



Agriculture Economics Policy Research Relevant for Policy Advice? Canadian Seed Interest

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About the CSTA

- Founded in 1923
- 125 member companies engaged in all aspects of seed research, development, distribution, marketing and trade
- From small family-run businesses to large multi-national corporations
- Employ 13,000, \$800 million sales, \$188 Export
- Mission is to create an environment that will improve the choices and success of our members and their customers

Formulation of Policy

- Global Environmental Scan
- Opportunities and Objectives for Canada?
- Identify policies that reduce constraints and stimulate development
 - Policies to encourage Development and Utilization
 - Regulatory policies
 - Intellectual Property provisions
 - Fiscal Policies



Global Scan:

Key Issues for the Seed Industry

Human Population:

- Growth (Developing Countries)
- Demographics: Aging, Urbanization, Employment
- High Awareness of food safety and nutrition

Climate Change:

- Changing Growing Conditions (more arid)
- Biofuel

Industry Globalization / Consolidation:



Global Scan:

Key Issues for the Seed Industry

Technology:

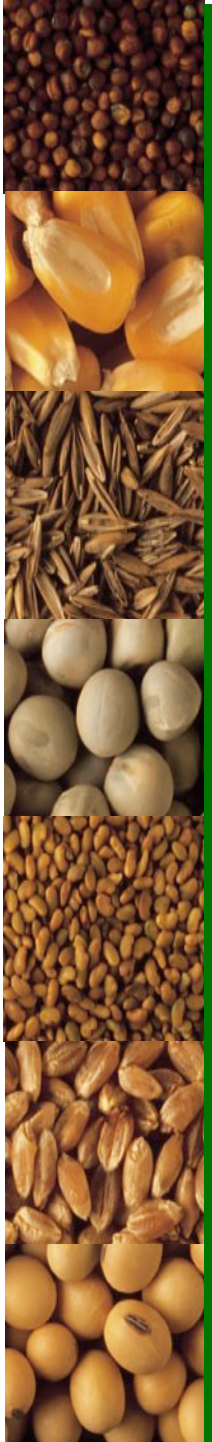
- Biotechnology
- Information Technology (GPS)
- Communication and Transport

Political Decisions:

- Food and Fuel Security
- International Negotiations WTO CBD FAO

Emerging Competitors:

- Argentina, Brazil, Ukraine, South Africa, Australia



Global Scan:

Key Issues for the Seed Industry

DYNAMIC
&
CHANGING



Opportunities & Objectives:

“Innovation starts with the seed”

- In 15 years:
 - Corn yield increased by 59%
 - Ontario winter wheat increased by 62%
 - Canola Yield increased 27%
- Reduced pesticide usage (Global 224,000 tonnes)
- Reduced tillage
- Specialty quality varieties



Opportunities & Objectives:

Future: “Innovation starts with the seed”

Agronomics

- Continue higher yield
- Expansion to shorter season and more arid areas
- Yield stability (Higher tolerance to insect, disease, drought and salinity)

Quality

- New biofuel and Industrial crops
- Nutritional composition
- Safer food lower disease and toxin levels



Policy Decisions for Canada:

ENVIRONMENTAL SCAN

Dynamic & Changing

Policies must be:

- Modernized / Entrepreneurial
 - Some Policies 10-50 years ago become constraints
- Flexible
 - Regularly reviewed and updated
- Agile
 - Timely changes

Policy Decisions for Canada:

- Historically public sector is in leading role for innovation investment
- Do you want private sector investment in innovation?

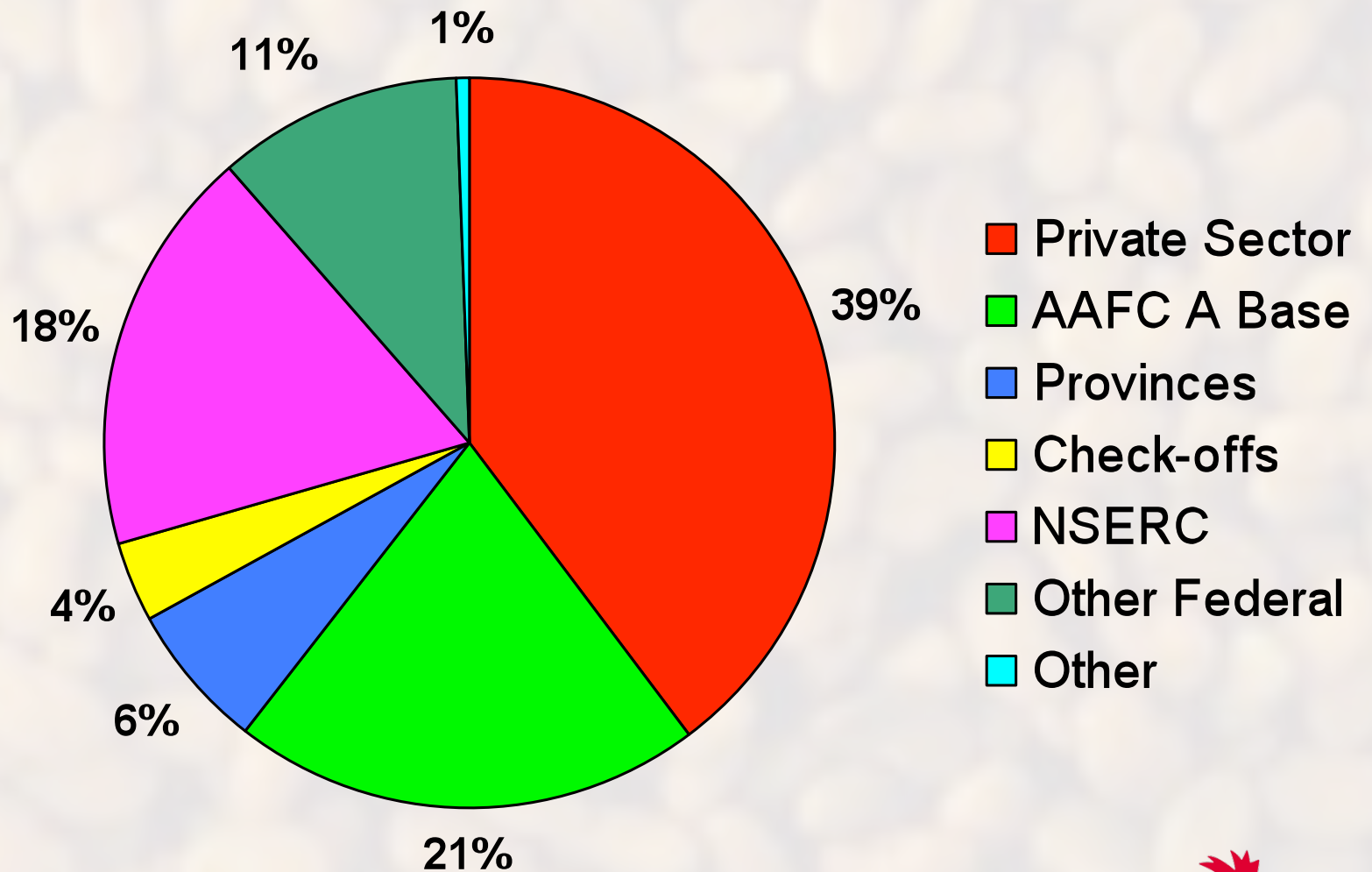
“With many varied and new opportunities, public sector can only do a small fraction with available / shrinking resources”

So how does the seed industry stack-up?



Funding Innovation

Investment in Plant R&D (2007, \$165 million)



CSTA Investment Survey

Annual Research Investment By Crop

	1987	2001	2007
Corn	\$2.8 million	\$ 7.9 million	\$ 4.8 million
Canola	\$7.1 million	\$30.5 million	\$41.9 million
Cereals	\$1.5 million	\$ 2.3 million	\$ 3.3 million
Soybeans	\$0.7 million	\$ 2.6 million	\$ 3.9 million
Forages	\$0.3 million	\$ 0.8 million	\$ 0.49 million
Special Crops	\$0.1 million	\$ 0.4 million	\$ 0.12 million
Garden Seed	\$0.1 million	0	0
Other	\$1.6 million	\$ 0.8 million	\$ 1.6 million

CSTA Investment Survey

Annual Research Investment By Crop

	Current		5 Year Projection	
	\$ million	% of total	\$ million	% of total
Corn	4.8	9	9	9
Canola	41.9	74	80	75
Cereals	3.3	6	2.7	2
Soybeans	3.9	7	12.7	12
Forages	0.49	1	0.5	<1
Special Crops	0.14	<1	0.1	<1
Garden Seed	0.0	0	0.0	0
Other	1.6	3	1.4	1



The Seed Industry Invests in Innovation

Private Sector invested:

1987	\$14.2
2001	\$45.3
2007	\$56.1
2012	Projected \$105

Over 95% of that investment will be in corn, soybeans and canola

Policy Decisions for Canada:

Regulatory Policy:

- Quality Assurance accreditation for low to medium risk seed regulatory programs (Cdn Seed Institute)
- 3rd party accreditation for programs with low resources (Authorized Exporters)
- Modernization of Variety Registration?

Last amended 20 years ago

KVD



Policy Decisions for Canada:

Regulatory Policy:

Cross Compliance ?

- Crop Insurance variety eligibility
- Importation of varieties for own use
- Use of variety names in “Grain Industry”

Synchronized approval of GM and seed treatment products



Policy Decisions for Canada:

Intellectual Property Policy:

Plant Breeders Rights

- Outdated 30 years (UPOV Model 1978)
- Timeliness of Grant of Right
- Enforcement
 - No Punitive damages
- Farm Saved Seed Exemption

Policy Decisions for Canada:

Intellectual Property Policy:

Plant Breeders Rights

Level of FSS (2)

Country	Crop	Certified %	FSS %	Brown bag %
Canada	Wheat	17	76	7
	Barley	21	66	13
	Canola	92	6	2
	Peas	14	74	12

Policy Decisions for Canada:

Intellectual Property:

% of Respondents – Do You Use?		
	Yes	No
Plant Breeders' Rights	67%	33%
Patents	50%	50%
Contracts	87%	13%
Bag Licenses	40%	60%
Technology Use Agreements	67%	33%

Policy Decisions for Canada:

Fiscal Policy:

- R&D Tax Credit for Plant Breeding
- “Check-Offs” for Plant Breeding ?
Revenue does not go to variety developer in proportion to sales
- Incremental Assistance ?
- Certified Seed Tax Incentive

Private Sector Investment is funded through sales of certified seed

Crop	% of seed used that is certified	% CSTA member projected investment (5 years)
Canola	92%	74%
Corn	98%	12%
Soybeans	87%	10%
Cereals	18%	2%

CSTA Investment Survey and Blacksheep Study for CPTA



.....Questions?

.....Comments?

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