Trends and future needs in sugar harvesting

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Harvest what has been grown!

- the challenge is to harvest all grown sugar (beet) and deliver it for payment, after a good storage
- perfect harvesting quality is achieved only by a good collaboration of grower, contractor and harvester driver
Average harvest losses 2006-2008 (n=150)

- Overtopping
- Root tip breakage
- Whole beet

Total 2.9 ton/ha!
(range: 0.45 – 9.05)

potential for improvement!

(Hanse and Tijink, 2010)

Harvest quality

Harvest quality = Harvester x Driver x Field

- topping/defoliating
- lifting/uprooting
- low soil tare/beet friendly
- capacity
- prevention of subsoil compaction

- skills
- training
- automated adjustments (per row and intra row)
- uniform crop
- good soil conditions
- adjustments from cab
- comfort

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Topping quality

- petioles: >2 cm ≤2 cm
- good: with crown without crown
- over topped: angled

< 5% > 90% < 5%

Advice

Good topped Good defoliated

impact on storage? impact on profit in chain?

(IRS, 2006)
Crown size decreases

26%  2.4%

(range between under and over-topping decreases)

(lifting/uprooting)

early start separating beet and soil
need of beet friendly cleaning

root yield: 65 \rightarrow 85 \text{ t/ha}

capacity: +30\%
trend to increase capacity of tank and transport units

risk of subsoil compaction

⇒ more tyres at low inflation pressure (< 150kPa)
⇒ track systems

Summary

a challenge for manufacturer, drives and beet growers to improve harvest quality