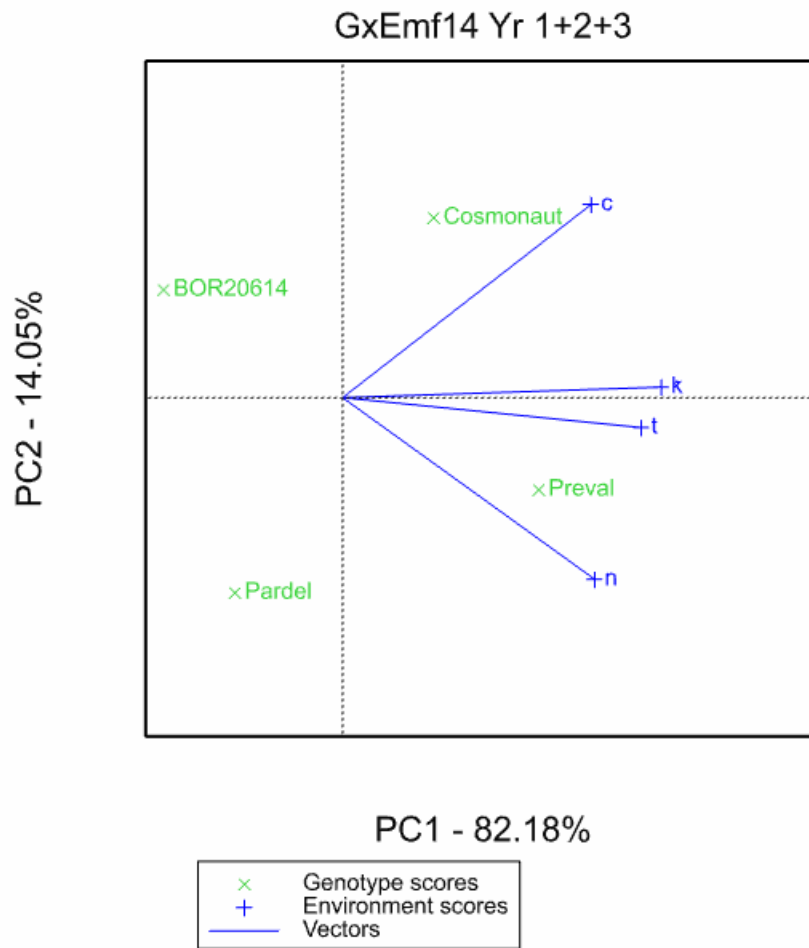
**TABLE 47: MEADOW FESCUE FIRST CUT AND SEASONAL DRY MATTER YIELDS OVER 4 SITES FOR YEAR 1, 5 SITES FOR YEAR 2, 4 SITES FOR YEAR 3, AND FOR COMBINED YEARS 1, 2 AND 3.**

Cultivar	First Cut Dry Matter Yield (t/ha)			Seasonal Dry Matter Yield (t/ha)			Years 1 +2	2 years % persist	Years 1 +2 +3	3 years % persist
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3				
<b>Pardel</b>	4.05	4.88	2.66	7.54	6.38	5.34	6.97	1.4	6.30	8.9
BOR20614	4.79	4.95	2.71	7.76	6.32	4.98	6.94	1.5	6.13	3.3
Cosmonaut	4.58	5.35	2.75	7.76	6.83	4.98	7.28	6.3	6.40	3.1
Preval	4.63	5.11	2.84	8.14	6.87	5.31	7.44	-2.5	6.66	0.1
Cumulative Std	4.22	4.73	2.54	7.53	6.21	4.98	6.87	*	6.24	*
Grand Mean	4.51	5.07	2.74	7.80	6.60	5.16	7.16	*	6.37	*
Std Error	0.148	0.219	0.178	0.310	0.254	0.376	0.254	*	0.270	*
F prob	0.001	0.166	0.779	0.296	0.080	0.641	0.168	*	0.262	*

Site Variation <sup>1</sup>	First cut			Seasonal				
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Years 1+2	Years 1+2+3
NBSCIA, Woodstock, NB	0.46	1.48	*	0.82	1.59	*	0.91	*
Perennia-AAFC, Nappan, NS	0.04	0.17	0.14	0.45	0.43	0.61	0.19	0.19
Dal Faculty of Agriculture, Truro, NS	1.16	0.19	0.09	1.59	0.16	0.36	0.48	0.38
AAFC, Kentville, NS	0.56	4.64	*	0.81	4.80	*	1.84	*
AAFC, Harrington, PEI	0.41	0.55	0.36	0.61	1.03	1.71	0.69	0.72

<sup>1</sup> The lower the number, the lower the site variation, and the more weight this site has in the analysis.

**The standard used was: Pardel.**



**FIGURE 3: MEADOW FESCUE - PERSISTENCE RELATIONSHIP BETWEEN CULTIVARS AND SITES FOR YEARS 2015-2016-2017.**

Trial Sites:

- r = NBSCIA, Woodstock, NB
- n = Perennia-AAFC, Nappan, NS
- t = Dal Faculty of Agriculture, Truro, NS
- k = AAFC, Kentville, NS
- c = AAFC, Harrington, PEI

## 2016 MEADOW FESCUE, WOODSTOCK

Crop: Meadow fescue, Regional	Harvest Year: 2016
Location: NBSCIA, Woodstock, NB	Cooperator: Walter J. Brown
Soil: Caribou series (gravely loam)	Experimental Design: RCB
Plot Site: 1.5m x 6.4m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24, 2015
Previous Crop: Alfalfa/grass mix	Pest Control: clipped in seeding year

Soil Analysis:	% OM	pH	P <sub>2</sub> O <sub>5</sub> (kg/ha)	K <sub>2</sub> O (kg/ha)	Ca (kg/ha)	Mg (kg/ha)
	7.2%	6.5	163	215	2295	530

Fertilization: May 19: 250 kg/ha 21-6-18  
 July 5: 250 kg/ha 21-6-18  
 Aug. 5: 200 kg/ha 30-0-0-5S  
 October 26: 1200 kg/ha Calcitic Limestone

Dates of Harvest:	Cut #1: June 23	Cut#2: July 25	Cut #3: Sep 1
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**TABLE 48: 2016-MEADOW FESCUE DRY MATTER YIELDS, YEAR 1 (2015 SEEDING YEAR); NBSCIA, WOODSTOCK, NB.**

Cultivar	2016 Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Preval	7.08	1.30	2.78	11.16
<b>Pardel</b>	6.71	1.22	2.74	10.66
BOR20614	6.83	1.14	2.71	10.67
Cosmonaut	7.00	1.26	2.73	11.00
Mean	6.90	1.23	2.74	10.87
SEM (df=6,n=3)	0.340	0.129	0.059	0.375
F prob	0.860	0.830	0.846	0.739

## 2017 MEADOW FESCUE, WOODSTOCK

Crop: Meadow fescue, Regional	Harvest Year: 2017
Location: NBSCIA, Woodstock, NB	Cooperator: Walter J. Brown
Soil: Caribou series (gravely loam)	Experimental Design: RCB
Plot Site: 1.5m x 6.4m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24, 2015
Previous Crop: Alfalfa/grass mix	Pest Control: nil
Soil Analysis: % OM      pH      P <sub>2</sub> O <sub>5</sub> (kg/ha)      K <sub>2</sub> O (kg/ha)      Ca (kg/ha)      Mg (kg/ha)	
7.2%      6.5      163      215      2295      530	
Fertilization: May 9: 330 kg/ha 21-0-0-24S June 27: 250 kg/ha 21-6-18	
Dates of Harvest:      Cut #1: June 21      Cut#2: Aug 10	

**TABLE 49: 2017-MEADOW FESCUE DRY MATTER YIELDS, YEAR 2 (2015 SEEDING YEAR); NBSCIA, WOODSTOCK, NB.**

Cultivar	2017	
	Dry Matter Yield (t/ha)	
	Cut #1	Total
Preval	5.89	5.89
<b>Pardel</b>	5.91	5.91
BOR20614	6.89	6.89
Cosmonaut	6.47	6.47
Mean	6.29	6.29
SEM (df=6,n=3)	0.327	0.327
F prob	0.190	0.190

**TABLE 50: MEADOW FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDARD CULTIVAR PARDEL, NBSCIA, WOODSTOCK, NB., FOR YEARS 2015-2016-2017.**

<b>Standard</b>	<b>Pardel</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2016</b>	x	x	x		
<b>2017</b>	x				
Combined Years	Cut	Means	Means	Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
BOR20614	6.86	8.8	8.78	6.0	16.4
Cosmonaut	6.74	6.8	8.73	5.4	4.0
Preval	6.48	2.8	8.52	2.9	-5.0
<b>Pardel</b>	<b>6.31</b>	<b>0.0</b>	<b>8.28</b>	<b>0.0</b>	<b>0.0</b>
Mean	6.60		8.58		3.5
SEM(df=6)	3		0.53		5.54

## 2015 MEADOW FESCUE, NAPPAN

Crop: Meadow fescue, Regional	Harvest Year: 2015				
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas				
Soil: Tormentine series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 6m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14				
Previous Crop: Corn	Pest Control: Clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.6	6.5	1730	677	3004	462
Fertilization: May 13: 500 kg/ha 15-5-15					
After 1 <sup>st</sup> cut: 175 kg/ha 34-0-0					
Dates of Harvest: Cut #1: June 11		Cut#2: Aug 14			

**TABLE 51: 2015-MEADOW FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	3.98	5.51	9.49
<b>Pardel</b>	3.34	5.25	8.59
BOR20614	4.25	4.27	8.52
Cosmonaut	3.96	4.37	8.33
Mean	3.88	4.85	8.73
SEM (df=6,n=3)	0.116	0.25	0.326
F prob	0.008	0.029	0.155

## 2016 MEADOW FESCUE, NAPPAN

Crop: Meadow fescue, Regional	Harvest Year: 2016				
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas				
Soil: Tormentine series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 6m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14				
Previous Crop: Corn	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.6	6.5	1730	677	3004	462
Fertilization: After 1st cut: 175 kg/ha 34-0-0					
Dates of Harvest: Cut #1: June 21		Cut#2: Aug 3			

**TABLE 52: 2016-MEADOW FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	5.15	1.99	7.14
<b>Pardel</b>	4.82	2.01	6.84
BOR20614	5.08	1.51	6.59
Cosmonaut	5.37	1.78	7.15
Mean	5.11	1.82	6.93
SEM (df=6,n=3)	0.265	0.362	0.457
F prob	0.570	0.749	0.794

## 2017 MEADOW FESCUE, NAPPAN

Crop: Meadow fescue, Regional	Harvest Year: 2017
Location: Perennia-AAFC, Nappan, NS	Cooperator: Bill Thomas
Soil: Tormentine series (sandy loam)	Experimental Design: RCB
Plot Site: 1.5m x 6m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 10/14
Previous Crop: Corn	Pest Control: nil
Soil Analysis: % O.M          pH          P <sub>2</sub> O <sub>5</sub> (Kg/ha)          K <sub>2</sub> O(Kg/ha)          Ca (Kg/ha)          Mg (Kg/ha)	
3.6                          6.5                          1730                          677                          3004                          462	
Fertilization: May 17: 350 kg/ha 21-6-18 June 29: 250 kg/ha 25-0-15	
Dates of Harvest:          Cut #1: June 22                          Cut#2: Aug 2	

**TABLE 53: 2017-MEADOW FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); PERENNIA-AAFC, NAPPAN, NS.**

Cultivar	2017 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	4.53	1.85	6.38
<b>Pardel</b>	4.67	1.91	6.58
BOR20614	4.58	1.64	6.22
Cosmonaut	4.66	1.60	6.27
Mean	4.61	1.75	6.36
SEM (df=6,n=3)	0.259	0.245	0.327
F prob	0.973	0.772	0.865

**TABLE 54: MEADOW FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDARD CULTIVAR PARDEL, PERENNIA-AAFC, NAPPAN, NS., FOR YEARS 2015-2016-2017.**

<b>Standard</b>	<b>Pardel</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x			
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
Preval	4.55	6.4	7.67	4.6	-11.9
<b>Pardel</b>	<b>4.28</b>	<b>0.0</b>	<b>7.34</b>	<b>0.0</b>	<b>0.0</b>
Cosmonaut	4.67	9.0	7.25	-1.2	-2.2
BOR20614	4.63	8.3	7.11	-3.1	-5.2
Mean	4.53		7.34		-4.9
SEM(df=6)	3		1.31		6.95

## 2015 MEADOW FESCUE, DAL AC, TRURO

Crop: Meadow fescue, Regional	Harvest Year: 2015				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: May 30/14				
Previous Crop: grass forage	Pest Control: clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: May 21: 350 kg/ha 24-12-16					
June 24: 240 kg/ha 28-0-0					
Dates of Harvest: Cut #1: June 23		Cut#2: Aug 26			

**TABLE 55: 2015-MEADOW FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); DAL-AC, TRURO, NS.**

Cultivar	2015 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	4.69	4.37	9.06
<b>Pardel</b>	3.95	4.66	8.61
BOR20614	3.59	4.78	8.37
Cosmonaut	4.41	5.00	9.41
Mean	4.16	4.70	8.86
SEM (df=6,n=3)	0.319	0.339	0.594
F prob	0.171	0.635	0.634

## 2016 MEADOW FESCUE, DAL AC, TRURO

Crop: Meadow fescue, Regional	Harvest Year: 2016
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean
Soil: Pugwash series (sandy loam)	Experimental Design: RCB
Plot Site: 1.65m x 5m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: May 30/14
Previous Crop: grass forage	Pest Control: nil
Soil Analysis: % O.M          pH          P <sub>2</sub> O <sub>5</sub> (Kg/ha)          K <sub>2</sub> O(Kg/ha)          Ca (Kg/ha)          Mg (Kg/ha)	
2.8                          6.2                          772                          218                          2208                          437	
Fertilization: April 27: 375 kg/ha 20-5-24 June 17: 226 kg/ha 27-0-0	
Dates of Harvest:          Cut #1: June 16	Cut#2: Aug 25

**TABLE 56: 2016-MEADOW FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); DAL-AC, TRURO, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	5.41	2.29	7.70
<b>Pardel</b>	5.24	1.71	6.95
BOR20614	4.98	1.94	6.91
Cosmonaut	5.45	1.95	7.40
Mean	5.27	1.97	7.24
SEM (df=6,n=3)	0.218	0.146	0.174
F prob	0.463	0.136	0.050

## 2017 MEADOW FESCUE, DAL AC, TRURO

Crop: Meadow fescue, Regional	Harvest Year: 2017				
Location: Dal Faculty of Agriculture, Truro, NS	Cooperator: Nancy McLean				
Soil: Pugwash series (sandy loam)	Experimental Design: RCB				
Plot Site: 1.65m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: May 30/14				
Previous Crop: grass forage	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
2.8	6.2	772	218	2208	437
Fertilization: May 10: 260 kg/ha 30-6-6					
June 8-12: 260 kg/ha 27-0-0					
July 27: 270 kg/ha 27-0-0					
Dates of Harvest:	Cut #1: June 7	Cut#2: July 19	Cut #3: Aug 30		

**TABLE 57: 2017-MEADOW FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); DAL-AC, TRURO, NS.**

Cultivar	2017			
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Preval	2.57	1.36	1.32	5.24
<b>Pardel</b>	2.38	1.71	1.47	5.55
BOR20614	2.40	1.21	1.27	4.88
Cosmonaut	2.32	1.30	1.37	4.70
Mean	2.42	1.39	1.36	5.09
SEM (df=6,n=3)	0.175	0.065	0.074	0.148
F prob	0.780	0.011	0.353	0.034

**TABLE 58: MEADOW FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDARD CULTIVAR PARDEL, DAL-AC, TRURO, NS., FOR YEARS 2015-2016-2017.**

<b>Standard</b>	<b>Pardel</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means		Year
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
Preval	4.22	9.6	7.34	4.2	-11.3
Cosmonaut	4.06	5.4	7.16	1.8	-22.0
<b>Pardel</b>	<b>3.85</b>	<b>0.0</b>	<b>7.04</b>	<b>0.0</b>	<b>0.0</b>
BOR20614	3.66	-5.1	6.72	-4.5	-11.0
Mean	3.95		7.08		-10.1
SEM(df=5)	3		1.07		5.74

## 2015 MEADOW FESCUE, KENTVILLE

Crop: Meadow fescue, Regional

Harvest Year: 2015

Location: AAFC, Kentville, NS

Cooperator: Yousef A. Papadopoulos

Soil: Pugwash series (sandy loam)

Experimental Design: RCB

Quadrat size: 0.25 m

No. of Replicates: 3

Seeding Rate: 15 kg/ha

Seeding Date: June 24/14

Previous Crop: hay

Pest Control: Clipped in seeding year, 2,4-D

Handed weeded in 2015

Soil Analysis:	% O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
	2.8	5.4	157	192	1293	204

Fertilization: May 14: 205 kg/ha 34-0-0  
 June 26: 205 kg/ha 34-0-0  
 Aug 14: 45 kg/ha 5-20-20  
 Aug 21: 125 kg/ha 34-0-0

Dates of Harvest: Cut #1: June 12

Cut#2: Aug 4

**TABLE 59: 2015-MEADOW FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2015		
	Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	4.97	1.37	6.35
<b>Pardel</b>	4.61	1.29	5.91
BOR20614	5.44	1.43	6.87
Cosmonaut	5.29	1.29	6.59
Mean	5.08	1.35	6.43
SEM (df=6,n=3)	0.534	0.167	0.584
F prob	0.713	0.925	0.705

## 2016 MEADOW FESCUE, KENTVILLE

Crop: Meadow fescue, Regional	Harvest Year: 2016
Location: AAFC, Kentville, NS	Cooperator: Yousef A. Papadopoulos
Soil: Pugwash series (sandy loam)	Experimental Design: RCB
Quadrat size: 0.25 m	No. of Replicates: 3
Seeding Rate: 15 kg/ha	Seeding Date: June 24/14
Previous Crop: hay	Pest Control: hand weeded
Soil Analysis: % O.M          pH          P <sub>2</sub> O <sub>5</sub> (Kg/ha)          K <sub>2</sub> O(Kg/ha)          Ca (Kg/ha)          Mg (Kg/ha)	
2.8                          5.4                          157                          192                          1293                          204	
Fertilization: April 29: 150 kg/ha 20-10-10 and 50kg/ha 34-0-0	
June: not fertilized due to lack of moisture	
Dates of Harvest:      Cut #1: June 17                          Cut#2: July 21	

**TABLE 60: 2016-MEADOW FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); AAFC, KENTVILLE, NS.**

Cultivar	2016 Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	4.68	0.76	5.44
<b>Pardel</b>	4.28	0.93	5.21
BOR20614	4.95	0.69	5.64
Cosmonaut	6.93	1.00	7.93
Mean	5.21	0.85	6.06
SEM (df=6,n=3)	0.748	0.238	0.537
F prob	0.157	0.781	0.037

**TABLE 61: MEADOW FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDARD CULTIVAR PARDEL, AAFC, KENTVILLE, NS., FOR YEARS 2015-2016.**

<b>Standard</b>	<b>Pardel</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
Combined Years	Cut	Means	Means	Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
Cosmonaut	6.11	37.5	7.26	30.6	57.0
BOR20614	5.19	16.8	6.25	12.5	5.4
Preval	4.83	8.5	5.89	6.0	6.6
<b>Pardel</b>	<b>4.45</b>	<b>0.0</b>	<b>5.56</b>	<b>0.0</b>	<b>0.0</b>
Mean	5.15		6.24		15.3
SEM(df=6)	3		0.00		12.82

## 2015 MEADOW FESCUE, HARRINGTON

Crop: Meadow Fescue	Harvest Year: 2015				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: clipped in seeding year				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: May 14: 50 kg/ha 34-0-0					
June 17: 50 kg/ha 34-0-0					

Dates of Harvest:      Cut #1: June 15                      Cut#2: October 6

**TABLE 62: 2015-MEADOW FESCUE DRY MATTER YIELDS, YEAR 1 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2015		
	Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	2.79	1.52	4.30
<b>Pardel</b>	2.51	1.37	3.88
BOR20614	2.49	1.74	4.23
Cosmonaut	2.39	1.66	4.05
Mean	2.55	1.57	4.12
SEM (df=6,n=3)	0.249	0.156	0.332
F prob	0.716	0.421	0.801

## 2016 MEADOW FESCUE, HARRINGTON

Crop: Meadow Fescue	Harvest Year: 2016				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: May 2: 350 kg/ha 21-6-18					
June 28: 175 kg/ha 34-0-0					

Dates of Harvest:      Cut #1: June 23              Cut#2: Oct 6

**TABLE 63: 2016-MEADOW FESCUE DRY MATTER YIELDS, YEAR 2 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2016		
	Dry Matter Yield (t/ha)		
	Cut #1	Cut #2	Total
Preval	3.59	2.17	5.76
<b>Pardel</b>	3.39	2.76	6.15
BOR20614	3.42	2.18	5.60
Cosmonaut	4.05	2.30	6.35
Mean	3.61	2.35	5.97
SEM (df=6,n=3)	0.383	0.219	0.353
F prob	0.624	0.288	0.472

## 2017 MEADOW FESCUE, HARRINGTON

Crop: Meadow Fescue	Harvest Year: 2017				
Location: AAFC, Harrington, PEI	Cooperator: Dan MacEachern				
Soil: Charlottetown series (fine sandy loam)	Experimental Design: RCB				
Plot Site: 1.5m x 5m	No. of Replicates: 3				
Seeding Rate: 15 kg/ha	Seeding Date: June 10, 2014				
Previous Crop: ---	Pest Control: nil				
Soil Analysis: % O.M	pH	P <sub>2</sub> O <sub>5</sub> (Kg/ha)	K <sub>2</sub> O(Kg/ha)	Ca (Kg/ha)	Mg (Kg/ha)
3.1	6.1	542	409	1765	309
Fertilization: Early May: 100 kg/ha 34-0-0					
June 9: 183 kg/ha 34-0-0 and 75 kg/ha 0-0-60					

Dates of Harvest:      Cut #1: June 8              Cut #2: July 17              Cut #3: Sept 21

**TABLE 64: 2017-MEADOW FESCUE DRY MATTER YIELDS, YEAR 3 (2014 SEEDING YEAR); AAFC, HARRINGTON, PEI.**

Cultivar	2017			
	Dry Matter Yield (t/ha)			
	Cut #1	Cut #2	Cut #3	Total
Preval	1.56	1.22	1.80	4.57
<b>Pardel</b>	0.58	1.51	0.70	2.79
BOR20614	1.13	1.45	1.33	3.91
Cosmonaut	1.47	1.45	1.49	4.42
Mean	1.18	1.41	1.33	3.92
SEM (df=6,n=3)	0.117	0.144	0.435	0.493
F prob	0.004	0.533	0.409	0.142

**TABLE 65: MEADOW FESCUE DRY MATTER YIELDS (MEANS) RELATIVE TO THE STANDARD CULTIVAR PARDEL, AAFC, HARRINGTON, PEI, FOR YEARS 2015-2016-2017.**

<b>Standard</b>	<b>Pardel</b>				
Year Harvested	Cuts Harvested				
	Cut #1	Cut #2	Cut #3		
<b>2015</b>	x	x			
<b>2016</b>	x	x			
<b>2017</b>	x	x	x		
Combined Years	Cut	Means	Means	Year	
Cultivar	DM Yld (t/ha)	%Change from Std	DM Yld (t/ha)	%Change from Std	%Diff Persist
Cosmonaut	2.64	22.0	4.94	15.6	48.4
Preval	2.65	22.4	4.88	14.2	51.3
BOR20614	2.35	8.5	4.58	7.2	31.2
<b>Pardel</b>	<b>2.16</b>	<b>0.0</b>	<b>4.27</b>	<b>0.0</b>	<b>0.0</b>
Mean	2.45		4.67		31.0
SEM(df=6)	3		0.89		11.64

**TABLE 66: CUMULATIVE SUMMARY FOR MEADOW FESCUE SEEDED FROM 1989 - 2014**

Cultivar	Yr MAY		Yr MAY		Yr MAY		MAY Yr	2 Yr	MAY Yr	3 Yr
	1	Yr 1	2	Yr 2	3	Yr 3	1+2	%	1+2+3	%
	n	(t/ha)	n	(t/ha)	n	(t/ha)	(t/ha)	Persit	(t/ha)	Persit
<b>Pardel</b>	<b>13</b>	<b>8.24</b>	<b>13</b>	<b>7.13</b>	<b>10</b>	<b>5.30</b>	<b>7.71</b>	<b>7.6</b>	<b>6.60</b>	<b>1.3</b>
Mimer	11	8.32	11	6.88	3	5.19	7.68	-3.3	6.72	-3.0
<b>BOR20614</b>	<b>9</b>	<b>8.51</b>	<b>9</b>	<b>7.02</b>	<b>7</b>	<b>5.38</b>	<b>7.62</b>	<b>6.8</b>	<b>6.49</b>	<b>-0.9</b>
<b>Cosmonaut</b>	<b>9</b>	<b>8.45</b>	<b>9</b>	<b>7.28</b>	<b>7</b>	<b>5.55</b>	<b>7.81</b>	<b>14.2</b>	<b>6.69</b>	<b>4.5</b>
<b>Preval</b>	<b>9</b>	<b>8.37</b>	<b>9</b>	<b>7.23</b>	<b>7</b>	<b>5.40</b>	<b>7.75</b>	<b>10.1</b>	<b>6.68</b>	<b>6.8</b>
Bartran	7	8.05	7	6.74	*	*	7.44	-4.4	*	*
Bartura	7	8.50	7	7.25	*	*	7.95	-5.8	*	*
Kalevi	7	8.58	7	6.94	*	*	7.79	-11.3	*	*
Liforte	7	8.50	7	7.44	*	*	7.99	-2.7	*	*
Salten	7	8.87	7	7.25	*	*	8.05	-7.6	*	*
SV01283	7	8.76	7	7.07	*	*	8.03	-9.0	*	*
SV01290	7	8.55	7	7.17	*	*	7.97	-8.1	*	*
Epic	7	8.58	7	7.27	*	*	8.10	-5.6	*	*
Sigmund	7	8.71	7	7.24	*	*	7.90	-3.9	*	*
Trader	4	8.16	4	7.31	*	*	7.70	3.4	*	*
Tammisto	4	7.62	4	6.64	*	*	7.13	0.5	*	*
First	4	7.61	4	6.98	*	*	7.45	-2.4	*	*
Loken	4	7.53	4	6.61	*	*	7.11	-0.1	*	*
Vaira	4	7.84	4	6.82	4	5.30	7.21	11.9	6.19	7.1
Silva	4	7.65	4	6.49	4	5.18	7.00	16.8	6.01	19.3
Barvital	4	7.89	4	6.82	4	5.07	7.27	12.2	6.25	7.1
Kolumbus	4	8.16	4	7.13	3	5.25	7.65	2.0	6.50	2.6
Fure	3	8.71	3	7.12	*	*	8.05	-12.9	*	*
Prior	3	7.66	2	0.55	*	*	4.13	-55.6	*	*
Ensign	1	8.07	1	6.75	*	*	7.46	4.2	*	*
Cumulative Std		8.25		6.97		5.24	7.61		6.82	
Grand Mean		8.32		6.98		5.32	7.52		6.46	
Std Error		0.418		0.347		0.212	0.327		0.229	
F prob		<0.001		<0.001		0.501	<0.001		0.007	

**APPENDIX 1-DRAFT-2018 MARITIME FORAGE CULTIVAR PERFORMANCE LIST**

**DRAFT-2018 Forage Guide to Cultivar Selection for Maritime Provinces**

<b>ALFALFA</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to AC Caribou	3 Yr % persistence	Seed Supplier Listing #
<b>AC Caribou</b>	8.51	129	100	+6.4	2,10,11
<b>AC Brador</b>	8.54	37	100	+4.5	8
<b>Magnum VI</b>	8.44	42	99	+16.2	2,11
<b>Algonquin</b>	8.21	28	97	+ 5.8	2, 3
<b>55V50</b>	8.73	19	103	- 2.8	6
<b>54Q14</b>	9.09	13	107	+31.0	6
<b>55Q27</b>	9.69	13	114	-11.8	6
<b>Maska</b>	8.02	13	94	+13.8	8
<b>Adrenaline</b>	8.09	13	95	+12.2	10
<b>2010</b>	8.44	13	99	+12.5	10
<b>OAC Superior</b>	8.25	13	97	+12.1	1
<b>Response WT</b>	8.70	13	102	-6.3	7
<b>Stealth II</b>	8.21	13	97	+1.2	7
<b>Lelia</b>	8.28	13	97	+5.8	2, 7
<b>Cornerstone</b>	8.41	13	99	+4.7	9
<b>Perfection</b>	8.96	13	105	+6.5	9
<b>Digest HD</b>	8.42	13	99	+6.2	9
<b>Actis</b>	9.16	13	108	+10.1	11
<b>AAC-Nikon</b>	8.80	13	103	+15.4	11

<b>RED CLOVER</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to AC Endure	3 Yr % persistence	Seed Supplier Listing #
<b>Wildcat</b>	8.53	16	94	+ 10.3	2, 10,11
<b>Meridian</b>	9.27	9	103	+ 24.1	2, 7

<b>BIRDSFOOT TREFOIL</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Leo	3 Yr % persistence	Seed Supplier Listing #
<b>Leo</b>	6.61	31	100	0	2, 3
<b>Bruce</b>	6.74	22	102	- 9.3	8

<b>WHITE CLOVER</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Huia	3 Yr % persistence	Seed Supplier Listing #
<b>Alice</b>	4.03	10	100	- 8.1	1
<b>Huia</b>	4.04	10	100	- 18.4	5, 3,7,11

<b>TALL FESCUE</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Kora	3 Yr % persistence	Seed Supplier Listing #
<b>Kora</b>	8.46	38	100	+ 0.7	11
<b>HyMark</b>	7.74	38	92	- 3.8	4
<b>Barolex</b>	7.12	13	84	- 5.8	1
<b>Kokanee</b>	8.65	11	102	- 2.6	2,10,11

<b>MEADOW FESCUE</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Pardel	3 Yr % persistence	Seed Supplier Listing #
<b>Pardel</b>	6.60	36	100	+ 1.3	1
<b>Preval</b>	6.68	25	101	+ 6.8	11
<b>Cosmonaut</b>	6.69	25	101	+ 4.5	1

<b>TIMOTHY</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Climax	3 Yr % persistence	Seed Supplier Listing #
<b>Richmond – E</b>	9.00	65	106	+ 1.3	2,11
<b>Climax – M</b>	8.50	76	100	+ 2.3	2, 3
<b>Novio – M</b>	8.72	39	103	+ 6.3	2
<b>Ovation – M</b>	8.47	28	100	+ 3.2	8
<b>Express – M</b>	8.81	14	104	- 2.8	2, 7
<b>Hokuo – M</b>	8.54	14	100	- 0.2	2,11
<b>Itasca – ML</b>	8.81	28	104	- 5.5	2,11
<b>Winnetou – ML</b>	8.35	28	98	+ 6.1	2,10,11
<b>KARA – ML</b>	8.51	28	100	+ 4.2	8

E = Early; EM=Early medium; M = Medium; ML = Medium Late; L = Late

<b>BROMEGRASS</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to AC Rocket	3 Yr % persistence	Seed Supplier Listing #
<b>AC Rocket</b>	7.43	26	100	- 5.3	2
<b>Carlton</b>	7.47	16	101	+ 4.0	2
<b>York</b>	7.60	14	102	+ 5.7	2, 7

<b>ORCHARDGRASS</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Persist	3 Yr % persistence	Seed Supplier Listing #
<b>Persist</b>	7.68	28	100	+ 2.8	5, 2
<b>Baridana</b>	7.41	28	96	- 0.0	1
<b>Intensive</b>	7.53	28	98	- 6.4	1
<b>Crown Royale</b>	7.44	28	97	- 0.1	2
<b>Tundra</b>	7.56	14	98	- 10.7	9

<b>REED CANARYGRASS</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Venture	3 Yr % persistence	Seed Supplier Listing #
<b>Marathon</b>	7.86	22	107	- 2.3	7

<b>PERENNIAL RYEGRASS</b>	Mean Annual Yield 3 Yrs (t/ha)	# of site yrs tested	% yield relative to Kentaur	3 Yr % persistence	Seed Supplier Listing #
<b>Kentaur</b>	5.09	16	100	- 15.0	7
<b>Remington</b>	5.36	11	105	- 12.4	1

<b>ANNUAL RYEGRASS</b>	Type	Mean Annual Yield 1 Yr (t/ha)	# of site yrs tested	% yield relative to Lemtal or Aubade	Seed Supplier Listing #
<b>Lemtal</b>	Diploid Italian	5.76	34	100	2, 3,11
<b>Fabio</b>	Diploid Italian	6.71	7	116	2,10,11
<b>Barextra</b>	Tetraploid Italian	6.19	17	107	1
<b>Aubade</b>	Tetraploid Westerwolds	6.66	28	100	2,10,11
<b>Sabroso</b>	Tetraploid Westerwolds	6.48	17	97	1

## ATLANTIC SEED SUPPLIERS

Listing #	Company	Contact	Phone #	e-mail or fax #
1	Bishop/Speare Seeds	Scott Bowman	519-338-3840	sbowman@speareseeds.ca
2	Atlantic Farm Services	Rafael Gonzalez	506-858-6356	Rafael.Gonzalez@afs.coop
3	Halifax Seed Co.	Dana Slack	902-454-7456	info@halifaxseed.ca
4	Fraser Seeds	Ken Van Den Bosch	604-929-7371	ken@fraserseeds.com
5	Smith Seeds	Jonathan Rupert	888-550-2930	jrupert@smithseed.com
6	DuPont Pioneer	Colin Brown	902-599-3010	<a href="mailto:colin.brown@pioneer.com">colin.brown@pioneer.com</a>
7	Quality Seeds Ltd.	Doug Baker	613-532-0850	doug@qualityseeds.ca
8	Semican	Phillippe Charlebois	819-362-8823	semican@semican.ca
9	General Seed	Wayne Deboer	905-648-2101	generalseedcompany@gmail.ca
10	Brett Young	Joel Rey	800-665-5015	<a href="mailto:Joel.rey@brettyoung.ca">Joel.rey@brettyoung.ca</a>
11	Elite Seeds	Kevin McCarville	902-432-0375	kevin.mccarville@eliteseeds.ca

Forage testing contributions were made by New Brunswick Dept of Agriculture and Aquaculture, Agric. & Agri-Food Canada (Kentville, Harrington), Dalhousie Faculty of Agriculture, Perennia, SCIANS (NS Soil & Crop), N.B.D.A.A. & NB Soil & Crop. The 2018 Forage Guide for Maritime Provinces has been prepared by Bill Thomas & can be found on the web at: [www.perennia.ca](http://www.perennia.ca)

### FORAGE MIXTURES TO CONSIDER FOR YOUR FARM

#### Recommended Perennial Pasture Mixtures

These mixtures are designed with careful consideration to the specific attributes of each species. Close attention must be paid to fertility levels, stocking rates, rotational grazing practices and fall cutting management, if the following mixtures are to remain productive.

##### A. Moderately Well Drained to Variable Soils

Mixture	Rate	Comments
10% White Clover 30% Orchardgrass 60% Meadow Fescue	22 kg/ha	Good dual purpose mixture for early cut silage and rotational grazing. Meadow fescue helps give a better bottom to the pasture, producing a tighter sod more resistant to poaching (punching).
10% White Clover 40% Kentucky Bluegrass 50% Meadow Fescue	20 kg/ha	Palatable mixture, but must be managed well, if underutilized will become stemmy. Kentucky bluegrass has good winter hardiness and persists well under grazing.
10% White Clover 30% Timothy 60% Meadow Fescue	20 kg/ha	Timothy, though less productive than orchardgrass, is more winter hardy, especially on imperfectly drained soils. Some timothy cultivars are more productive under grazing than others (e.g. Comtal timothy).

#### Recommended Haylage Mixtures

##### A. Loamy Soils with good surface and internal drainage

Mixture	Rate	Comments
80% Alfalfa 20% Timothy	15 kg/ha	This high yielding, high quality mixture is suited to well drained soils with a minimum pH of 6.5. Having a grass in the mix improves dry down and reduces frost heaving.
60% Alfalfa 40% Orchardgrass or Reed Canarygrass	17 kg/ha	Orchardgrass and Reed Canarygrass are less compatible with alfalfa than timothy, but have superior regrowth. Harvest early to maximize quality
80% Alfalfa 20% Tall Fescue	18 kg/ha	This mixture works best when the crop is intensively managed with multi harvests. Fescues can be more difficult to dry than other grasses but have excellent regrowth and quality.
55% Alfalfa 45% Bromegrass	20 kg/ha	This mixture should be used on well drained fields and with an early alfalfa. Bromegrass works well with alfalfa, but can be difficult to establish.

## Recommended Haylage Mixtures cont'

### B. Variable to Imperfectly Drained Soils – Heavy Soil Mixtures

Mixture	Rate	Comments
40% Alfalfa 30% Timothy 30% Reed Canarygrass or Tall Fescue	18 kg/ha	Use on fields containing soils with variable drainage, e.g. formed dykeland. This mixture does well in an aggressive 2-3 cut system, starting with an early June harvest. Soils should have a minimum pH of 6.5.
60% Alfalfa 40% Tall Fescue	18 kg/ha	Best suited to multi-harvest management. The fescues can be more difficult to dry down but have excellent regrowth and quality. Soils should have a minimum pH of 6.5.
60% Red Clover 40% Timothy	12 kg/ha	Best suited for short rotations. Contains a high percentage of red clover in the first two production years as the red clover thins out, both yield and quality decline.
30% Red Clover 10% Ladino Clover 40% Timothy 20% Meadow Fescue	20 kg/ha	The addition of ladino clover and meadow fescue improves the reliability and the longevity of this mixture, but can become too competitive on timothy.

## Recommended Hay Mixtures

### A. Moderate to Well Drained Soils

Mixture	Rate	Comments
65% Alfalfa 35% Timothy	15 kg/ha	Although alfalfa is not as difficult to wilt as red clover, a hay drier will allow baling at higher moisture improving leaf retention. Soils should have a minimum pH of 6.5.
25% Alfalfa 75% Timothy	15 kg/ha	This is more of a grass hay mix with some alfalfa. Soils should have a minimum pH of 6.0.
50% Alfalfa 50% Bromegrass	20 kg/ha	Select an early alfalfa. Bromegrass is very compatible with alfalfa and can be superior to timothy in quality and regrowth.
70% Bromegrass 30% Timothy	18 kg/ha	This mixture is well adapted to deeper droughty soils. Due to early maturity, plan to take first cut as haylage. Use early timothy cultivars.

### B. Poor to Imperfectly Drained Soils

Mixture	Rate	Comments
85% Timothy 15% Red Clover	13 kg/ha	Red clover is difficult to field cure. Red clover is a short lived perennial which usually doesn't produce longer than three years. For these reasons avoid excessive red clover in mixtures.
Timothy	10 kg/ha	Consider just timothy for farms without hay driers and/or in coastal areas that have difficult drying conditions. Select cultivars with varying maturities to spread out harvest.
65% Reed Canarygrass 35% Timothy	14 kg/ha	Low alkaloid varieties of canarygrass can be used on poorly drained fields which are subjected to periodic flooding. Quality and palatability drop rapidly following heading.
65% Birdsfoot Trefoil 35% Timothy	12 kg/ha	Trefoil is difficult to get established properly. Trefoil can handle lower fertility situations, but needs 50% bloom before harvest. Trefoil will not persist under frequent cutting.