Seed health in potatoes

Problems
The potato crop is susceptible to many pathogens. Potato virus and bacterial soft rot are most actual—but definitely not the only—problems in seed production. Yield losses can go up to 50-70% or complete crop failure.

Solutions

Organic seed potatoes
A typical variety for organic farming allows for moderate fertilization levels, has a stable product quality under stress conditions, is broad resistant against Late Blight and virus and has a short field period.

Virus
Potato virus X and Y are spread by aphids or by cross-contamination. They can show symptoms, like ‘squeezed’ or rolled leaf growth, yellowing or mosaic patterns, mostly on top of the plant. However, the expression is dependent on variety, crop maturity and growing conditions. Rogueing basic seed lots is key, which takes experience. A diseased plant can be missed, particularly in varieties that show no symptoms; causing ‘secondary disease’ next season.

Bacterial soft rot or blackleg
Pectobacterium and Dickeya (Erwinia): plants fall due to stem rot or wilting, with creamy tuber spots and a fishy smell. Virus rogueing is a notorious path for Erwinia spread. Like virus, infested tubers may be symptomless, enabling ‘invisible’ spread through a seed lot. Farm hygiene is the only control measure.

Practical recommendations
- grow a virus resistant variety
- rogue diseased plants, don’t rogue in a wet crop
- rogue from ‘healthy’ to diseased plots
- remove diseased plants (marginal effect) plus all tubers
- aphid control (in OF, one has to rely on natural predators)
- remove ‘Solanaceae’ weeds and ‘volunteers’
- a diseased seed crop may go for consumption
- at harvest: remove suspicious tubers
- allow rotten tubers to dry in storage

Further information
1. https://wiki.groenkennisnet.nl

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