

2018 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 <i>Crop Varieties for Irrigation</i> 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 under standard irrigation management and appropriate herbicides for prairie growing conditions. Information developed is used to update ICDCs <i>Crop Varieties for Irrigation</i> .	ICDC and Canola Council of Canada
Canola	Contans Control of Sclerotinia for Irrigated Canola	Sclerotinia can be difficult to control in irrigated rotations because of the large number of irrigated crops grown that are susceptible to the disease. The project will demonstrate control of sclerotinia using a biological pest that attacks the sclerotia bodies resident in the soil. The advantage for this control mechanism is the labor saving which allows the irrigator to devote his time to other activities during the growing season.	ICDC
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 <i>Crop Varieties for Irrigation</i> and provides producers with criteria for selecting the most appropriate variety for irrigated production conditions on the prairies.	ICDC and partial ADF funding
Canola	An economic approach to stand establishment in canola	To demonstrate the need to adjust seeding rates to achieve adequate plant densities with varying canola seed sizes, and 2) to demonstrate the effect of canola seed size on vigour and yield under various local environmental conditions.	Sask Canola

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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
Corn	Defining Agronomic Practices for Forage Corn Production in SK	Develop and refine seeding and fertility recommendations for corn silage production.	ADF (PAMI)
Dry Bean	Demonstration of Narrow vs. Wide Row Dry Bean Production	The objective of this project will be to demonstrate the effect narrow row spacing (10") has versus traditional wide row spacing (20") in irrigated dry bean production.	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	Irrigated Bean Variety Trial - Narrow Row (IBVTNR)	To evaluate the adaptability of current and newly registered dry bean varieties using narrow row production under standard irrigation management for prairie growing conditions. Information developed is used to update ICDCs Crop Varieties for Irrigation.	ICDC and partial ADF funding
Dry Bean	Irrigated Bean Variety Trial - Wide Row (IBVTWR)	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 and partial ADF funding
Dry Bean	Demonstration of Heads Up for sclerotinia control in dry bean	Evaluate the effectiveness of Heads Up to suppress sclerotinia	ICDC
Dry Bean	Dry bean row spacing demo	The project will evaluate two row spacings for dry bean production. Dry bean will be planted using a JD1895 drill with 10" row spacing. This treatment will be compared to fababean sown with a conventional 10" air drill for an economic comparison. Will be compared for economic return with fababeans across the road.	ICDC

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Durum	Improving Fusarium Head Blight Management in Durum Wheat in SK	To improve fungicide timing in durum wheat for the control of fusarium head blight.	ADF (U of S)
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	ADOPT
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	AC Saltlander Green Wheatgrass Saline Tolerance Study	Determine seeding rate effects under differing salinity levels, determine the effects of time of seeding, compare direct vs. conventional seeding, evaluate flooding tolerance, evaluate nitrogen fertilization of AC Saltlander	ADF (AAFC Swift Current)
Fruit	Haskap Fertilizer and Irrigation Management under Photo-selective Netting	The objective of this project is to demonstrate benefit of increased fertilizer and irrigation application to haskap plants (using fertigation and tensiometers) and to demonstrate the benefit of photo-selective netting with respect to irrigation and nutrient management.	Saskatchewan Fruit Growers Association ADOPT
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

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Fruit	Demonstration of Advanced University of Saskatchewan Dwarfing Apple and Pear Rootstock Selections	In regard to dwarfing rootstock; this technology is widely adopted world-wide and is being used by the majority of commercial apple producers in Saskatchewan. The use of dwarfing apple and pear rootstock is beneficial because it greatly reduces the juvenility phase of apples and pears (so they start producing fruit at 3 or 4 years versus 10 years) and it allows more trees per unit area, that in turn vastly increases orchard yield.	Saskatchewan Fruit Growers Association ADOPT
Lentil	Irrigated Lentil Production	To evaluate lentil growing practices under irrigation	ADF
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
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	Specialized N Efficiency Products for Irrigation Cropping Systems	To demonstrate the benefit of using nitrogen efficiency products in irrigated cropping systems	ICDC, Koch Industries
Soil	Nitrogen response demonstration for Irrigated Quinoa	This demonstration will give producers the opportunity to observe the yield response of quinoa to nitrogen and how meeting the water use requirements of the crop will maximize yields.	ADOPT
Soil	Demonstration of Nitrogen Rate Responses of Irrigated Conventional and Hybris Fall Rye	To evaluate the rate response to conventional and hybrid fall rye to differing nitrogen fertilizer rates.	
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
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 Crop Varieties for Irrigation . Two trials: irrigated vs. dry land.	SPG and partial ADF

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Soybean	Conventional Soybean Variety Trial	To evaluate the adaptability of conventional soybean varieties under standard irrigation management.	SPG
Soybean	Control of glyphosate resistant canola in glyphosate resistant soybean	To 1) demonstrate the efficacy of specific pre and post-emergent herbicide options for the control of glyphosate resistant canola volunteers in glyphosate resistant soybeans, 2) demonstrate improved control of glyphosate resistant canola volunteers by layering pre and post-emergent herbicides	SPG
Sunflower	Demonstration of New Early Season Sunflower Hybrid	To demonstrate a new early season sunflower hybrid (Honeycomb NS) and establish its appropriate plant density.	ADOPT
Sunflower	Sunflower Hybrid Trial	To determine the maturity, yield and quality of sunflower hybrids in Saskatchewan. This trial is in assistance for the SK Sunflower Committee.	ICDC
Specialty	Demonstration of Conventional Hemp as an Irrigated Crops	This demonstration will give producers the opportunity to observe different varieties of hemp performing under irrigation in the Outlook area. Hemp is a newer crop in Saskatchewan but has had over 32,000 acres of production in 2015 (almost 40 per cent of western Canadian acres). Hemp is a high value crop (worth around \$0.75-\$0.90/lb) and has good potential yields in Saskatchewan (average 660-1070 lbs/acre).	ADOPT
Vegetable	Demonstration of Baby Carrot Varieties	Vegetable producers in Saskatchewan have increased production of baby carrots to over 200,000 lbs per year by producing a long, narrow, straight and tasty carrot variety, bred specifically for the baby carrot market. Unfortunately, this variety tends to exceed the length crop specification criteria developed for this market. As such, producers need to find another variety that grows slightly shorter narrow carrots, with the same good flavour that they are currently growing in order to further expand this market.	SVGA ADOPT
Vegetable	Comparison of drip versus overhead irrigation for crops susceptible to fungal diseases	High quality vegetable crop production requires regular applications of water in Saskatchewan due to the semi-arid climate. Vegetable growers therefore use irrigation to supplement rainfall, the most common type of irrigation used is overhead irrigation. However, some vegetable crops are susceptible to fungal disease and crop losses when overhead irrigation is applied – due to soil saturation dynamics that can favour disease outbreaks. In comparison, drip irrigation systems result in less disease because it efficiently provides water near crop roots – where it is required, rather	ADOPT (U of S)

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		than saturating a large volume of soil and encouraging fungal outbreaks. This project will compare the two irrigation systems on vegetable crops that are generally susceptible to diseases associated with water and humidity.	
Vegetable	Comparison of the Effectiveness of Drip versus Overhead Irrigation	High quality vegetable crop production requires regular applications of water in Saskatchewan due to the semi-arid climate. Vegetable growers therefore use irrigation to supplement rainfall. However, there are many different irrigation methods and growers must select the best method to maximize water use efficiency. Drip irrigation offers more uniform germination, less weed growth between rows, less disease, and it efficiently provides water near crop roots – where it is required. In comparison, overhead irrigation is easier to set up, is more maintenance free, and generally enables easier access to the soil for cultivation. This project will compare the two systems on vegetable crops that are either direct seeded or transplanted.	ADOPT (U of S)
Vegetable	Garlic Cultivar Demonstration	This project would provide opportunities for Saskatchewan producers and buyers to compare garlic cultivars for suitability to various Saskatchewan markets.	SVGA ADOPT
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 Crop Varieties for Irrigation 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 Crop Varieties for Irrigation .	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 Crop Varieties for Irrigation .	ICDC & SVPG
Wheat	Soft White Spring Wheat Coop Trial	To evaluate the adaptability of new soft white wheat and durum germplasm under standard irrigation management for prairie growing conditions. Information developed is used to	ICDC and partial ADF funding

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		support the registration of new soft white wheat varieties suited to irrigated conditions on the prairies and to update ICDCs <i>Crop Varieties for Irrigation</i> .	(AAFC Lethbridge)
Wheat	Input Contributions to Spring Wheat Yield Components, Grain Quality and Profits	The objectives of the proposed project are to demonstrate the agronomic and economic responses of CWRS wheat to selected crop inputs both individually and in combination.	ADOPT
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,	SK Wheat Dev Commission
Wheat	Monitoring of wheat Production practices	The project will seek to identify critical production practices that differ between the irrigation districts	ICDC
Winter Wheat	Winter Wheat Variety Evaluation for Irrigation vs. Dry Land Production (17-18)	Identify the top producing or best adapted varieties of winter wheat for irrigation 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
- SPG – Saskatchewan Pulse Growers
- SVGA – Saskatchewan Vegetable Growers Association
- SVPG – Saskatchewan Variety Performance Group
- U of S – University of Saskatchewan
- WGRF – Western Grains Research Foundation