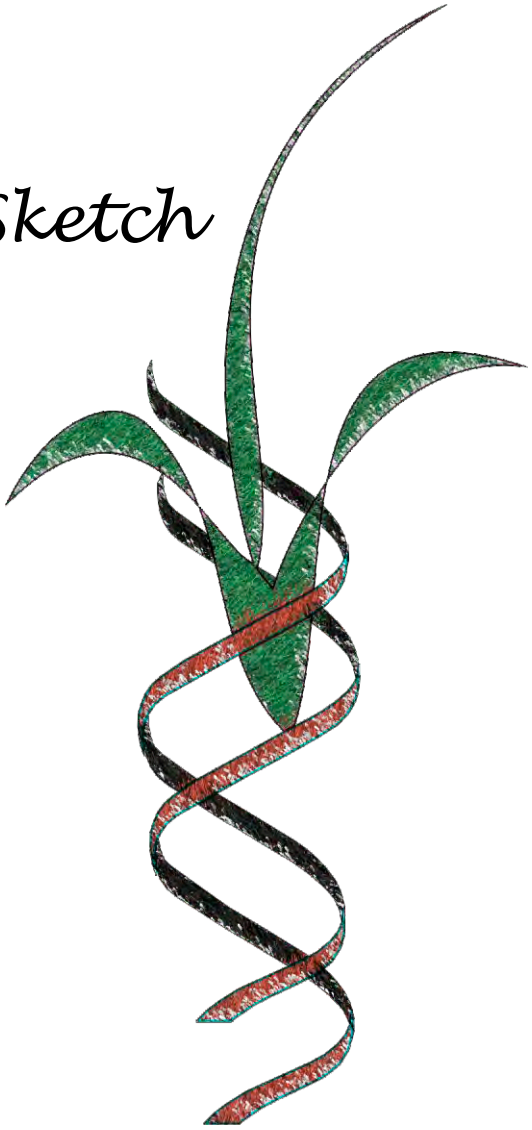
Pencil Sketch
2010



Alberta Crop Industry
Development Fund Ltd.

ACIDF

Chronology

1999 ARD creates concept of industry-led investment in industry development funding

2001 ACIDF, ALIDF (livestock), and DLFOA (diversified livestock) organizations are incorporated as not-for-profit private companies.

2002 Agriculture Funding Consortium formed, consisting of ACIDF, ALIDF, DLFOA, AARI and AVAC.

2004 Biopolymer Development Initiative signed to build scale-up capacity in ag-based plastic development in Alberta.

2005 Fund 2005 established, providing support for bioproduct development, feed grain energy development and nutrient management.

2006 Fund 2006 formed to address research and development issues in the crop sector. Matching industry funding is established as a requirement for project approval.

2006 Canada Alberta Biopolymer Program signed, providing additional support to scale-up program and some additional capacity to the facility.

2007 Automation and Productivity Pilot Initiative created out of the nutrient management funding within Fund 2005. This program is to address labor issues in crop-related food processing industries.

2007 Agriculture Policy Framework agreement signed in support of triticale industry strategy development.

2007 Competitiveness Initiative set up to support livestock and crop industry reviews and assessments.

2008 ABIP agreement signed with AAFC for triticale development of CTBI (Canadian Triticale Biorefinery Initiative)

2008 Alberta Barley / Triticale Royalty Fund was transferred to ACIDF from AARI. This fund is plant breeders rights royalty funding resulting from the program at Field Crop Development Centre in Lacombe. The money is to be spent to provide incremental improvements to the breeding programs.

2008 Competitive Crop Development Initiative (Fund 2008) was signed. This allowed increase support to smaller industries and those research areas excluded in the matching requirements of earlier funding.

2009 Fund 2001 (ACIDF's initial funding) is complete and final report published.

2010 Feeding Initiative agreement signed with ALMA for research and development in feed grains, livestock feeding and feed processing.

2010 Wrap up reports for Automation Pilot program, Biopolymer Development and Competitiveness Initiatives.

Selected R&D Success

Crop variety development in wheat, barley, triticale, peas, beans and oats.

Development of ag-fibre based construction materials like insulated structural panels and geo-mats for industrial roads and sites.

Woody Plant Publication – Trees & Shrubs for the Prairies

Sequestration and loss of soil nutrients including nitrogen and phosphorus.

Integrated management of small fruit crops including currents and saskatoons.

Improvements in oil content and quantity in major crops like canola and flax.

Composition of peas, barley and triticale, both for nutritional purposes and for international market development.

Near Infrared Reflectance Spectroscopy (NIRS) development for rapid quality assessment in feeds, ingredients and DDGS.

Managed pasture technologies to increase meat production and carrying capacity of land.

Biodegradable polymers and plastics from Alberta Crops

Nano encapsulation of liquids to enhance nutritional and medical effectiveness.

Alfalfa Seed & Leafcutter Bee Production and Marketing Manual

Barley Sample Identification Program for the Japanese Shochu market

Tolerance of Forage Crops to Herbicides

Bio-Economics, risk assessment, packaged honey bees and queens, varroa mites, regulatory prohibition, economic viability.

A Generation II Zone Tillage Implement and RTK GPS Guidance System for Sugar Beet Research Trials in Alberta

Improved Management of Root and Stem Rot Diseases in Greenhouse Cucumber

Signatory Members

Agricultural Research and Extension Council of Alberta
Alberta Barley Commission
Alberta Beekeepers Commission
Alberta Canola Producers Commission
Alberta Greenhouse Growers Assoc.
Alberta Natural Health Agricultural Network
Alberta Pulse Growers Commission
Alberta Safflower Growers Assn.
Alberta Sugar Beet Growers
Alberta Wheat Producers Commission
Alfalfa Seed Commission (Alberta)
Landscape Alberta Nursery Trades Assoc.
Potato Growers of Alberta
Prairie Oat Growers Assoc.

Priorities:

Crop Genetics Development

Canola Characteristics	*Target*	*2015 Impact $/year*
Oil Yield	60% oil with 2-3 new profiles	$90,000,000
Blackleg & clubroot	Resistant varieties	$90,000,000
Yellow seed coat, low anti-nutritives	Higher protein, lower fibre, higher digestible energy	$24,000,000
Yield in *B. rapa* canola (short season)	40% yield through hybrid and develop winter rapa's	$31,200,000

Triticale Characteristics	*Target*	*2015 Impact $/year*
Yield	20% above AC Ultima	$90,000,000
Fusarium and ergot	Resistant.	$60,000,000
Starch content and quality	4% higher than AC Ultima	$13,500,000

Zero Tannin Faba Bean Characteristics	*Target*	*2015 Impact $/year*
Yield	20% above current.	$90,000,000

Priorities:
Feeding Initiative

Focus Area	Investment Targets	Measures
Feed Utilization	Processing grain Co-products Feed additives New Processing Technology	New processes or technologies in feed processing. New technologies and practices to better determine feed quality and value. Evidence for use by industry. Economic impact of the application of new technologies.
Feed Value	Feed efficiency NIR Adoption Safe Feed	
Feed Grain Breeding Innovation	A 4% yield curve Alternative crops	

Priorities:
Food Health and Ingredients

Focus Area	Product Categories	Outcome/results
Food	Whole food (eg vegetables …) Processed foods (eg soups, breads…)	15 new products 3 improved technologies
Food Ingredients	Protein, fibre, carbohydrates, oils, extracts, formulations, …)	21 new products 4 improved technologies 5 new manufacturers
Health Ingredients	Bioactives, reducing undesirable traits, Increasing desired trait levels , medicinal, functional foods, …)	7 new products 2 improved technologies 3 new manufacturers

Priorities:
Crop Diversification

Stage	Crops	Outcome/results
Feasibility Assessment	Those who are keen, willing, and have some form of organization or structure	Agreement on which crops will have feasibility work done and feasibility completed within first year
Growth Plan Development	Only for those crops with highest positive feasibility	Growth Plans completed within one year after feasibility done
Growth Plan Implemented	Only for those with solid and good growth plans developed	Implementation of growth plans over years 3-5

Priorities:
Agri-Industrial Bioproducts

Focus Area	Product Categories	Outcome/Results
1. Bio- Materials	Bio-composites & fibreboard; Bio-plastics; Pulp and paper	14 new products 3 improved technology 5 new manufacturers
2. Bio-Energy	Cogeneration, bio-diesel, ethanol and other bio-fuels	4 new products 2 improved technologies 9 new manufacturers
3. Bio-Chemicals	Platform chemicals, bio-lubricants; cosmetics; resins	11 new products 4 improved technologies 3 new manufacturers

Priorities:
Crop Protection

Crop Pest	Potential economic impact by 2015	Possible Solutions
Clubroot disease in canola	$50 Million annually	Clubroot resistant germplasm developed Best management practices
Blackleg disease in canola	$35 – 70 Million annually	Blackleg resistant germplasm developed
Bacterial blight in dry beans	Impact not known	Genetic resistance moved into varieties Best management practices
Fusarium disease in wheat and barley	From an AAFRD economic risk study, $45 – 55 Million annually.	Genetic resistance developed Best management practices
Stripe rust in wheat and barley	$10 - $35 Million annually	Develop genetic resistance Best management practices Possible fungicide adaptation
Mycosphaerella and aschochyta in pulses	$10 Million annually Success will significantly expand acres	Develop genetic resistance Best management practices to minimize use of expensive chemical controls
Cereal leaf beetle on cereals and	$50 - $100 Million annually.	Develop parasitic controls Best management practices
Cabbage seedpod weevil in canola	$35 – $75 Million annually	Continue genetic resistance development Best management practices to minimize use of expensive chemical controls
Scald in cereals	$50 - $70 Million annually	Develop genetic resistance Best management practices

Priorities:
Crop Genetics Development

Field Pea Characteristics	***Target***	***2015 Impact $/year***
Yield	20% above	$90,000,000
Ascochyta blight caused by Mycosphaerella pinodes	Resistant	$100,000,000 plus growth in western Alberta
Nitrogen fixation	40% increase	$15,000,000

Barley and Wheat	***Target***	***2015 Impact***
Energy and Trait Yield CPS, Barley	20% increase	$152,000,000
Fusarium	Resistant	$200,000,000 potential loss
Winter and Soft White Wheat	Winter hardiness 20%+ more energy per unit	$100,000,000
Cereals	Drought tolerance 20% increase through water use efficiency	Could be several hundred million