

## 2019 ICDC Research Program



Crop	Project Title	Objectives & Justification	Funding Source
Barley	Saskatchewan Variety Performance Group Regional Barley Trials	To evaluate the adaptability of current and newly registered barley varieties (2-row & 6-row) under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs <b><i>Crop Varieties for Irrigation</i></b> and provides producers with criteria for selection of the most appropriate variety for irrigated production conditions on the prairies.	ICDC & SVPG
Barley	Malt vs Feed Barley Management	To 1) demonstrate that newer malt varieties can provide comparable yield to the best feed varieties, 2) demonstrate the importance of adequate plant populations for yield and malt acceptance, 3) demonstrate the differences in N management for malt versus feed of barley.	Sask Barley Dev Comm
Canola	Canola Performance Trial	To evaluate the adaptability of current and newly registered herbicide tolerant canola varieties using appropriate herbicides and irrigation for each.	Canola Council
Canola	ICDC Irrigated Canola Variety Trial	To evaluate the adaptability of current and newly registered canola varieties under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs <b><i>Crop Varieties for Irrigation</i></b> and provides producers with criteria for selecting the most appropriate variety for irrigated production conditions on the prairies.	ICDC and partial ADF funding
Canola	Demonstrating 4R N Management Principals for Canola	Evaluate canola's response to varying rates of Nitrogen (N) along with different combinations of formulations, timing and placement methods relative to side-banded, untreated urea as a control.	ADOPT
Canola	Comparative efficacy of insecticidal seed treatments for flea beetle control in canola	To demonstrate the relative efficacies of registered seed treatments to control flea beetle damage in seedling canola.	SFP
Canola	2019 Irrigated Canola Survey	This project will evaluate current production practises used to grow irrigated canola in the Lake Diefenbaker Area. There will be a total of 15 individual irrigators who will be providing information for this survey.	Saskatchewan Ministry of Agriculture
Canola	Straight Cut Canola Performance Trial	To evaluate the adaptability of current and newly registered herbicide tolerant canola varieties that lend themselves to straight cut harvesting.	Canola Council

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Corn	Corn Variety Demonstration for Grain Production	To evaluate the crop's growing potential, and also provide producers with a side-by-side comparison between dryland and irrigated production. This demonstration will also show the increase in performance of a hybrid rye compared to conventional rye varieties when water and nutrients are not limiting factors.	ADOPT
Corn	Corn Variety for Silage Demonstration	To demonstrate corn varieties with low heat unit requirements, suitable to growing conditions in the Lake Diefenbaker area, for silage yield potential under irrigation.	ADOPT
Dry Bean	Dry Bean Regional Trial	To evaluate the adaptability of current and newly registered dry bean varieties using wide row production under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs Crop Varieties for Irrigation.	ICDC & SPG
Dry Bean	Dry Bean Inoculation and Fertilizer Strategies for Solid Seeded Production	Demonstrate the efficacy of commercial dry bean inoculant formulations alone or in conjunction with fertilizer nitrogen.	ADOPT
Dry Bean	N Fertilizer Rate Response in Irrigated Dry Bean	Determine nitrogen fertilizer rate yield responses for pinto market class irrigated wide row dry bean production. Determine whether ESN nitrogen fertilizer is beneficial compared to urea as a fertilizer nitrogen source for irrigated dry bean production.	ADF
Dry Bean	Registration of Oxidate for Chemigation Application to Irrigated Dry Beans	Evaluate efficacy of Oxidate for disease control in dry bean.	ICDC
Dry Bean	Expanding the Label Recommendations of Edge (ethalfluralin)	To expand the Edge label to include other dry bean classes other than navy and kidney bean.	Gowen Canada
Durum	Saskatchewan Variety Performance Group Regional Durum Trial	To evaluate the adaptability of current and newly registered CWAD wheat varieties under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs Crop Varieties for Irrigation.	ICDC & SVPG
Fall Rye	Demonstration of Fall Rye as an Irrigated Crop	Evaluate hybrid rye varieties growing potential and provide producers with a side-by-side comparison between dry land and irrigated production.	ICDC
Fall Rye	Demonstration of Nitrogen Rate Responses of Irrigated Conventional and Hybrid Fall Rye	The objective is to demonstrate the nitrogen rate response of irrigated fall rye varieties to optimize yield and protein. In addition, to provide information that can be used to create nitrogen fertilizer recommendations for irrigated fall rye production.	ADOPT

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Flax	Saskatchewan Variety Performance Group Regional Flax Trials	To evaluate the adaptability of current and newly registered flax varieties under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs Crop Varieties for Irrigation and provide producers with criteria for selection of the most appropriate variety for irrigated production conditions on the prairies.	ICDC & SVPG
Forage	Development of Best Management Practices for Cost-Effective and Successful Establishment of Saline Forages for Saskatchewan	The objectives are to determine optimal seeding rate, the effect of seeding date and the impact of tillage on AC Saltlander establishment under various soil salinity levels.	ADF
Fruit	Effect of Apogee (Prohexadione calcium) on Raspberry, Strawberry, Saskatoon berry, and Sour Cherry	The objective of this project is to demonstrate the positive effect application of Prohexadione calcium (marketed as Apogee) can have on Strawberry, Saskatoon berry, Sour cherry, and Raspberry. Apogee is a gibberellin inhibitor that has been found to have a number of beneficial physiological effects on fruit species. It reduces the spread of diseases like fire blight ( <i>Erwinia amylovora</i> ) that typically infect apples, raspberry, and Saskatoon berry. It also reduces runnering in Strawberry, and has been found to improve fruit quality in apples, strawberry, and in cherries.	Saskatchewan Fruit Growers Association ADOPT
Fruit	Budding Apple Scionwood to dwarfing apple rootstock in Saskatchewan	The objective of this project is to display compatibility of apple scionwood with dwarfing apple rootstock in Saskatchewan. This project is also intended to display the superiority of apples grown on dwarfing apple rootstock over apples grown on their own roots (under Saskatchewan conditions).	Saskatchewan Fruit Growers Association (ADOPT)
Fruit	Top-growth removal and burning of Raspberry, Saskatoon Berry, and dwarf sour cherry as an orchard management technique	The objective of this project is to display an efficient technique to manage overgrown orchard rows of Raspberry, Saskatoon berry, and dwarf sour cherry.	Saskatchewan Fruit Growers Association (ADOPT)
Lentil	Lentil Input Study	To determine which combination of agronomic practices result in the greatest yield and economic return.	ADF
Lentil	Herbicide management strategies for weed control in lentil	To demonstrate herbicide options for kochia, wild mustard and volunteer canola, to demonstrate herbicide layering, demonstrate fall applications to maximize soil residual effectiveness.	SPG

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Oat	Saskatchewan Variety Performance Group Regional Oat Trial	To evaluate the adaptability of current and newly registered oat varieties (feed & forage) under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs Crop Varieties for Irrigation.	ICDC & SVPG
Pea	Pea Regional Variety Trial	To evaluate the adaptability of current and newly registered pea varieties under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs Crop Varieties for Irrigation.	ICDC & SVPG
Pea	Production management strategies to improve field pea root health in Aphanomyces contaminated soils	To evaluate multiple management strategies to reduce the effect of aphanomyces on field pea root health and yield production.	SPG
Pea	Enhanced fertilizer management for optimizing yield and protein in field pea	Evaluate the yield and protein response of yellow field pea to various rates and combinations of nitrogen, phosphorus and sulphur fertilizer.	SPG
Oat/Pea	Oat - Pea Intercrop Evaluation	Determine the feasibility of oat as a companion crop with marrow fat pea.	ADOPT
Soil	Demonstrating 4R Nitrogen Principles in Canola	Evaluate canola's response to varying rates of Nitrogen (N) along with different combinations of formulations, timing and placement methods relative to side-banded, untreated urea as a control.	ADOPT
Soil	Use of yellow clover and tillage radish on heavy textured high sodium irrigated soils	The practice of green manuring will be conducted on a difficult to manage heavy textured soil to improve the crop productivity.	ICDC
Soil	Revisiting nitrogen fertilizer recommendations for Saskatchewan: Are we measuring the right soil nitrogen pool?	Research is intended to demonstrate that the soil protein N pool is directly related to potentially mineralizable N, and that measuring this pool can provide a basis for improved fertilizer recommendations. Two crops - canola and spring wheat.	ADF
Soil	Effectiveness of Action 5% in Saline Irrigated Soils	Ability of seed treatment to improve tolerance of wheat to saline soil.	ICDC

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Soybean	Soybean Regional Variety Trial	To evaluate the adaptability of new soybean varieties under standard irrigation management for prairie growing conditions. Information developed is used to support the registration of new soybean varieties suited to irrigated conditions on the prairies and to update ICDCs <b>Crop Varieties for Irrigation</b> . Two trials: irrigated vs. dry land.	SK Pulse Growers
Soybean	Conventional Soybean Variety Trial	To evaluate the adaptability of conventional soybean varieties under standard irrigation management.	SPG
Sunflower	Sunflower Plant Population Trial	Determine appropriate plant density for new hybrid (Honeycomb NS) compared to the check.	ADOPT
Sunflower	Sunflower Coop Trial	Evaluate four sunflower hybrids to irrigated production.	ICDC
Specialty	Seeding Date of Irrigated Hemp	This demonstration the effect of seeding dates on hemp yield.	ICDC
Wheat	ICDC Irrigated Wheat Variety Trial	To evaluate the adaptability of current and newly registered wheat varieties (CWRS, CWSWS, CWES, CWAD, CPSR) under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs <b>Crop Varieties for Irrigation</b> and provide producers with criteria for selection of the most appropriate variety for irrigated production conditions on the prairies.	ICDC and ADF Partial
Wheat	Saskatchewan Variety Performance Group Regional Wheat Trials - Hex 1 Wheat	To evaluate the adaptability of current and newly registered CWRS wheat varieties under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs <b>Crop Varieties for Irrigation</b> .	ICDC & SVPG
Wheat	Saskatchewan Variety Performance Group Regional Wheat Trials - Hex 2 Wheat	To evaluate the adaptability of current and newly registered CPSR, CWHWS, CWES, CWGP and CWHWS wheat varieties under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs <b>Crop Varieties for Irrigation</b> .	ICDC & SVPG
Wheat	Development of Field-Ready Cultivars of Canada Western Soft White Spring Wheat	To performance test for improved productivity, nutrient and water-use efficiency.	AAFC
Wheat	Increasing Wheat Protein with a Post Emergent Applications of UAN	To demonstrate the potential of UAN (30 lbs/ac N) to increase wheat grain protein when applied post-anthesis.	ECRF (SK Wheat Dev)

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Wheat	Demonstrating 4R Nitrogen Management Principles in Spring Wheat	Evaluate wheat's response to varying rates of Nitrogen (N) along with different combinations of formulations, timing and placement methods relative to side-banded, untreated urea as a control.	ADOPT
Wheat	Can Farmer Saved Seed Perform As Well As Certified Seed?	Evaluate the impact of various lots of farm saved HWRS wheat to certified seed.	SK Wheat Dev. Com.
Wheat	Effect of increased seeding density on weed competition and late season regrowth in spring wheat and durum.	The objective of the project is to collect current data on seeding rates and row spacing in spring wheat or durum (where durum is realistically grown) to demonstrate the impact that this can have on weed management and as well as yield and quality parameters.	SFP
Winter Wheat	Winter Wheat Variety Evaluation for Irrigation vs. Dry Land Production (18-19)	Identify the top producing or best adapted varieties of winter wheat for irrigation production.	ADOPT
Winter Wheat	Winter Wheat Response to Contrasting Placement/Timing Options for N Fertilizer	A key objective of this project is to demonstrate the relative winter wheat responses to varying N fertilizer rates when all of the fertilizer is applied either as side-banded urea, early spring broadcast urea, or a split application where 50% of the supplemental N fertilizer is side-banded and the remainder is applied in an early season broadcast application.	ADOPT
Winter Cereals	Double Cropping Winter Cereals for Silage	To compare double cropped winter wheat, fall rye and winter triticale to spring silage barley.	ADOPT
Vegetable	Expansion of the Pickling Cucumber Industry in Saskatchewan	To identify cultivars of pickling cucumbers suitable for production for processing in SK. To establish expected yields of cucumbers for processing. To establish heat units to predict and schedule optimum timing of pickling cucumber harvest.	SFP
Vegetable	Growing Methods to Assist in the Expansion of the Garlic Industry in Saskatchewan	To compare appropriate varieties of garlic for fresh market and for processing. To try to control garlic bulb size through different management techniques. To evaluate agronomic protocols for establishment of garlic from bulbils. To compare processing quality of garlic rounds compared to standard bulbs.	SFP
Vegetable	Demonstration of Beet Cultivars suitable for Saskatchewan Markets	Demonstrate the potential to provide season long supply of fresh beets to market. Provide opportunities for producers and buyers to see the crops being grown. Compare cultivars for suitability in SK conditions and market.	SVGA (ADOPT)
Vegetable	Demonstration of Crops with Opportunities	This project will demonstrate the potential to produce peppita pumpkin, chicory, soft neck garlic, sugar beet, Jerusalem artichoke, mung bean, sweet potato and karela in Saskatchewan.	SVGA (ADOPT)

Crop	Project Title	Objectives & Justification	Funding Source
Fall Rye	Continuation of Double Cropping Irrigated Winter Cereals for Silage	Evaluate two hybrid fall rye varieties and one conventional fall rye in a double cropping system (Seeded fall of 2019) that will be harvested in June 2020.	ADOPT
Winter Wheat	4R Winter Wheat N Fertilization Rate and Timing Demonstration 2019	Demonstrate the relative winter wheat responses to varying N fertilizer rates when all of the fertilizer is applied either as side-banded area, early spring broadcast urea, or a split application where 50% of the supplemental N fertilizer is side-banded and the remained is applied in an early season broadcast application.	ADOPT
Spring Wheat	Demonstrating 4R Nitrogen Management Principles in Spring Wheat - Year 2	Demonstrate the feasibility of various N management strategies and overall N rate response using spring wheat as a test crop. Nitrogen rates included in the demonstration will be adjusted for residual nitrate and range from nil to nearly double a conservation soil test recommendation.	ADOPT
Fababean/Corn	Irrigated and Dryland Fababean / Corn Intercrop for Silage	Show the benefit for corn silage quality by growing an intercrop of corn and fababean under both irrigated and dryland.	ADOPT
Winter Wheat	Winter Wheat Variety Evaluation for Irrigation vs Dry Land Production (18-19)	Identify the top producing or best adapted varieties of winter wheat for irrigation production and evaluate the yield potential of winter wheat under irrigation in comparison to dry land winter wheat production.	ADOPT
Winter Wheat	Winter Wheat Variety Evaluation for Irrigation vs Dry Land Production (19-20)	Identify the top producing or best adapted varieties of winter wheat for irrigation production and evaluate the yield potential of winter wheat under irrigation in comparison to dry land winter wheat production.	ADOPT
Fall Rye and Spring Barley	Effect of Nitrogen Fertilizer Applications on Double Cropped Fall Rye and Spring Barley (19-20)	Evaluate how nitrogen fertilizer may impact total forage biomass production of double cropped winter and spring cereals.	ADOPT/SCA
Spring Wheat	Demonstrating Spring Wheat Phosphorus Fertilizer Response on a Severely Phosphorus Deficient Irrigated Field	Evaluate the yield response of spring wheat to varying rates, time and placement of phosphorus fertilizer on a deficient phosphorus soil under irrigated production.	ADOPT

**Funding Source Abbreviations:**

- AAFC – Agriculture and Agri-Food Canada
- ADF – Agriculture Development Fund
- ADOPT – Agricultural Demonstration of Practices and Technologies
- AIP – Agri-Innovation Program
- AgriARM – Agriculture-Applied Research Management
- CDC – Crop Development Centre
- ICDC – Irrigation Crop Diversification Corporation
- PAMI – Prairie Agricultural Machinery Institute
- SCA – Saskatchewan Cattlemen Association
- SPG – Saskatchewan Pulse Growers
- SFP – Strategic Field Plan
- SVGA – Saskatchewan Vegetable Growers Association
- SVPG – Saskatchewan Variety Performance Group
- U of S – University of Saskatchewan
- WGRF – Western Grains Research Foundation