

## Research Priority: CROP MANAGEMENT



Identification and development of management tools, from seed production to commercial sales, to improve the crop quality through enhanced nutrient efficiency and other cultural practices to achieve higher yields and manageable specific gravity.

### AREAS OF INTEREST (established at 2020/2021 PRAC meetings)

#### NUTRIENT EFFICIENCY

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#### DECISION SUPPORT TOOLS

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Decision support tools – examples:

- a. Recognize potential onset of diseases
- b. Assist with disease identification
- c. Provide other analytic capabilities

#### SHORTER ROTATIONS

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Would need to be distinctive approach from current SCRI funded Soil Health project.

#### PLANT DISEASE RESISTANCE

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Strengthened understanding of mechanisms underlying plant resistance / immunity to pathogens

#### STORAGE

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Sprout Suppression using less or no Sprout NIP

Storage management, with a focus on quality or yield retention

**Research Priority: DISEASE & PEST  
MANAGEMENT**



Identification and development of diagnostic and management tools, including the certification system, to better control foliar and soil-borne pathogens to boost overall potato production.

Priority diseases include mop-top, powdery scab, PVY (all strains), late blight, zebra chip, Tobacco rattle, Dickeya and others.

**AREAS OF INTEREST:**

**PLANT DISEASE RESISTANCE**

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Understanding mechanisms that trigger natural immune responses in plants

**PVY (ALL STRAINS)**

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**REMOTE SENSING FOR DISEASE**

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**DICKEYA**

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**COMMON SCAB & POWDERY SCAB**

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**CORKY RINGSPOT**

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**Research Priority: TECHNOLOGY  
DEVELOPMENT**



**Identification and development of management tools to incorporate innovative technologies into potato research and production.**

**AREAS OF INTEREST:**

**TOOLS FOR CROP MANAGEMENT**

Analytical models and tools for purposes such as: diagnosing, treating, and predicting disease; optimizing crop inputs; measuring quality characteristics

**BREEDING FOR DISEASE RESISTANCE**

**NEW BREEDING TECHNOLOGIES**

Would need to be distinctive approach from currently funded SCRI Diploid Breeding and proposed Polyploid breeding projects.

**Research Priority: SOIL HEALTH**



Identification and development of management tools to control pests and pathogens that deplete soil health. These include all necrotic viruses, nematodes, *Verticillium*, and other pests and pathogens.

**AREAS OF INTEREST:** Any project would need to be distinctive from current SCRI funded Soil Health project.

**DISEASE-FIGHTING COVER CROPS**

Cover crops that reduce pathogen loads

**SOIL BIOLOGY**

Managing soil biology – example: microbial communities (fungi to bacteria ratios)

**SOIL MANAGEMENT PRACTICES**

Specifically: the impact of soil management practices on yield potential and disease suppression

**CROP MIXTURES & ROTATIONS**

Cropping systems that elevate microbial activity, mitigate disease, and produce other collateral benefits

**Research Priority: SUSTAINABILITY**



**Identification and development of management tools to address sustainability concerns within the industry.**

**AREAS OF INTEREST:**

**H<sub>2</sub>O- & NITROGEN-USE EFFICIENCY**

This category includes: development of new varieties with reduced demand for—or increased ability to uptake—water and nutrients; improved irrigation technologies (precision application, e.g.); diversified water treatment methods

**OPTIMIZED CROPPING SYSTEMS**