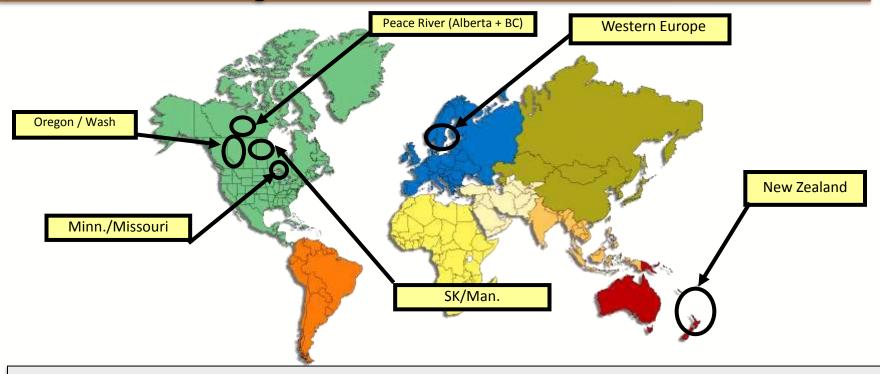
Forage Seed Market Review

SFSDC Information Session and AGM
Terry Kowalchuk MSc., P.Ag.
SK Ministry of Agriculture
January 2018, Saskatoon





Global Legume and Grass Seed Production Areas



1)Legumes: alfalfa, red clover, white clover, sweet clover alsike clover, sainfoin, birds foot trefoil

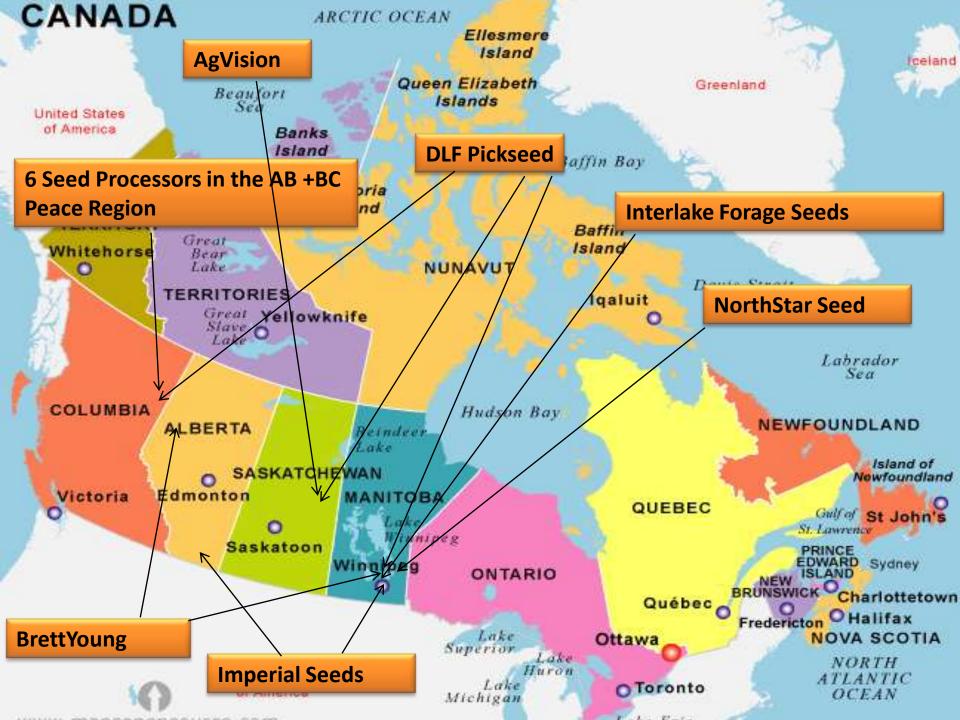
2)Turf Grass: perennial, annual ryegrass, Kentucky bluegrass, tall fescue (turf) and other fine fescues

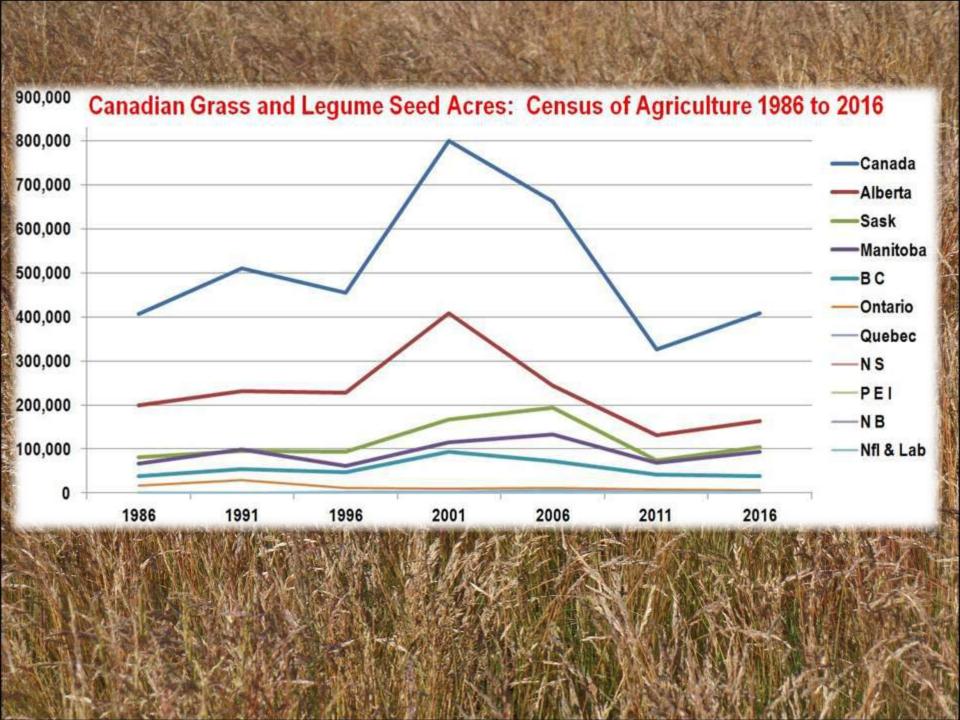
3)Forage Grasses: timothy, orchard grass, wheatgrasses, bromes, tall fescue (forage) and meadow fescue

4) Natives: wheatgrasses, green needle, etc.

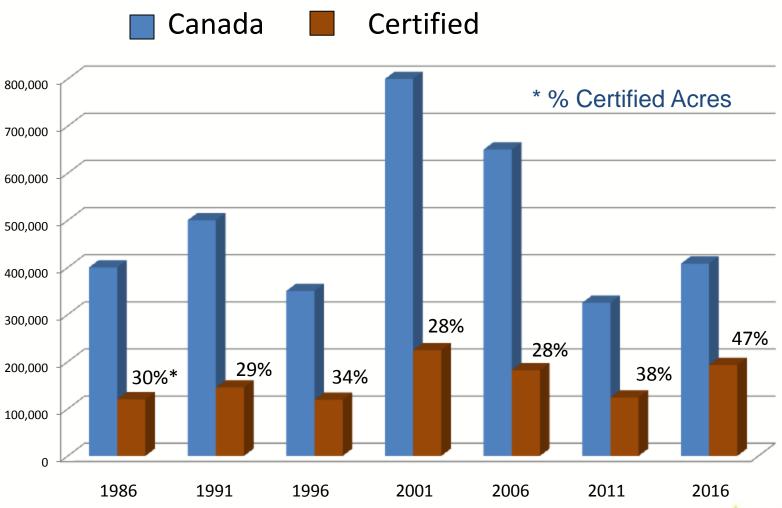


Canadian Seed Crops and Production Areas (% of total acres: 2011 Census Data) BEAUFORT SEA AB and BC Peace Region (40%) Manitoba (20%) Creeping red fescue Perennial ryegrass Timothy **Timothy Bromegrasses** Tall and meadow fescue Wheatgrasses Native grasses Meadow fescue Alfalfa and birdsfoot trefoil. Alsike clover, red clover and alfalfa. BRITISH COLUMBIA ALBERTA Gulf of Alaska Edmonton ONTARIO QUEBEC PACIFIC Saskatchewan (22%) **OCEAN** Alfalfa and red clover UNIT Southern Alberta (14%) 00 900 Forage and native grasses - Irrigated alfalfa seed. .com OCEAN





Canadian Turf/Forage Seed Acres – Total (census) vs Certified Seed





Trend in Canadian Certified Forage Seed Acres X Species

CROP	2011	2012	2013	2014	2015	2016	2017
Alfalfa	44,100	47,500	51,000	56,300	69,900	81,260	81,573
Birdsfoot Trefoil	5,000	7,300	7,400	3,900	2,600	2,107	2,872
Bromegrass	6,400	5,100	5,900	5,400	6,700	9,872	10,750
Clovers	3,600	3,900	4,200	2,500	5,900	6,106	6,243
Fescues	10,400	10,900	12,000	10,200	14,500	19,398	18,675
Ryegrass	24,000	18,500	15,500	15,800	24,900	25,386	19,204
Timothy	26,000	33,000	37,600	41,300	43,800	42,246	37,177
Wheatgrass	6,200	5,300	3,800	5,000	5,000	6,376	6,387
TOTAL	125,700	131,400	137,300	140,300	173,300	192,751	182,881

2017 Canadian Certified Acres – Species x Province

CROP	MB	SK	AB	ВС	All	All	%
					2017	2016	Change
Alfalfa	13,468	16,401	51,704	0	81,573	81,260	0
Birdsfoot Trefoil	2,772	100	0	0	2,872	2,107	27
Bromegrass	496	3,358	6,228	668	10,750	9,872	8
Clover	508	2,018	3,717	0	6,243	6,106	2
Fescue	7,091	456	10,328	800	18,675	19,398	-4
Ryegrass	16,457	1,065	1,562	120	19,204	25,386	-32
Timothy	20,473	4,355	10,063	2,236	37,127	42,246	-14
Wheatgrass	0	1,270	4,647	470	6,387	6,376	0
TOTAL(*)	61,265(33)	29,023(16)	88,249(51)	4,424	182,961	192,751	-5

^{* %} of total 2017 certified acres



2016/17 Saskatchewan Forage Seed Development Commission Summary

CROP	15/16 Weight	216/17 Weight	% Change	Price	Value
	(kg)	(kg)		(\$/Kg)	(\$)
Alsike Clover	469572	201.409	-133	\$3.80	\$765,048
ged Clover	1939391	612,864	-216	\$2.10	\$1,289.981
Sweet Clover	625303	343,329	-82	\$1.13	\$388,325
Birdsfoot Trefoil	9939	14,562	32	\$4.10	\$59,658
American Vetch	0	30	100	\$50.25	\$1,508
Total Forage Legumes	3044205	1,174,689	-159		\$2,521,570
Annual Ryegrass	335324	623,663	46	\$0.66	\$413,904
verennial Ryegrass	268854	1,003,332	73	\$1.42	\$1,428,415
Hybrid Bromegrass	83366	177,189	53	\$3.83	\$677,854
Meadow Bromegrass	28918	128,939	78	\$3.73	\$480,542
Smooth Bromegrass	11671	22,655	48	\$3.99	\$90,459
Crested Wheatgrass	66895	82,291	19	\$2.85	\$234,759
Intermediate Wheatgrass	68750	65,903	-4	\$2.22	\$146,519
Pubescent Wheatgrass	0	2,025	100	\$3.53	\$7,142
Slender Wheatgrass	101009	247,096	59	\$2.83	\$698,147
Meadow Fescue	22706	135,429	83	\$1.38	\$186,471
Dahurian Wild Rye	0	54,792	100	\$1.76	\$96,634
Red Top	10037	3,762	-167	\$6.61	\$24,882
4.mothy	773397	901,776	14	\$1.15	\$1,037,962
Total Forage Grasses	1770927	3,448,852	49		\$5,523,691
TOTALS	4815132	4,623,541	-4		\$8,045,261

2

1

2



Saskatchewan 2017/2018.....

For those that were able to get their crop in this year.....

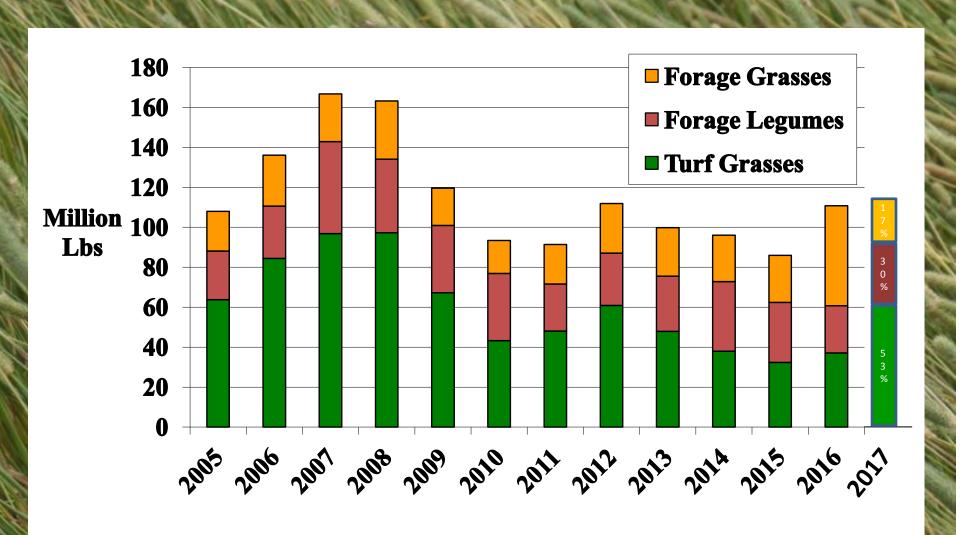
- High disease to low disease
- High insect to lower insect infestations
- Bad harvest to good harvest conditions
- No yield to record yield
 - eg. alfalfa >1200 lbs. per acre
 - clover >> variable depending on insect and moisture





Canadian Forage Seed Export Data

Canadian Exports of FORAGE and TURF Seed (crop year – July to June)



2016/17 Canadian Exports by Species Quantity

Canadian Grass ar	nd Legu	ıme Se	ed Exp	orts by	Crop '	Year (J	uly to J	lune) by	Quant	ity-mill	ions of	lbs
Description	2006-07	2007-08	2008-09'	2009-10'	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	10 Yr Avg.
Total Canadian Exports	166.77	163.16	119.49	81.35	91.35	111.88	99.80	95.93	86.00	110.71	113.22	112.64
Fescue, Creeping red - o/t cert	45.13	39.42	24.48	16.49	13.85	13.01	19.07	19.52	17.27	21.07	21.58	22.93
Fescue, Creeping red - cert	4.49	10.17	8.16	4.84	6.24	14.05	6.03	2.97	2.54	2.47	6.63	6.20
Total Creeping Red Fescue		49.59	32.64	21.33	20.09	27.06	25.11	22.50	19.81	23.53	28.21	29.13
Alfalfa, Cert	13.88	11.12	10.62	6.48	6.35	7.95	9.73	12.82	12.90	21.58	15.06	11.34
Alfalfa, Not cert	20.61	14.57	13.78	8.94	8.71	8.47	9.24	12.04	8.43	11.13	8.32	11.59
Total Alfalfa		25.69	24.40	15.42	15.05	16.43	18.98	24.85	21.33	32.71	23.38	22.93
Rye Grass Seeds, Perennial	33.97	38.63	28.09	15.46	21.19	27.24	17.29	11.52	8.75	11.16	22.18	21.33
Timothy, Cert	7.56	7.30	3.41	3.69	5.05	7.81	7.57	8.12	9.52	7.85	7.48	6.79
Timothy, Not cert	3.44	0.79	0.22	0.10	0.20	0.22	0.22	0.13	0.07	0.20	0.37	0.56
Total Timothy	11.00	8.09	3.63	3.79	5.25	8.03	7.78	8.25	9.59	8.04	7.85	7.35
Forage Seed, NES	6.98	14.78	9.53	8.28	9.39	9.80	8.86	9.38	8.17	7.87	7.76	9.30
Tall Fescue	3.19	3.70	2.19	3.00	2.93	3.56	1.78	2.00	1.09	1.23	2.89	2.47
Fescue, Meadow	0.44	0.68	0.52	0.14	0.12	0.37	0.67	1.05	1.11	2.03	2.64	0.71
Rye Grass, Annual	7.95	3.13	2.50	2.22	3.05	2.44	2.58	1.37	1.65	214	2.36	2.91
Clover, Red - nes	4.52	3,93	2.76	1.74	2.87	3.14	3.07	4.57	3.88	5.90	1.97	3.64
Clover, Red - double cut	1.59	1.39	1.42	0.15	0.35	0.26	0.53	0.77	0.29	2.06	0.38	0.88
Total Red Clover	6.10	5.32	4.18	1.90	3.22	3.40	3.61	5.33	4.17	7.95	2.35	4.52
Wild Rye	0.32	0.52	1.60	0.84	0.29	0.30	0.91	1.26	1.18	0.91	2.33	0.81
Clover - White	0.27	0.20	0.18	0.04	0.34	0.12	0.09	1.13	0.37	2.11	1.96	0.49
Clover, Sweet	1.33	1.06	1.04	1.20	1.23	1.61	1.09	1.13	1.57	3.09	1.41	1.44
Wheatgrass, Crested	1.20	1.67	1.16	0.77	1.29	1.69	2.37	0.95	0.70	0.89	1.41	1.27
Brome Grass, Smooth	0.49	0.79	0.86	0.87	0.84	1.31	0.50	0.37	0.16	0.64	1.36	0.68
Alsike Clover	2.41	2.94	1.92	1.70	2.72	2.62	2.26	1.21	1.48	2.53	1.18	2.18
Bird'S-Foot Trefoil	1.20	1.43	1.72	0.87	0.81	1.70	1.20	0.71	0.89	1.24	1.15	1.18
Wheatgrass, NES	2.36	1.80	0.65	0.83	0.90	1.30	1.07	0.71	1.49	0.85	0.77	1.20
D	0.80	0.60	0.49	0.56	0.82	0.77	1.35	0.66	0.58	0.61	0.67	0.72
Brome Grass, Meadow	0.00	0.00	U.40	0.00								
Blue grass, Kentucky	1.07	1.41	0.96	0.72	0.72	0.56	1.15	0.43	0.52	0.35	0.45	0.79
THE SAME OF THE PERSON NAMED IN COLUMN 2 I	750mm	tion whether lands	The state of the s	The State of	0.72 0.58	0.56 0.62	1.15 0.31	0.43	0.52 0.54	0.35 0.35	0.45 0.43	0.79
Blue grass, Kentucky	1.07	1.41	0.96	0.72		2000	-		-		20,30	
Blue grass, Kentucky Fescue, NES	1.07 1.00	1.41 0.71	0.96 0.86	0.72 0.56	0.58	0.62	0.31	0.46	0.54	0.35	0.43	0.60
Blue grass, Kentucky Fescue, NES Bent Grass	1.07 1.00 0.12	1.41 0.71 0.01	0.96 0.86 0.04	0.72 0.56 0.07	0.58 0.08	0.62 0.01	0.31	0.46 0.13	0.54 0.56	0.35	0.43 0.22	0.60 0.10
Blue grass, Kentucky Fescue, NES Bent Grass Clover, NES	1.07 1.00 0.12 0.31	1.41 0.71 0.01 0.21	0.96 0.86 0.04 0.15	0.72 0.56 0.07 0.47	0.58 0.08 0.13	0.62 0.01 0.29	0.31 0.02 0.36	0.46 0.13 0.38	0.54 0.56 0.17	0.35 - 0.40	0.43 0.22 0.15	0.60 0.10 0.29
Blue grass, Kentucky Fescue, NES Bent Grass Clover, NES Orchard Grass	1.07 1.00 0.12 0.31 0.05	1.41 0.71 0.01 0.21 0.01	0.96 0.86 0.04 0.15 0.02	0.72 0.56 0.07 0.47 0.01	0.58 0.08 0.13 0.01	0.62 0.01 0.29 0.19	0.31 0.02 0.36 0.11	0.46 0.13 0.38 0.12	0.54 0.56 0.17 0.10	0.35 - 0.40 0.07	0.43 0.22 0.15 0.10	0.60 0.10 0.29 0.07

Prepared by: Alberta Agriculture and Forestry, Economics and Competitiveness Branch, Statistics and Data Development Section

Government
—— of ——
Saskatchewan

2016/17 Export by Species, Quantity cont'd....:

- Creeping Red Fescue Certified exports up by 4.2 million lbs
- **CRF Common** up by 500,000 lbs.

(Note: from 2001 to 2010, avg. CFF exports were @38 million lbs / year 2 years ago (2014-15) CFF exports hit a low of 19.81 million lbs.)

- Alfalfa Certified at 15.1M lbs. down 6.5 mil. lbs from last year
- Alfalfa Common at 8.3 M lbs., down 2.8 million lbs. from last year
- Perennial ryegrass doubled up from last year at 22 M lbs.
- **Timothy Certified** 7.48 M lbs, or 95.3 % of all timothy exports
- Red Clover Exports down 70% to 2.35 M lbs (2015/16) at 7.95 M lbs.
- Smooth Brome exports up 111% (very good 2016 crop), from 640,000 lbs. to 1,360,000 lbs.
- **Meadow brome exports** up 10% to 670,000 lbs., have to still work on outside markets.



Exports By Value (Millions of CDN \$)

- ➤ 16/17 CDN exports down by \$16.7M (9.3%), still significantly higher than 5 year average
- Top 3 Alf, CRF, PRG
- "forage seed, NES" came in at \$10.9M Million (primarily grass seed mixtures and some minor species not categorized elsewhere)
- Timothy @ \$8.1 million

Quantit	y (mil	lions o	fibs)	and	Value	(millio	ins of I	CON 5)		
Description	201	2-13	201	3-14	2014	4-15	201	5-16	2016	-17
Total Canadian Exports	124.5	99.8	136.3	95.9	134.8	86.0	179.3	110.7	162.6	113.2
Fescue, Creeping red - cert	4.9	19.1	2.8	19.5	2.3	17.3	2.0	21.1	5.3	21.6
escue, Creeping red - o/t co	13.8	6.0	17.7	3.0	18.3	2.5	24.2	2.5	24.2	6.6
Total Creeping Red Fescue	18,7	25.1	20.5	22.5	20.6	19.8	26.2	23.5	29.4	28.2
Alfalfa, Cert	20.1	9.7	26.7	12.8	29.6	12.9	47.5	21.6	33.7	15.1
Alfalfa, Not cert	19.8	9.2	29.0	12.0	22.6	8.4	30.7	11.1	23.5	8.3
Total Alfalfa	39.9	19.0	55.7	24.9	52.2	21.3	78.1	32.7	57.2	23.4
Rye Grass Seeds, Perennial	12.8	17.3	10.6	11.5	9.5	8.7	13.9	11.2	25.2	22.2
Timothy, Cert	10.0	7.6	10.6	8.1	12.3	9.5	10.6	7.8	7.7	7.5
Timothy, Not cert	0.3	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4
Total Timothy	10.3	7.8	10.8	8.3	12.4	9.6	10.8	8.0	8.1	7.8
Clover, Red - double cut	0.6	0.5	0.9	0.8	0.5	0.3	2.2	2.1	0.8	0.4
Clover, Red - nes	2.3	3.1	3.8	4.6	3.5	3.9	5.1	5.9	1.7	2.0
Total Red Clover	2.9	3.6	4.7	5.3	4.1	4.2	7.3	8.0	2.4	2.3
Rye Grass, Annual	1.3	2.6	0.8	1.4	0.8	1.7	1.4	2.1	1.5	2.4
Mheatgrass, Crested	4.5	2.4	2.1	0.9	1.9	0.7	2.9	0.9	3.3	1.4
Alsike Clover	2.3	2.3	2.4	1.2	3.2	1.5	4.5	2.5	2.1	1.2
Tall Fescue	1.4	1.8	1.5	2.0	0.8	1.1	0.8	1.2	2.1	2.9
Brome Grass, Meadow	2.3	1.4	1.2	0.7	1.4	0.6	2.1	0.6	2.1	0.7
Bird's-Foot Trefoil	5.1	1.2	2.7	0.7	2.7	0.9	3.9	1.2	3.2	1.2
Blue grass, Kentucky	1.6	1.1	0.6	0.4	0.7	0.5	0.5	0.4	0.7	0.4
Clover, Sweet	1.2	1.1	1.3	1.1	1.6	1.6	2.5	3.1	1.5	1.4
Wheatgrass, NES	2.5	1.1	1.6	0.7	4.7	1.5	2.3	8.0	1.7	8.0
Mild Rye	1.7	0.9	2.3	1.3	1.5	1.2	1.4	0.9	2.6	2.3
Fescue, Meadow	0.6	0.7	0.7	1.1	1.1	1.1	2.0	2.0	2.1	2.6
Brome Grass, Smooth	1.2	0.4	0.7	0.4	0.5	0.2	1.7	0.4	3.4	0.2
Clover, NES	0.6	0.5	0.7	0.4	0.4	0.2	0.6	0.6	0.3	1.4
Brome Grass, NES	0.7	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Fescue, NES	0.5	0.3	0.5	0.5	0.7	0.5	0.6	0.3	0.7	0.4
Orchard Grass	0.2	0.1	0.2	0.1	0.3	0.1	0.3	0.1	0.2	0.1
Clover - White	0.1	0.1	0.9	1.1	0.3	0.4	1.8	2.1	1.5	2.0
Bent Grass	0.1	0.0	0.0	0.1	0.1	0.6	0.0	0.0	0.2	0.2
Forage Seed, NES	12.3	8.9	13.9	9.4	13.1	8.2	13.6	7.9	10.9	7.8
Total Canadian Exports	124.5	99.8	136.3	95.9	134.8	86.0	179.3	110.7	162.6	113.2



Yearly Average Prices Paid to Producers- 2005 to 2017 (CDN \$/lb.)

	Creeping Red Fescue	Timothy	Smooth Brome	Meadow Brome	Alfalfa	Red Clover	Alsike Clover
2005	0.36	0.41	0.49	0.33	0.89	0.60	0.46
2006	0.39	0.39	0.69	0.72	0.96	0.61	035
2007	0.46	0.47	1.19	1.48	1.04	0.74	0.31
2008	0.60	0.60	0.88	1.43	1.22	0.95	0.44
2009	0.45	0.48	0.44	1.19	1.21	0.84	0.42
2010	0.35	0.46	0.40	0.76	1.27	0.62	0.51
2011	0.42	0.71	0.84	0.88	1.39	0.73	0.88
2012	0.50	0.89	1.58	1.25	1.65	0.72	1.13
2013	0.63	0.90	1.54	1.35	1.76	0.77	1.18
2014	0.74	0.82	1.56	1.58	1.82	0.85	1.26
2015	0.80	0.65	3.30	3.25	2.10	1.50+	1.40
2016	0.80	0.30	1.80	2.40	1.80	0.80	1.50
2017	0.90	0.25	1.10	1.70	1.00	0.85	1.20

Average Canadian E	xport F	Price/LI	b. by S	oecies	(2012-	
	2012-13	2013-14	2014-15	2015-16	2016-17	
Total Canadian Exports	1.25	1.42	1.57	1.62	1.44	
Fescue, Creeping red - o/t cert	0.81	0.94	0.89	0.82	0.79	
Fescue, Creeping red - cert	0.72	0.91	1.06	1.15	1.12	7
Alfalfa, Not cert	2.06	2.08	2.30	2.20	2.24	
Alfalfa, Cert	2.15	2.41	2.68	2.76	2.82	7
Rye Grass Seeds, Perennial	0.74	0.92	1.09	1.24	1.13	7
Timothy, Cert	1.33	1.31	1.29	1.35	1.03	
Timothy, Not cert	1.25	1.12	1.45	1.27	0.98	7
Clover, Red - double cut	1.06	1.18	1.78	1.06	2.01	5
Clover, Red - nes	0.75	0.83	0.91	0.86	0.85	
Rye Grass, Annual	0.50	0.59	0.51	0.67	0.64	
Wheatgrass, Crested	1.89	2.19	2.66	3.24	2.35	7
Alsike Clover	1.02	2.02	2.14	1.76	1.81	
Tall Fescue	0.78	0.73	0.74	0.69	0.71	
Brome Grass, Meadow	1.73	1.88	2.41	3.42	3.18	7
Bird's-Foot Trefoil	4.21	3.77	3.00	3.13	2.77	
Blue grass, Kentucky	1.36	1.34	1.43	1.48	1.54	
Clover, Sweet	1.05	1.12	1.04	0.82	1.06	7
Wheatgrass, NES	2.36	2.24	3.12	2.70	2.23	
Wild Rye	1.89	1.80	1.25	1.58	1.11	
Fescue, Meadow	0.89	0.68	0.95	1.00	0.78	
Brome Grass, Smooth	2.41	1.93	3.04	2.69	2.53	7
Clover, NES	1.59	1.85	2.16	1.49	2.29	
Brome Grass, NES	1.93	3.26	6.67	9.92	4.44	
Fescue, NES	1.51	1.10	1.38	1.81	1.73	
Orchard Grass	1.39	1.41	2.87	4.46	2.30	
Clover - White	1.06	0.82	0.84	0.84	0.79	
Bent Grass	2.15	0.19	0.23	n/a	0.74	
Forage Seed, NES	1.39	1.48	1.60	1.73	1.41	7



Canadian EXPORTS of Grass/Legume Seed by Crop Year (million lbs.)

	2010-11	2011-12	2012-13	2013-14	2014-15	20	015-16
Total CDN EXPORTS	91.4	111.9	99.8	95.9	85.9	110.7	% of CDN Exports
United States	62.0 (68%)	63.9 (57%)	62.6 (63%)	59.5 (60%)	49.7 (58%)	60.4	55%
China	5.0	10.0	8.7	11.5	11.5	12.0	10.8
Netherlands	8.1	12.7	10.1	9.3	8.5	12.7	11.4
Germany	4.1	8.4	5.2	4.2	3.6	7.0	6.3
Italy	3.0	3.1	1.5	2.4	2.0	3.4	3.0
Other Countries	9.2	13.7	11.7	8.9	10.6	15.2	13.7
HE LAKEN							

Canadian Exports (million lbs.) to The USA by Species

