

## Aphanomyces Root Rot

As pulse growers in Western Canada are well aware, Aphanomyces root rot presents a major obstacle to the stability of our pulse industry in Canada. The pathogen produces oospores that remain viable in the soil for many years, and has forced many Pea producers in Western Canada into extended crop rotations; in some cases as long as 8 years. This disease presents very similar challenges for pea growers as Club Root does for canola production, with the added issue that genetic resistance to the disease remains elusive.



Photo Credit: Mike Harding, Alberta Agriculture & Forestry



Photo Source: <https://doi.org/10.1016/j.eng.2018.07.006>

Currently, none of our pea varieties have resistance, although they do vary in their level of susceptibility. This has led to a program of back crossing to try to enhance resistance. It shows some promise and breeders believe it may eventually cut the disease incidence by almost 50% as compared to what we see with current varieties. However this will still not be enough to prevent Aphanomyces from overwhelming the crop in cases where there are high levels of the disease. In the meantime, the search continues for germplasm (both domestically and internationally) that shows resistance.

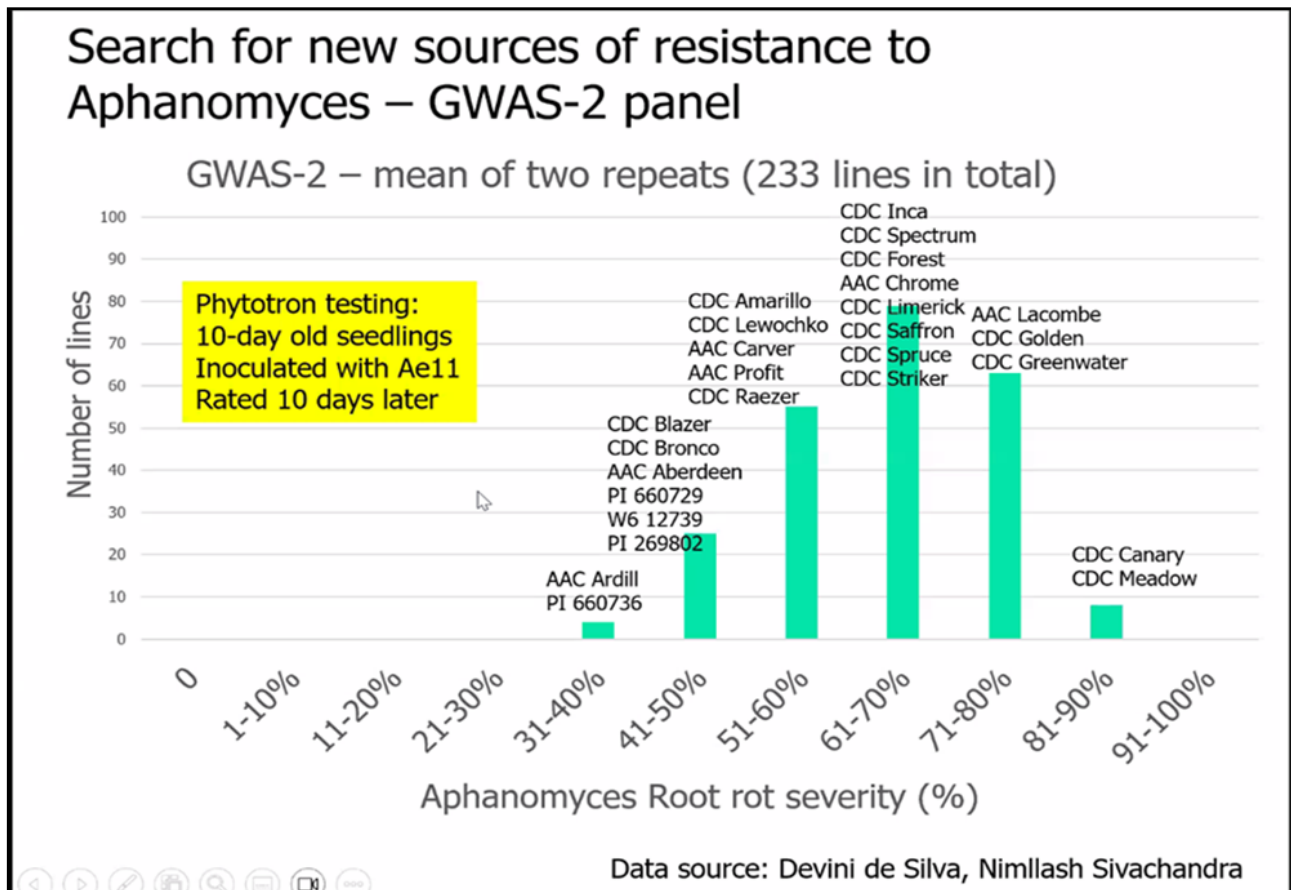
There are also efforts to develop resistance to Aphanomyces by creating new genetic combinations through multi-parent crosses and by introducing gene mutations into the breeding programs. However, all of these efforts are in the early stages, and are of little comfort for those dealing with a pea field that has high disease levels in it today.

For now, options remain limited; producers can introduce a pulse crop that shows resistance to the disease, such as faba beans or they can extend rotations to allow infection levels of *Aphanomyces* to drop below critical levels. Faba beans have limitations; they do best under moist, cool conditions and require a lot more water to produce good yields than peas do. Also, the market for faba beans remains small and marketing can be challenging. That being said, if you would like to learn more about this option, the Saskatchewan Pulse Growers have some very good information on faba beans that you can find here;

<https://saskpulse.com/growing-pulses/faba-beans/faba-beans-seeding/>

<https://saskpulse.com/resources/2024-pulse-variety-seminar/>

If faba beans are not in the cards for you, about all you can do is keep peas off of fields with known problems for an extended time. There is no real consensus on how much time, as that will depend on how high the levels of the disease have gotten in any particular field. But expect somewhere between 6 and 8 years before it is safe to seed peas there again. And when you do go back into peas on that field, remember that not all varieties are equal in their susceptibility. It will likely be a good idea to plant a variety that shows some level of resistance to the disease.



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