# Nutritional differences in stands thinned with conventional and whole tree yarding

# **Preliminary Results**



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## **Conventional yarding**



## Whole tree yarding



### Whole tree yarding



## Whole tree yarding



# Study design

Habitat types	PP, DF, and dry GF		Wet GF, WRC, and WH		
Whole tree yarded	No	Yes	No	Yes	

23 stands

### Study design



# **Nutrients**









# **Nutrient Samples**

- Forest floor
  - All 23 stands
  - composited sample at each plot
- Foliage
  - 9 of 23 stands; PP, DF or DF, GF
  - 5 trees per treatment
- Ion Resin Capsules
  - All 23 stands
  - 1 capsule at 3 depths at each plot
  - Kept 1 year in the soil

All samples analyzed as per IFTNC protocols

#### **LSMEANS** for Forest Floor Analysis



### Foliage nutrients for GF, DF, and PP



## Where whole tree harvesting is statistically lower than conventional harvesting (foliage nutrients)

	%N	%K	%P	%Mg	%Ca	%S
PP				X		
DF	X		X	X		
GF		X			X	

# Ion Resin Capsules

- No treatment effect when all depths analyzed together
- Nutrients lower on wet than dry sites (except NO<sub>3</sub>)



# Conclusion

 Whole tree yarding may be decreasing some nutrients on forest sites

