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On-Farm Demo Review
For AARI and
Alberta Innovation and Science

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List Of Tables

Table	Page
1.1 OFD Program Project Summary- 2000	2
2.1 OFD Program Expenditures	17
2.2 OFD Technology Typology	18

List of Figures

Figure	Page
1.1 GMO Acres- Canola	12
1.2 Tillage Practices	12
1.3 Special Crop Acres	12
2.1 OFD Expenditures	17
2.2 OFD Portfolio	19
2.3 Plant Technology	19
2.4 Livestock Technology	20
2.5 Plant Technology Groups	21
2.6 Livestock Technology Groups	21
3.1 Alberta Innovation Sites	31
3.2 Roles in Alberta Agri-food Research System	31
3.3 Alberta Agriculture Needs and Resources	31
3.4 Value Added Continuum	32
3.5 AARI Technology Transfer Model- OFD	32
3.6 AARI and New Technology Transfer Approach	39
3.7 AARI Technology Transfer Network Program	39

AARI Technology Transfer OFD Program Review
Table of Contents

Section	Page
1.0 INTRODUCTION AND BACKGROUND	2
1.1 Introduction, Background and Objectives	2
1.2 Agriculture Industry Trends	4
1.3 Technology Trends in The 1990s	8
2.0 AARI ON FARM DEMONSTRATION PROGRAM	15
2.1 Goals, Strategy and Structure	15
2.2 Projects Completed and Technologies Employed	16
2.3 Sampled OFD Project Findings	21
2.4 Survey of Selected Projects & Focus Group Findings	23
2.5 General Impacts & Benefits	28
2.6 Macro Indicators Reflecting Technology Transfer by AARI	29
2.7 Conclusions	30
3.0 AGRICULTURE TECHNOLOGY TRANSFER IN ALBERTA	31
3.1 Agencies Involved in Technology Transfer	31
3.2 AARI Technology Transfer Model	31
3.3 Clients- Now and Future	32
3.4 OFD and AARI Strategic Directions	33
3.5 Summary	34
4.0 CONCLUSIONS AND RECOMMENDATIONS	36
4.1 Summary and Conclusions	36
4.2 Recommendations	37
Attachments	

1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction, Background and Objectives

The AARI On-Farm Demonstration Program was established in 1982 to provide financial assistance to applied research projects to enhance the adaptation, transfer and adoption of proven technology by Alberta's primary producers and agricultural processors. It emphasizes a hands-on approach to accelerate the transfer of technology from researchers to agricultural producers and during 1982-2000 awarded about \$9.4 million to some 1,300 projects. The program presently has an annual budget of about \$700,000/year which is divided fairly equally among the five agricultural regions in Alberta.¹ On a per-project basis, AARI OFDP funding levels (which are typically leveraged) are relatively small and focus within subject areas- (traditional commodity-based production-enhancing technologies).

Table 1.1 OFDP Project Summary- 2000

OFDP PROJECTS APPROVED FOR THE 2000/01 FISCAL YEAR, BY SUBJECT-12/11/2000				
Subject	New	Renewed	Total Projects	Funding
Beef and Dairy	4	5	9	\$54,115.00
Cereal and Oilseeds	14	22	36	194,944.00
Forage, Pulse, Vegetable & Other Crops	22	26	48	291,342.61
Pork, Poultry, Sheep & Other Livestock	2	0	2	8,200.00
Policy, Economics, & Marketing	1	1	1	19,650.00
Resource Conservation	2	3	5	31,440.00
TOTAL	45	57	102	\$599,691.61
Average Funding/Project				\$5,879.32

Currently, to be eligible for funding the proposed on-farm demo' must have the potential to: a) enhance the transfer of appropriate technology to producers or processors; b) improve production efficiency; c) improve the profitability of agricultural production in Alberta; c) foster the global competitiveness of Alberta farmers; d) contribute to the conservation of agricultural resources; and/or e) promote the diversification of agriculture in Alberta.

¹ Consistent with the AAFRD's administrative regions, these five regions are: South, Central, Northeast, Northwest and Peace.

Beginning in 1999 and continuing into 2001, however, the AARI conducted a very thorough review process to create a new business plan and research strategy to more accurately reflect ever-changing needs.² Drawing upon earlier research³, the Ag. Summit 2000 process, and a number of research workshops, the revised Strategic Directions identified the keys to future development and sustainability of the agri-food sector are:⁴

1. A highly attractive research and development environment- for sustained world-class research excellence, leading to increased commercialization in Alberta.
2. Value-added technology platforms and applications- for Alberta's producers and processors to capture more value-added commercial opportunities in food, feed and industrial uses.
3. Agri-health initiatives- to provide enhanced agricultural and food products to improve human and animal health, wellness, prevent disease and enhance quality of life.
4. Globally competitive industries- maintaining and enhancing primary agricultural production capacity and the market responsiveness by food and fibre processors
5. Maintain or improve the environment - sustaining the environment, through proper stewardship within an expanding sector. Recognizing resource utilization (valuable inputs of soil, water, air; both in quality and quantity), managing outputs (such as manure, GHG), and understanding integrated issues (cumulative effects on health and productivity) are equally important to the environment and future generations.

These Strategic Directions of AARI provide the key research and development focus areas to further diversify the agri-economy, offer new global technologies and value-added opportunities for producers and processors within the food, fibre and life sciences value chains.

AARI Terms of Reference

The study terms of reference listed these objectives:

1. Review the On-Farm Demonstration Program (OFD):
Provide the context in which OFD operates by identifying the stakeholders, partners and clients that the program impacts. Determine where on the value-chain and to which agriculture and food industry sectors the program is providing technological transfer.
Identify and evaluate the current structure, direction and mandate of the OFD program relative to AARI's new strategic direction and role.

² Dr. Ray Goldberg of Harvard indicates a global revolution in agri-business caused by: farm/food restructuring, the biotechnology revolution, e-commerce, trade policy and national policies. Price Waterhouse suggests Alberta needs to be more targeted within specific technology areas such as ICT, biotechnology, data management and genomics

³ S. J. Campbell Investments, **et. al.**, **Growth Strategies & Research Investment in Agriculture and Food in Alberta**, AARI, Edmonton, June 1999. Also see earlier research by **Toma and Bouma** and **Price Waterhouse**.

⁴ Adapted from: AARI, **Research and Development for Alberta's Agriculture and Food Sector Part 1: Strategic Directions**, Edmonton, August 2000.

Identify a representative sample of projects funded by the On Farm Demonstration Program with the last 5-10 years, for review of their current and future impact. Suggest and employ, on the sample projects, appropriate measures of the effectiveness of the projects in terms of technological adoption rates and subsequent benefits obtained.

Suggest and employ, on the sample projects, appropriate measures of the direct (levered) financial benefit, as well as related benefits (e.g. environmental) of the technology adopted as a result of the OFD.

2. Identify options for future directions for technology transfer for the Alberta Agricultural Research Institute:

Briefly review and discuss the context of AARI efforts in relation to technology transfer efforts by other partners, including: AAFRD, AAFC (including PFRA), colleges and universities, agricultural Boards, Commissions, Councils, Producer Groups, Applied Research Associations, Forage Associations, etc..

Identify and evaluate options for future directions for AARI technology transfer considering AARI's new strategic direction and role. Specifically examine the relationship between the type of research funded and the most effective means of enhancing technology transfer and adoption that might be used. Consider AARI options in relation to other partners involved in technology transfer in Alberta.

This assessment of the OFD program builds on several evaluation reports previously completed for AARI, including those by T. W. Manning⁵, Serecon⁶, and K. K. Klein.⁷ These earlier reports emphasized **efficiency** criteria (i.e. input-output measures such as benefit-cost (B/C) ratios and internal rates-of-return (IRR)) to provide some indication of the financial rate-of-return to the OFD program. This review focuses on OFD program **effectiveness/ impacts** in technology transfer, which may be determined by comparing **project outcomes to expected results**.⁸

This is a retrospective study of the OFD program. To help in the analysis, we have included a section on driving industry and technology trends which can be used to benchmark progress and the program's benefit to the agriculture sector.

1.2 Agri-Food Industry Trends

"Change is not one big thing. Change occurs as the result of many, many small things and many many big things". Stephen Kaufman, in Change Makers.

North American and global trends are relevant to understand as background information. Trends drive markets. A number of relevant trends are important to note for the food industry.

⁵ Manning, T. W., **Evaluation of Alberta Agriculture's Farming for the Future Program**, AAFRD, Edmonton, March 1991.

⁶ Serecon Management Consulting, **Farming for the Future: Research and Demonstration Project Evaluation**, AARI, Edmonton, December 1992.

⁷ Klein, K. K., and J. E. Hobbs, **Socio-Economic Evaluation of Selected Agricultural Research Projects Funded Jointly by Alberta Agriculture Research Institute and Industry**, AARI, Edmonton, November 1997.

⁸ "Expected results" are usually **objectively verifiable indicators**- of project targets, objectives, or usage