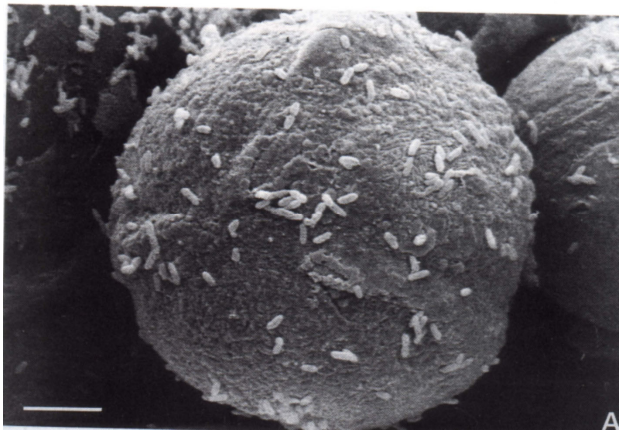
Improved Management of Soft Rot in the Field and Post-Harvest

Jeff Miller, Trent Taysom, Terry Miller
Nora Olsen, Becka Hendricks
Mike Thornton

Dickeya spp. and Pectobacterium spp.

Bacteria on the head of a pin.

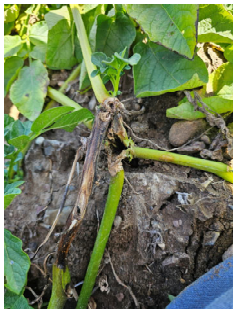


Bacteria on a pollen grain.

Blackleg

Bacteria live in lenticels and eyes, soil, and water.
Infection occurs from the seed piece.
Plant clean seed.
Foliar treatments not effective.

Aerial Stem Rot



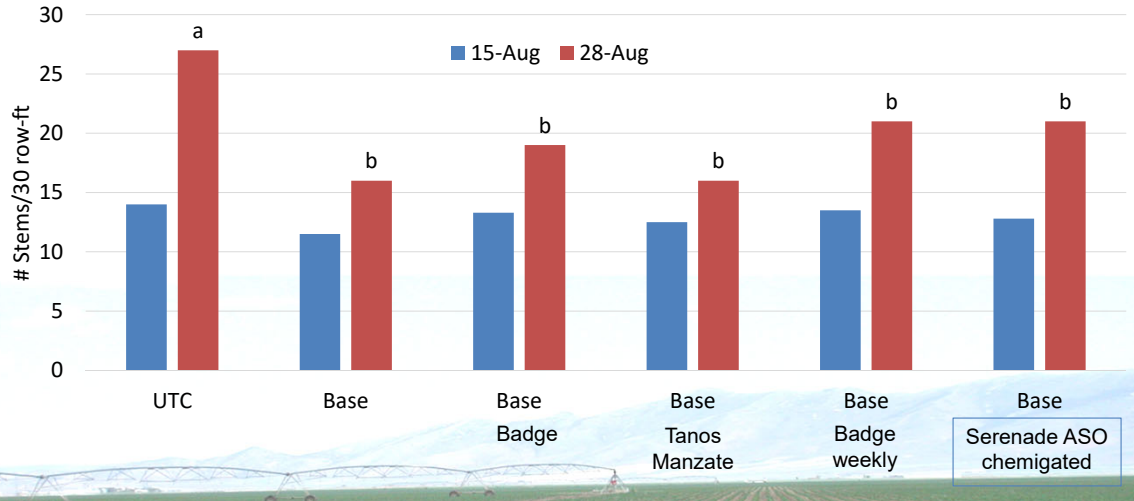
Objective 1 – Year 1

1. Untreated control
2. Base fungicide program (14-day interval)
3. Base fungicide program with copper (Badge)
4. Base fungicide program with famoxadone + mancozeb (Tanos + Manzate)
5. Base fungicide program with intensive (weekly) copper applications (Badge)
6. Base fungicide program with Serenade chemigated

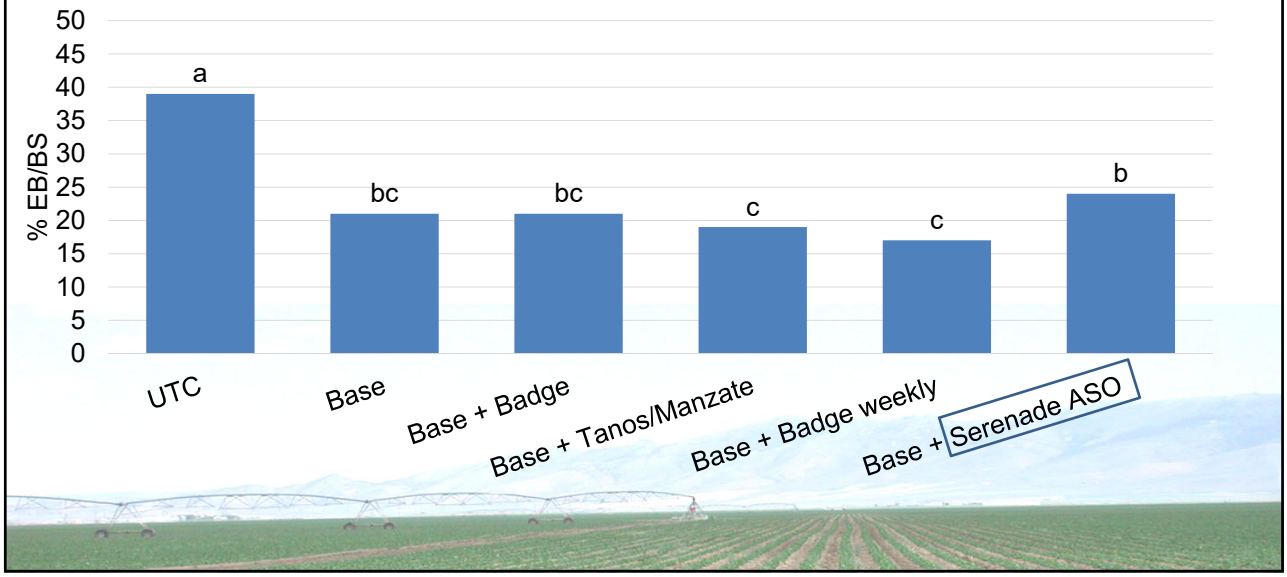
- Dakota Russet

Base Program:
1. Miravis Prime (11.4) + Bravo WS (1)
2. Miravis Prime (11.4) + Bravo WS (1)
3. Bravo WS (1.5)
4. Bravo WS (1.5)

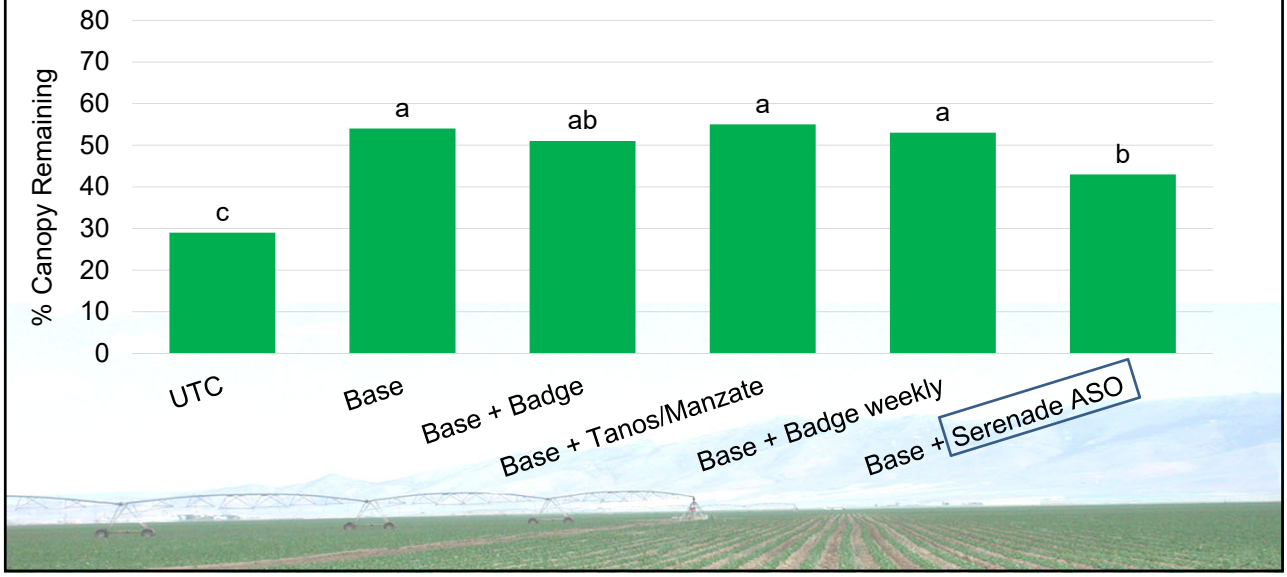
Aerial Stem Rot Incidence



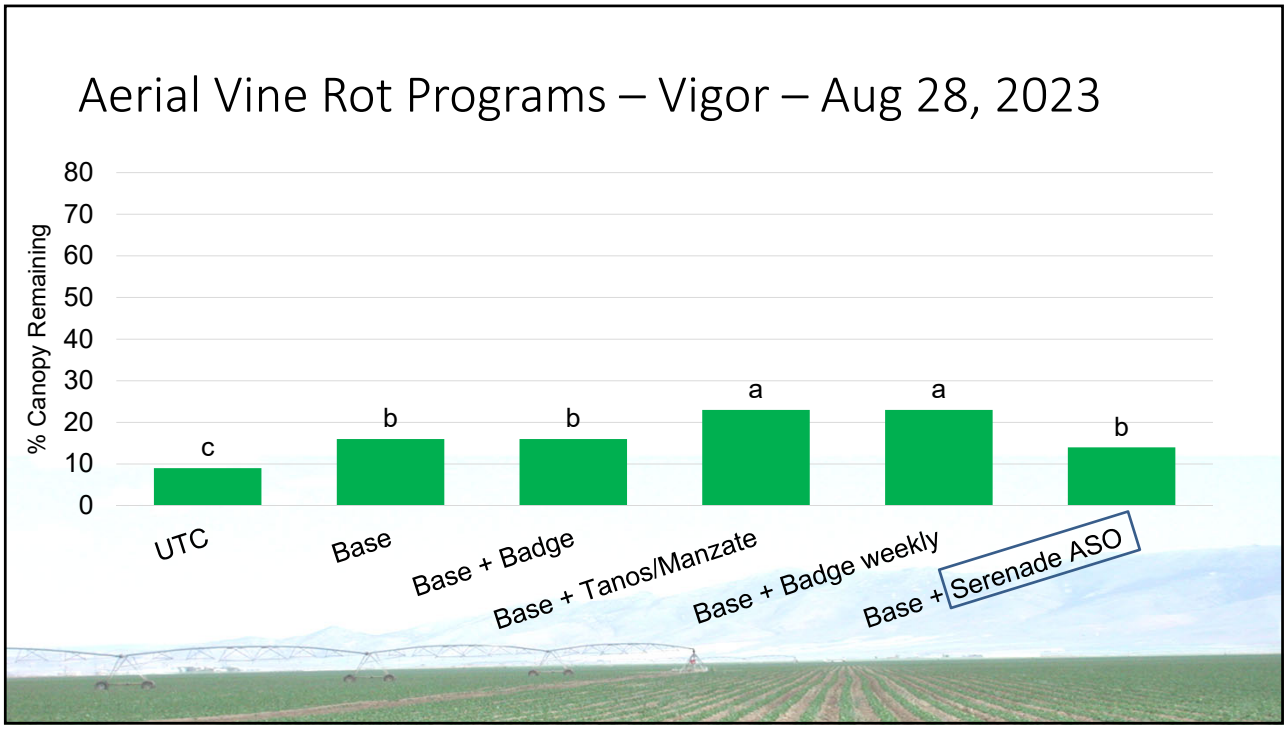
Aerial Vine Rot Programs – Early Blight – 2023



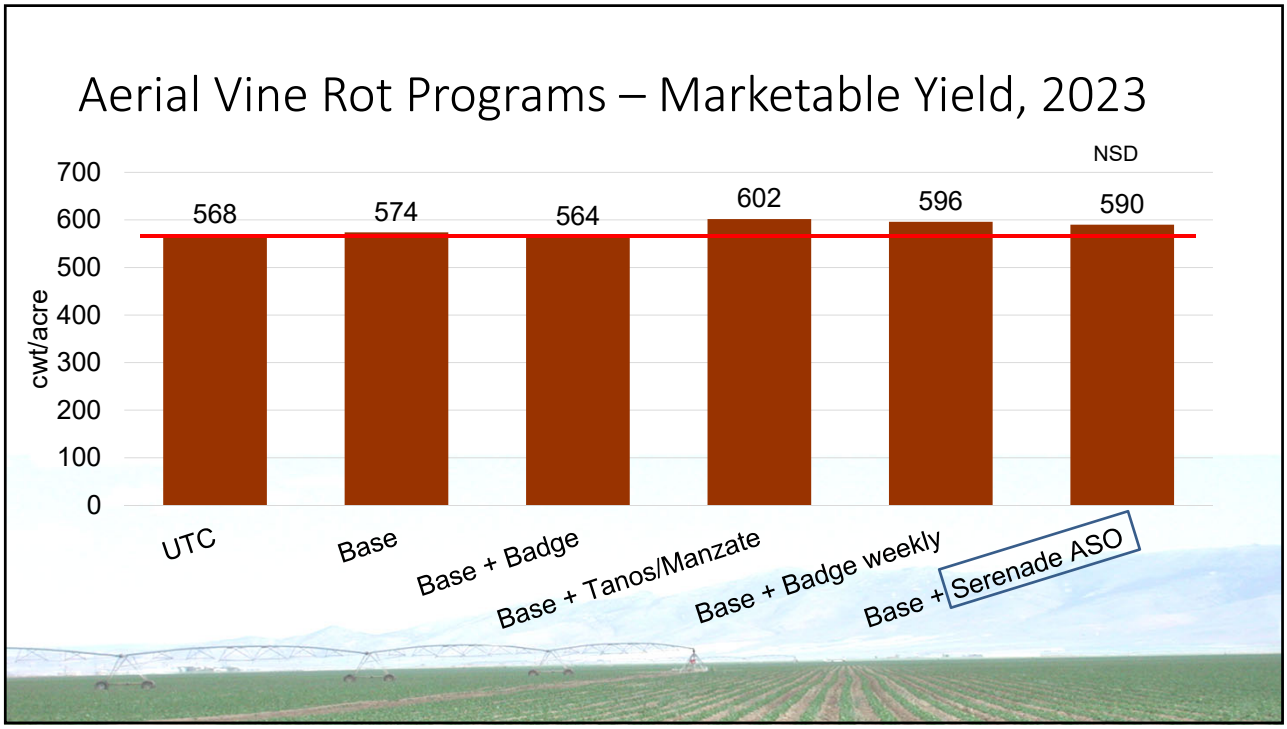
Aerial Vine Rot Programs – Vigor – Aug 22, 2023



Aerial Vine Rot Programs – Vigor – Aug 28, 2023



Aerial Vine Rot Programs – Marketable Yield, 2023



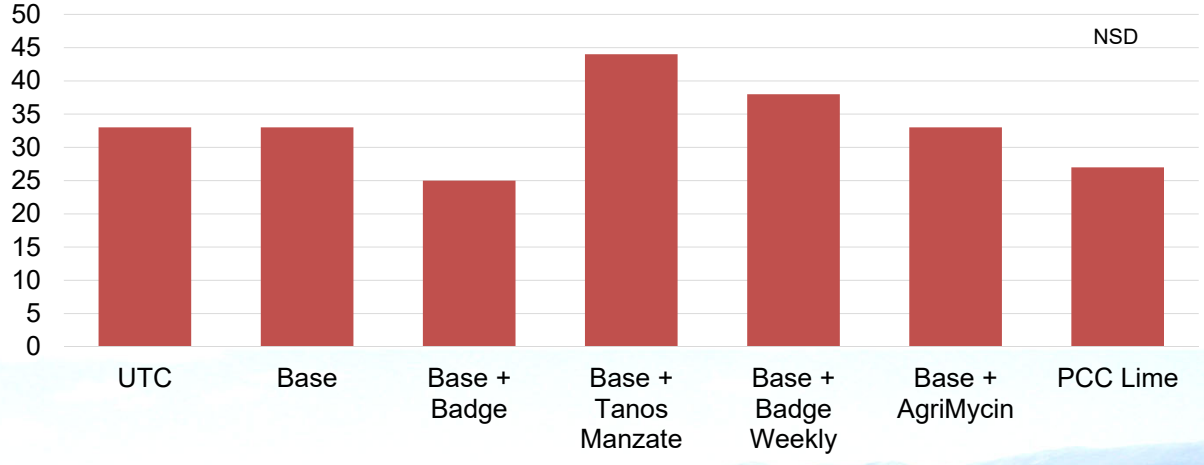
Objective 1 – Year 1

1. Untreated control
2. Base fungicide program (14-day interval)
3. Base fungicide program with copper (Badge)
4. Base fungicide program with famoxadone + mancozeb (Tanos + Manzate)
5. Base fungicide program with intensive (weekly) copper applications (Badge)
6. Base fungicide program with antibiotic (Agri Mycin)
7. PCC lime (no base program)

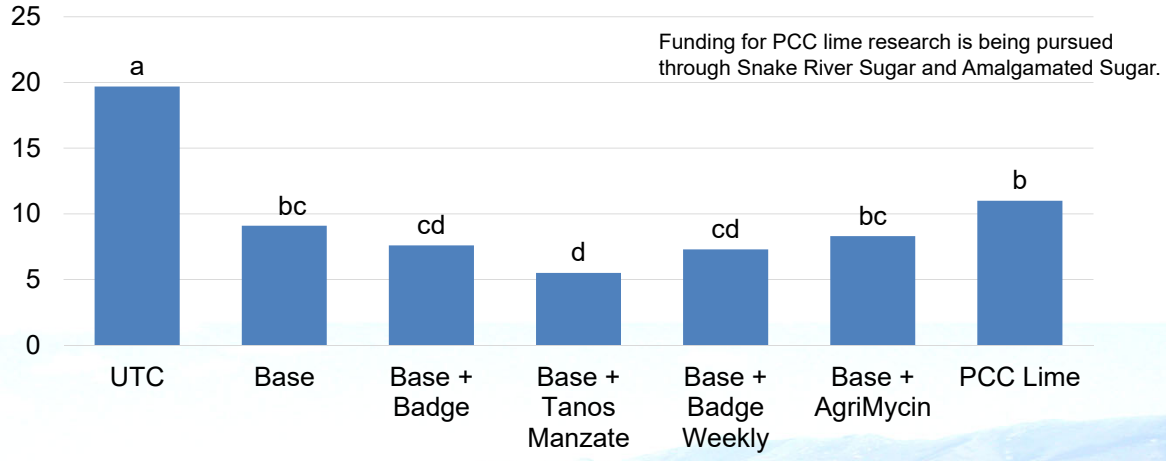
- Dakota Russet

Base Program:
1. Miravis Prime (11.4) + Bravo WS (1)
2. Miravis Prime (11.4) + Bravo WS (1)
3. Bravo WS (1.5)
4. Bravo WS (1.5)

Aerial Stem Rot Incidence - 2024

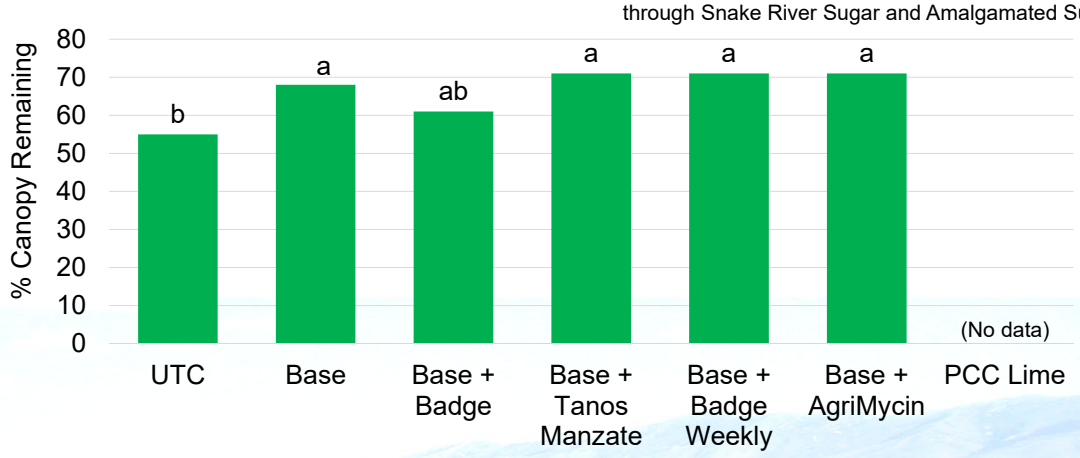


Early Blight/Brown Spot - 2024



Funding for PCC lime research is being pursued through Snake River Sugar and Amalgamated Sugar.

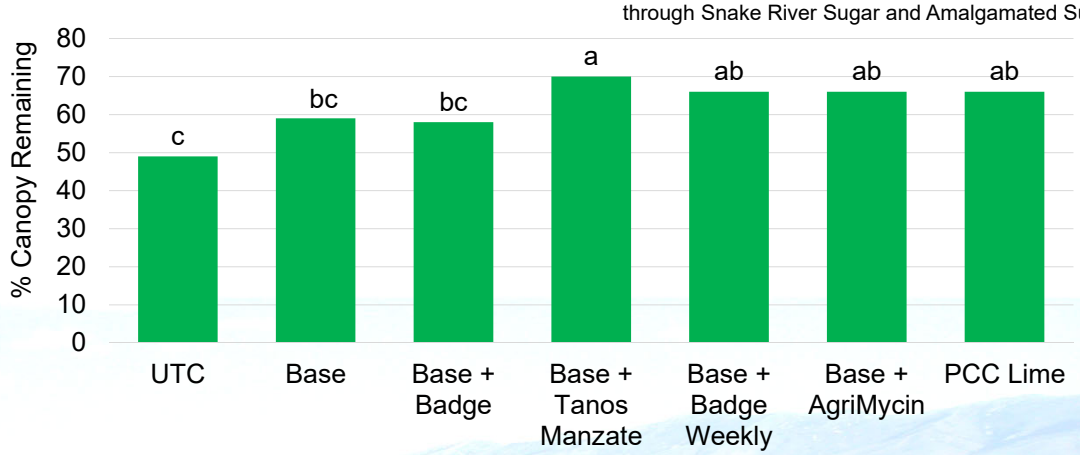
Aerial Vine Rot Programs – Vigor – Aug 20, 2024



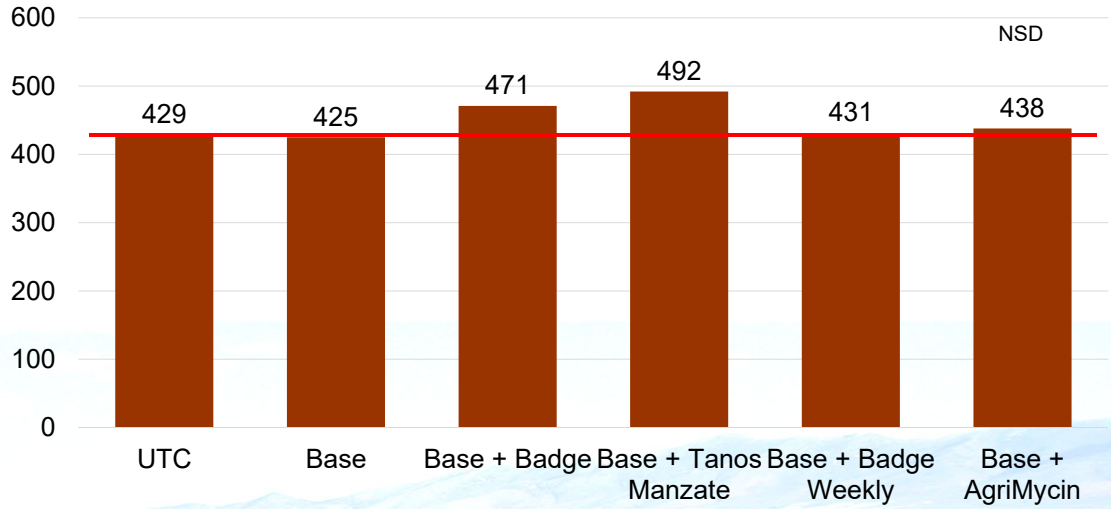
Funding for PCC lime research is being pursued through Snake River Sugar and Amalgamated Sugar.

Aerial Vine Rot Programs – Vigor – Aug 26, 2024

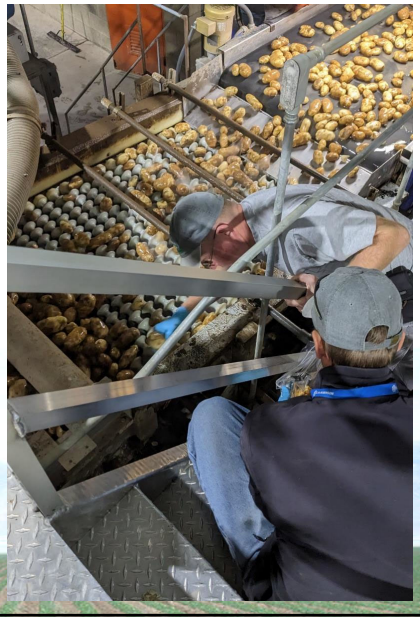
Funding for PCC lime research is being pursued through Snake River Sugar and Amalgamated Sugar.



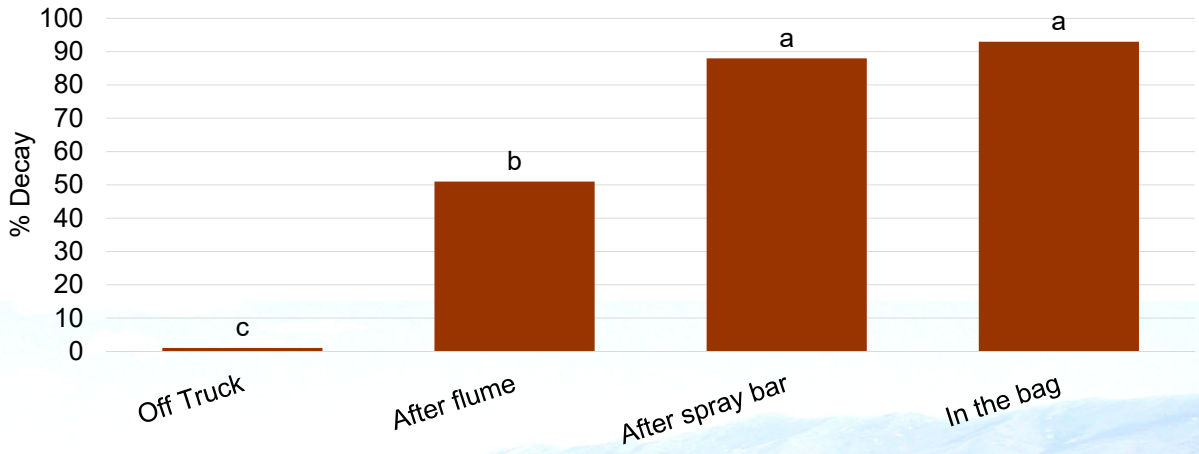
Aerial Vine Rot Programs – Marketable Yield, 2024



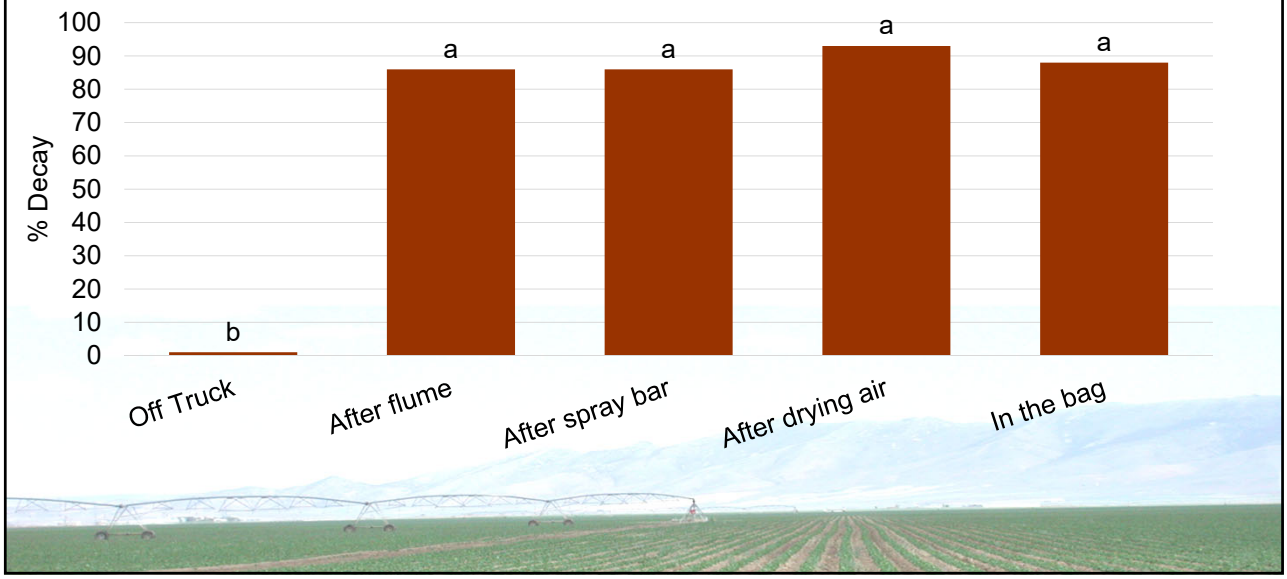
Objective 2 – Post Harvest



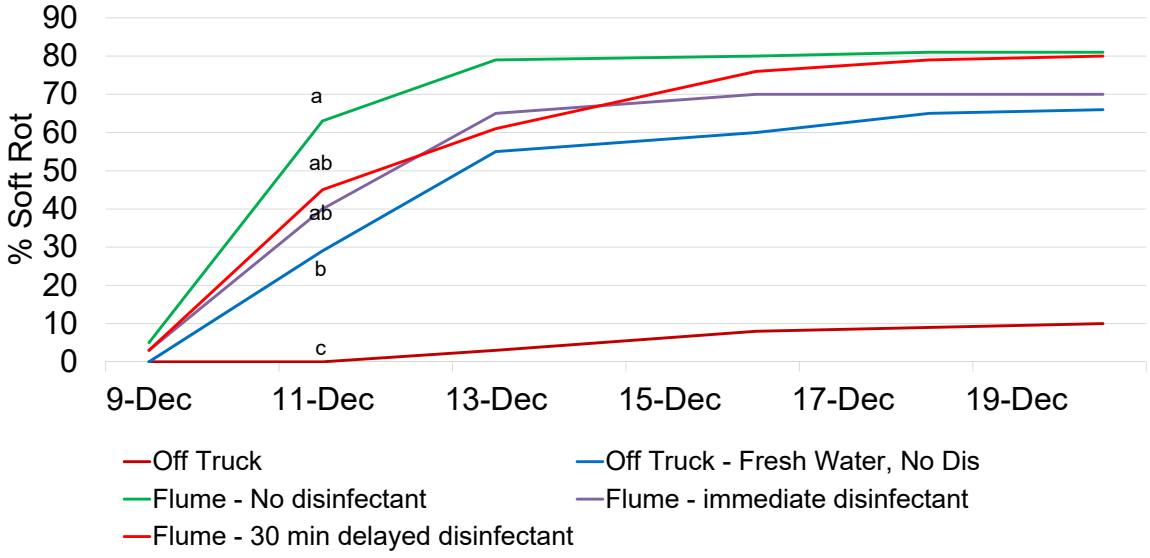
Bacterial Soft Rot in Packing Plants – Location 1, Year 1



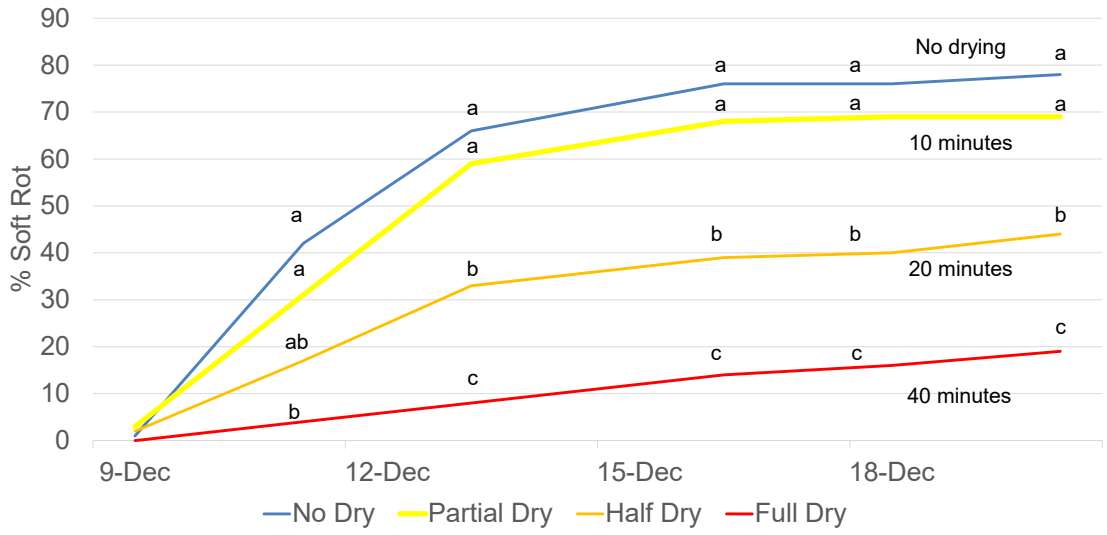
Bacterial Soft Rot in Packing Plants – Location 2, Year 1



Bacterial Soft Rot – Effect of Disinfecting

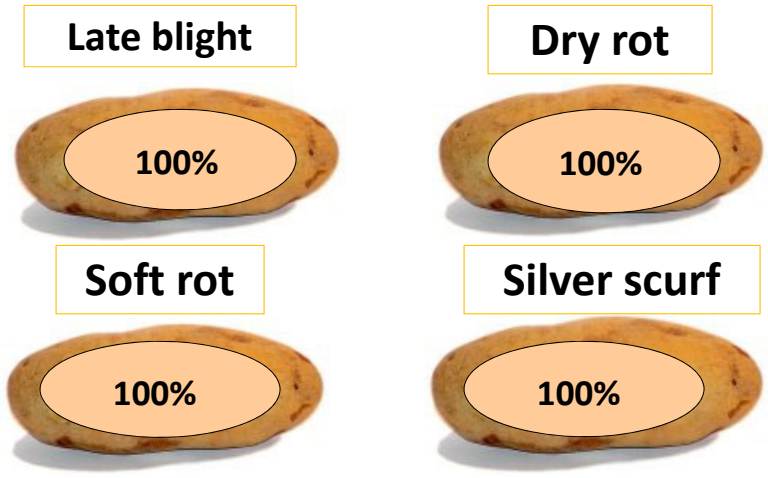


Bacterial Soft Rot – Effect of Drying Time after Washing



Pathogen Exposure to Air – Viability (%) on Tuber Surface

Time 0



From Nora Olsen, U of I

Pathogen Exposure to Air –
Viability (%) on Tuber Surface

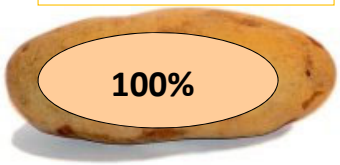
Time ½ hour

Late blight

Dry rot

Soft rot

Silver scurf

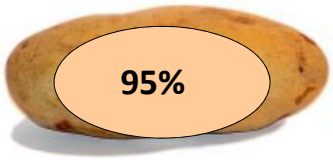


From Nora Olsen, U of I

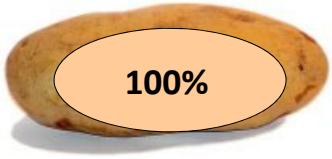
Pathogen Exposure to Air –
Viability (%) on Tuber Surface

Time 1 hour

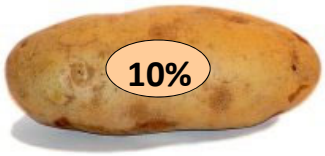
Late blight



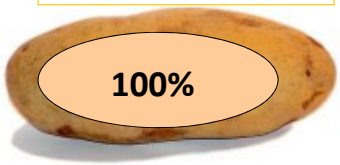
Dry rot



Soft rot



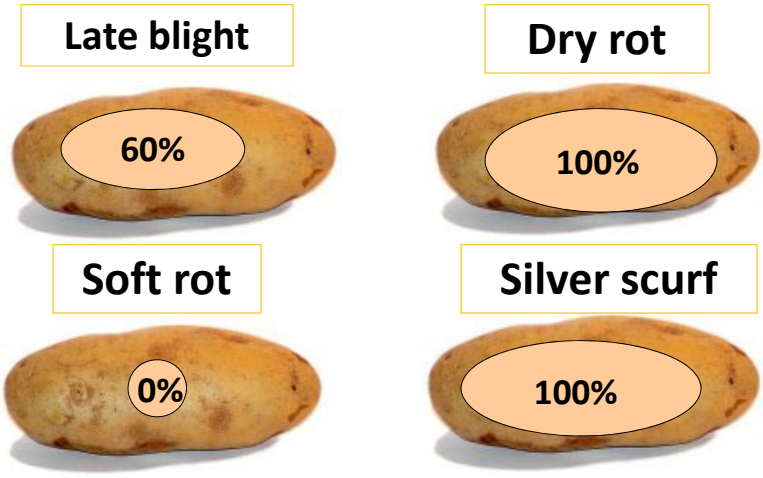
Silver scurf



From Nora Olsen, U of I

Pathogen Exposure to Air –
Viability (%) on Tuber Surface

Time 2 hours



From Nora Olsen, U of I

Fresh Pack Observations

- Bacterial soft rot could be reduced if you could dry the tubers.
  - Could air knives be set up to do this?
- The disinfectant had a small effect.

Thank you!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