

Productivity in forwarding of logging residues

- Effects of fresh and dry residues

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Why are fresh or dry residues an issue



- Easy coordination with harvesting operations
- Less risk for soil damage
- Increased recovery rate



- Higher fuel quality
- Lower nutrient removal from the stand
- Increased forwarder utilisation

Forwarding of logging residues

- ✓ Low utilisation of forwarder load capacity
- ✓ Modified load carriers



Field study

Aims

- Do residue status affects forwarding time consumption per odt
- Does it affect forwarder load size in odt



Results

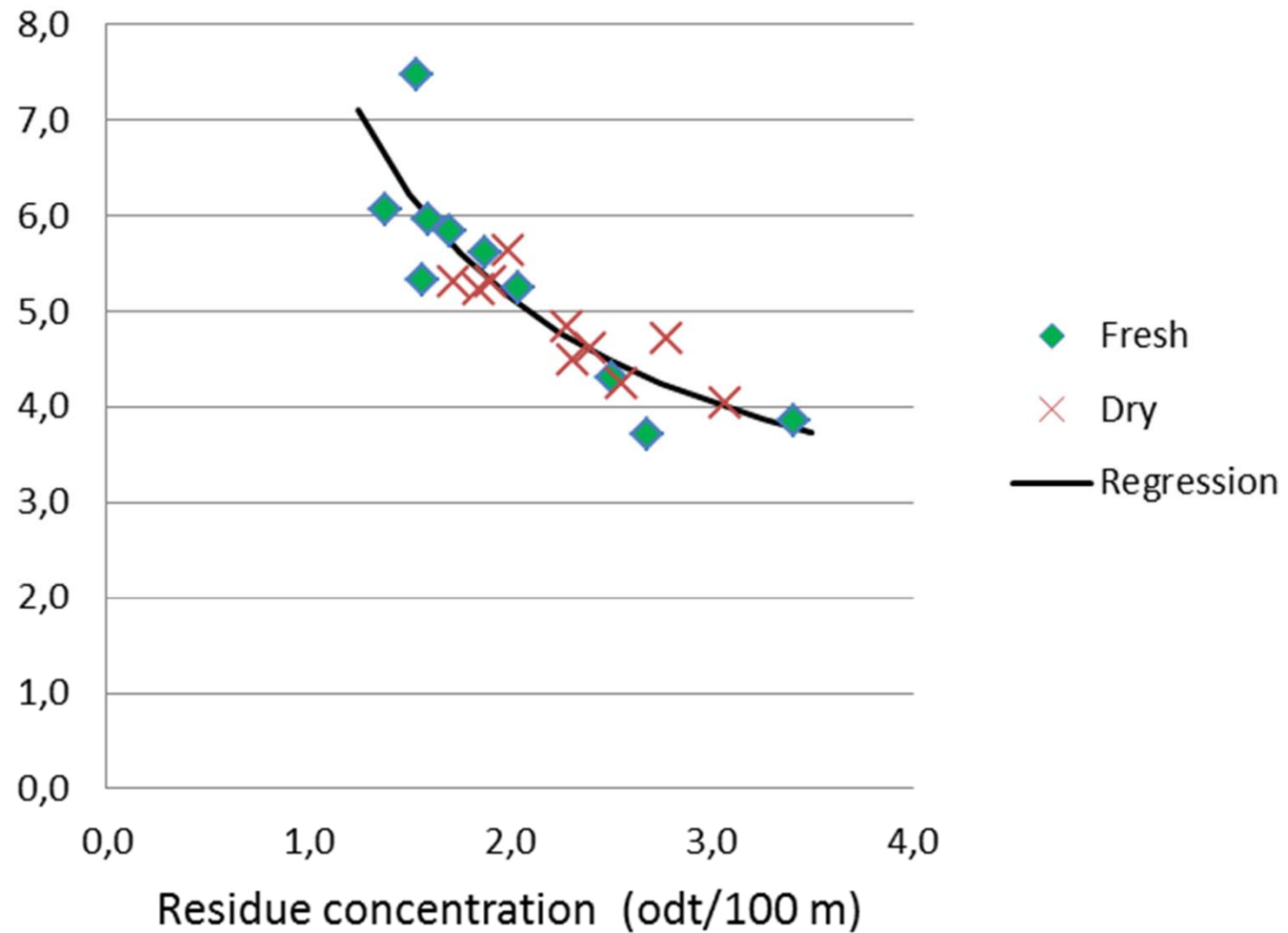
No differences in

- Load size
 - 4.1 odt fresh
 - 4.2 odt dried
- Machine speed
 - with or without load
- Total time for loading and unloading



Results

Loading and unloading
(minutes/odt)



Results



- Dry material
 - Slower collection phase
- Fresh material
 - Slower unloading

Future work



Conclusions

Fresh vs. dry residues

- No differences in Forwarder productivity
- given equal concentration of residues
- Indirect effects on productivity may exist
- due to differences in residue concentration



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