

SPORE TRAPS FOR WHITE MOULD

Chatterton is nearing the end of a four-year project studying the key bean diseases of white mould and bacterial blight, with the goal of adding management options and reducing risk.

She wants to provide better tools for bean growers to decide whether a fungicide application is necessary. Strategies being examined with funding from the Canadian Agricultural Partnership AgriScience Program include using spore counts and weather modelling as predictive tools for white mould.

As Chatterton explained, most fields surveyed had a relatively low incidence (<20%) of white mould. On the few fields that left check strips, fungicides did not appear to influence disease levels. At the same time, a handful of fields were heavily infected (50% to 100% incidence), highlighting the sporadic and localized development of white mould and the difficulty in predicting disease risk.

Still, the work goes on.

“I think it’s very exciting that these new technologies of spore samplers coupled with rapid quantitative diagnostics can provide better insight into infectious periods,” Chatterton said. “What I envision for Alberta is a multi-pathogen, multi-crop disease forecasting network based on aerial spore quantification.”



Disease management continues to be a major focus of research funded by Alberta Pulse Growers.

USING CALCIUM-BASED PRODUCTS TO MANAGE *APHANOMYCES*

The arrival of *Aphanomyces* root rot at significant scale in 2013 put Chatterton at the starting point of the pulse disease research cycle. Over seven years and several projects, she studied its nature and distribution, and investigated agronomic and breeding methods to manage it.

Now Chatterton is looking to develop the agronomic toolbox for *Aphanomyces* even further. Between 2021 and 2024, she’ll evaluate different types of calcium-based products (limestone, hydrated lime, calcium sulfate) at varying rates to determine whether these will reduce *Aphanomyces* root rot and improve yield at infested sites. Chatterton will also investigate whether new products such as seed treatments or other soil amendments have the potential to suppress *Aphanomyces* root rot.

Greenhouse studies have suggested that these methods hold promise. Will they work in the field? That’s the big question.

“My goal is to perform non-biased field testing of these products to provide evidence-based advice on root rot suppression or management,” Chatterton said. “I’m really optimistic that with all of the complementary research projects on the horizon for the pea root rot complex, we’re building good foundational practices for root rot management.”