

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:

NUTRIENT EFFICIENCY

DECISION SUPPORT TOOLS

Decision support tools – examples:

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

SHORTER ROTATIONS

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

PLANT DISEASE RESISTANCE

Strengthened understanding of mechanisms underlying plant resistance / immunity to pathogens

SPROUT SUPPRESSION USING LESS OR NO SPROUT NIP

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

Understanding mechanisms that trigger natural immune responses in plants

PVY (ALL STRAINS)

REMOTE SENSING FOR DISEASE

DICKEYA

COMMON SCAB & POWDERY SCAB

CORKY RINGSPOT

**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:

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:

H₂O- & 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