



Tobacco Rattle Virus and Corky Ringspot Disease



Figure 1: Potato field in Idaho (Idahoan.com)

What is it?

Corky ringspot (CRS) is a potato disease in which ring-shaped lesions form on the outside of tubers and corky, ring-shaped tissues form in the tuber flesh.



Figure 2: TBR symptoms in potato

Economic Importance

Due to deformation and/or discoloration marketable numbers of potatoes can decrease as much as 55 percent.

What Causes it?

CRS is caused by Tobacco Rattle Virus (TRV), which received its name for the noise infected tobacco leaves made when blowing in the wind. TRV has a wide host range which includes corn, cereal crops, and several different weed species. Some examples

include redroot pigweed, hairy nightshade, green foxtail, broadleaf cocklebur, and wild lettuce. TRV is transmitted through Stubby-Root Nematodes (*Trichodorus* and *Paratrichodorus*) which become vectors by feeding on plant tissues infected with TRV. The nematodes then feed on the roots and tubers of healthy potato plants transmitting the TRV.



Figure 3: Tuber deformation caused by TRV.

Stubby-Root Nematode Control

Once plants are infected by TRV nothing can be done to cure the plant of the virus. The most effective way to stop the spread of TRV is to eliminate the vector, Stubby-Root Nematode. Both **Pratex Oats** and **Control Oilseed Radish** are highly resistant to Stubby-Root nematode. The nematode attempt to host on the roots, but the resistant oats and radish prevent the completion of the nematode life cycle. **Pratex Oats** and **Control Oilseed Radish** are bred to reduce Stubby-root nematode populations.

References:

Hafez, S.L., and Sundararaj, P. 2009. Management of corky ringspot disease of potatoes in the Pacific Northwest. University of Idaho Extension.

CIS:1162.Yellareddygar, S. K., Robinson, A. P., & Gudmestad, N. C. Tobacco Rattle Virus in Potato.