

Potato (*Solanum tuberosum*)-Potato Virus Y

Latest revision:

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Potato tuber showing early necrotic ring due to PVY.

Photo by Ken Frost, 2016.



Potato tuber showing necrosis due to PVY.

Photo by Ken Frost, 2019.



Veinal necrosis symptoms of PVY on potato leaflets.

Photo by Ken Frost, 2017.

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Cause Potato virus Y (PVY) is a mechanically- and aphid-transmitted disease. PVY can reduce yields of most potato varieties, particularly in the high-yielding, long-growing season of the Columbia Basin. In addition to yield reduction, specific strains of PVY can cause reductions in tuber quality.

Symptoms Infection may cause a mild mottle or slightly distort leaves or result in an easily recognized "mosaic" symptom. Infection in the varieties, Shepody and Russet Norkotah, are extremely difficult to see whereas a more easily seen mosaic pattern can be found in 'Russet Burbank'. A severe reaction and plant death may result from infection in 'Ranger Russet'. Tuber symptoms can occur due to infection by strains of PVY. Of particular importance are PVY^{n:o} and PVY^{ntn}. These strains can cause substantial internal necrosis in the potato varieties Russet Ranger, Yukon Gold, Yukon Gem, and Alturas. Other potato varieties can also be impacted; infection in many of these can be seen on the tubers surface as either raised or sunken areas on the tuber surface, particularly on smooth-skin varieties.

Cultural control

- Use seed from a seed certification program that tests for viruses, including latent viruses. Use both field data and winter grow-out information to select seed lots.
- Disinfect cutting and planting equipment before use. See materials under Potato (*Solanum tuberosum*) - Ring Rot.
- Avoid cutting sprouted seed tubers.
- Minimize cultivation to prevent mechanical spread of the disease. Cultivate when vines are dry. Clean cultivation equipment when moving from a virus-infected field to one that is not infected. Better yet, use one set of equipment only in the virus-free fields.
- Solid-set irrigation will decrease mechanical spread.
- Potato seed growers should rogue all infected plants, including daughter tubers. Do it early in the season before vines touch. Later, rogue when the vines are dry. Immediately place rogued vines and tubers in a clean sack to prevent spread as you move down the rows.

Chemical control Control aphids. Preventing spread into a field is unlikely but controlling the spread of these viruses in a field is possible with insecticide use. See the *PNW Insect Management Handbook* for details.