



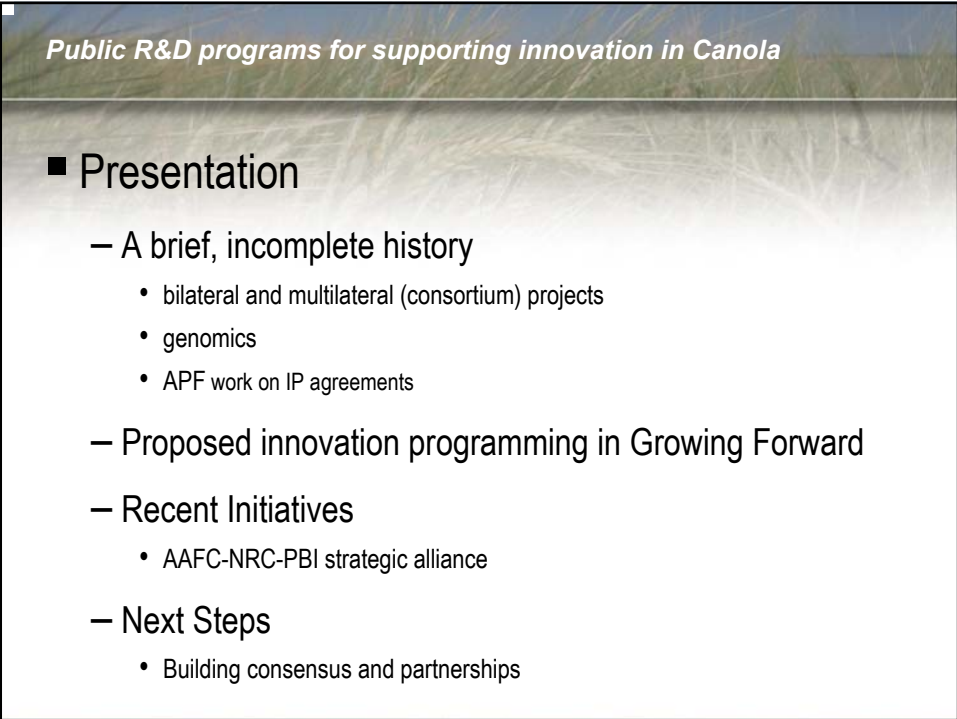
Public private partnerships for driving innovation in Canola

Presentation to Canola Industry Meeting

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Public R&D programs for supporting innovation in Canola

■ Presentation

- A brief, incomplete history
 - bilateral and multilateral (consortium) projects
 - genomics
 - APF work on IP agreements
- Proposed innovation programming in Growing Forward
- Recent Initiatives
 - AAFC-NRC-PBI strategic alliance
- Next Steps
 - Building consensus and partnerships

Canola was created using public private R&D partnerships

- **1960-1980s –AAFC, PBI, UofM, the Canola Council and its members create an industry**

- **1980-1990s –Establishment of private sector R&D**
 - Bilateral research agreements
 - Hoechst-Agrevo, Monsanto –GM-HT canolas
 - SWP –canola quality *Juncea*

- **1990-2000s –Multiparty consortia**
 - Double haploids, Modified fatty acid profiles for *Rapa*, DNA-SNP markers, Blackleg, Sclerotinia, Prairie canola agronomy

Federal investment in public research has grown during the last decade, both in value and in the number of recipients

The cumulative federal investment on genomics

	millions of \$
Genome Canada	840
Federal SBDA's -GRDI	159
Granting Councils	331
C.F.I.	237
Research chairs	237
Indirect program costs	193
National centres of excellence	127

Total	2124.

Barriers to Innovation in Canada:

It takes too much time to negotiate multi-institutional agreements - Rupert Murdoch has said that its no longer that "Big" beats "Small" but that "Fast" beats "Slow"

Amount of time

Minimum 2 days to 2 months	Average 6 months	Maximum 1 to 2 years
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Typical types of agreements

<ul style="list-style-type: none"> • Few parties • Agreements on technologies with a high degree of standardization (e.g. biotechnology) • Involved only industrial partners 	<ul style="list-style-type: none"> • Many parties • Agreements with Federal departments • International agreements with state and/or local governments
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Source: Survey administered as part of APF IP study

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Barriers to Innovation in Canada:

The Case for Change – The Future is a place we create



Public sector research network agreement negotiations can take years	Agreements are negotiated and executed within a few weeks
Public sector research agreements do not contain clear accountabilities for knowledge translation (KT) and technology transfer (TT)	Research agreements outline clear accountabilities for KT and TT that result in social benefits
No tracking of outcomes from TT and KT	Results demonstrate the societal outcomes and benefits arising from publicly funded research
Scientists typically do not engage in TT and KT	Scientists are empowered and supported to engage in both KT and TT
One in-house technology transfer office addresses issues for all research agreements and TT activities	TT services are available from a competitive marketplace in which diverse expertise exists
Training in TT usually obtained through direct job experience and mentoring	TT is a recognized profession – complete with accredited training programs

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Agriculture and
Agri-Food Canada

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Agroalimentaire Canada



GROWING FORWARD

Canadian Agri-Innovations Program Proposal

Canada

The Government of Canada announced its Federal S&T Strategy in May 2007

■ **Advocates:**

- Excellent Science
- Focus on Priorities
- Foster Partnerships
- Enhance Accountability

■ **Policy commitments to:**

- Entrepreneurial Advantage (strengthen public-private partnerships)
- Knowledge Advantage (resources to priority areas Canada is good at)



A key element is the desire to explore new models for science conduct and delivery with an emphasis on government, academic and industry partnership

An Integrated suite of Agri-Innovation and Commercialization Initiatives is being proposed:

A. Developing Strategic Focus & Encouraging Collaborative Action	B. Accelerating the flow of S&T along the Innovation Continuum	C. Enhancing Commercialization and On-Farm Innovation
<ul style="list-style-type: none"> ▪ Agri-Foresight – anticipate possible futures, their challenges, opportunities and implications for sector competitiveness ▪ Bioeconomy Strategy – develop common framework for policy and program development in support of bioeconomy opportunities ▪ Innovation Fora – developing coordinated workplans in support of sector competitive strategies 	<ul style="list-style-type: none"> ▪ Agri-Science Clusters – support industry-leadership in developing and managing applied science and technology collaborations ▪ Growing Agri-Products – provide industry with funding to accelerate commercialization of agri-based products 	<ul style="list-style-type: none"> ▪ Supporting the Innovative Capacity of Farmers – support farmers innovations that enhance profitability and competitiveness ▪ Promoting Agri-based Innovation Investment Opportunities – bring agri-entrepreneurs and potential investors together ▪ Innovation Commercialization Centres – commercialization of new agri-based products and business ventures
COORDINATED PLANNING	COLLABORATIVE ACTION	CLIENT IMPACT

Accelerating the flow of S&T along the Innovation Continuum: Proposed Agri-Science Clusters

- **RATIONALE:** Greater industry led collaboration of agri- industry, academic and government applied science resources will accelerate innovation in the sector
- **OBJECTIVE:** support industry-leadership in developing and managing applied science and technology collaborations to enable industry competitiveness strategies.
- **APPLICANTS:** Not for profit, industry-led national Science Cluster corporations that are capable of developing and delivering applied science work plans.
- **PERFORMANCE INDICATORS:**
 - Agri-Science Clusters in operation
 - Increased NGO investment in applied agri-science and technology
 - Number and value of new products and processes created by the Clusters

Accelerating the flow of S&T along the Innovation Continuum: Proposed *Growing Agri-Products*

- **RATIONALE:** Greater access to government, university and other scientific resources required to support agri-entrepreneurs in successfully transforming innovative ideas to viable business ventures.
- **OBJECTIVE:** funding to support industry access to scientific research to speed commercialization of agri-based products, practices and processes.
- **APPLICANTS:** Canadian individuals, agri-entrepreneurs, farmers, food processors, Innovation Commercialization Centres, others nearing commercialization of agri-products, practices and processes.

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Growing Agri-Products needed to implement innovations to capture new opportunities

Proposed Growing Agri-Products

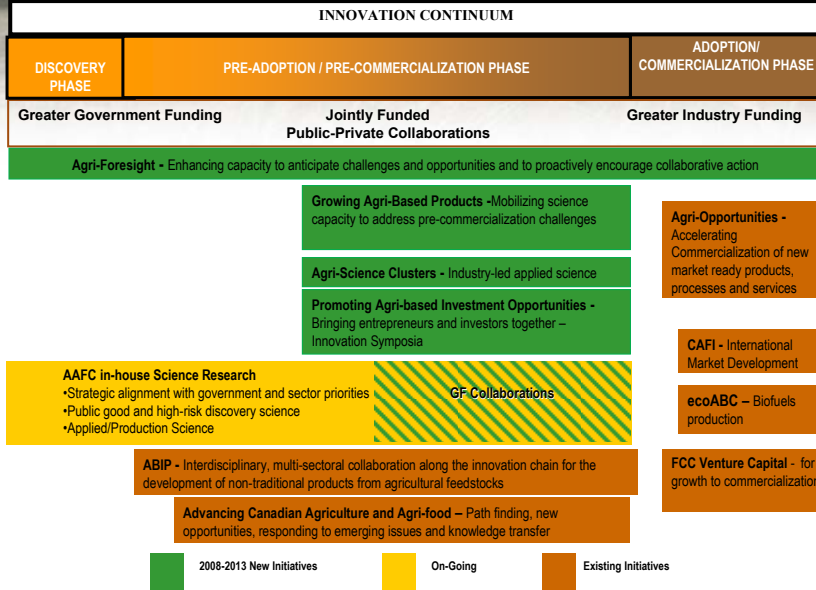
Making AAFC and other organizations' science capacity available to solve pre-commercialization challenges

- Industry-identified problems or challenges
- Industry-driven innovation strategies and plans
- Support to address pre-commercialization challenge
- Near market solutions to product innovation

These public-private partnerships enable AAFC and other science providers to deliver near-market research solutions in support of specific demands from the sector and small business

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The proposed Growing Canadian Agri-Innovations Program initiatives are intended to work together along the Innovation Continuum



Recent developments-streamlining business transactions

The “new and improved” AAFC-NRC-PBI Strategic Alliance

The agreement provides:

- Simple reciprocal access to experimental materials
- Access to each institution’s infrastructure including analytical capacities and research facilities across Canada
- A framework to support cooperation with third parties, to develop (including proof-of-concept) and commercialize germplasm incorporating novel traits

Private sector (CSTA member) R&D investments in 2007, and 2006 Canadian Farm Gate receipts for, selected crops						
			2007		2006 Canadian Farm Gate Crops Receipts*	
			\$million	% of Total	\$ million	% of Total
Canola			41.9	74.7	2,502	17.28
Soybeans			3.9	6.9	680	4.69
Corn			4.8	8.6	754	5.21
Cereals			3.3	5.9	3,578	24.70
Forages			0.5	0.9	-	-
Special Crops			0.1	0.2	855	5.90
Garden Seed			0	0	-	-
Other			1.6	2.8	-	-
TOTAL			56.1		14,482	100

* Total reported cash receipts for crops, Statistics Canada 2006

- ### Next Steps
- Continue to build consensus in the value chain; engage to
 - build common understanding of the importance of innovation,
 - create an environment conducive to innovation (reduce the investment risks).
 - Mobilize public and private sector R and D players to create a more innovative environment by establishing effective diverse and sustainable partnerships that increase the “velocity” of innovation.



Canada