



# Silver Scurf: Current Management Tips and Results of Fungicide Screening Trials

Potato Crew (Heather Meberg, Brock Glover, Marjo Dessureault, Lena Syrový & Kiara Jack) E.S. Cropconsult Ltd. Surrey, BC, V3S 5S1 info@escrop.com  
Funding: Potato Industry Development Council, Lower Mainland Horticultural Improvement Association & Investment Agriculture Foundation (Small Projects Program)

## Disease Cycle & Symptoms

- Silver scurf is a fungal disease that causes skin lesions which reduce both tuber quality and weight.
- Silver scurf is primarily a problem of smooth skinned potatoes (reds, whites, and yellows).
- Silver scurf can be introduced into a field on infected seed or it can overwinter in an already infected field.
- Symptoms in the field: First symptoms can be seen in the field as smooth brown-grey lesions with a sheen on stolons and at the stem end of tubers.
- There are no above ground symptoms but areas of early vine death are at risk for developing silver scurf (due to delay between skin set and harvest)
- Spread of silver scurf from soil or already infected potatoes to uninfected potatoes is most likely to occur during handling and the first 3 weeks of storage
- Symptoms in storage: In storage continue to watch for silvery thick lesions. Black circular lesions can also occur. These lesions produce spores and are responsible for disease spread in storage. New symptoms may not be noticeable until 4 or 5 months in storage.



Silver scurf is usually associated with red varieties, but can also occur on yellow & white smooth skin varieties.



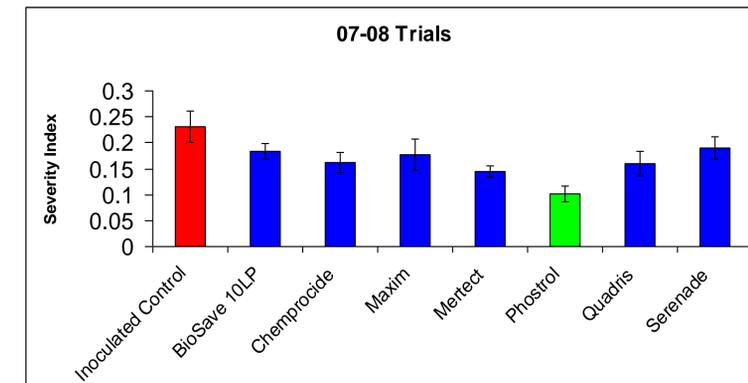
Harvesting tubers as soon as skin sets will help reduce silver scurf risk.

## Disease Management : Storage

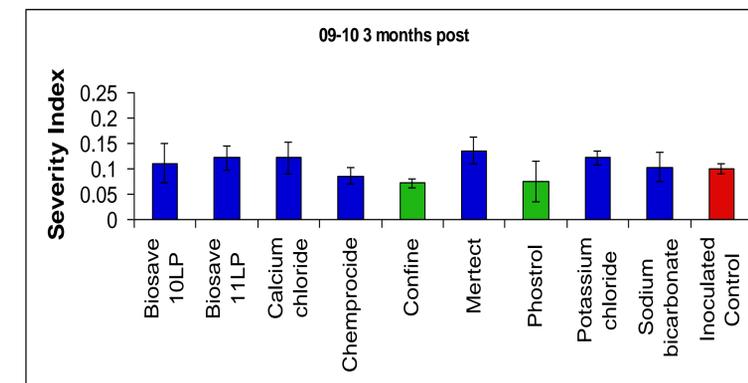
- Sanitation: the fungus can survive on dead and decaying organic matter in storage. Thoroughly clean: removing all soil and organic matter. Then disinfect all storage areas, totes and harvesting equipment. Recommendations are to keep surfaces wet for at least 10 minutes with disinfectant solution before rinsing off.
- Sanitation: Remove dirt and debris off of incoming tubers.
- Chemical control: Mertect can be used (ensure full coverage of tubers), however there are resistance issues with Mertect so proceed with caution.
- Temperature and RH: Rapid cooling to 10°C at 95% RH and curing for 2-3 weeks will reduce the disease spread in storage. After curing, storing potatoes at 3-5°C and 90%RH will further delay spread in storage but needs to be balanced with loss of tuber weight.
- Post-harvest Monitoring: Incubate tubers post-harvest to determine if disease is present. This can help identify storage bins or pits that need to be sold earlier.
- Ventilation and air circulation: air movement is critical to ensuring that free moisture or condensation does not accumulate on tubers.

## Fungicide Screening Trials (2007 & 2009)

- Fungicide screening trials were conducted in BC to find new post harvest solutions (alternatives to Mertect and organic products)
- Trials were conducted in 2007-2008 and 2009-2010; the protocol was similar for both years:
  - Tubers were taken randomly from storage
  - Treated with products
  - Placed into a growers storage facility along with infected (inoculum) potatoes
  - Disease incidence and severity assessed after 2 months (07-08) and 3 & 6 months (09-10)

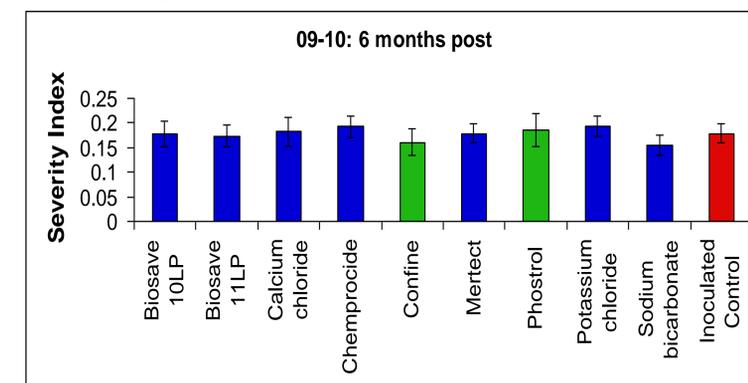


• 07-08 Results: Severity of Phostrol (green bar) treated tubers significantly less than untreated control (red bar) 2 months post-treatment. All other treatments not different from control (blue bar)



• 09-10 (3 Months Post) Results: Phostrol and Confine (green bars) with lowest severity scores but NOT significantly different from untreated control (red bar)

• 09-10 (6 Months Post) Results: No differences among treatments and untreated control



## Next Steps

- In combination trial results suggest that Phostrol treatments may not provide long term control for silver scurf
- Supplemental fungicide treatments may be needed for more susceptible varieties
- Repeat applications may also be needed for organic solutions (e.g. salts)
- Timing of treatment application has also been shown to impact efficacy and length of control

## Disease Management: Prior to storage

- Seed selection and treatment: Start with clean seed. Seed piece treatments like Maxim MZ and Senator or in-furrow Quadris can reduce the spread of silver scurf from seed to daughter tubers.
- Field selection: fungus can overwinter in the soil on decaying matter; a *minimum* 2 year rotation from potatoes is recommended.
- Healthy vines: avoid early dieback.
- Harvest: warm wet soils during harvest have been shown to increase spore production and thus disease spread.
- Harvest: delaying harvest after vine kill has been shown to increase the severity of the disease. Aim to harvest within 10 to 21 days after vine kill or as soon as skin has set.