# 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.


***Figure 1:*** *Crinkled leaves with chlorotic spots due to Potato virus Y.*

### 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.


***Figure 2:*** *Bacterial soft rot causing black stem rot and stem wilting.*

## 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
2. A. Mulder and L.J. Turkesteen (Eds.), 2005. Potato Diseases. Den Haag, The Netherlands. ISBN 90-802036-4-5

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