

Forest mortality

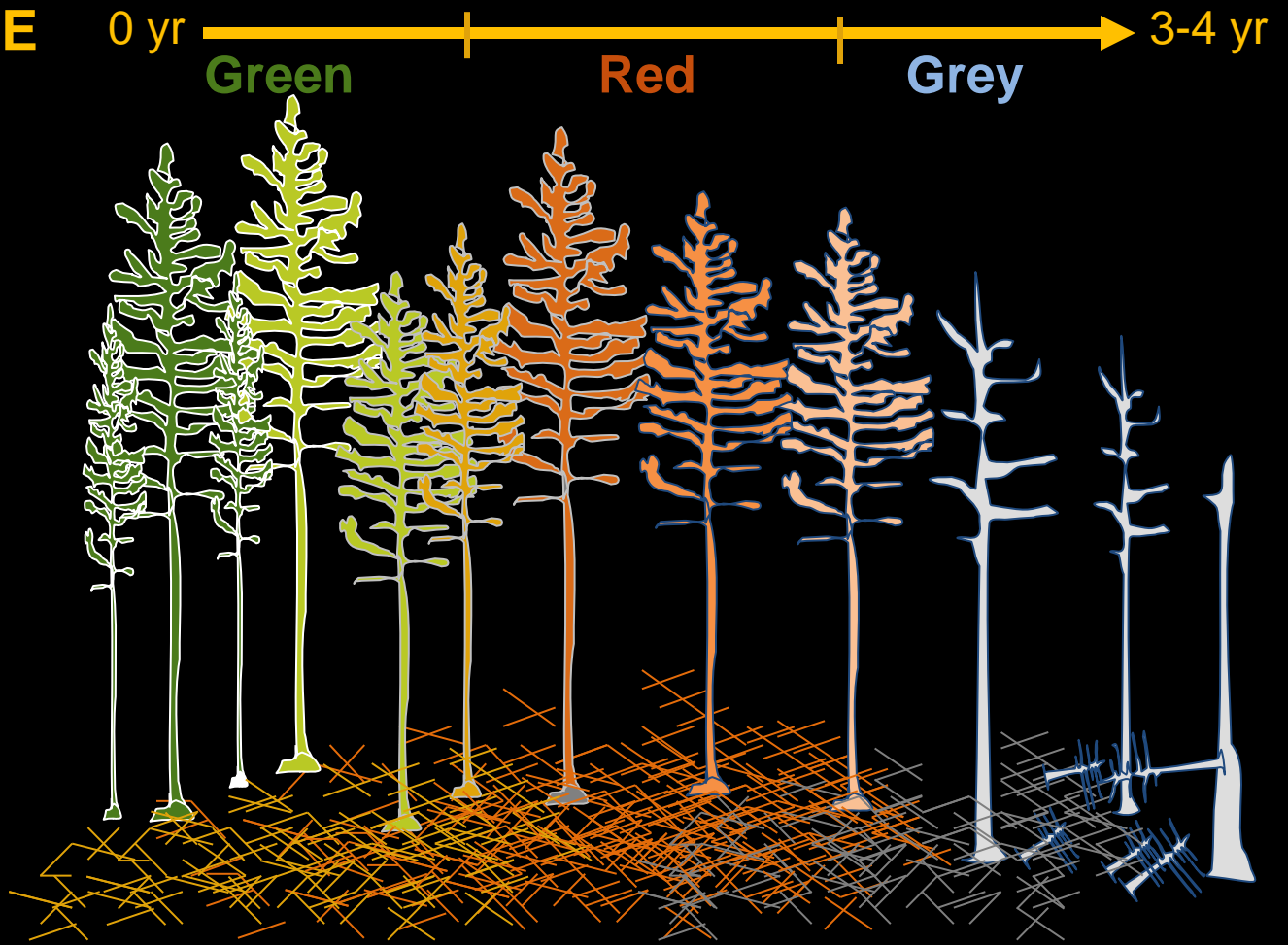


Litter
Soils

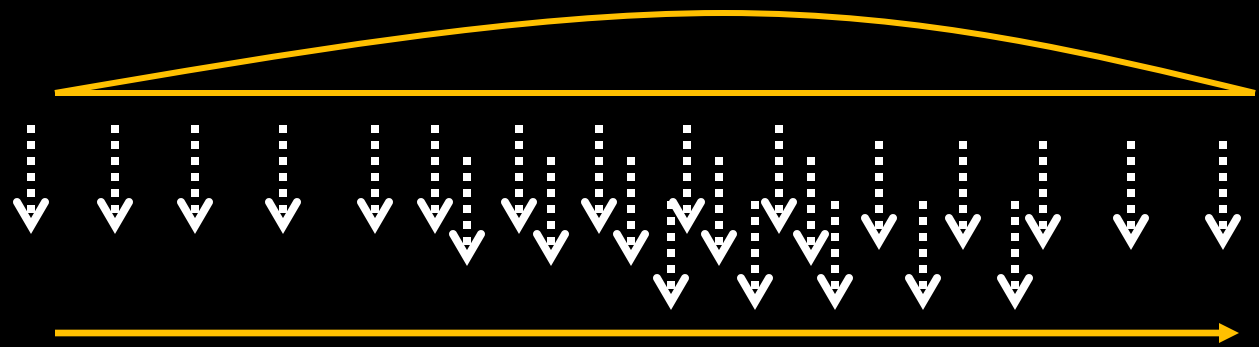


MPB ATTACK STAGE

Wulder et al. 2006



LITTER DEPOSITION

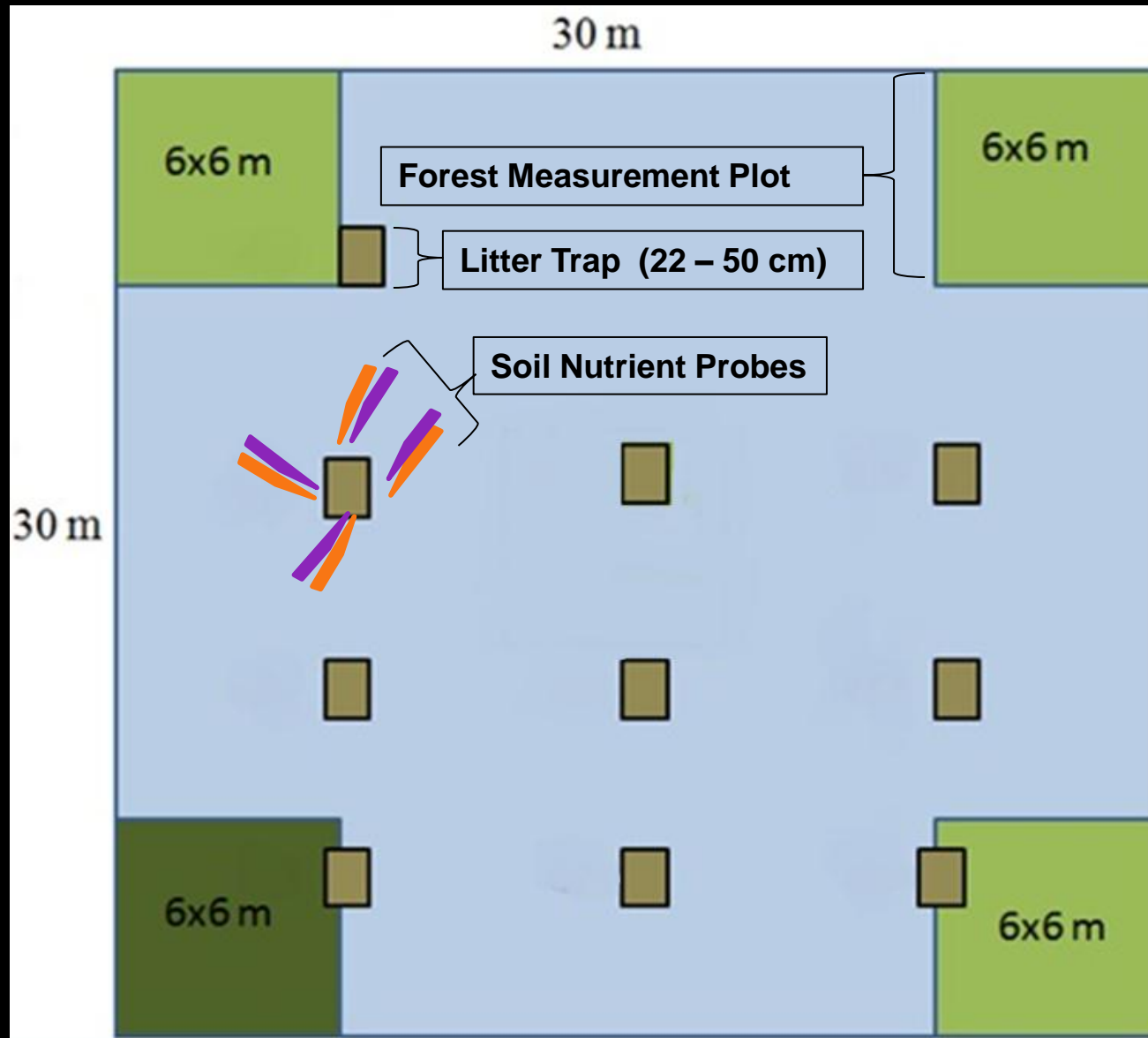


SOIL CONDITIONS

Research Questions

1. Does pine litter chemistry and deposition rate differ by stage of mountain pine beetle attack?
2. Do the soil chemical properties differ by stage of mountain pine beetle attack?

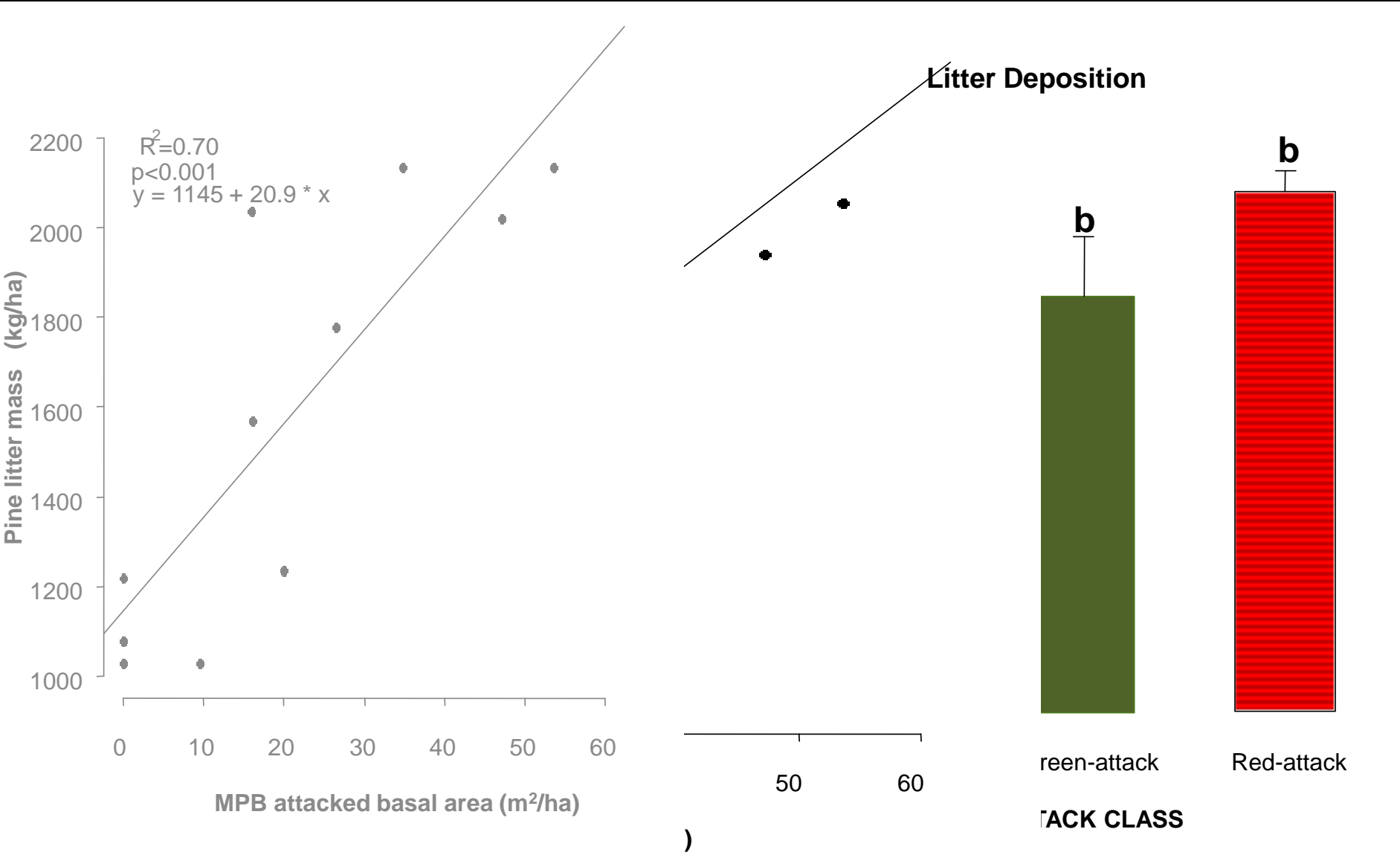
Experimental Design



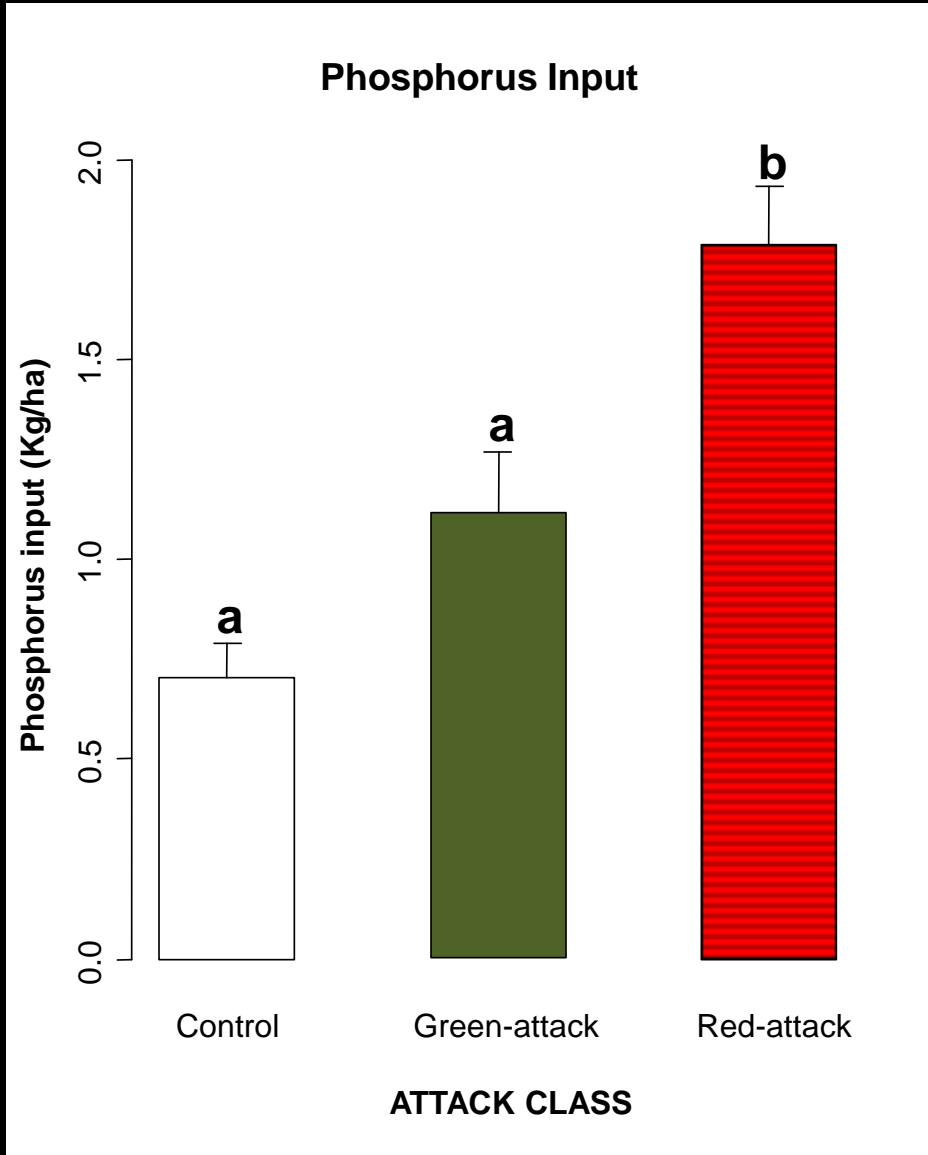
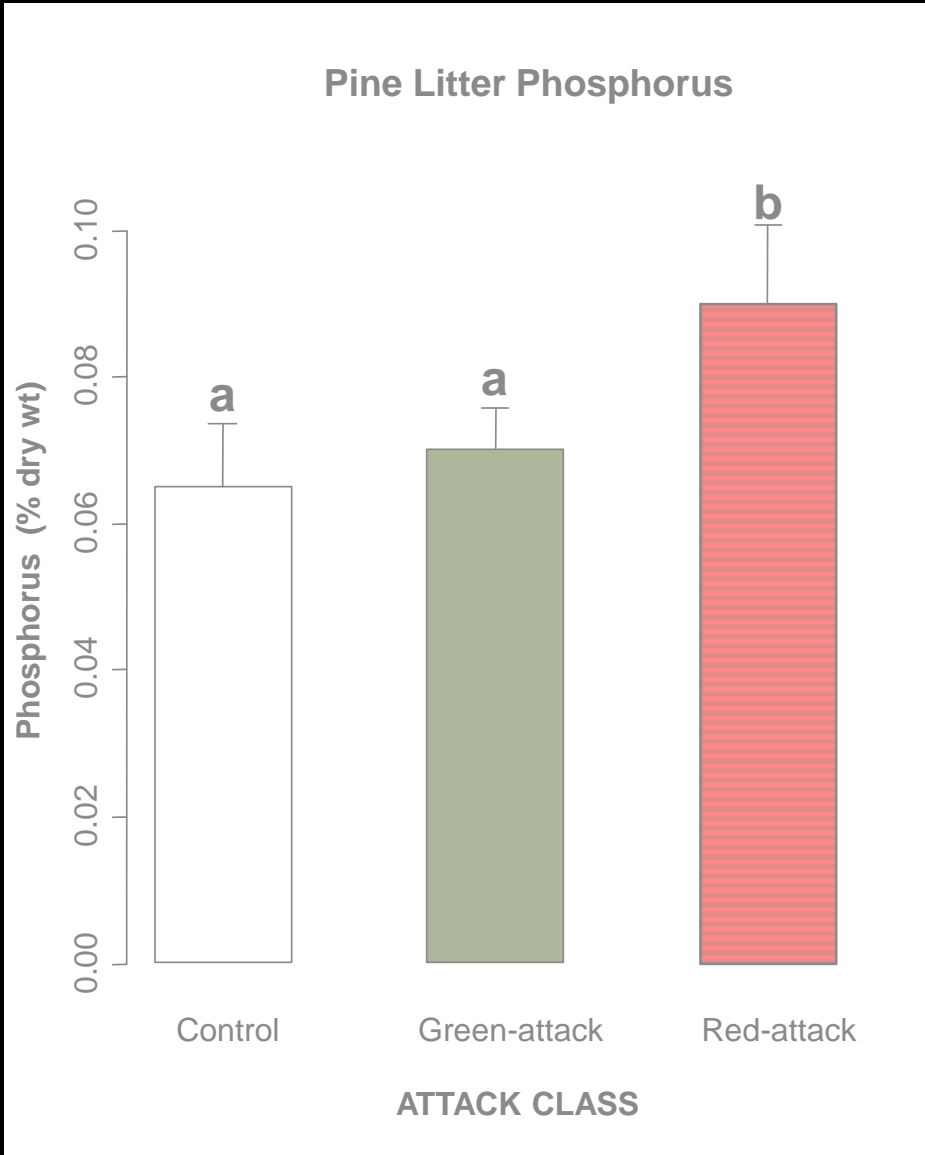
Data Collection



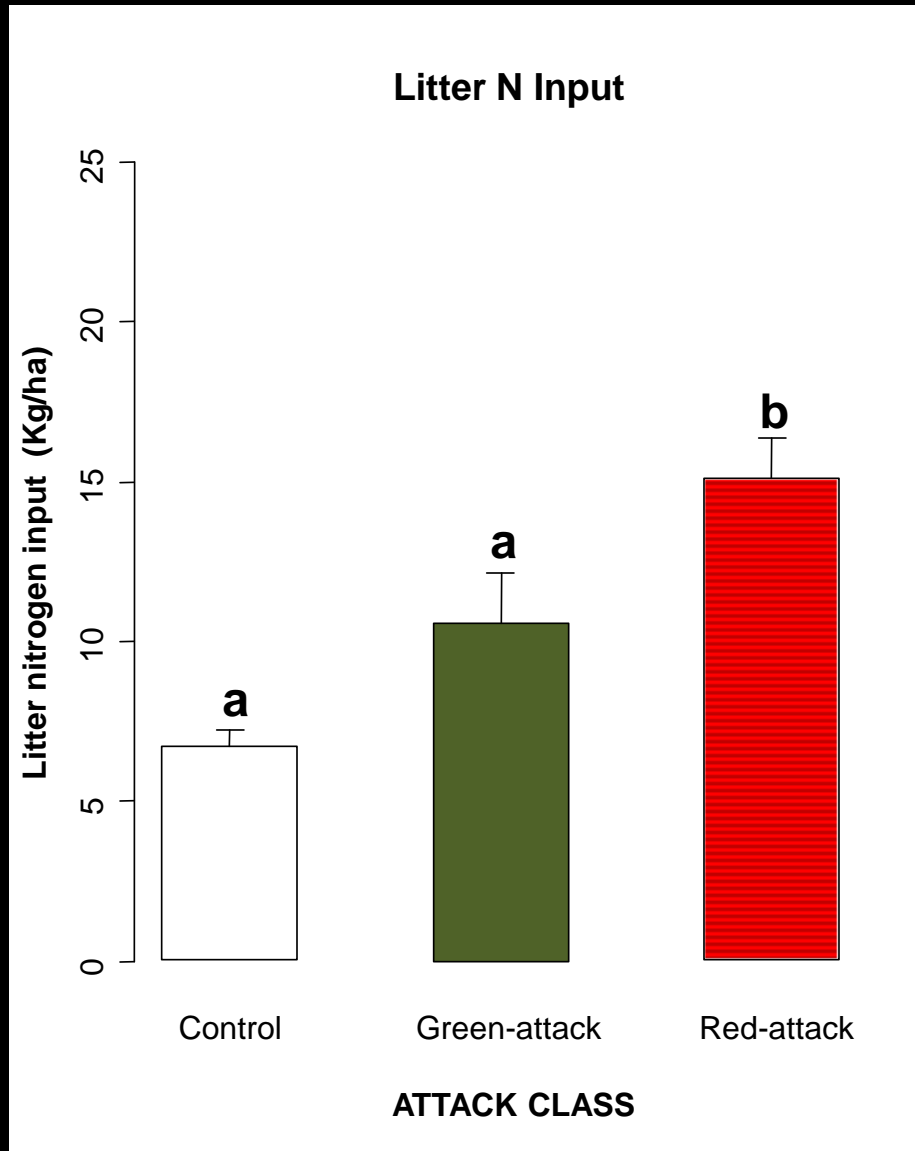
Does litter deposition rate differ by attack stage?



Does nutrient input differ by attack stage?

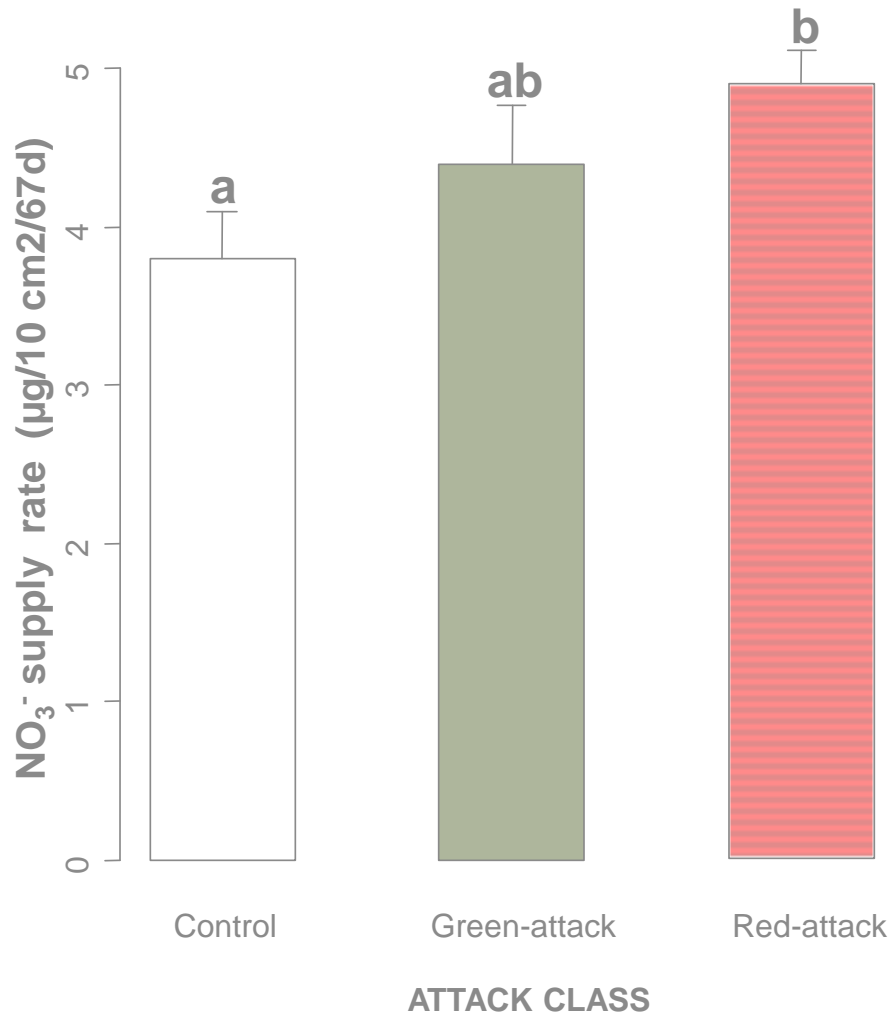


Does nutrient input differ by attack stage?

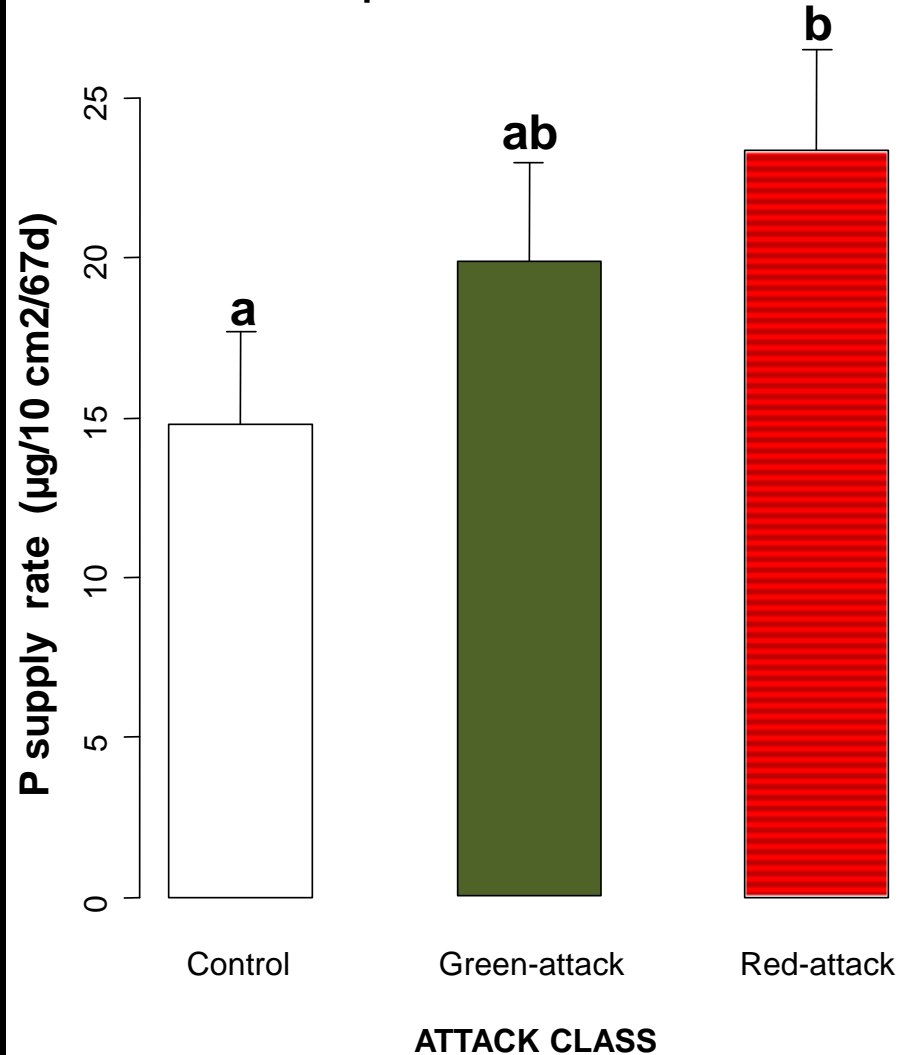


Do the soil chemical properties differ by attack stage?

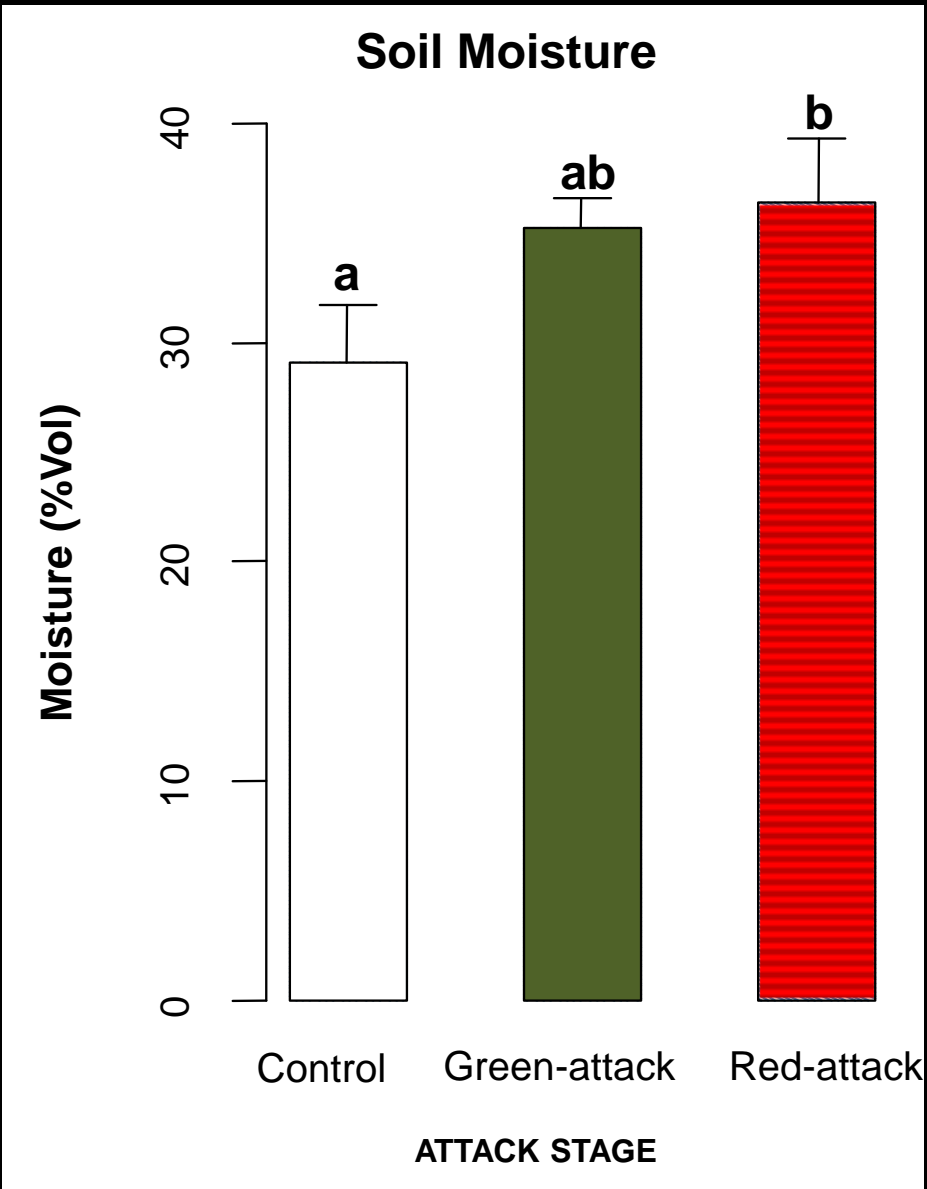
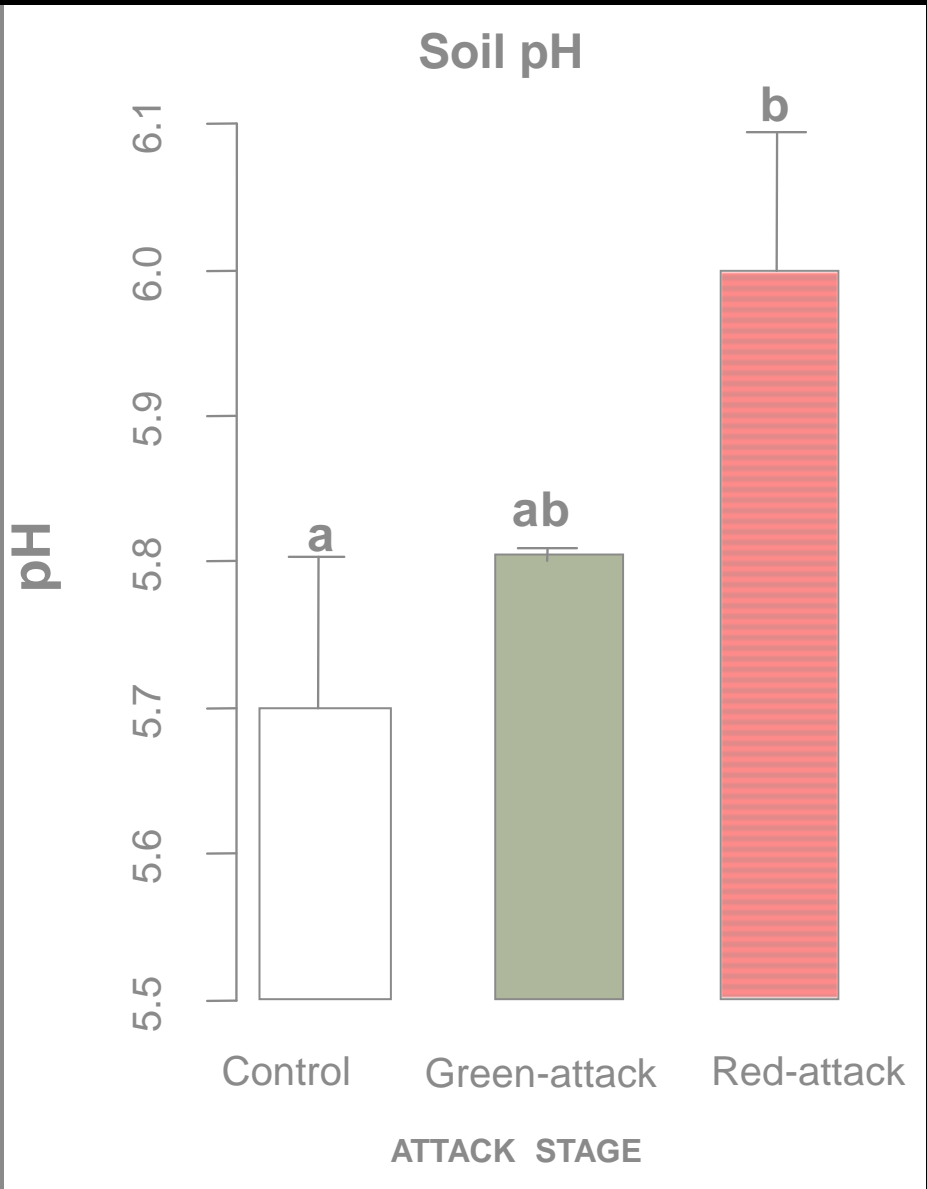
Soil Nitrate Concentration



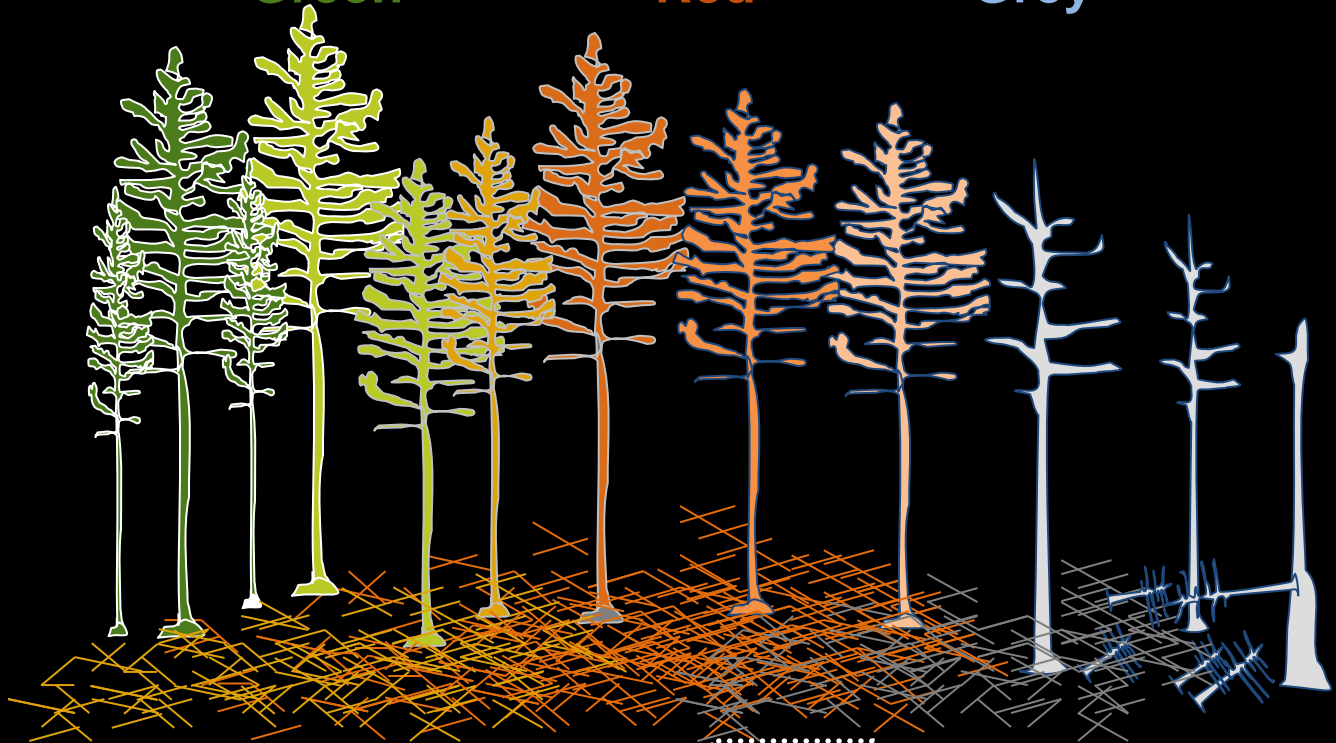
Soil Phosphate Concentration



Do the soil chemical properties differ by attack stage?



MPB ATTACK STAGE

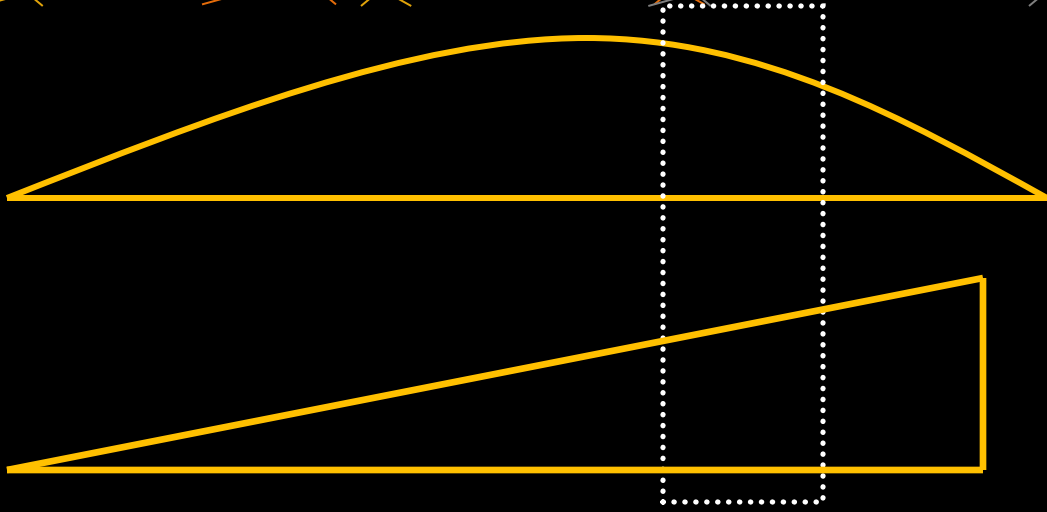


PINE LITTER

**Deposition
Quality**

SOIL CONDITIONS

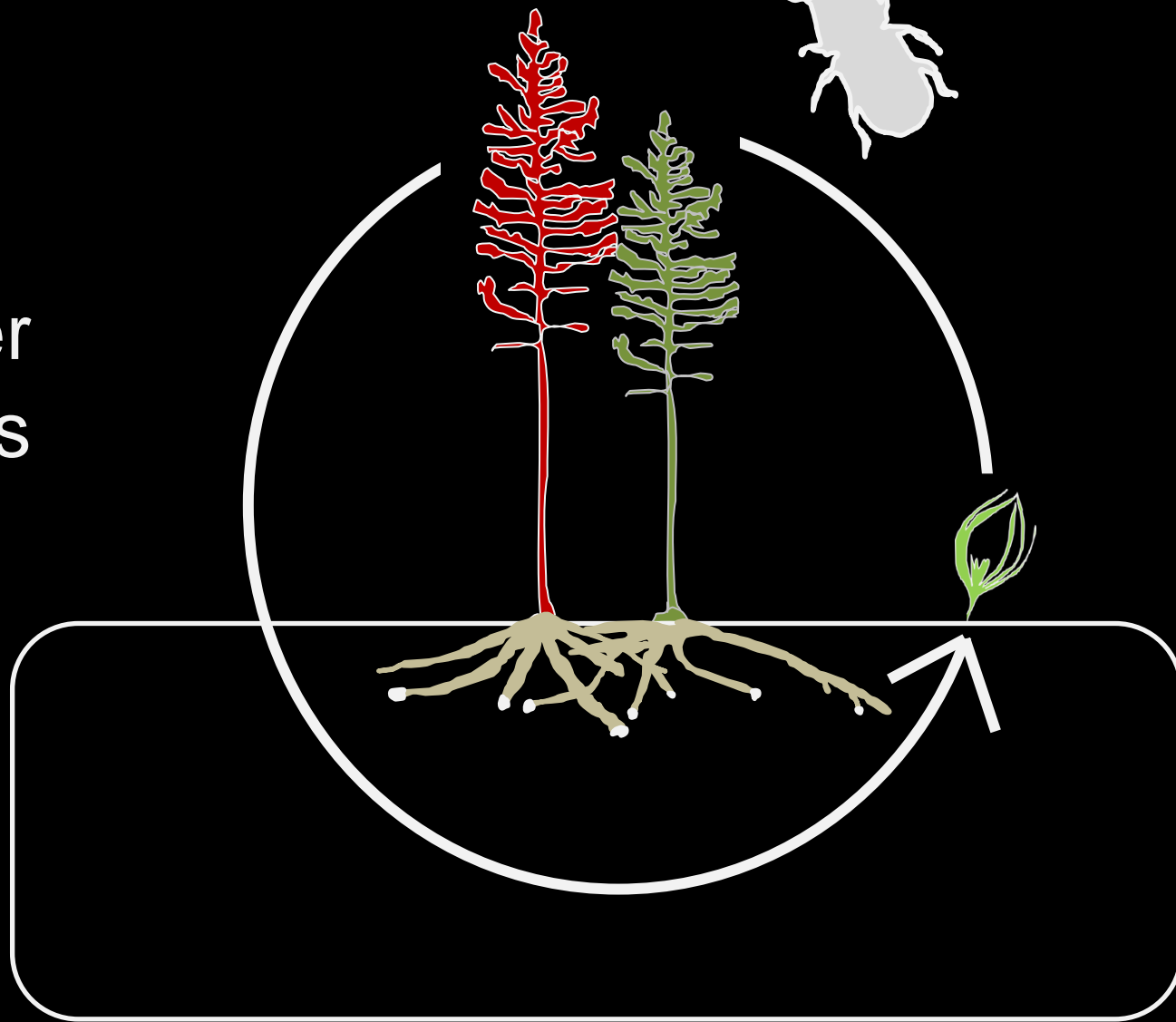
**Nitrate
Phosphate
Moisture
pH**



Forest mortality



Litter
Soils



GREENHOUSE STUDY (Nov. '11 – Aug. '12)

White spruce

(Light) x (Litter) x (Mycorrhizae)

Lodgepole pine

(Light) x (Litter) x (Mycorrhizae)

