Strategic Field Program (SFP) – Projects Approved for Funding 2024

Funding for these SFP projects is provided by the governments of Canada and Saskatchewan under the Sustainable Canadian Agricultural Partnership and was approved by the Saskatchewan Minister of Agriculture on March 14, 2024.

Testing Alternatives to Chlorpyrifos for Control of Root Maggots in Vegetable Cole Crops *(20230429)*

Contractor: Doug Waterer
Ministry Specialist: Connie Achtymichuk
Objectives:

- To test alternatives for chloropyrifos to control root maggots in vegetable cole crops at direct seeding, transplanting and at planting.
- To test the efficiency of the three maggot control products (broflanilide, acephate and isocyclosream).

SFP Funding: $34,000

Extensive Winter Backgrounding of Beef Calves *(20230430)*

Contractor: Aklilu Alemu, Agriculture and Agri Food Canada
Ministry Specialist: Dwayne Summach
Objectives:

- To demonstrate an economically feasible alternative feeding model to encourage more beef cattle to be backgrounded and fed in SK.
- To compare feed intake, performance, morbidity, mortality, disease and antibiotic use of calves in a traditional intensive-high density dry lot environment (system 1) vs extensive-low density field environment (system 2).
- To evaluate soil carbon sequestration, nutrient deposition and cycling and resulting crop production benefits between three nutrient management systems (application of conventional fertilizer, solid manure from intensive dry lot, direct manure deposit during extensive winter backgrounding).
- Conduct an economic analysis to compare each management system.

SFP Funding: $306,480

Faba Bean Seeding Rates *(20230432)*

Contractor: Gursahib Singh, Irrigation Crops Diversification Corporation
Ministry Specialist: Sara Ingell
Objectives:

- To demonstrate different ideal seeding rates for low vicine/convicine faba bean varieties in Saskatchewan.
- To compare the yield of newer low vicine/convicine varieties and to examine the effect of seeding rate on plant stand and yield.

SFP Funding: $53,400

Efficacy of Enhanced Efficiency Fertilizers for Banded Applications in Spring Wheat *(20230433)*

Contractor: Mike Hall, East Central Research Foundation
Ministry Specialist: Allie Noble
Objectives:

- To determine whether the use of enhanced efficiency fertilizers (EEF) can improve the nitrogen use efficiency (NUE) of spring banded applications of urea for spring wheat.
- To determine whether a spring banding product with nitrification inhibitor (eNtrench) or a dual urease and nitrification inhibitor (SUPERU) increases N uptake, grain yield or grain protein of spring wheat relative to urea

alone.
SFP Funding: $99,400

Investigating the Impact of Crop Rotations on Root Rot Diseases of Pulses Caused by Fusarium spp. and Its Relationship with Fusarium head blight (FHB) in Wheat *(20230434)*

Contractor: Gursahib Singh, Irrigation Crops Diversification Corporation
Ministry Specialist: Tyce Masich
Objectives:

- To assess the influence of crop rotation on the incidence and severity of Fusarium root rot diseases in pulses.
- To determine the relationship between Fusarium root rot in pulses and Fusarium Head Blight (FHB) in wheat following a FHB epidemic year.
- To determine the effectiveness of non-host crops in breaking the disease cycle and reducing *Fusarium* infection in subsequent pulse and wheat crops.

SFP Funding: $204,800

Generating Pre-Harvest Sprouting Ratings for Barley Varieties *(20230435)*

Contractor: Gursahib Singh, Irrigation Crops Diversification Corporation
Ministry Specialist: Matthew Struthers
Objectives:

- To generate pre-harvest sprouting (PHS)resistance for popular and new barley varieties.
- To determine genetic differences in PHS for barley varieties using natural and irrigated conditions with delayed harvest to display genetic differences.
- To determine if there are interactions for PHS between genetics and environment.
- To determine if using rapid visco analysis (RVA) methodology on regional variety performance trial grain samples is suitable for generating resistance rates for future varieties.

SFP Funding: $183,408

Understanding Cyanobacteria Toxin Production to Aid Livestock Producers in Proactive Management of Surface Water Sources *(20230437)*

Contractor: Andrew Cameron, University of Regina
Ministry Specialist: Chelsey Siemens
Objectives:

- To understand the cyanobacteria toxin production to aid livestock producers in proactive management of surface water resources.
- To establish quantitative measures of DNA and RNA of toxin producing genes in lab strains of blue green algae and livestock water sources (dugouts).
- To identify predictors and drivers of cyanobacteria toxin production to develop testing and prediction tools to aid livestock producers in proactively managing water sources.
- To use genomic based testing to develop best practices and extension material for identification, risk assessment and treatment of blue green algae in livestock water sources.
- To sequence the cyanobacteria genome to understand toxin gene diversity in SK.

SFP Funding: $84,593

Determining Effective Monitoring Methods and Action Thresholds for Successful Integrated Varroa Mite Management in Honey Bees in Saskatchewan *(20230439)*

Contractor: Medhat Nasr, Saskatchewan Beekeepers Development Commission
Ministry Specialist: Geoff Wilson
Objectives:

- To determine the most effective time and method to monitor varroa mites and the economic threshold to control varroa mites on honeybees in SK.
- To determine the population dynamics of varroa mites and honeybees, their impacts on honey production and colony survivorship under Saskatchewan conditions.
- To determine the strengths, weaknesses, and relationship of three common sampling and monitoring methods for varroa mites including varroa alcohol field shaker, sugar shake and sticky boards.
- To understand the relationship between bee yard composite samples vs individual hive samples for their effectiveness in monitoring varroa mites.
- To determine the economic threshold and the injury level of varroa mites in SK.

SFP Funding: $133,000

Cultural and Agronomic Management of Weeds in Annual Crops with an Emphasis on Kochia *(20230578)*

Contractor: Bryan Nybo/Amber Wall, Wheatland Conservation Area
Ministry Specialist: Shannon Chant
Objectives:

- To reduce the impact of kochia and other weeds in annual crop production.
- To determine if light tillage at spring, fall or both timings promote seeds to germinate and be controlled in the spring by herbicide application or seeding pass.
- To measure the impact of winter cereal crops versus spring cereal crops for weed competition.
- To investigate if using annual crops and cutting them for greenfeed reduces weed pressure.

SFP Funding: $229,468

Assessing the Economic Viability of Seed Treatments and Their Impact on Root Rots in Field Peas and Lentils *(20230579)*

Contractor: Gursahib Singh, Irrigation Crops Diversification Corporation
Ministry Specialist: Shannon Chant
Objectives:

- To examine agronomic responses of peas and lentils to fungicide and insecticide-based seed treatments at early and late seeding dates.
- To examine the impact of variety, seed treatment and seeding date on root rot pathogens in pea and lentil.
- To assess the profitability and effectiveness of three different seed treatments applied to a newer and older pea and lentil varieties that are seeded at two different seeding dates.

SFP Funding: $248,850