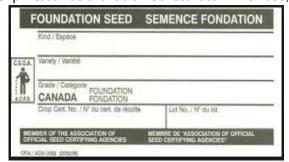
Canadian Grass and Legume Seed Statistics: 2015 Inspected Acres

Prelude:

36 years ago, working as a District Agriculturist (DA) with Alberta Agriculture in the Peace River region of Alberta, to check for certified seed production, a computer printout was available. Sent to local DA offices,

the list made available who growers were (town/province), class of the seed planted that year (select, foundation, registered), and how many acres of each species was grown, (and subsequent variety).

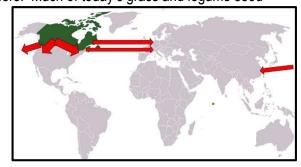
However, with the subsequent introduction of "Freedom of Information Protection" (FOIP)



this detailed information is no longer available.to the masses. Canadian Seed Grower Association general principles were, and still are the same: "To grow pure seed of a specific variety, and meet the standards of quality set out by the CSGA". However, time has changed as to who is now seeking the end product. End users still seek this quality seed, but 36 years ago, much of this seed was destined for other growers, to use this quality seed in their own operations, maintaining they were getting updated, pure, clean seed.

Although farmers still require new varieties and seed pedigreed seed on their own farms, todays' farming environment has seen Canadian pedigreed grass and legume seed production trending towards contract production. Grown on behalf of various grass and legume seed companies throughout the prairies, production is aimed at both domestic and foreign end users. Much of today's grass and legume seed

production is grown for inclusion into contracting company's exclusive high quality seed mixtures. In short, todays' pedigreed grass and legume seed production is now dominated by certified production contracted back to various grass and legume seed companies located throughout the prairies, who act on behalf of other companies located throughout the world.



2015 Overview:

Pedigreed grass and legume seed production took a huge jump upward in 2015, with 33,000 more inspected acres compared to last year (total inspected acres, 2015 @ 173,300). Production of pedigreed seed saw alfalfa seed lead the way with 70,000 acres, followed by timothy seed (43,700 acres) and ryegrass (mainly perennial) at 24,900 acres. Except for 50 acres of production in Quebec, all grass and legume pedigreed seed production was grown in the West, led by Alberta, (70,000 acres), then Manitoba (66,400 acres) and Saskatchewan (32,500 acres)

Overall, pedigreed acres in Canada jumped a whopping 23.5% in 2015. All crop species (alfalfa, ryegrasses, clovers, fescues, bromegrasses, and timothy) saw acres increase from 2014. Only birdsfoot trefoil acres fell from the previous year.

CFIA: 2015 Acre	es Ap	plie	d For	Insp	ectio	n - Crop	by Provi	ince, Acr	es			Change	% change
Crop	PE	NS	NB	QC	ONT	MB	SK	AB	BC	2015	2014	(+/-) AC's	70 Change
ALFALFA						14,675	18,307	36,985		69,967	56,319	13,648	24.2%
BIRDSFOOT TREFOIL						2,606				2,606	3,910	(1,304)	-33.4%
BROMEGRASS						723	2,169	3,495	298	6,685	5,372	1,313	24.4%
CLOVER						403	3,851	1,536	80	5,870	2,494	3,376	135.4%
FESCUE						5,264	531	8,016	690	14,501	10,230	4,271	41.7%
RYEGRASS						22,251	1,770	680	150	24,851	15,714	9,137	58.1%
TIMOTHY				50		20,390	4,780	15,966	2,577	43,763	41,271	2,492	6.0%
WHEATGRASS						135	1,090	3,349	470	5,044	4,959	85	1.7%
Total				50	-	66,447	32,498	70,027	4,265	173,287	140,269	33,018	258.3%

2015 Canadian Pedigreed Grass and Legume Seed Production by Species

Alfalfa Seed

- Acres up 13,600 (24%) to 70,000 in 2015
- Most pedigreed alfalfa seed acres for at least the past 10 years
- Alberta had 37,000 acres, up 9,300 from 2014, with majority of acres located in the Brooks AB.
 Region
- Saskatchewan saw 14,700 acres (up 1,600 acres) and Manitoba had 18,300 acres (up 3,300 acres) compared to 2014.

Certifie	d Canadia	an Grass/I	Legume I	nspecte	d Acres -	CSGA/C	FIA, 2005	to 2015	
									% change from
		MB	SK	AB	BC	Total	Prev Year	acre ∆	last year
Alfalfa	2005	14,153	35,895	10,806	0	60,853	60,478	375	0.6%
Alfalfa	2006	12,384	31,560	14,458		58,402	60,748	-2,346	-3.9%
Alfalfa	2007	14,420	31,421	17,030		62,872	58,277	4,595	7.9%
Alfalfa	2008	13,863	25,514	17,680		57,057	62,872	-5,815	-9.2%
Alfalfa	2009	7,613	23,311	18,235		49,159	56,812	-7,653	-13.5%
Alfalfa	2010	8,785	20,817	21,265		50,866	49,159	1,707	3.5%
Alfalfa	2011	7,428	16,660	20,028		44,116	50,866	-6,750	-13.3%
Alfalfa	2012	8,849	16,654	21,953		47,456	44,114	3,342	7.6%
Alfalfa	2013	10,327	15,775	24,916	0	51,018	47,456	3,562	7.5%
Alfalfa	2014	13,089	15,624	27,606	0	56,319	51,018	5,301	10.4%
Alfalfa	2015	14,675	18,307	36,985		69,967	56,319	13,648	24.2%
Alfalfa-10 year average (2	005-2014)	11,091	23,323	19,398	0	53,812			
Note: No other province	es grew pe	digreed alf	alfa seed d	luring thi	s time perio	od			

It appears as if growers have responded to certified production contracts, as certified alfalfa seed
production accounted for more of Canada's total alfalfa seed trade volume. Canadian trade data
shows exports of certified alfalfa rising to 12.9 million lbs from 12.8 million lbs. in the past crop year
(2014-15), with more certified seed being exported compared to common seed.

Canadian Exports of	Canadian Exports of Grass/Legume Seed by Crop Year (millions of lbs)											
	2010-11	2011-12	2012-13	2013-14	2014-15							
Total Canadian Exports	91.35	111.88	99.80	95.93	85.94							
Alfalfa, cert.	6.35	7.95	9.73	12.82	12.90							
Alfalfa, O/T cert.	8.71	8.47	9.24	12.04	8.43							
Total Alfalfa	15.05	16.43	18.98	24.85	21.33							
Cert. as % of total	42.2%	48.4%	51.3%	51.6%	60.5%							

Birdsfoot Trefoil

- Was the only grass/legume seed crop to see its' acres fall in 2015 (down 1,300 acres) to 2,600 acres. This is at least the lowest acreage in the past 10 years
- All pedigreed acres in 2015 located in Manitoba.

Bromegrass (including smooth and meadow)

- 2015 acres increased 24.4% to total 6,700 (up 1,300 acres)
- Supplies of smooth bromegrass very low
- Growers have responded to recent historical high price quotes
- Despite the increase in pedigreed acres in 2015, total bromegrass seed acres are still well below the 10 year average of 9,000 acres annually
- Majority of acres located in Alberta (3,500) then Saskatchewan (2,200)

	ed Canadian								% change from
		MB	SK	AB	ВС	Total	Prev Year	acre Δ	last year
Bromegrass	2005	1,270	2,917	9,233	152	13,572	15,161	-1,589	-10.5%
Bromegrass	2006	909	2,730	7,135	82	10,855	13,572	-2,716	-20.0%
Bromegrass	2007	802	2,537	9,374	82	12,795	10,856	1,939	17.9%
Bromegrass	2008	951	1,767	9,515	120	12,353	12,795	-442	-3.5%
Bromegrass	2009	786	1,266	7,904		10,075	12,353	-2,277	-18.4%
Bromegrass	2010	425	1,208	5,958	104	7,694	9,955	-2,262	-22.7%
Bromegrass	2011	568	1,310	4,557		6,434	7,694	-1,260	-16.4%
Bromegrass	2012	608	1,145	3,277	108	5,138	6,433	-1,295	-20.1%
Bromegrass	2013	473	1,350	3,639	125	5,587	5,138	449	8.7%
Bromegrass	2014	665	1,202	3,315	190	5,372	5,587	-215	-3.8%
Bromegrass	2015	723	2,169	3,495	298	6,685	5,372	1,313	24.4%
Bromegrass-10 year avera	ge (2005-2014)	745	1,743	6,391	96	8,987			

Clovers (includes mostly red, alsike, sweet, white)

- Total pedigreed clover seed acres doubled in 2015, from a 10 year low in acres of 2,500, 2015 saw 5,900 acres inspected
- 2015 pedigreed clover seed acres now above the 10 year average of 4,300 acres annually
- Saskatchewan had the most pedigreed acres in 2015 (3,800 acres) followed by Alberta (1,500 acres)

C	ertified Car	nadian	Grass	Legum	e Inspecte	ed Acre	es - CSGA	/CFIA, 20	05 to 201	5
		ONT	MB	SK	AB	BC	Total	Prev Year	acre ∆	% change
Clover	2005	203	1,128	2,099	2,031	0	5,461	3,005	2,456	81.7%
Clover	2006		1,794	2,748	1,837		6,379	5,341	1,038	19.4%
Clover	2007		1,661	1,867	1,814		5,343	6,379	-1,036	-16.2%
Clover	2008		1,005	1,219	1,962		4,186	5,343	-1,157	-21.7%
Clover	2009		1,202	1,622	1,300		4,123	4,188	-6 5	-1.5%
Clover	2010		948	794	1,303	150	3,195	4,123	-928	-22.5%
Clover	2011		920	1,060	1,620		3,600	3,195	405	12.7%
Clover	2012		942	1,008	1,936		3,886	3,559	327	9.2%
Clover	2013		514	2,040	1,693		4,247	3,886	361	9.3%
Clover	2014		544	665	1,285		2,494	4,247	-1,753	-41.3%
Clover	2015		403	3,851	1,536	80	5,870	2,494	3,376	135.4%
Clover-10 year	average (200	5-2014)	1,066	1,512	1,678	15	4,291			

Note: Except for Ontario (2005), no other eastern province grew pedigreed clover seed during this time period

Fescues (predominately creeping red plus some tall, meadow and fine fescues)

- Pedigreed acres up 41%, going from 10,200 in 2014 to 14,500 this past year
- Manitoba acres up 1,600 to 5264 acres (tall plus some creeping red)
- Peace River region (northern Alberta/BC) pedigreed acres up to 8,700 acres, with Alberta Peace up 3,100 acres
- Total Canadian pedigreed fescue acres still 2,600 acres below the 10 year average.
- Pedigreed tall fescue seed production located in Manitoba and PEI (when grown)

(Certified Cana	dian Gr	ass/Leg	gume Ir	rspecte	ed Acre	es - CSGA	/CFIA, 20	05 to 201	5		
		PEI	MB	SK	AB	BC	Total	Prev Year	acre ∆	% chang		
Fescue	2005		4,288	332	14,143	10,464	29,227	21,817	7,410	34.0%		
Fescue	2006	6	4,651	290	13,494	4,319	22,760	29,227	-6,467	-22.1%		
Fescue	2007	136	4,876	331	10,733	4,209	20,284	22,521	-2,237	-9.9%		
Fescue	2008		5,413	231	14,492	2,996	23,131	20,284	2,846	14.0%		
Fescue	2009	294	5,150	300	11,091	991	17,826	23,131	-5,305	-22.9%		
Fescue	2010		3,956	150	9,640	707	14,453	17,826	-3,372	-18.9%		
Fescue	2011		2,699	135	6,587	1,001	10,422	14,453	-4,031	-27.9%		
Fescue	2012		3,499	295	6,641	440	10,875	10,422	453	4.3%		
Fescue	2013		3,792	200	6,897	1,150	12,039	10,875	1,164	10.7%		
Fescue	2014		3,638	220	4,952	1,420	10,230	12,039	-1,809	-15.0%		
Fescue	2015		5,264	531	8,016	690	14,501	10,230	4,271	41.7%		
Fescue-10	Fescue-10 year average (2005-2014) 4,196 248 9,867 2,770 17,125											
Note: Exc	ept for PEI, no	other eas	stern pro	ovince g	rew ped	igreed fo	escue seed	during thi	s time peri	od		

Ryegrass (primarily perennial with some annual)

- Primarily concentrated in Manitoba (mainly perennial), which had 22,200 of Canada's total 24,800 acres.
- Acres in Manitoba rebounded substantially, up 58% from 2014 (up 9,100 acres)
- 2015 saw pedigreed ryegrass acres in Saskatchewan double from 840 in 2014 to 1,770 in 2015.
- 2015 pedigreed seed production very close to the 10 year average for acres, however, acres have fluctuated greatly the past 10 years (2006 = 41,000 acres, 2013 = 15,600 acres)



	Certific	ed Can	adian	Grass/L	egume In	specte	d Acres -	CSGA/CI	FIA, 2005 t	o 2015	
		PEI	ONT	MB	SK	AB	BC	Total	Prev Year	acre ∆	% change
Ryegrass	2005		56	22,100	5,920	666	0	28,776	20,039	8,737	43.6%
Ryegrass	2006	79	240	31,398	8,414	893		41,024	28,846	12,178	42.2%
Ryegrass	2007	90		25,429	4,097	470	95	30,181	41,179	-10,998	-26.7%
Ryegrass	2008		400	21,859	2,672	152	0	25,084	30,181	-5,097	-16.9%
Ryegrass	2009	137		18,142	1,141	36		19,456	23,982	-4,526	-18.9%
Ryegrass	2010	26		26,826	1,049	201		30,112	19,456	10,656	54.8%
Ryegrass	2011			22,557	1,254	264		24,074	30,112	-6,038	-20.1%
Ryegrass	2012	25		17,172	972	300		18,469	23,974	-5,505	-23.0%
Ryegrass	2013			13,837	1,398	270	59	15,564	18,469	-2,905	-15.7%
Ryegrass	2014			14,815	840		59	15,714	15,564	150	1.0%
Ryegrass	2015			22,251	1,770	680	150	24,851	15,714	9,137	58.1%
Ryegrass-10 ye	_	•	•	21,413	2,776	325	21	24,845		41.4	

Note: Except for PEI and Ontario, no other eastern province grew pedigreed ryegrass seed during this time period

Timothy

- 2015 saw pedigreed acres rise 6% to 43,800
- Largest number of pedigreed acres were in Manitoba, 20,400, with another 16,000 located in Alberta.
- 2015 saw 50 acres of pedigreed production in Quebec
- Total 2015 pedigreed acres 9,600 above the 10 year average.

	Certified	Canadia	an Gras	ss/Legu	ıme İns	spected	Acres - 0	CSGA/CF	IA, 2005 t	o 2015	
		QC	ONT	MB	SK	AB	ВС	Total	Prev Year	acre ∆	% change
Timothy	2005	176	195	18,729	2,041	10,027	2,556	33,723	31,136	2,586	8.3%
Timothy	2006	167	178	19,501	1,948	10,388	2,115	34,296	33,573	723	2.2%
Timothy	2007	111	87	20,249	2,414	12,061	2,517	37,439	34,296	3,143	9.2%
Timothy	2008	113	72	19,598	2,437	13,094	3,090	38,403	37,439	965	2.6%
Timothy	2009	53	180	16,722	2,154	11,360	3,113	33,582	38,403	-4,822	-12.6%
Timothy	2010	31	75	12,442	1,912	9,226	2,768	26,454	33,582	-7,128	-21.2%
Timothy	2011		9	12,725	2,222	8,486	2,583	26,025	26,454	-429	-1.6%
Timothy	2012		1	15,076	3,305	12,157	2,473	33,012	25,918	7,094	27.4%
Timothy	2013			15,436	3,675	15,633	2,838	37,582	33,012	4,570	13.8%
Timothy	2014			16,906	4,924	16,272	3,169	41,271	37,582	3,689	9.8%
Timothy	2015	50		20,390	4,780	15,966	2,577	43,763	41,271	2,492	6.0%
Timothy-10 y	ear average	(2005-20	14)	16,738	34,179	11,870	2,722	34,179			
Note: Except		•			•		•	•		vina thia ti	

Note: Except for Quebec and Ontario, no other eastern province grew pedigreed timothy seed during this time period

Wheatgrasses

- Acres only up marginally from 2014
- Majority of pedigreed seed production in Alberta (3350 acres, 66% of total)
- 2015 Canadian total acres of 5,000 still well below the 10 year average (7,091 acres annually)
- 2005 and 2006 saw Canadian pedigreed wheatgrass seed production at over 10,000 acres.

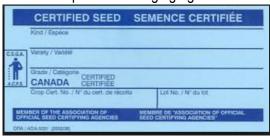
Certified	Canadian	Grass/l	Legum	e Inspe	cted A	cres - C	SGA/CFI	A, 2005 to	2015
		MB	SK	AB	BC	Total	Prev Year	acre A	% change
Wheatgrass	2005	597	2,559	7,477	0	10,633	12,053	-1,420	-11.8%
Wheatgrass	2006	620	1,549	5,606		7,774	10,633	-2,859	-26.9%
Wheatgrass	2007	419	1,793	6,818		9,029	7,774	1,255	16.1%
Wheatgrass	2008	115	2,622	5,907	0	8,644	9,029	-385	-4.3%
Wheatgrass	2009	109	2,221	4,479		6,808	6,784	24	0.4%
Wheatgrass	2010	90	2,147	5,359	0	7,596	6,808	788	11.6%
Wheatgrass	2011		1,666	4,653		6,319	7,596	-1,277	-16.8%
Wheatgrass	2012		1,795	3,495		5,290	6,248	-958	-15.3%
Wheatgrass	2013	170	1,171	2,516		3,857	5,290	-1,433	-27.1%
Wheatgrass	2014	175	1,570	3,215		4,960	3,857	1,103	28.6%
Wheatgrass	2015	135	1,090	3,349	470	5,044	4,959	85	1.7%
Wheatgrass-10	year average	229	1,909	4,952	0	7,091			

Note: No other province grew pedigreed wheatgrass seed during this time period

Summary

Canadian pedigreed grass and legume seed growers' continue to adapt to the changing agricultural

environment, which includes growing pedigreed seed for a company rather than for themselves. Times have changed, and expect pedigreed seed production in the grass and legume seed sector to continue to trend towards this type of production and marketing.



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