



Impact of Defoliation Timing

Paul Moffet

Hawes District Agriculturist

What we know

- Sugarbeets undergo a measurable process called 'respiration' while they are in storage
 - $> 27^{\circ}$ F
- Respiration is a normal metabolic process that the beets use to stay alive
- Requires an energy source
 - Sucrose

Defoliation Timing Study



Same day as harvested



1 day prior to harvest



3 days prior to harvest

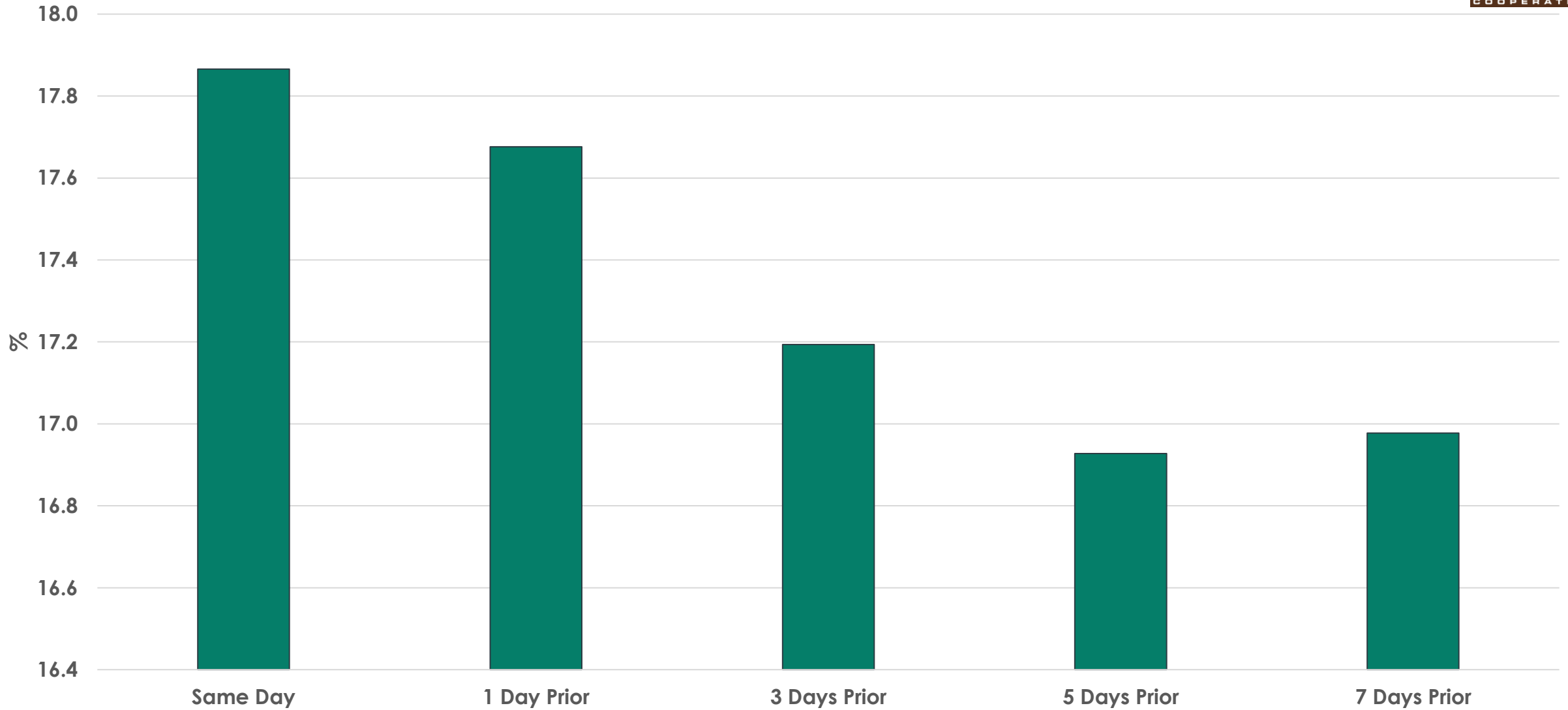


5 days prior to harvest

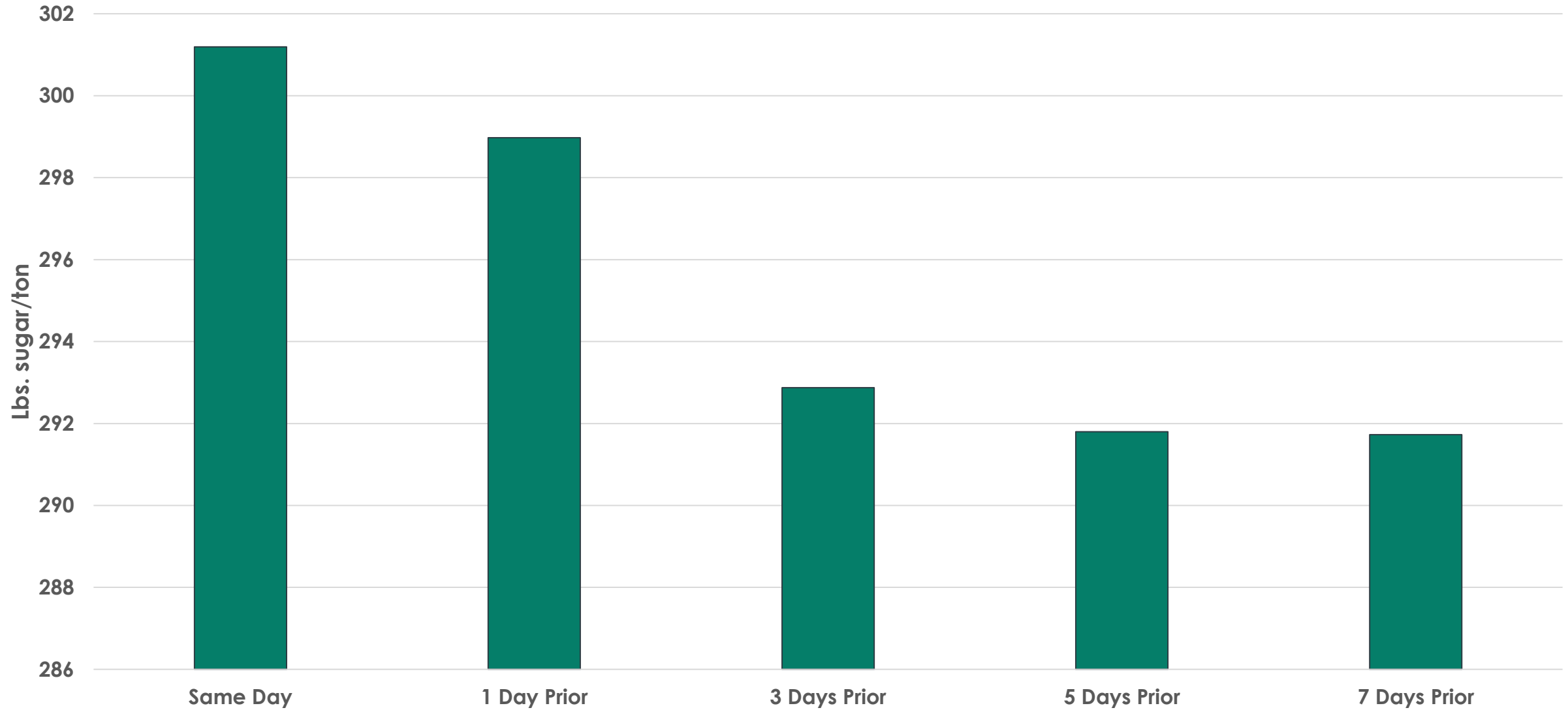


7 days prior to harvest

% Sugar (2021-2023)

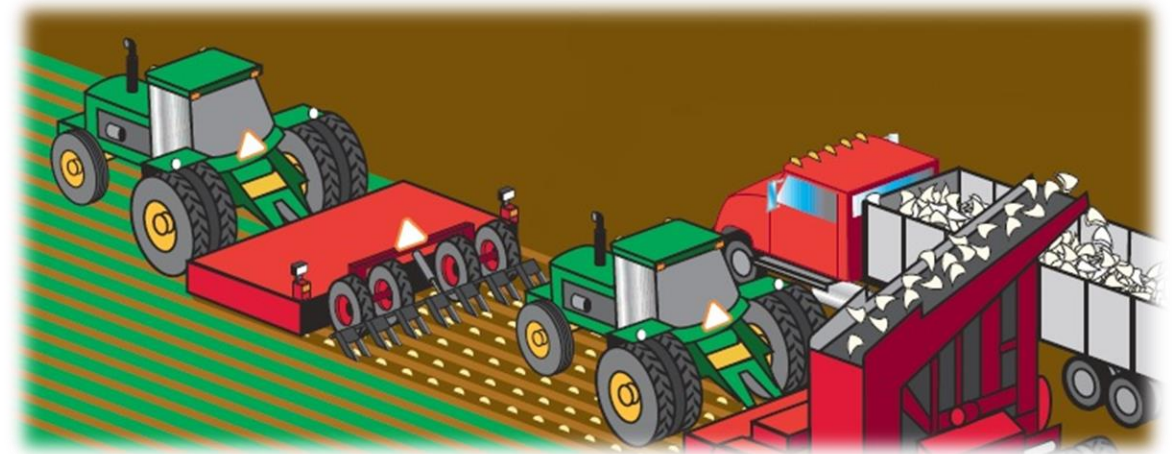


Recoverable Sugar per Ton (2021-2023)



The Science is Basic

- Sugarbeet canopy acts as an insulating barrier
 - Protects the roots from both heat and cold
- The longer this insulation barrier is intact, the less time the sugarbeet roots are exposed to adverse temperatures





Bottom Line

- Quality decreases as the time between defoliation and harvest increases
- Average loss of 65 lbs sugar/acre
 - Defoliating 24 hours ahead of the harvester
- A loss of \$15/acre/day
- “Keep your enemies close, and your toppers closer”