CANOLA/FLAX CANADIAN AGRI-SCIENCE CLUSTER

Lisa Campbell
Canola Council of Canada
December 2010

Growing Great 2015

- An industry-wide vision and strategic plan for the future.
- The canola industry aims to capitalize on our industry's competitive strengths and expand to 15 million tonnes of sustained market demand and production by 2015.
- This expansion is expected to add an additional $12.5 billion annually in economic value directly into Canada's economy.

Growing Great 2015 Targets

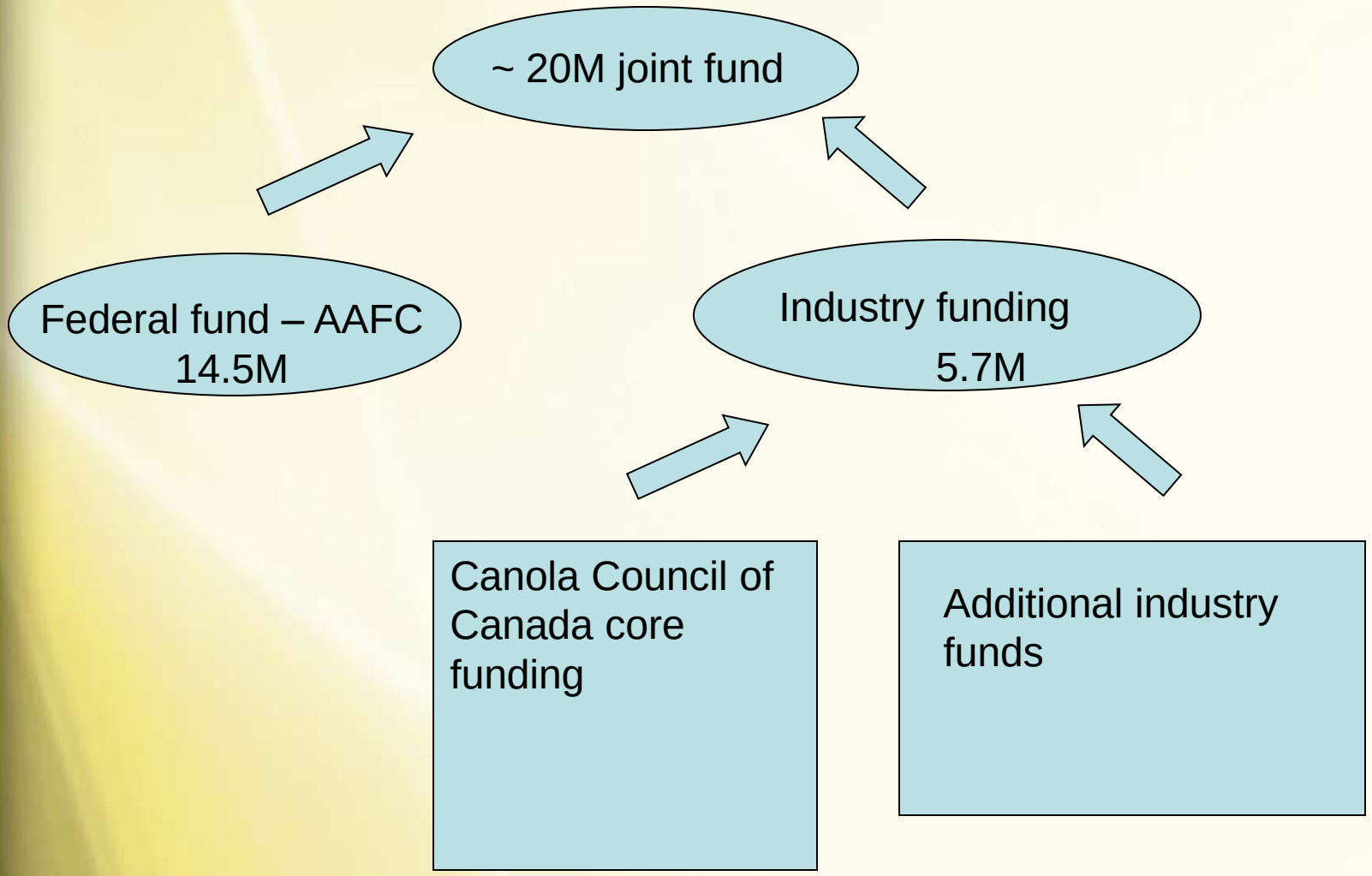
Element	2006	2015 Target
Production Yield	9.1 million T 30.5 bu/acre	15 million tonnes 35% increase (40.5 bu/acre)
Oil content	42.5% average	45% average
Classic to Designer	90/10	75/25
Meal	2000 kcals/kg energy content (poultry)	10% increase (90% of soybean meal energy level)
Export Seed	5.2 million T	7.5 million T
Crush Biodiesel (domestic) Biodiesel (export oil) Food (domestic & export)	*3.7million T* 0.05 million T 0.25 million T 3.40 million T	*7.5 million T* *2*.00 million T 0.50 million T 5.00 million T

Science Cluster Overview

• Support research with broad industry benefit that is not already covered by private industry.

• Program is part of the Growing Forward initiative - set to run until March 31, 2013.

• The Canola/Flax Canadian Agri-Science Cluster is funding a total of approximately $20 million worth of research, of which 72% ($14.5 million) is provided by AAFC.


~ 20M joint fund
Federal fund – AAFC
14.5M
Industry funding
5.7M
Canola Council of Canada core funding
Additional industry funds

Research Areas

- Canola Oil Research ($5.5 million)
- Canola Meal Research ($4.1 million)
- Crop Production Research ($9.5 million)

Canola Oil Research

Canola and Flax Oils in Modulation of Plasma Lipids and Other Markers of Heart Disease Risk

• Large, multi-centre clinical trial looking at novel endpoints for canola oil and heart disease risk.

• Trial based at the Richardson Centre for Nutraceuticals and Functional Foods, but the University of Toronto, Laval University, and Penn State University will also run arms of the study.

Canola Oil Research

Effects of Canola Oil Fatty Acid Composition on Insulin Resistance and Obesity

- Overall goal of this research project is to investigate the effects of canola oil and its fatty acid composition for prevention and treatment of insulin resistance, inflammation and obesity using a rodent model of diet-induced obesity.

- Trial will take place at the St. Boniface Research Centre.

Canola Oil Research

Effect of Canola Oil as Part of a Low Glycemic Load Diet on Glucose Control and Coronary Heart Disease Risk Factors in Type 2 Diabetes

• Overall objective of the study is to determine if canola oil improves glycemic control in non-insulin dependent diabetescardiovascular health i.e. plasma lipids, measures of oxidative stress, FMD and inflammatory biomarkers including C-reactive protein.

• Trial will take place at the University of Toronto.

Canola Oil Research

Effects of Canola Oil on Blood Vessel Function in Peripheral Arterial Disease (PAD)

• The effects of canola oil consumption on blood vessel function in both acute and chronic (8 week) studies with healthy participants and individuals with PAD, respectively will be tested.

•The main objective of the chronic assessment will be to establish whether canola has positive effects on blood vessel function by measuring true clinical endpoints.

• Study will take place at the St. Boniface Research Centre.

Canola Meal Research

Maximize Use of Canola Meal in Dairy Feeds

- Objective is to determine information about canola meal amino acid utilization efficiency for milk production under a variety of feeding regimes. Information will be provided to feed industry nutritionists so that canola meal can be accurately formulated into dairy cow diets.

- Research is multi-institutional and will take place at the University of Saskatchewan, University of California Davis, South Dakota State University, University of Wisconsin, and AAFC Lennoxville.

Canola Meal Research

High inclusion Levels of Regular and High Energy Canola Meal in Animal Feeds

- Objective is to address the issues associated with high canola meal feed inclusion levels such as: anti-nutrients, inefficient nitrogen utilization and effects on carcass composition, and to demonstrate that high energy canola meal can effectively be used at very high inclusion levels in swine and poultry feeds.

- Multi-institution co-ordinated series of studies to fully investigate very high dietary inclusion levels of both regular and high energy meal. The work will take place at the University of Alberta, University of Manitoba, Nova Scotia Agricultural College and AAFC Lethbridge.

Canola Meal Research

Improving Carbohydrate Composition of Canola Meal to Increase Energy Content.

• Objective is to determine what the important energy yielding and energy detracting carbohydrate components of canola meal are with the objective of providing information to canola breeders to develop high energy canola varieties.

• Some aspects: fully characterize the carbohydrate content of different types of canola and their inter-relationships, set targets for carbohydrate alteration, produce and evaluate (with and without enzymes) small quantities of promising high energy canola meals.

• Research will take place at AAFC Saskatoon and the University of Manitoba.

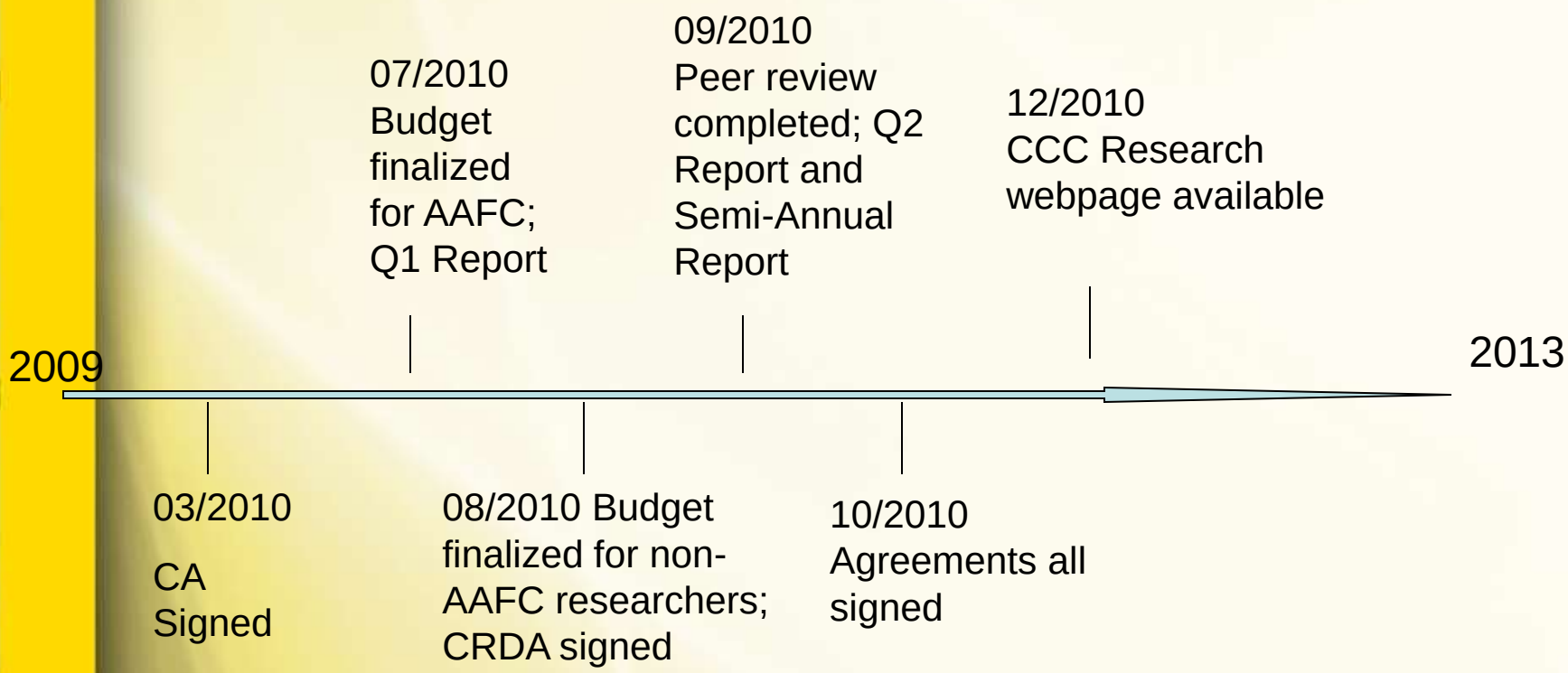
Crop Production Research

Research that will provide products, practices, and processes for Canadian canola growers through effective knowledge management and technology transfer activities.

Through extensive industry consultation, a comprehensive applied agricultural science plan and technology transfer strategy was developed to address the following seven key opportunity areas:

Research Area	**# Projects**
Crop Establishment	6
Crop Nutrition	4
Crop Protection	4
Harvest Management	2
Storage Management	2
Integrated Crop Management	4
Sustainability	9
Total	**31**

Milestones


2009
2013
03/2010
CA Signed
07/2010
Budget finalized for AAFC; Q1 Report
08/2010 Budget finalized for non-AAFC researchers; CRDA signed
09/2010
Peer review completed; Q2 Report and Semi-Annual Report
10/2010
Agreements all signed
12/2010
CCC Research webpage available

Collaborations

Over 70 researchers in more than 30 institutions across Canada and in the U.S.

THANK YOU!

Agriculture and Agri-Food Canada
Agriculture et Agroalimentaire Canada

ALBERTA Canola PRODUCERS COMMISSION

SaskCanola
Saskatchewan Canola Development Commission

Manitoba Canola Growers

canolacouncil OF CANADA