1.0 Crop Industry Profile (Current Operating and Regulatory Environment)

Characterizing the Industry

a. Production

Across Canada, more than 26 million hectares of land are used for grazing and the production of forage products. Of this, about 16 million hectares are native or unseeded pasture. About 7 million hectares are cultivated tame hay and fodder crops with over 3 million used as tame or seeded pasture.

Annual crops such as barley or corn are used as forages. However this review will focus on perennial crops used for pasture or stored feed for livestock. Ruminant livestock use about 80% of the forage produced. Other important uses of forage species that are included are: turf and amenity purposes; soil conservation and reclamation; seed production for domestic and export markets; and production for processing industries such as dehydrated alfalfa and compressed hay.

Perennial forages are very important for soil conservation and soil improvement. With minimal cultivation, they provide a permanent ground cover to reduce soil erosion and are well suited to marginal lands and erosion prone soils. Reclamation uses include ground cover for rights of way, such as pipelines and road sides, reforestation areas and mine tailings. They can also be used to control salinity and alkalinity as well as cover for drought prone areas and wetlands. Soil can be improved by forages adding organic matter and added nitrogen from forage legumes.

Recently, there is interest in utilization of seed of native species or ecovars to regenerate rangeland and special environments.

The turf and amenity uses represent a high added-value sector of the industry. Grounds keepers for sports fields and golf courses are consumers of the highest quality varieties available and their demands far exceed minimum regulatory requirements. The developers of new housing and parks look for varieties of species that meet their criteria for use as turf.

This introduction demonstrates the size and diversity of the Canadian forage industry. However, the purpose of this paper is to review the rationale for changing the placement of forage species in the new three-part variety registration system established on July 8, 2009.

Only those forage species currently listed in Schedule III of the Seeds Regulations (Table 1 below) are subject to variety registration. There is hundreds of forage species used in the forage industry that are not listed in Schedule III. There are also varieties that are not considered as "forage type" because they are developed for specialty uses such as turf or ground cover. That is why the term "forage type" appears in brackets beside the species names in Scheduled III and un-named types are exempt from Variety Registration.

From this point in the paper, discussion will focus on the rationale for a placement change for the forage species and, where possible, forage types listed in Schedule III, Part I.

Table 1. Forage Species in *Schedule III, Part I*

SCHEDULE III PART I

(Section 65)

Species, Kind or Type	Scientific Name	Registrations	
		Total	Last 5 years
Alfalfa (forage type)	*Medicago sativa* L. (including *M. sativa* L. spp. *falcata* (L.) Arcangeli)	185	43
Bird's foot trefoil	*Lotus corniculatus* L.	11	2
Bromegrass, meadow	*Bromus riparius* Rehm.	3	2
Bromegrass, smooth	*Bromus inermis* Leysser	12	-
Canarygrass, reed	*Phalaris arundinacea* L.	6	-
Clover, alsike	*Trifolium hybridum* L.	4	-
Clover, red	*Trifolium pratense* L.	29	2
Clover, sweet (white blossom)	*Melilotus alba* Medikus	1	-
Clover, sweet (yellow blossom)	*Melilotus officinalis* (L.) Pallas	2	-
Clover, white	*Trifolium repens* L.	12	-
Fescue, meadow (forage type)	*Festucapratensis* Hudson	5	-
Fescue, red (forage type)	*Festuca rubra* L. var. *rubra*	1	-
Fescue, tall (forage type)	*Festuca arundinacea* Schreber	23	3
Orchardgrass	*Dactylis glomerata* L.	39	10
Ryegrass, annual (forage type)	*Lolium multiflorum* Lam.	18	2
Ryegrass, perennial (forage type)	*Lolium perenne* L.	15	1
Timothy (forage type)	*Phleum pratense* L.	54	12
Wheatgrass, beardless	*Agropyron spicatum* (Pursh) Scribn. & J.G. Smith f. *inerme* (Scribn. & J.G. Smith) Beetle	1	-
Wheatgrass, crested	*Agropyron cristatum* (L.) Gaertner, *Agropyron desertorum* (Fischer ex Link) Schult.	6	-
Wheatgrass, intermediate	*Agropyron intermedium* (Host) Beauv.	2	-
Wheatgrass, northern	*Agropyron dasystachyum* (Hook.) Scribn.	1	-
Wheatgrass, pubescent	*Agropyron trichophorum* (Link) Richter	1	-
Wheatgrass, Siberian	*Agropyron sibiricum* (Willd.) Beauv.	-	-
Wheatgrass, slender	*Agropyron trachycaulum* (Link) Malte ex H.F. Lewis	2	-
Wheatgrass, streambank	*Agropyron riparium* Scribn. & Smith	1	-
Wheatgrass, tall	*Agropyron elongatum* (Host) Beauv.	1	-
Wheatgrass, western	*Agropyron smithii* Rydb.	1	-
Wildrye, Altai	*Elymus angustus* Trin.	3	-
Wildrye, Dahurian	*Elymus dahuricus* Turcz ex Griseb.	2	-
Wildrye, Russian	*Elymus junceus* Fischer	4	-

Following is a brief description of the forage legume and forage grass species that are important to Canada.

FORAGE LEGUMES

ALFALFA (*Medicago sativa*)

Alfalfa is the most widely grown forage legume in Canada and is highly valued as an excellent source of protein, energy and digestible fibre for feed. It is also valued for its wide adaptability and importance in crop rotation by nitrifying and improving soil structure. Alfalfa and alfalfa mixtures covered approximately 12,541,000 acres in 2006 with the majority of production in Alberta and Saskatchewan.

Alfalfa has various end uses, including: seed production for domestic and export use; dehydration into meal, pellets and cubes; compressed hay; human consumption as sprouts; soil conservation and land reclamation; for on-farm grazing; stored feed for ruminant livestock; and in pest management. Canada is currently ranked in the top five exporters of value-added processed alfalfa. Japan, South Korea and Taiwan are the largest export markets.

Major insect pests for alfalfa seed and forage production include: Lygus bugs; blue, pea and spotted alfalfa aphids; alfalfa seed chalcid; potato leafhopper; alfalfa weevil; alfalfa plant bug; and meadow spittlebug. Serious diseases for alfalfa include fungal and bacterial wilts, leaf spots, crown and root rots, downy mildew, viruses and nematodes, although many resistant cultivars are available.

BIRDSFOOT TREFOIL (*Lotus corniculatus*)

Birdsfoot trefoil is used in agriculture as a forage plant, grown for pasture, hay and silage. Birdsfoot trefoil has a lower yield potential than alfalfa, so it is only recommended for hay production in areas where alfalfa will not grow well. Because birdsfoot trefoil seedlings are slow to establish, it will usually take at least a year to get a satisfactory stand. Moreover, because of the slow seedling growth, grass and weed competition must be controlled.

Crown and root rots are the most significant diseases of birdsfoot trefoil. In addition, Rhizoctonia blight, a fungus the spreads in thick, tall stands during hot, humid summer months is also destructive.

CLOVER (*Trifolium* spp.)

The genus Trifolium contains many species worldwide. In Canada red clover (*Trifolium pratense*) white or Dutch closer (*T. repens*) and to a lesser extend, alsike clover (*T. hybridum*) are grown. A large proportion of Canadian clover seed production is exported, with the United States being the single most important market. Major diseases of clover include fungi, bacteria, viruses, nematodes and mineral deficiencies. Of these, fungi are the most important causal factors because they attack foliage, seed coats, and crowns. Black stem, seedling blight, and northern anthracnose are a few examples.

FORAGE GRASSES

BROMEGRASS (*Bromus* spp,)

Bromegrass species are widely grown for hay, pasture and land reclamation in North America. Smooth bromegrass (*Bromus inermis*) and meadow bromegrass (*Bromus riparius*) are the most commonly cultivated bromegrass species. In Canada, most seed of smooth bromegrass is produced in the southern portions of the Prairie Provinces. An average seed yield is 100-125 kg/ac, but high yields in excess of 350 kg/ac have been recorded. Domestic sales of smooth bromegrass seed in Canada have dropped in recent years, as meadow bromegrass has become the preferred species for pasture and rotational grazing systems, especially in the Western Canadian prairies. Demand for seed of meadow bromegrass soared once its dramatic re-growth potential and reduced creeping nature became well-known.

FESCUE (*Festuca* spp.)

Currently there are 29 fescue varieties registered in Canada and the total acreage of fescue grown in Canada was 30,451 acres. Fescues are divided into two functional groups, those destined for turf and those destined for forage. Tall fescue (*Festuca arundinacea*) is the most commonly registered type of fescue.

ORCHARDGRASS (*Dactylis glomerata* L.)

Orchardgrass is a bunch-type, tall-growing, cool-season perennial grass. It is utilized in the eastern provinces and in high production areas of Western Canada.

REED CANARYGRASS (*Phalaris arundinacea* L)

Reed Canarygrass is very tolerant of flooding, especially if temperatures are low. It is successfully used for pasture, hay, and silage. Reed canarygrass contains alkaloids which reduce palatability and, as such, alkaloid ratings are available for variety registration.

RYEGRASS (Annual Ryegrass *Lolium multiflorum,* Perennial Ryegrass *Lolium perenne* L)

From a global perspective, Perennial Ryegrass is one of the most widely grown forage species. Canadian seed production has been increasing and is currently the species with one of the largest volume of seed exports.

TIMOTHY (*Phleum pratense*)

Timothy is a very winter hardy crop that is widely adapted to temperate, moist climates. Timothy is predominantly grown for use as stored feed, either for hay or silage. Manitoba is the largest producer of timothy seed. Timothy is the main component of compressed hay exports and the majority is exported to Japan (80%), followed by the United States and Korea (10% and 6%). Taiwan, the Middle East and Europe are currently considered expanding markets.

WHEATGRASS (*Agropyron* spp)

Wheatgrass is a highly drought resistant, perennial species that is an excellent source of forage and habitat for livestock and wildlife. Crested Wheatgrass is the major species and ranks second only to smooth bromegrass in acreage among cultivated grasses in Western Canada. The taxonomy names of Schedule III will need to be updated.

WILDRYE (*Elymus* sp)

Wildrye is an excellent source of forage and habitat for livestock and wildlife. In 2005-06, Canada produced 105.6 tonnes of Wildrye; average export price was $2.20/kg.

b. Domestic market

Seed Production

Table 2 is a summary of certified seed production by members of the Canadian Seed Growers Association in 2007-2008. A total of 176,000 acres was planted to produce seed to be sold as certified seed in future years. In the same period, Table 3 estimates the amount of "certified seed" of Schedule III species planted by the forage industry.

Table 2. Canadian Production of 'Pedigreed' Forage Seed 2007-08 (acres)
Crop Kinds Subject to Variety Registration

	Quebec	Ontario	Manitoba	Sask	Alberta	BC	Total
Alfalfa			13,863	25,513	17,680		57,056
Birdsfoot Trefoil			5,201	476		30	5,707
Bromegrass			951	1,766	9,513	120	12,350
Clover			1,005	1,218	1,962		4,185
Fescue			5,412	231	14,491	2,995	23,129
Ryegrass		400	21,858	2,672	152		25,082
Timothy	113	72	19,597	2,436	13,094	3,090	38,402
Wheatgrass			115	2,621	5,907		8,643
Total	113	472	68,002	36,933	62,799	6,235	174,554
	0%	0%	39%	21%	36%	4%	99%

Forage Crop Production

There is no data available for individual forage species used for tame hay production because the vast majority of perennial crops seeded for pasture and stored feed are mixtures of grasses and legume species. Table 3 provides a summary of the retail domestic and international sales of seed. The individual components of mixtures are reported in the species total.

Table 3. *Sales of seed (All types) metric tonnes, 2007-08*

Species, Kind	Canada			International	
	Common	Certified	% Certified	Export	Import
Alfalfa certified		5,598	58%	5,043	1,093
Alfalfa other than certified	4,056			6,609	
Bird's foot trefoil	159	182	53%	647	84
Bromegrass, meadow	1,288	811	39%	271	42
Bromegrass, smooth	1,529	866	36%	357	23
Canarygrass, reed	7	120	94%		
Clover, alsike	7,869	52	1%	1,331	90
Clover, red	3,020	810	21%	2,412	728
Clover, sweet (white blossom)					
Clover, sweet (yellow blossom)	612	40	6%	483	23
Clover, white	363	195	35%	1,331	351
Fescue, meadow	82	18	18%	306	46
Fescue, red Certified		1,058	9%	4,614	390
Fescue, red other than Certified	10,552			17,879	
Fescue, tall	343	1,243	78%	1,680	413
Orchardgrass	370	467	56%	5	376
Ryegrass, annual	3,097	617	17%	1,420	1,566
Ryegrass, perennial	3,874	2,105	35%	17,522	3,660
Timothy Certified		2,741	33%	3,308	11
Timothy other than Certified	5,491			360	54
Wheatgrass, beardless					
Wheatgrass, crested	92	204	69%	757	
Wheatgrass, intermediate	6	6	50%		
Wheatgrass, northern					
Wheatgrass, pubescent					
Wheatgrass, Siberian					
Wheatgrass, slender	79		0%		
Wheatgrass, streambank					
Wheatgrass, tall					
Wheatgrass, western					
Wildrye, Altai	73	9	11%	236	
Wildrye, Dahurian					
Wildrye, Russian					
Total	42,962	17,142	29%	66,571	8,950

Sources:

In 2007-08, a total of 17,142 tonnes of certified seed and 42,962 tonees of common seed were used for domestic planting. Variety Registration regulations do not apply to common seed sales, representing 71% of total sales, because variety names cannot be used on common seed.

c. The Export market

Table 3 reports the export market for forage seed of Schedule III species to be 66,571 tonnes.

Table 4 has an export value of the same seed at $125.4 million. The export statistics also provide a breakout for the value of uncertified Alfalfa, Red Fescue and Timothy which would mostly be destined for USA. The bulk of certified seed export is foreign varieties being multiplied for re-export under the OECD Seed Scheme from Canada.

Table 4 Sales of seed (All types) Canadian $X1000, 2007-08

Species, Kind	Export	Import
Alfalfa certified	16,587	4,223
Alfalfa other than certified	21,923	
Bird's foot trefoil	3,085	309
Bromegrass, meadow	1,031	113
Bromegrass, smooth	913	47
Canarygrass, reed		
Clover, alsike	2,005	2,049
Clover, red	4,931	
Clover, sweet (white blossom)		53
Clover, sweet (yellow blossom)	767	
Clover, white	202	1,129
Fescue, meadow	537	84
Fescue, red Certified	7,662	613
Fescue, red other than Certified	25,542	
Fescue, tall	2,603	812
Orchardgrass	25	1,089
Ryegrass, annual	1,972	1,217
Ryegrass, perennial	25,357	5,440
Timothy Certified	6,184	122
Timothy other than Certified	587	
Wheatgrass, beardless		
Wheatgrass, crested	2,719	395
Wheatgrass, intermediate		
Wheatgrass, northern		
Wheatgrass, pubescent		
Wheatgrass, Siberian		
Wheatgrass, slender		
Wheatgrass, streambank		
Wheatgrass, tall		
Wheatgrass, western		
Wildrye, Altai	753	
Wildrye, Dahurian		
Wildrye, Russian		
Total		

125,385 17,695

In both of the cases identified above (sales of uncertified seed and varieties for re-export) Variety Registration does not apply because a variety name cannot be used on sales of uncertified seed and varieties for re-export using the OECD Scheme are exempt from Variety Registration.

In 2007, the export market value of dehydrated alfalfa meal and pellets was $35.7 million with $17.2 million in dehydrated cubes. The export value of compressed hay was $140.5 million which was mostly timothy destined for Japan.

d. The Regulatory Environment - Registration testing and merit assessment requirements

Currently all forage species that are subject to variety Registration are listed in Schedule III, Part I which is described as:

> *Part I (status quo): The registration of new varieties of crop kinds in Part I would require pre-registration testing and merit assessment to determine whether the variety performs as well as or better than reference varieties. This part is intended for crop kinds for which there is a continuing need for stringent government oversight to ensure that varieties meet minimum performance standards.*

Table 1 (on page 2) is a summary of the total number of varieties currently registered for each species (and type). Of the 31 species listed in Schedule III, Part I, 21 species have fewer than 10 varieties registered. In the last five years, 22 species have had no new registrations approved and only three species have had more than 10 registrations.

Current Variety Registration Requirements for Forage Legumes

Under the current variety Registration system, all forage type alfalfa varieties are subject to registration, however, reclamation type varieties are not required to be registered. Birdsfoot trefoil varieties are required to be registered. Red, white and alsike clover are required to be registered in Canada as well as white and yellow sweet clover. Persian, subterranean and strawberry clovers are not required to be registered in Canada.

The merit criteria evaluated by the recommending committees for forage legumes is yield (dry matter yield). Other ratings such as winter hardiness/winter survival/persistence, disease reaction (e.g. bacterial wilt resistance in alfalfa) are determined by the applicant and supplied with the Registration application. Tolerance to frequent grazing and feeding quality (% protein, digestibility) may also be assessed.

Current Variety Registration Requirements for Forage Grasses

Variety Registration is required for forage type fescue, ryegrass, wheatgrass, and timothy but other types such as turf and amenity are exempt.

Similar to forage legumes, the merit criteria evaluated by the recommending committees for forage grasses is yield (dry matter yield). The registrant may provide ratings for winter hardiness; winter survival or persistence; alkaloid levels for reed canary grass; and disease reaction. Tolerance to frequent grazing and feeding quality (protein content, digestibility) may also be assessed.

Costs of Registration Testing and merit assessment

As of August 2009, there are six Recommending Committees recognized by the Canadian Food Inspection Agency (CFIA) for forages species. They are listed below. British Columbia was previously included but has been discontinued with the closing of a breeding program in that province.

Alberta Forage Variety Committee
Atlantic Field Crops Committee
Manitoba Forage Crops Committee
Ontario Forage Crop Committee
Quebec Forage Committee
Saskatchewan Advisory Committee on Forage Crops

In some regions, established testing systems have been in place for many years. In others, the systems have run on a more ad hoc basis. Funding for these trials has been a challenge, with reduced participation of federal and provincial governments, and all regions have reduced the number of test sites over the years. In some regions, new trials are not seeded every year. Not all species are tested in all regions.

It is more costly to test perennial forage species compared to annual field crops. When measuring dry matter yield, there are 2-4 harvest periods per year and the various recommending committees require two or three years of data from each trial for merit assessment. In forage trials, no data is collected in the year of seeding, as many species are slow to establish. Thus, it takes three to four years from seeding before recommending committees will assess new lines.

The cost of submitting an application for Registration is set in Appendix XI of the Regulations at $875. This fee is used to cover the Variety Registration Office administrative costs for filing an application and it is the same for all Parts of Schedule III. Changing the crop placement to a different Part will not change the cost of filing. Fees collected by CFIA do not make a contribution to the cost of variety testing.

Table 5 provides more detail on the source of the recommendation for Registration for varieties approved in the last 5 years. In all cases, recommendation for national Registration came from a provincial committee using data from one region of Canada.

As is the case for all Registrations, the data that was submitted by a Recommending Committee for supporting the registration of a Variety is not publically available from CFIA. Publication of data and on-going testing following grant of a Variety Registration is not considered within the mandate of CFIA. Changing the placement of crop kinds to a different Part in Schedule III will not change the funding available from CFIA for publication of data because no funding is

currently provided other than lists of approved varieties on the CFIA website. The information that is available in the marketplace is assembled from other sources and published by private and provincially funded organizations.

Table 5. SCHEDULE III PART I

Species, Kind or Type	Recommending Committee	Registrations Last 5 Years	Registration Status
Alfalfa (forage type)	Ontario Forage Crop Committee	38	National
	Alberta Forage Variety Committee	2	National
	Manitoba Forage Crops Committee	2	National
	Sask Advisory Committee on Forage Crops	1	National
Bird's foot trefoil	Atlantic Field Crops Committee	2	National
Bromegrass, meadow	Alberta Forage Variety Committee	2	National
Bromegrass, smooth		-	
Canarygrass, reed		-	
Clover, alsike		-	
Clover, red	Atlantic Field Crops Committee	1	National
	Quebec Forage Committee	1	National
Clover, sweet (white blossom)		-	
Clover, sweet (yellow blossom)		-	
Clover, white		-	
Fescue, meadow (forage type)	Alberta Forage Variety Committee	1	National
Fescue, red (forage type)		-	
Fescue, tall (forage type)	Alberta Forage Variety Committee	3	National
Orchardgrass	Alberta Forage Variety Committee	3	National
	BC Cultivar Evaluation Committee[1]	4	National
	Ontario Forage Crop Committee	1	National
	Sask Advisory Committee on Forage Crops	2	National
Ryegrass, annual (forage type)	Atlantic Field Crops Committee	1	National
	Alberta Forage Variety Committee	1	National
Ryegrass, perennial (forage type)	Alberta Forage Variety Committee	1	National
Timothy (forage type)	Ontario Forage Crop Committee	2	National
	Quebec Forage Committee	5	National
	Atlantic Field Crops Committee	1	National
	Alberta Forage Variety Committee	3	National
Wheatgrass, beardless		-	
Wheatgrass, crested		-	
Wheatgrass, intermediate		-	
Wheatgrass, northern		-	
Wheatgrass, pubescent		-	
Wheatgrass, Siberian		-	
Wheatgrass, slender		-	
Wheatgrass, streambank		-	
Wheatgrass, tall		-	
Wheatgrass, western		-	
Wildrye, Altai		-	
Wildrye, Dahurian		-	
Wildrye, Russian		-	

[1] Discontinued as a Recommending Committee

Public Sector Variety Development

Table 6. Number of Public Forage Crop Breeders in Canada (1975-2008)

Province	Location	1975	1990	2008
British Columbia	University of British Columbia	1	1	0
Alberta	University of Alberta	1	0	0
	AAFC Lethbridge	2	1	1
	AAFC Lacombe	1	0	0
	AAFC Beaverlodge	1	0	0
	Alberta Research Council Vegreville		1	1
Saskatchewan	AAFC Swift Current	2	1	0.5[a]
	AAFC Saskatoon	2	2	0
	University of Saskatchewan	0	0	1[b]
Manitoba	University of Manitoba	1	1	0
	AAFC Brandon	1	0	0
Ontario	University of Guelph	2	2	1
	AAFC Ottawa	2	1	0
Québec	MacDonald College McGill University	1	1	0
	AAFC Ste-Foy	2	2	1
Atlantic Canada	Charlottetown	1	1	0
	AAFC Kentville, Nova Scotia Ag. College	0	0	1
Total		20	14	6.5

[a]Native grasses only
[b]Collaborative program with AAFC Saskatoon
References:
1. Bruce Coulman
2. Slinkard, A.E. and Knott, D.R. (eds) 1995. Harvest of Gold: The History of Field Crop Breeding in Canada. University of Saskatchewan Extension Press

The profile of public sector forage crop breeding has changed dramatically as illustrated in Table 6. This is important because it contributes to the reduction in the number of varieties from public sources.

It is noteworthy that the variety *Boreal* Red Fescue - developed at AAFC Beaverlodge and Registered in 1966 - is still widely grown in Alberta and BC and still accounts for the largest export volume of any fescue variety. Similarly, *Climax* Timothy was developed and Registered by AAFC Ottawa in 1947 and still represents significant export volume to EU customers.

Public sector forage breeding may be further reduced depending on the future of programs at Guelph and Ste-Foy. The breeders at Vegreville and Swift Current are noted as primarily working with native grasses which are exempt from registration. This would leave two public breeders working with cultivated species of forages.

Public breeding programs have made a huge "in kind" contribution to the process of testing forage varieties for both Variety Registration purposes and post registration testing. For every loss of a plant breeding program, there is an acute danger of losing the capacity to offer variety testing services. If the institution no longer has the equipment and expertise to conduct trials, its service will be discontinued.

The demise of Canada's world leading public forage breeding programs is due to a number of factors, and is not related to the variety registration system. Changing crop placement in Schedule III is not expected to change the trend in public breeding in Canada.

Private Sector Variety Testing

Private sector forage seed suppliers have recognized the decline in the public sector and large suppliers of forage seed have increased activity where possible. A large supplier in Western Canada (Viterra ^{TM}) has published in its 2009 Forage Guide that in 2008, "over 4,000 plots were evaluated for winter survival, yield potential, regrowth, forage quality, salt and traffic tolerance and other factors."

Another national supplier of forage seed (Pickseed) has 3 test locations in Ontario, 3 in Quebec and 4 in Western Canada. Yield and other quality traits are evaluated on 35-45 alfalfa lines per year with 1-2 elite varieties advancing into the product line.

Other seed companies either conduct their own trials or contract testing in other regions of Canada.

Post - Registration Testing

It must be clearly stated that Variety Registration regulations do not require post - Registration testing. Support for registering a variety cannot be withheld until conditions unrelated to Registration requirements are met.

Data submitted by a Recommending Committee for supporting the Registration of a Variety is not publically available from CFIA. Publication of data and on-going testing following grant of an unrestricted Variety Registration is not considered within the Seed Act and Regulations or mandate of CFIA. This is widely misunderstood and it is worthy of repeating.

Having said this, seed suppliers and agronomists recognize that considerable information is required. The information that is available in the marketplace is assembled from other sources and is published by private and provincially funded organizations.

Buyers of seed want data that compares promising new varieties to known varieties that are adapted to their region. Provincial Agriculture Ministries do a good job, given very limited resources, of providing variety comparison guides for forage species and other agronomic information on their provincial agriculture websites or in print format. Larger "field scale" comparisons cannot be planted, if it constitutes a seed sale, until after the variety has been Registered.

Private suppliers of seed also publish comparison guides and variety factsheets. There is also an extensive amount of information on forage mixtures that are recommended for specific growing

conditions. Dairy producers may require variety comparison data expressed as milk production per hectare.

Ongoing or post-Registration testing is critically important but it simply does not apply to Variety Registration or the placement of crop kinds within Schedule III. This is a critical point because, depending on the funding available from various sources, federal, provincial and regional forage testing is expected to continue regardless of changes to crop placement. If anything, committees that do allocate resources for Registration testing, may be able to reallocate those resources to more post - Registration testing.

Issues to be addressed

The removal of merit assessment requirements required by placement of forage crops in Schedule III, Part I will reduce the regulatory burden and associated costs for public and private developers of new forage crop cultivars. This is particularly important for forage crops because of the longer time required to generate data for merit assessment due to the one year required for establishment and multiyear testing for perennial crops.

Given the reduction in the availability of variety testing across Canada, the maintenance of the status quo (i.e. keeping all species in Part I) may make it impossible to Register new cultivars of certain species. Particularly for the minor species, small plot testing is not available in some regions, and may not be available at all in Canada in the near future. Larger "field scale" comparisons that constitute a sale of seed are not allowed before obtaining Registration of the variety. This has eliminated availability of new cultivars in these species to the detriment of producers wanting to grow these crops.

2.0 Proposed Changes

The forage crop species listed in Table 1 should be moved from Schedule III, Part I of Regulations to Schedule III, Part III

4.0 Impact Assessment of Proposed Changes

- Movement of forage crop species listed in Schedule III to Part III would lead to a more timely availability of new cultivars to producers across Canada. Although there is relatively little activity in forage cultivar development in the Canadian private sector, this more timely release of new cultivars may increase activity in this sector.
- This change would have no impact on buyers of common seed and may increase the use of certified seed by those who want seed of new varieties.
- Seed multiplication can start sooner because a change in placement would remove the uncertainty of obtaining support for Registration from a provincial Registration Recommending Committee, where a decision may not be forthcoming due to ad hoc meetings or the lack of resources to meet.

- New varieties can be introduced sooner without the 3-5 year delay necessary for a decision to support the variety for Registration.
- This change could result in an increase in the number of varieties of low sales volume species, as the high costs and delays associated with merit testing and recommendation would be reduced.
- There would be no change to the post - registration yield information currently gathered in some regions by federal, provincial, regional institutions, and by the private sector. This information, plus that from other sources, is readily available for a seed buying decision from provincial and private websites and publications. This will continue to be available and is independent of species placement in Schedule III.
- Registration of forage species will still be a decision of the CFIA. The introduction of new varieties will continue to be regulated under Schedule III, Part III and varieties can continue to be de-registered “for cause” by the Registrar.