CERTIFIED SEED POTATO PRODUCTION IN WISCONSIN

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A number of seed-borne disease organisms can steal the vigor and performance of potato crops planted with infected seed. These organisms range from a number of difficult to detect viruses, to bacterial and fungal diseases that can dramatically decimate potato plantings in the field or tubers in storage in very brief periods of time. Because of the potentially detrimental impact of seed-borne diseases in potato production, programs have been established in all seed potato producing states and provinces of Canada to regulate and certify the quality of seed produced by them. In Wisconsin this regulatory function is delegated to the Wisconsin Seed Potato Certification program administered by the Plant Pathology Department at the University of Wisconsin-Madison. Certified seed potato production in Wisconsin is regulated by state law found in Chapter 156 of the Administrative Code of the state Department of Agriculture, Trade and Consumer Protection. These regulations were arrived at through a long process of consensus-building between scientists, seed producers and seed users in the state, and collectively they represent a scientifically based, concerted effort to ensure the production of high quality seed at a reasonable cost in our state.

Modern seed certification systems rely on what is called a "limited generation" concept of potato seed production. To qualify for certification, potato seed must originate from pathogen-free tissue cultures. From this known disease-free starting point, progeny material can be propagated under field conditions only a limited number of times before it can no longer be used as seed. As each time it is planted in the field potentially exposes the crop to disease organisms, this limited generation approach works effectively to prevent the build up of seed-borne disease organisms.

While seed certification programs across the continent have many things in common, and enforce basically similar regulations, like requiring limited-generation production, some of the approaches taken in Wisconsin are relatively unique and, we believe, fundamentally superior to the way things are set up and run in some other states. One of the best examples of forward thinking on the part of the framers of the Wisconsin certification system is the University-operated elite-foundation seed farm in Rhineland. The Wisconsin State Farm is one of only three such facilities in the U.S. This facility is the starting place for about 3/4 of the seed potato lots produced in the state. In this talk, I will walk you through the life and experiences of such a seed lot. Along the way, I will point out some of the ideas and approaches that are unique to the Wisconsin system.