



## MINNESOTA'S AGRICULTURAL SECTOR WILL BECOME INCREASINGLY VULNERABLE TO CWD CONCERNS

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### Prions Are In Our Environment

Prions are deposited by CWD+ animals.

Prions outlast all known pathogens in the environment.

Prions bind to soils and remain infectious.

*MNPRO is working on a range of environmental remediation strategies and technologies.*

*These include pioneering chemical, off-site incineration, and controlled burn methods.*

### Plants Take Up Prions

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Prions can be taken up from infected fluids or the soil to which prions bind.

We can detect prions in plants using RT-QulC.

*MNPRO is testing if prions contaminate grains in corn and soybeans.*

*We are also assessing uptake and movement of prions by corn, soy, barley, alfalfa, and tobacco.*

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### Critical Questions:

Does feed processing mitigate or enhance infectivity? Do prions contaminate equipment?

Are some crops, grains, and forage more likely to spread prions?

**How does being absorbed by crops, stored, and processed affect prion infectivity?**

Does the threat increase or lessen in storage? Are seasonal facilities contaminated?

Which crops assimilate prions most readily?

### Crops and Prions Interact

Different plants assimilate prions at different rates.

Prion exposure may affect the growth and yield of vegetables.

*MNPRO is determining the influence of prion exposure on root structure and soil microbiome.*

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Among the top prion research labs in the nation, MNPRO is uniquely positioned to address these questions.

Our specialized researchers are experts on prion-soil interactions, prion remediation and decontamination, and plant uptake of nano-scale materials, with extensive experience with lab and field scale crop cultivation, plant-microbe interactions, and soil microbiomes.