2024 Irrigation Saskatchewan Research Program

Crop	Project Title	Objectives & Justification	Funding Source
Barley	Generating Pre-Harvest Sprouting Ratings for Barley Varieties	Generate ratings for pre-harvest sprouting (PHS) resistance for popular, and new barley varieties.	SFP & SBDC
Barley	Demonstration of and niche barley varieties	To demonstrate novel and niche barley varieties that might be of interest to local growers and end-users compared to common varieties.	SBDC & ADOPT
Barley	Plant Growth Regulator Products and Mixes to Improve Crop Safety and Efficacy in Barley	To demonstrate the plant health, agronomic, yield and quality responses of three important malting varieties to the registered plant growth regulator (PGR) options chlormequat-chloride and trinexepac-ethyl, applied both alone and in combination.	SBDC & ADOPT
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 ISASK's *Crop Varieties for Irrigation* and provides producers with criteria for selection of the most appropriate variety for irrigated production conditions on the prairies.	ISask & SVPG
Canola	Does seeding date and rate of canola effect spring flea beetle pressure, yield, and quality?	To demonstrate canola yield and quality response to a wide variety of seeding dates in various locations in SK. Demonstrate what seeding date is best for avoiding high flea beetle pressure in canola. Demonstrate if higher canola seeding rate is a good management strategy to project yield in the event of heavy flea beetle pressure.	ADOPT
Canola	Enhancing Canola Disease Management: a comprehensive canola disease training program for farmers	This demonstration aims to train canola growers to identify canola diseases, providing clear differentiation methods and effective treatment strategies.	SK Canola
Canola	Canola Response to Enhanced Efficiency Nitrogen Fertilizer Products and Blends	To demonstrate the effects of several side-banded enhanced efficiency nitrogen (N) fertilizer products and blends, relative to untreated urea, on canola establishment, yield, and quality.	SK Canola-IHARF

Cereals	Assessing seed to seedling transmission of Xanthomonas translucens causing BLS of cereals to establish inoculum thresholds	Determine seed to seedling transmission rate of Xt under field conditions to establish risk threshold levels.	ADF, U of S, AG MCA, SBDC, SWDC, WGRF
Corn	Evaluation of New Cultivars of Sweet Corn for Suitablity to Saskatchewan Growing Conditions and Market Requirements	Objective assessments for new cultivars: -good tolerance of cold soil conditions at planting -earliness -good tolerance of disease & insect pressure -high yield potential with uniform maturity -ease of harvest -good holding ability in the field and in storage	SFP & Doug Waterer
Dry Bean	P Fertilizer Rate Response in Irrigated Dry Bean	Determine phosphorus (P) fertilizer rate, and placement yield responses for small and large market class irrigated dry bean production.	SFP
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 ISASK's Crop Varieties for Irrigation.	ISASK & SVPG
Fall Rye	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 ISASK's *Crop Varieties for Irrigation* and provide producers with criteria for selection of the most appropriate variety for irrigated production conditions on the prairies.	ISASK & SVPG
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 ISASK's *Crop Varieties for Irrigation* and provide producers with criteria for selection of the most appropriate variety for irrigated production conditions on the prairies.	ISASK & SVPG
Flax	Flax Seeding Dates and Seeding Rates	To establish seeding date and rate recommendations for producers growing flax under irrigation in Saskatchewan.	SFP
Forage	Varietal Assessment of Forage Seed Production	To assess seed yield for the forage seed crops commonly grown in Saskatchewan; evaluate forage seed as a possible irrigated cash crop; explore potential turf grass varieties as a possible diversification opportunity for the forage seed sector; and enable the SRP chair for forage breeding to evaluate seed production of new lines and compare to current commercial varieties.	SFP & SFSDC

Forage	Demonstrating Forage Options in Cropping Rotations	The objective of this project is to create a venue and demonstrate various forage options best suited for inclusion into a cropping rotation and promote the benefits of having forages in rotations.	ADOPT
Soil	Performance of saline tolerant forages on saline soils.	Demonstrate the performance of salt-tolerant forages under saline soil conditions.	ADOPT
Fruit	Fall Foliar Application of Low Biuret Urea to Improve Sour Cherry Overwintering Success in Saskatchewan	This project will demonstrate the benefit of foliar split application of low biuret urea applied in early, mid, or late Fall (from late August - September) to University of Saskatchewan sour cherries.	ADOPT & SFGA
Fruit	Containerized Soilless Blueberry Production Grown under Protected Culture in Saskatchewan	This project will demonstrate production of hardy blueberry cultivars in soilless media grown in containers under protected cultivation.	ADOPT & SFGA
Fruit	Training Apples on Trellis Wire to Create a High-density Wall Production System	This project will demonstrate training of high-density dwarf apple trees onto trellis wire for improved apple production in Saskatchewan.	ADOPT & SFGA
Specialty	Comparing Irrigation Scheduling Tools in Saskatchewan	Economic performance metrics for different irrigation scheduling tools.	ADF
Mustard	Growing hybrid and composite mustard under irrigation in Saskatchewan.	Demonstrate growing hybrid and composite mustard under irrigation in Saskatchewan – year 3.	Mustard21
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 ISASK's Crop *Varieties for Irrigation*.	ISASK & SVPG
Oats, Peas, Wheat	Grasshopper control with cultural methods	Demonstrate the efficacies of cultural control methods to reduce grasshopper feeding damage.	SFP-SERF
Peas	Efficacy of GWN 9790	To evaluate efficacy of GWN 9790 as a seed treatment for control of Aphanomyces root rot	Gowan

Pulse & Soybean	Pulse & Soybean Regional Variety Evaluation	To evaluate the adaptability under standard irrigation management for prairie growing conditions.	SPG
Pulses	IPM for Lentils in Aphanomyces Soil	Integrated Pest Management (IPM) To evaluate different management techniques impact on aphanomyces disease in lentils.	SPG
Pulses	Demonstration of Biological Enhancements in Pulses	Provide a side-by-side comparison of biological treatments that promote an agronomic improvement in the growth of pulse crops.	SPG
Pulses	Assessing the Economic Viability of Seed Treatments and Their Impact on Root Rots in Field Peas and Lentils	To examine the agronomic responses of peas and lentils to fungicide and insecticide-based seed treatments at early and late seeding dates.	SFP & SPG
Pulse	Faba Bean Seeding Rates	Demonstrate different seeding rates for low vicine/convicine (large and small seed size) varieties to present to producers the ideal seeding rate of faba beans in Saskatchewan.	SFP/SPG
Pulses	When does it pay to apply fungicide to faba bean in SK and what does the weather have to do with it?	To determine the effect of late season fungicide applications and whether or not these applications will improve/preserve faba bean yield quality; when a second fungicide application may be best in order to improve/preserve faba bean yield and quality and if fungicide application timing should be based on visible symptoms and/or weather events rather than growth stage.	ADF – NARF
Pulses	When should Rapidly-Maturing Soybean Varieties be Planted in Saskatchewan?	To evaluate the effect of seeding date on various early maturing cultivars of soybean and maturity ratings in norther and southern locations in Saskatchewan.	SPG
Specialty	Fenugreek Response to a Range of Nitrogen Fertilizer Rates	To demonstrate the response of fenugreek to nitrogen fertility and build upon past work exploring the overall adaption of this crop to a range of Saskatchewan environments.	ADOPT
Specialty	Regional Adaption of Quiona and Response to Nitrogen and Phosphorus Fertilizer	To demonstrate the overall adaption and response to nitrogen and phosphorus fertilization of quinoa (*Chenopodium quinoa*) across a range of soil climatic zones in Saskatchewan.	ADOPT
Vegetable	Demonstrating the Effects of Cultivar Choice and Heat Stress on Ripening of Tomatoes	Demonstrate the days to ripening of cultivars of roma and slicer tomatoes as well as the effect of heat on the length of time it takes to ripen tomatoes.	ADOPT & SVGA

Vegetable	Testing Alternatives to Chlorpyrifos for Control of Root Maggots in Vegetable Cole Crops	To compare the relative importance of RM control treatments in several vegetable cole crops established by direct seeding versus transplanting. To test the potential for insecticides applied at planting to protect crops against root maggots for the duration of the growing season.	SFP & Doug Waterer
Soil	Strategies to Build Sustainable Phosphorus Levels and Optimize Water Use Efficiencies on Low P Soil.	This project will evaluate the benefit of annual P fertilizer versus single large P fertilizer applications over a 4-year irrigated cropping system. Along with assessing whether higher single P applications inhibit Zn availability to plants. Finally will determine total water use and assess water productivity as it relates to P fertilization strategies for irrigated production.	Sk Wheat Sk Canola
Spring 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
Spring Wheat	Standing up with your own stalk: Do the plant growth regulators available for spring wheat improve the productivity of current CWRS varieties?	To demonstrate the response of current and common CWRS wheat varieties to plant growth regulators registered for use in spring wheat.	SWDC- NARF
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 ISASK's *Crop Varieties for Irrigation*.	ISASK & 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 ISASK's *Crop Varieties for Irrigation*.	ISASK & SVPG
Wheat/Pulses	Investigating the Impact of Crop Rotations on Root Rot Diseases of Pulse Caused by Fusarium spp. and Its Relationship with Fusarium head blight (FHB) in Wheat	To assess the influence of crop rotations on the incidence and severity of root rot disease in pulses caused by Fusarium spp. and to extend these findings to growers and industry.	SFP

Wheat	Demonstrating the Efficacy of Foliar-Applied Nitrogen Fixing Bacteria for Wheat	To demonstrate the effects of commercially available, foliar-applied nitrogen (N) fixing bacteria products on CWRS wheat grain yield and protein.	SWDC, ADOPT-IHARF
Wheat	Efficacy of fungicides active ingredient for fusarium head blight (FHB) and deoxynivalenol (DON) management	Comparing the efficacy of various fungicides' active ingredients, registered for managing FHB and mycotoxin suppression, relative to a control.	SWDC
Wheat, Barley	Components of Potash Fertilizer Affecting Yield Response of Malt Barley and Spring Wheat	Identify appropriate components of potash fertilizer (K or Cl) affecting yield response of malt barley and spring wheat. Identify physiological plant factors contributing to yield response. Investigate if fertilizer applications are affecting disease incidence.	SBDC & SWDC
Winter Wheat	Saskatchewan Variety Performance Group Regional Wheat Trials – Winter Wheat	To evaluate the adaptability of current and newly registered winter wheat (CWRW) varieties under standard irrigation and dryland for prairie growing conditions.	ISASK & SVPG
Winter Cereals	Winter Cereal Demonstration Showcasing Winter Wheat, Winter Triticale, and Fall Rye	To showcase winter wheat, winter triticale, and fall rye in different regions of Saskatchewan, under an optimal and delayed seeding date.	ADOPT

Funding Source Abbreviations:

- AAFC – Agriculture and Agri-Food Canada
- ADF – Agriculture Development Fund
- ADOPT – Agricultural Demonstration of Practices and Technologies
- AG – Alberta Grains
- ISASK – Irrigation Saskatchewan
- MCA – Manitoba Crop Alliance
- MoA – Ministry of Agriculture
- SBDC – Saskatchewan Barley Development Commission
- SCA – Saskatchewan Cattlemen Association
- SPG – Saskatchewan Pulse Growers
- SFP – Strategic Field Plan
- SFSDC – Saskatchewan Forage Seed Development Commission
- SSPGA – Saskatchewan Seed Potato Growers Association
- SWDC – Saskatchewan Wheat Development Commission
- SVGA – Saskatchewan Vegetable Growers Association
- SVPG – Saskatchewan Variety Performance Group
- UofS – University of Saskatchewan
- WGRF – Western Grains Research Foundation