

Saskatchewan Irrigation Development Centre

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Annual Review April 1, 1997 to March 31, 1998

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***This report and other SIDC publications are available at our internet address:
<http://www.agr.ca/pfra/sidcgene.htm>***



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Manager's Report

On behalf of the Saskatchewan Irrigation Development Centre (SIDC), it is my pleasure to present the annual progress report. This report summarizes the wide range of activity conducted, funded or facilitated by the Centre in 1997. Please note in response to numerous requests by irrigation producers, the report incorporates both SI and Imperial units of measure. Hopefully, this will make it more useful. I would personally like to thank all who contributed to this report. Special thanks is also extended to members of the Centre Management Committee: Gerry Luciuk (PFRA), Harvey Fjeld & John Linsley (Sask Water). Their input and support have been integral to the success of the Centre.

1997 was a good year for irrigated crop production. Hot, dry conditions emphasized the true benefit of irrigated crop production. This, combined with an unusually long growing season, resulted in excellent yield and crop quality.

SIDC continued its focus on rural growth and resource care issues, particularly as they applied to irrigation. There is a need to diversify and adapt irrigated cropping practices in Saskatchewan to encourage sustainable production of higher value crops. SIDC's major impact has been through

... SIDC has supported and intensified the development of seed potato, dry bean, canola, and mint.

crop diversification and intensification. Work by SIDC has supported and intensified the development of seed potato, dry bean, canola, mint, and other industries in the irrigated areas of Saskatchewan. Interest in this work is very evident through the large attendance at our annual field day and evening tour. In addition, commodity

specific tours were in demand and well attended. Clearly, there is a need and desire for information on irrigated crop production and, in particular higher valued alternatives. The Prairie Medicinal and Aromatic Plants Conference co-organized by SIDC was a huge success, and another example of the need for information on alternative crops.

Resource care studies conducted at SIDC have emphasized investigating the impact of irrigation on the environment. These issues are critical to sustainable irrigation development.

Adequate funding is, of course, critical to the operation of SIDC. Funding is provided through federal and provincial A-base dollars, along with agreement dollars. The Canada/Saskatchewan Agreement on Water-Based Economic Development (PAWBED) has provided an excellent source of irrigated research and demonstration funding. Benefit cost analysis of the R & D portion of this program managed by SIDC has shown excellent returns ranging from 3/1 for cereals to 12/1 for potatoes. The federal portion of this agreement will end on March 31, 1998. Funding to continue this valuable work is key to the further development of the irrigation industry in Saskatchewan.

A recent industry-driven program, the Canada/Saskatchewan Agri-Food Innovation Fund (AFIF), will provide opportunities for the agricultural and irrigation sectors in Saskatchewan. This program has provided funding to SIDC to act as a spoke site for research and demonstration of irrigated specialized crops. In addition, SIDC has received funding for potato, herb, and vegetable crop research and demonstration, and for infrastructure to facilitate R & D.

Partnerships continue to be key to the future of SIDC....

Partnerships continue to be key to the future operation of SIDC. A Memorandum of Understanding (MOU) regarding operation of SIDC which includes Canada, Saskatchewan and Industry at the management table

has been agreed upon in principle and awaits finalization and signature. In addition, a formal tri-province linkage was made through the signing of an MOU called the Prairie Irrigated Crop Diversification Group. The purpose of this MOU is to enhance the ability of the SIDC, the Manitoba Crop Diversification Centre (MCD) and the Alberta Crop Diversification Centre (ACDC) to assist the Agri-Food Industry across the prairies in addressing issues, needs and opportunities in irrigated crop diversification and value adding. This will be through joint efforts in R & D, technology transfer and industry development.

History

The Saskatchewan Irrigation Development Centre (SIDC) was established in 1986 as a jointly-funded federal/provincial agency resulting from an MOU between Agriculture and Agri-Food Canada, PFR, and Saskatchewan Agriculture. Its purpose is to conduct, fund and facilitate irrigated research and demonstration responsive to producer needs. The goal of the Centre is to promote economic security and sustainable rural development primarily through the diversification and intensification of irrigated crop production.

SIDC has provided physical facilities and a management structure for applied research and demonstration and has linkages to other developmental initiatives. Since the formation of SIDC, Canada and Saskatchewan have delivered irrigated research and demonstration information to their clients using core resources, along with incremental support from federal/provincial initiatives such as SIBED, PAWBED, Green Plan, and AFIF.

Objectives

- 1) Identify higher value cropping opportunities through market research to help target research and demonstration efforts.
- 2) Conduct, fund, and facilitate applied irrigated research and demonstration to meet the needs of irrigation producers and industry in the province.
- 3) Develop, refine, and test methods of diversifying and intensifying irrigated crop production in co-operation with research agencies.
- 4) Demonstrate sustainable irrigated crop production methodology.
- 5) Promote and extend sustainable irrigated crop production methods to ensure clients are well served.
- 6) Evaluate the environmental sustainability of irrigation through its impact on physical resources.
- 7) Promote a Western Canadian approach to irrigation sustainability by interacting with staff from similar institutions and industry across Western Canada to increase levels of co-operation in marketing, research and demonstration that support diversification and value-added processing, along with transfer of such technology to strengthen the industry.

Staff

Administration

L. Tollefson	Manager
M. Martinson	Administration
J. Clark	Secretarial
H. Clark	Market Analyst
P. Ackerman / J. Harrington	Technology Transfer

Applied Research and Demonstration Program

R. B. Irvine	Field Crops Agronomist
G. Larson	Technical support
T. Hogg	Irrigation Sustainability
M. Pederson	Technical support
J. Wahab	Specialty Crops Agronomist
C. Burns	Technical support

Farm and Site Operations

B. Vestre	Field Operation
D. David	Irrigation
A. MacDonald	Maintenance
L. Sexton	Irrigated Forage Project

Programs

Specialty/Horticultural Crops

A specialty crops development program was initiated at SIDC in 1987. This program involves the evaluation of specialty crop production under irrigated conditions with the intent of developing cropping alternatives suitable to irrigated conditions in Saskatchewan. This program involves a wide range of activity including varietal evaluation, irrigation, and agronomic adaptation studies. A concerted effort has been made to identify the most promising market opportunities to concentrate activity in this area. Examples of projects include varietal and agronomic evaluation of dry bean, pea, lentil, fababean, chickpea, caraway, coriander, fenugreek, etc.

More recently, a much greater emphasis has been placed on horticultural crop production. Particular emphasis has been placed on supporting and developing the potato industry through varietal and agronomic studies. In addition, work on vegetable production technology, medicinal herbs, and spices, etc., has been expanded.

Field Crops (Cereals, Oilseed and Forages)

Field crops are a major part of any irrigated rotation. In 1997, greater than 90% of the irrigated acreage in Saskatchewan was planted to field crops. While desirable to introduce new and specialized crops, a priority must be placed on improving the profitability of the more conventional field crops. This includes examining new and/or existing genetic material (varietal trials) under irrigated conditions with improved disease and lodging tolerance or novel quality traits that could service a niche market. Suitable varieties must be identified and tested for agronomic performance under irrigated conditions. Evaluation of agronomic factors which can lead to more efficient water use, optimize production and lower input costs must be determined.

Examples of projects include irrigated varietal and agronomic evaluation of canola, flax, barley, durum, alfalfa and turf grass seed. Other projects include CPS and durum wheat development, semi-dwarf barley development, sclerotinia control in canola, micro and macronutrient evaluation, and irrigation scheduling.

Environmental Sustainability

This program attempts to quantify the effect of irrigation on the environment. It was initiated in 1991 with funding from the Environmental Sustainability Initiative and was intensified in 1993 using Canada/Saskatchewan Agriculture Green Plan funding. This program enabled the installation of subsurface drainage and reclamation of a saline area. Current activity includes evaluating the effect of agrochemicals under an irrigated environment, water conservation, effluent irrigation, trickle irrigation, irrigation scheduling and improving irrigation application efficiency.

Marketing

Marketing of produce is key to sustainable irrigated production. This program was developed to identify and evaluate potential markets for irrigated produce, and to evaluate opportunities for value-added processing with the goal of promoting economic activity and development in the irrigated areas.

Technology Transfer

This program ensures that information developed at SIDC is made available to farmers, extension personnel, private industry and the general public. It includes the annual field day, newsletters, extension meetings, an internet website, and scientific publications.

Centre Funding

Base Funding

Funding for the Saskatchewan Irrigation Development Centre is provided by the Prairie Farm Rehabilitation Administration (PFRA) and Saskatchewan Water Corporation (Table 1).

Proposal Based Research and Demonstration

A major role of SIDC has been to fund irrigated research and demonstration activity. This has been funded from the Partnership Agreement on Water-Based Economic Development (PAWBED). Twenty-six research projects and 106 field scale demonstration projects have been conducted. Twenty-two of these demonstrations were completed in the southwest Saskatchewan irrigation projects.

Additional funding for a further four projects has been provided through the Agri-Food Innovation Fund (AFIF).

The projects are listed on page 11.

	PFRA A-Base	Sask Water A-Base	PAWBED On-Station	PAWBED Proposal- based	AFIF
Salaries	\$274,000	\$19,190	\$269,560		\$111,400
Operating	216,800	935	217,170		26,250
Capital	42,000				850
Research				\$455,801	
Demonstration				35,148	
TOTAL	\$532,800	\$20,125	\$486,730	\$490,949	\$138,500

Activities

Tours

Tours of the facility and the field programs are an important function of SIDC. Noteworthy tours during 1997/98 were:

- 1) Vegetable Producers
- 2) PAWBED Program 2.0 Committee
- 3) International Grasslands Conference
- 4) Lamb Weston Executive
- 5) Agri-Food Equity Fund Committee
- 6) Canadian Special Crops Association
- 7) University of Saskatchewan soil scientists
- 8) SIDC Field Day
- 9) Agriculture Development Fund
- 10) SIDC Evening tour
- 11) Canadian Seed Trade Association
- 12) Agri-Food Innovation Fund Hort. Advisory Committee
- 13) Canadian Seed Trade Association
- 14) Manitoba Crop Development
- 15) Canadian Canola Council
- 16) Australian farmers
- 17) Australian farmers
- 18) T. Askin (Credit Union) with African delegation
- 19) PAWBED Agreement Management Committee
- 20) Biorigina! Food and Science Corp.
- 21) Rural Development Officers
- 22) Australian farmers group
- 23) Ag. and Bioresource Engineering students
- 24) Lamb Weston agronomists
- 25) Chinese government delegation
- 26) McCains agronomists
- 27) PFFRA Division Heads tour
- 28) Chinese government delegation
- 29) Outlook High School students
- 30) Triprovincial Irrigation committee
- 31) Yugoslavian tour

- April 8
- May 1
- June 17
- June 26
- July 4
- July 5
- July 8
- July 11
- July 15
- July 16
- July 17
- July 21
- July 28
- July 29
- July 31
- August 6
- August 11
- August 14
- August 20
- August 25
- August 27
- September 3
- September 9
- September 17
- September 30
- October 28
- November 21
- November 28
- December 4
- December 11
- February 23

SIDC Display

SIDC presented a display at the following trade shows and conferences:
Saskatoon:

- Crop Production Show
- Prairie Ventures
- Indian Business Conference
- Green Plan Sustainable Agriculture Conference
- Agri-Food Innovation Fund Special Crops Meeting
- Prairie Medicinal and Aromatic Plants Conference
- Wheat Protein Symposium
- PFFRA Shelterbelt Centre Field Day
- Lucky Lake Annual Trade Fair

Committees

L. Tollefson

- Agri-Food Innovation Fund, Horticulture Committee
- Canadian Commission on Irrigation and Drainage, Secretary/Treasurer
- Dept. of Agric. and Bioresource Engineering, Research Associate
- Effluent Irrigation Project Liaison Committee
- Green Plan Irrigation Sustainability Technical Committee
- International Commission on Irrigation and Drainage Crops and Water Use Subcommittee
- Manitoba Crop Diversification Centre Technical Advisory Committee
- National Water Quality and Availability Management Project (Egypt), Canadian Co-ordinator
- Organizing Committee for USCID conference- 'Irrigation and Drainage in the New Millenium'
- Partners for the Saskatchewan River Basin Technical Committee
- PAWBED Irrigation Improvement Subcommittee
- PFRA Sustainable Development Water Task Team
- PFRA Operations Committee
- Prairie Crop Diversification Task Force
- SIDC Management Committee

T. Hogg

- Environmental Management Strategy (EMS) Planning Committee
- Green Plan Irrigation Sustainability Technical Committee
- Prairie Irrigated Crop Diversification Working Group
- PAWBED SSRID Rehabilitation Technical Committee
- PFRA Working Group on the Provincial Water Managment Strategy
- PFRA Pesticide Review Committee
- SIDC Strategic Planning Committee

J. Wahab

- National Potato Research Network
- National Potato Advisory Council
- Potato Land Suitability Committee
- Prairie Potato Council
- Prairie Regional Recommendation Committee on Grains
- Prairie Medicinal and Aromatic Plant Conference Organizing Committee
- Saskatchewan Seed Potato Growers Association
- Western Expert Committee on Grains (production section)
- Western Canadian Joint Task Force on Seed Potato Export

R. B. Irvine

- Agri-Food Innovation Fund Forage Seed Committee and Nutraceutical Committee
- Organizing committee of the Soils and Crops Workshop
- Prairie Regional Recommendation Committee on Grains

H. Clark

- Agriculture and Agri-Food Canada Ethanol Working Group
- PFRA Human Resources Strategy Group
- Prairie Medicinal and Aromatic Plants Conference Organizing Committee
- Saskatoon Branch of the Sask. Institute of Agrologists, Executive Member

B. Vestre

- Environmental Management Strategy (EMS) Planning Committee
- Joint Occupation Safety and Health Committee
- PFRA Pesticide Review Committee

M. Martinson

- Environmental Management Strategy (EMS) Planning Committee
- PFRA Communicator Newsletter Working Group
- Women in the Workplace Advisory Committee
- SIDC Strategic Planning Committee

Presentations

SIDC staff gave presentations at several meetings and conferences:

- Saskatchewan:*
- Canada/Saskatchewan Agriculture Green Plan Research Summary meeting
 - Herbs and Spice Association annual meeting, Regina
 - Irrigation Crop Diversification Corporation co-operators meeting
 - Medicinal Herb Production meetings (Industry-sponsored) in Humboldt, Arborfield and Prince Albert
 - Prairie Medicinal and Aromatic Plants Conference, Saskatoon
 - Saskatchewan Pulse Growers Association meeting, Saskatoon
 - Soils and Crops Workshop, Saskatoon
 - South Saskatchewan River Irrigation District Rehabilitation Technical Committee meeting, Outlook
 - Wheat Protein Symposium
- Alberta:*
- Canadian Water Resources Association annual conference, Lethbridge
 - Prairie Potato Council annual meeting, Red Deer
 - Trickle Irrigation meeting, Killam
- Manitoba:*
- Prairie Medicinal and Aromatic Plant Conference, Brandon

Publications

- 1) T.J. Hogg and P. Ackerman. 1998. Late Nitrogen Application to Improve Grain Protein of Irrigated Sceptre Durum Wheat. D.B. Fowler et al eds. In: Wheat Protein Symposium. March 9 and 10, 1998. Saskatoon, Sask. University Extension Press, University of Saskatchewan.
- 2) J. Wahab, T. Hogg, and D. Waterer. 1997. Potato Irrigation Scheduling Studies at SIDC. Proceedings of the Prairie Potato Council Meetings, Red Deer, Alberta.
- 3) J. Wahab, D. Waterer, and T. Hogg. 1997. Effects of Seed Piece Spacing and Irrigation on Seed Potato Yield. Proceedings of the Soils and Crops Workshop, Saskatoon, Sask.
- 4) J. Wahab. 1997. Saskatchewan Herbs and Spice Industry...What's New. Prairie Medicinal and Aromatic Plants Conference '97, Brandon, Manitoba.
- 5) R.B. Irvine, and G. Larson. 1997. Are Your Rotations Costing Your Money? Proceedings of the Soils and Crops Workshop, Saskatoon, Sask.
- 6) H. Clark. 1997. Market Potential for Herbs and Spices. Proceedings of the Soils and Crops Workshop, Saskatoon, Sask.
- 7) T.J. Hogg, and L.C. Tollefson. 1997. Sustainable Effluent Irrigation. Water Quality Symposium, Winnipeg, Manitoba
- 8) T.J. Hogg, G. Weiterman, and L.C. Tollefson. 1997. Effluent Irrigation: The Saskatchewan Perspective. Canadian Water Resources Journal Vol. 22, No. 4:445-455.
- 9) L.C. Tollefson, and T.J. Hogg. 1997. Irrigation Sustainability - Saskatchewan Activity. Canadian Water Resources Journal, Vol. 22, No. 4:457-465.
- 10) K. Kelik-Whenhham. 1997. Prairie Provinces Trickle Irrigation Manual. Irrigation Sustainability Program, Saskatchewan Irrigation Development Centre.
- 11) L.C. Tollefson, R. Wettlaufer & A. Kassem. 1997. National Water Quality and Availability Management. Water News. Vol. 16, No. 4:20-22.
- 12) L.C. Tollefson. 1996. Thematic Paper 4: Requirement for improved interactive communication between researchers, managers, extensionists and farmers. In: Irrigation scheduling from theory to practice. Food & Agriculture Organization of the United Nations. Report 8:215-226.
- 13) L.C. Tollefson and J. Wahab. 1996. Better research-extension-farmer interaction can improve the impact of irrigation scheduling techniques. In: Irrigation scheduling from theory to practice. Food & Agriculture Organization of the United Nations. Report 8:227-235.

Factsheets

The following factsheets were developed and are available from the SIDC. Please contact the Centre for copies.

Cereals:

Early Seeding of Irrigated Cereals
Decision Guide for Foliar Disease Control in Irrigated Wheat
Late Nitrogen to Increase Protein in Durum

Forages:

Kentucky Bluegrass Establishment for Seed Production
Effect of Cutting Height on Alfalfa Yield and Quality
Irrigated Timothy Trials at SIDC
Alfalfa Establishment under Irrigated Conditions

Herbs and Spices:

Herbs, Spices and Essential Oils Research & Demonstration
Annual Caraway Trials at SIDC
Coriander Trials at SIDC
Dill Seed Trials at SIDC
Irrigated Scotch Spearmint Production in Saskatchewan

Marketing:

Vegetable Price Comparison
Ginseng Production and Marketing on the Prairies
Ethanol Industry Set for Recovery

Oilseeds:

Date of Seeding, Seed Rate, and Row Spacing of Irrigated Flax
Seeding Rate and Row Spacing for Irrigated Canola
Crop Management for Sclerotinia Control in Canola
Innovations in Canola Production

Pulse Crops:

Dry Bean Production under Irrigation in Saskatchewan
Irrigated Dry Bean Production Package
Intercropping Pea with Oilseeds under Irrigation
Management of Field Pea under Irrigation
Faba Bean Trials at SIDC
Management of Irrigated Lentil
Irrigated Chickpea Trials at SIDC

Soils and Fertilizers:

Reclamation of a Saline Field using Subsurface Drains
Rate and Placement Effects of P and K Fertilizer on Peas
Fertility Management of Irrigated Canola
Canola Fertilization Trials at SIDC
Hog Effluent Research and Demonstration

Other:

Crop Varieties for Irrigation
Overview of SIDC
Geographic Information System at SIDC
"Northern Vigor" in Seed Potato
Xeriscape Demonstration Project at SIDC
Fruit Crops in Saskatchewan
Plastic Mulches for Commercial Vegetable Production

Projects

Partnership Agreement on Water-Based Economic Development
(PAWBED)

Research Projects

PROJECT NAME AND CO-OPERATOR	TERM	1997 EXPENDITURES	TOTAL \$
Evaluation of Semi-dwarf Durum and Breeding Lines for Irrigated Production in Saskatchewan Principal: J. Clarke, Ag Canada, Swift Current	Final year of three	\$6,300.00 COMPLETED	\$96,300.00
Developing Semi-dwarf Cereal Varieties for Irrigation Production in Saskatchewan Principal: B. Rossmagel, U of S	Final year of three	\$26,441.05 COMPLETED	\$173,817.00
The Development of Industrial and Canlin Varieties of Flax Specifically for Irrigation and the Development of a Selection Technique for Lodging Principal: G. Rowland, U of S	Final year of three	\$5,499.78 COMPLETED	\$30,195.00
Demonstration of New Alfalfa Varieties Resistant to Verticillium Wilt on Irrigation in Southwestern Saskatchewan Principal: P. Jefferson, Ag Canada, Swift Current	Final year of three Extended for 1997	\$46,855.00 COMPLETED	\$162,855.00
Development of Non-shattering Dry Bean Germplasm for Irrigated Production in Western Canada Principal: A. Slinkard, U of S	Final year of three	\$12,014.02 COMPLETED	\$129,725.00
Development of Specialty Faba Bean Varieties for Irrigated Production in Western Canada Principal: G. Rowland, U of S	Final year of three	\$16,376.41 COMPLETED	\$49,050.00
Seed Yields of Grass Species and Varieties under Irrigated Conditions in Saskatchewan Principal: Sask Forage Council	Final year of three	\$2,965.00 COMPLETED	\$74,895.00
Management and Evaluation of Species and Cultivars for Irrigated Forage in Seed Production Principal: B. Coulman, Ag Canada, Saskatoon	Final year of three Extended for 1997	\$11,221.81 COMPLETED	\$95,322.00
Production of Timothy for the Export of Long Fibre Hay Principal: A. Kielly, Ag Canada, Swift Current	Final year of three	\$1,500.00 COMPLETED	\$28,710.00
Evaluation of Spice Crops under Irrigated Conditions in Saskatchewan Principal: F. Sosulski, U of S	Final year of three	\$232.72 COMPLETED	\$21,450.00
Control of Potato Scab Through Integrated Soil Fertility and Moisture Management Principal: D. Waterer, U of S	Final year of two	\$13,858.20 COMPLETED	\$50,400.00
Management of Plastic Mulches to Enhance Vegetable Crop Production Principal: D. Waterer, U of S	Final year of three	\$29,310.30 COMPLETED	\$49,700.00

PROJECT NAME AND CO-OPERATOR	TERM	1997 EXPENDITURES	TOTAL \$
Comparative Salinity Tolerances of Alternate Crops Grown under Irrigation Principal: H. Steppuhn, Ag Canada, Swift Current	Final year of two	\$12,640.00 COMPLETED	\$24,640.00
Grass Seed Industry Development: Control of Silvertop in Irrigated Grass Seed Fields Principal: J. Soroka, Ag Canada, Saskatoon	Final year of two	\$12,650.00 COMPLETED	\$48,950.00
Development of Disease Resistant Field Pea Germplasm under Irrigation Principal: A. Slinkard, U of S	Final year of two	\$47,923.17 COMPLETED	\$99,000.00
Development of Production Package for Seed Potatoes Principal: D. Waterer, U of S	Final year of two	\$26,333.35 COMPLETED	\$63,360.00
Forage Quality of Alternative Salt Tolerant Grasses Principal: D. Kielly, Ag Canada, Swift Current	Final year of two	\$12,000.00 COMPLETED	\$44,550.00
Energy Conservation and Application Uniformity for Centre Pivot Linear Move Irrigation Systems When Operated at Varying Pressures Principal: J. Gillies, U of S	Final year of three	\$37,119.00 COMPLETED	\$76,120.00
A Crop Diversification Opportunity: Potential of Ryegrass as a Seed Crop Under Irrigation in Saskatchewan Principal: B. Coulman, Ag Canada, Saskatoon	Second year of three	\$19,660	\$33,990.00
Dormancy Management in Seed and Table Potatoes, Phase II Principal: K. Tanino, U of S	Final year of two	\$40,037.00 COMPLETED	\$75,900.00
TOTAL RESEARCH		\$455,800.85	\$1,428,929.00

Demonstration Projects

West Central:

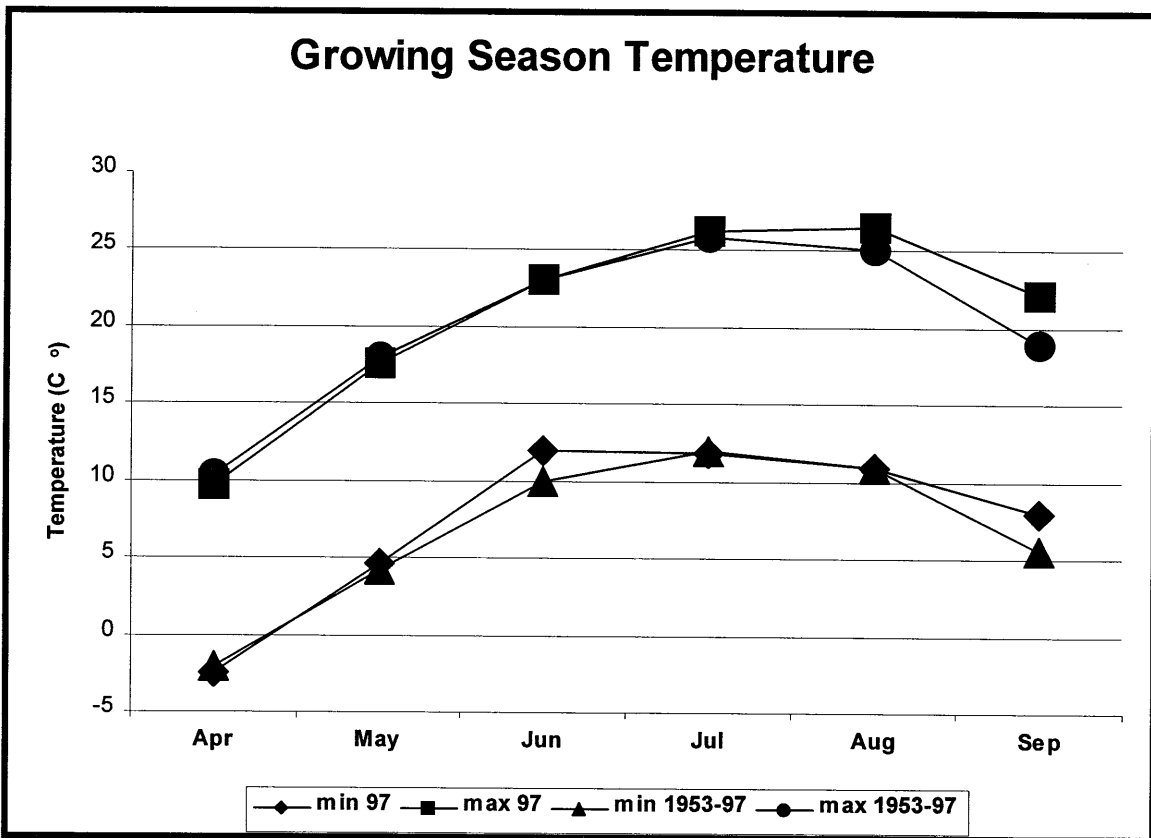
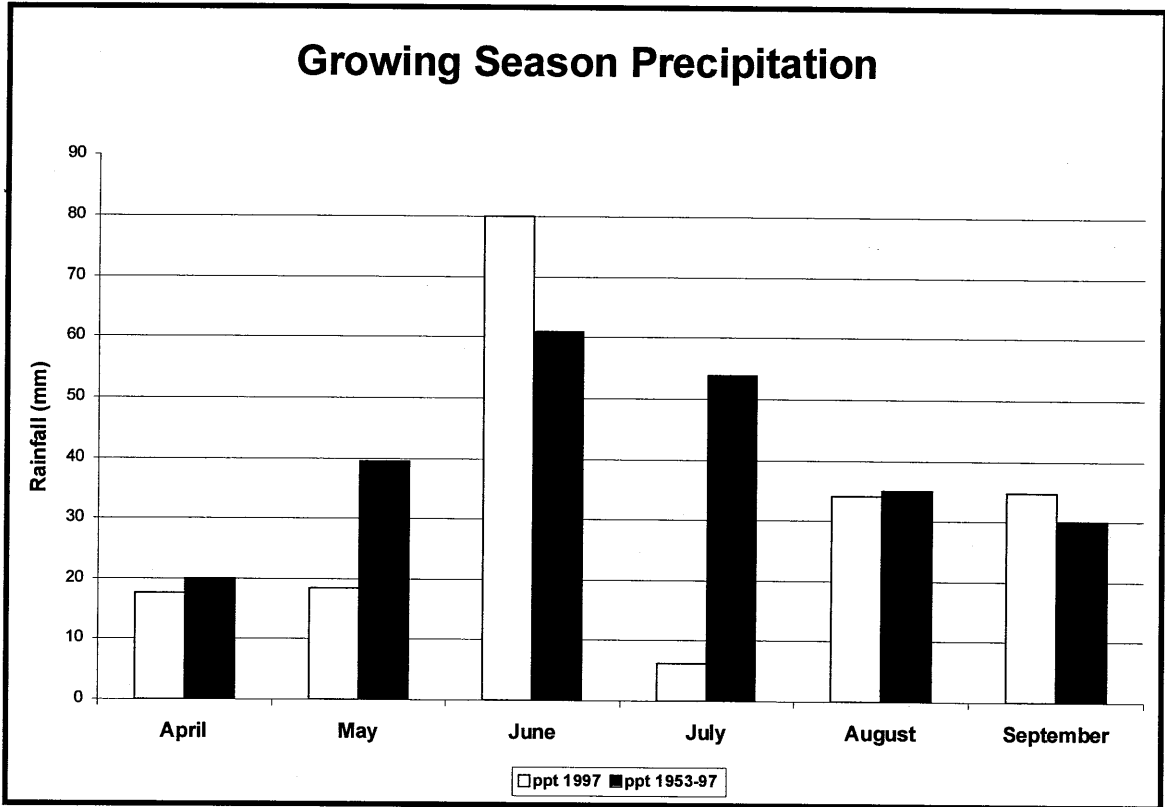
PROJECT NAME AND CO-OPERATOR	TERM	1997 EXPENDITURES	TOTAL \$
Saskatoon Berry Water Use (4 sites) Co-operators: G. Schultz, Waldheim; Last Mountain Berry Farm, Southey; Prairieland Orchards, D'Arcy; Topp Berry Farm, White City	Final year of two	\$500.00 \$500.00 \$500.00 \$500.00	\$1,000.00 \$1,000.00 \$1,000.00 \$1,000.00
Lower Energy Irrigation Systems Evaluation Co-operator: D. Eliason, J. Eliason, Riopka Brothers, Outlook	Final year of two Extended for 1998	--- --- \$202.67	\$1,000.00 \$1,000.00 \$2,500.00
Dandelion Control in Alfalfa Co-operators: G. Sommerfeld, G. Solnicka, Outlook	Project cancelled		
Remedial Pruning of Hail Damaged Saskatoon Berries Co-operator: Topp Berry Farms, White City	Second year of three	\$750.00	\$2,250.00
ICDC Crop Manager Demonstrations Co-operator: ICDC	First year of three	\$12,782.11	\$60,000.00
WEST CENTRAL DEMONSTRATION TOTAL		\$15,734.78	\$70,750.00

PROJECT NAME AND CO-OPERATOR	TERM	EXPENDITURES	TOTAL \$
Sprinkler Irrigated Alfalfa Management Co-operator: H. Gold, Maple Creek	Final year of three Extended for 1998	\$788.00	\$3,260.00
Fertilizer Placement - Spoke Injection vs. Deep Banding Co-operator: D. Arendt, Eastend	Final year of three Extended for 1998	\$334.78 COMPLETED	\$1,830.00
Fertilizer Placement for Spring Flooded Grasses (three sites) Co-operator: I. Bowie, Papat; L. Weiss, Maple Creek; H. Steinley, Rush Lake	Final year of three Extended for 1998	\$354.00 \$494.00 \$567.28	\$1,830.00 \$1,830.00 \$1,830.00
Fertilizer Placement for Established Irrigated Alfalfa Co-operator: L. Grant, Val Marie	Final year of three Extended for 1998	\$489.00	\$2,300.00
Alfalfa Varieties and Rates Co-operator: J. Wiebe, Swift Current	Final year of two Extended for 1998	\$813.00	\$1,500.00
Alfalfa Establishment and Varieties Co-operator: D. Halvorsen, Abbey	Final year of two Extended for 1998	\$597.00	\$1,500.00
ICDC Forage Manager Demonstrations Co-operator: ICDC	First year of three	\$14,975.96	\$60,000.00
SOUTHWEST DEMONSTRATION TOTAL		\$19,413.02	\$75,880.00
TOTAL DEMONSTRATIONS		\$35,147.80	\$146,630.00

Agri-Food Innovation Fund (AFIF)

PROJECT NAME	TERM	EXPENDITURES	TOTAL \$
Spoke Applied Research & Demonstration: Pulse; Turf Grass Seed; Minor Use Registration of Herbicides; Sunflower Regional; Herb Agronomy	First year of five	\$84,000.00	\$620,000.00
Demonstration of Improved Vegetable Production Techniques for Saskatchewan	First year of three	\$33,300.00	\$99,900.00
Integrated Management Program in Support of Saskatchewan Seed Potato Industry	First year of three	\$16,500.00	\$115,500.00
Precision Farming	First year of three	\$4,700.00	\$50,100.00
Total		\$138,500.00	\$885,500.00

Meteorological Data



Irrigation Data (mm)

Crop	Field	May	June	July	Aug	Sept	Total
Soft Wheat	1	15	100				115
Canola/Peas	3	50	175				225
Fibre Flax	3		150				150
Peas	4	30	140			425*	170
Soft Wheat	5	30	100			425*	130
Grass Seed Trials	7	50	170				220
Crop Rotation Study	8	40	125				165
Herbs	8	40	125	45	15		225
AFIF Pea Demo	8	40	125				165
AFIF Lentil Demo	8		65				65
AFIF Chick Pea Demo	8		90				90
AFIF Faba Bean Demo	8	40	175	75			290
Potatoes	8	40	175	100			315
Soft Wheat	9	15	175				190
Sunflowers	9	15	175	25			215
Canola Trials	9	15	175	75			265
Canola Trials	10	40	175	25			240
Spearmint	10	40	175	50	25		290
Spice Crops	10	40	150	50			240
Soft Wheat	10	40	175	25			240
Grass Trials	10	40	175	25			240
Durum	11	30	90	30			150
Potato Trials	11	30	135	60			225
Trans-Genic Canola	11	30	135	60			225
Potato Trials	12	75	120	90			285
Canola/Beans	12	45	105	30			180
Soft Wheat	12	75	90				165
Demo Site (Durum)	East 1/2	96	162				258
Demo Site (Cereals)	SW 1/4	96	162	48			306
Demo Site (Oil/Pulses)	NW 1/4	90	162	51			303

* Fall Leaching

Cereals

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