

Advances in Sugar Beet Storage Systems in Nordic Countries: A Decade of Research and Development

JOAKIM EKELÖF

Nordic Beet Research Foundation, Borgeby Slottsväg 11, SE – 237 91 Bjärred





April

Principals of beet storage in the nordics

15-September

December



Harvest loss

Storage loss



Delivering systems



Testing of new covering materials

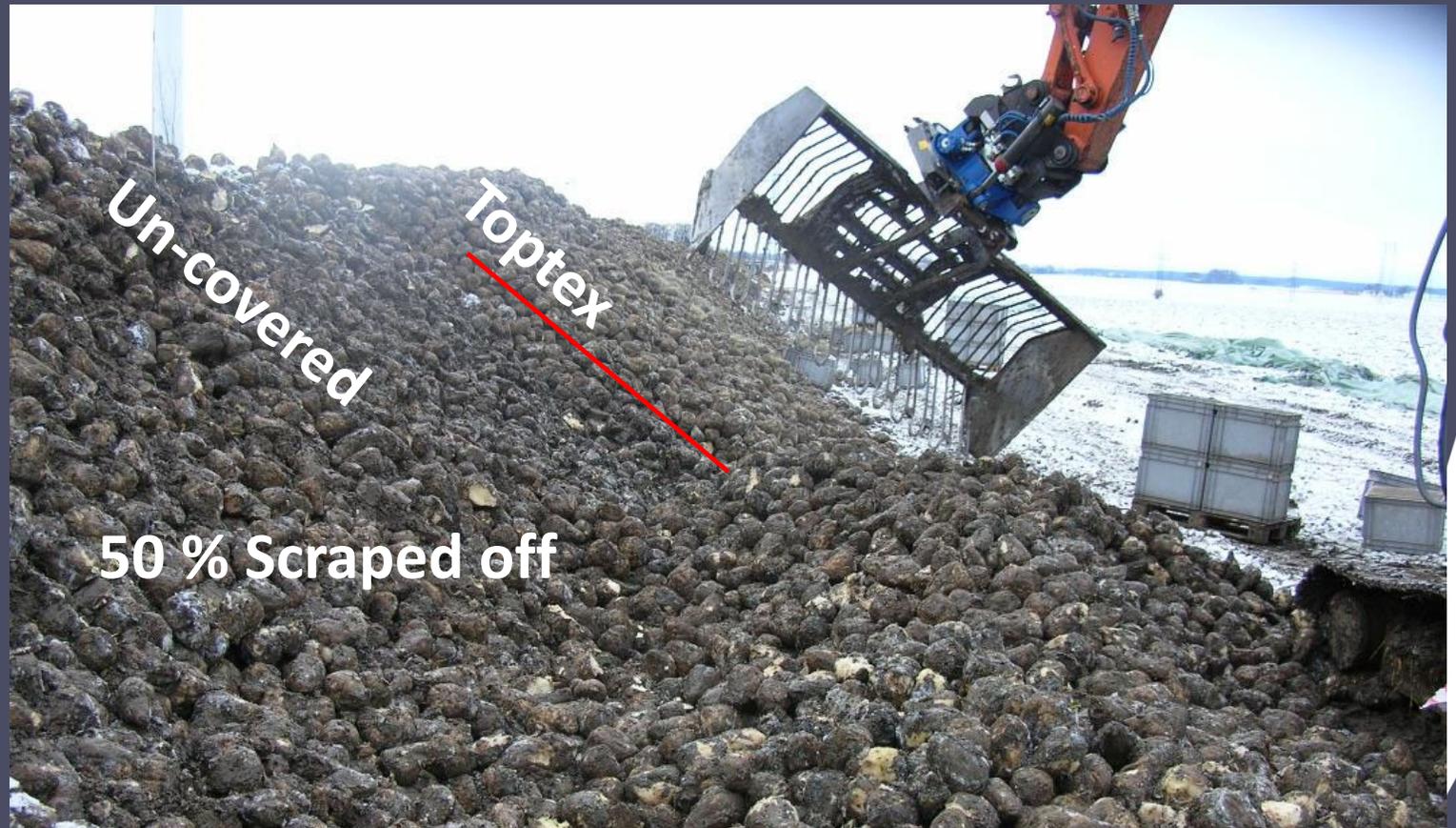


Entries over the years

- Uncovered
- Toptex (fleeze)
- Toptex (fleeze) + nette
- Toptex (fleeze) + nette + plastic
- Spinnvool + nette + plastic
- Spinnvool + nette + plastic + fleece
- Spinnvool + nette + plastic + fleece + straw
- Spinnvool + nette + plastic + fleece + straw + plastic

Covering with Toptex increased from 20% to 95% in 5 years

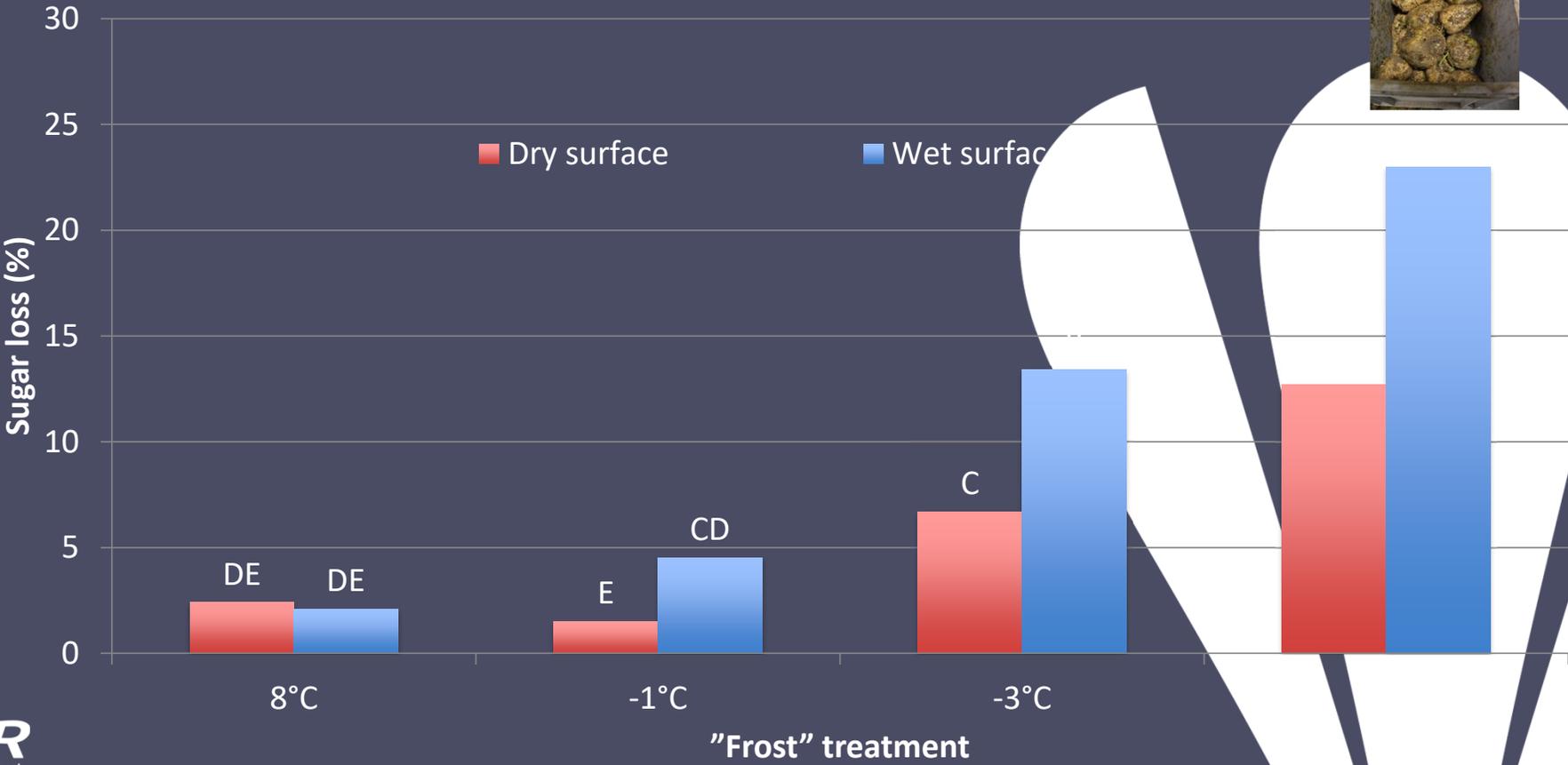
Toptex makes a big difference – also for frost protection



Wet surface vs Dry surface during frost



Sugar losses after 18 days of storage in 8 degees post frost



Both deep frozen to -5, then +8 in 18 days



Why are they different?

Harvest gently for better frost tolerance during storage

Machine harvested, frozen to -4 then stored in +8 in 18 days



Hand harvested, frozen to -4 then stored in +8 in 18 days



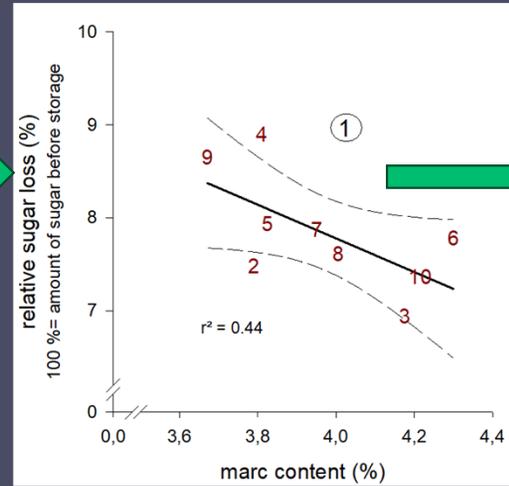
Varieties - Storability



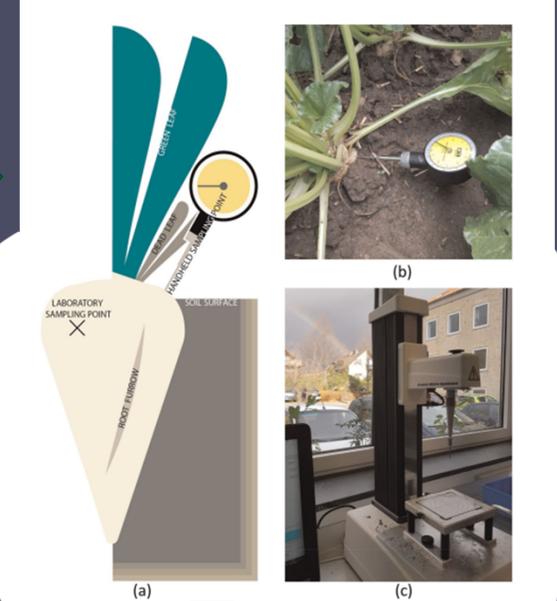
Traditional storage trials



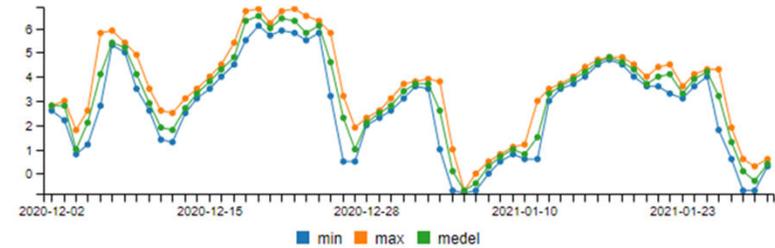
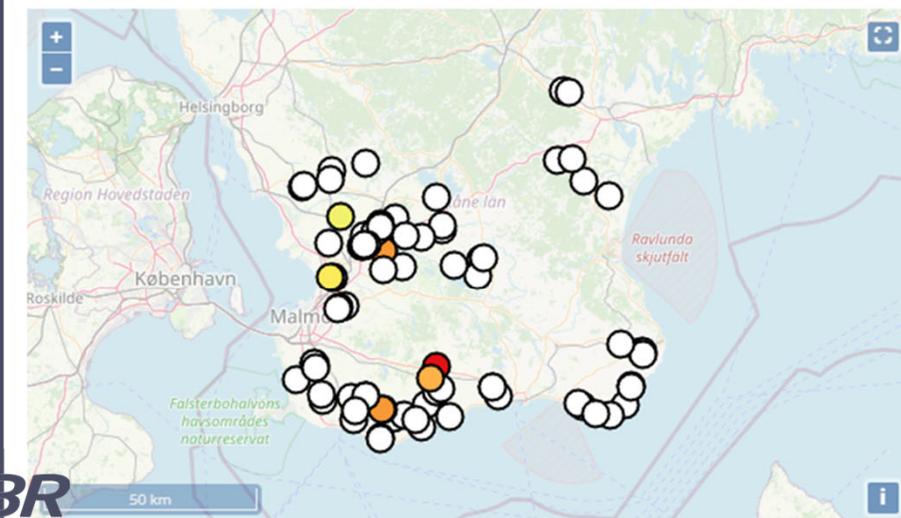
Respiration



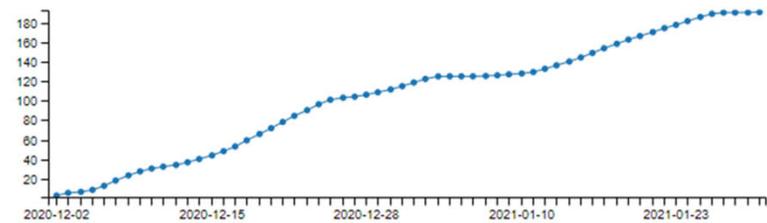
Penetration resistance



Large scale practical improvements



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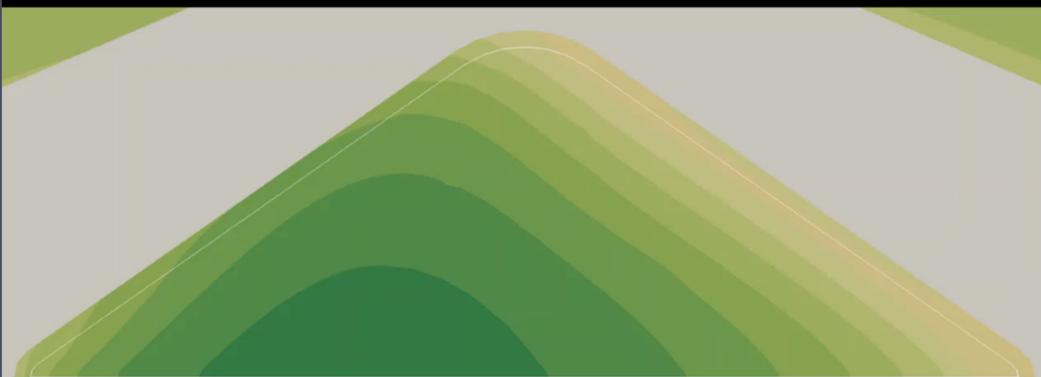


Novel research (CFD modeling)



Time: 0 hours

Plastic



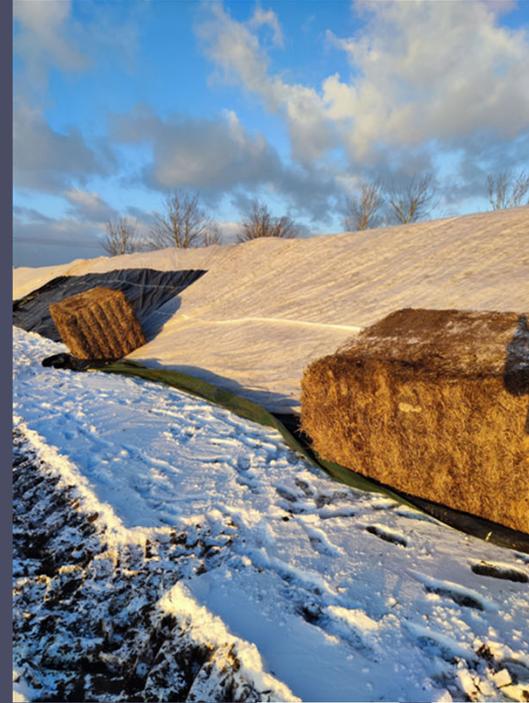
Time: 0

TOPTEX

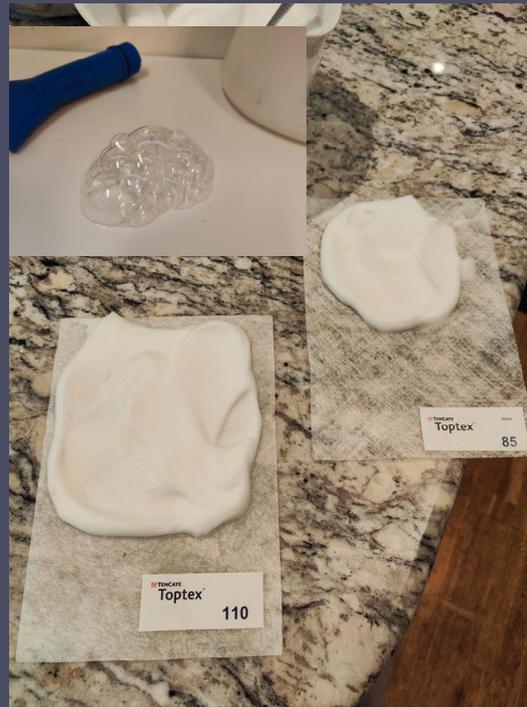
Novel research (Active ventilation of small clamps)



Large scale practical improvements (New materials)



Foam as frost protection?





Thank you for your attention

