

Dr. Khalil Al-Mughrabi, Potato Pathologist

BACTERIAL SOFT ROT OF POTATOES

Bacterial soft rot is the most serious causes of potato losses in storages. Soft rot bacteria infect potato tubers which have been damaged by mechanical injury or the presence of other diseases. Bacterial soft rot develops much faster when potatoes are wet. Tubers may be wet when put into storage, may become wet by the excessive application of a storage fungicide or may become wet because of excessive respiration and water loss in storage. Wet conditions in storage allow the soft rot to spread from one tuber to another. Soft rot can be kept to a minimum if potatoes are kept dry.



- Avoid excessive soil moisture before harvest to reduce lenticel infection.
- Harvest tubers only when mature and soil temperatures are less than 20 °C.
- Minimize mechanical damage to tubers during harvesting and handling.
- Protect harvested tubers from solar irradiation and desiccation.
- Cool tubers to 10 °C or lower as soon as possible after harvest and store at temperatures as low as possible (preferably 1.6 – 4.5 °C).
- Provide good ventilation to keep tubers cool and to prevent accumulation of CO₂ and moisture films.
- Do not wash tubers before storage, and when washing them before marketing, dry them as soon as possible and package them in well-aerated containers.
- Use only clean water to wash potatoes. Contaminated holding tanks used for soaking potatoes almost assure soft rot infection. Treat wash water with a disinfectant to reduce the amount of soft rot inoculum.
- Grade out rotted tubers before storage. In storage, turn on ventilation immediately to keep air moving through the pile in order to dry any rotting tubers. Keep the humidity low to prevent secondary bacterial infection.
- Use high quality seed.
- Plant seed in well-drained soils.
- When possible, plant small whole seed.
- Split applications of water soluble calcium applied at 100-200 lb/acre during bulking have been shown to reduce infection and severity of soft rot.
- Storage floor soil from previous season severely affected with bacterial soft rot should be removed and thoroughly cleaned.
- If only some loads are suspected with soft rot infection place these potatoes closer to the access doors so that they can be removed quickly if they begin to deteriorate.
- Clean and disinfect seed cutters, planters, harvesters, and other handling equipment frequently to prevent the spread of bacterial and fungal pathogens.
- Reduce pile depth to approximately 3-3.5m to facilitate drying.
- Check the storage regularly for soft rot symptoms.

For further information, please refer to the recent issue of the Potato Crop, Variety, Weed and Pest Control Guide for New Brunswick.