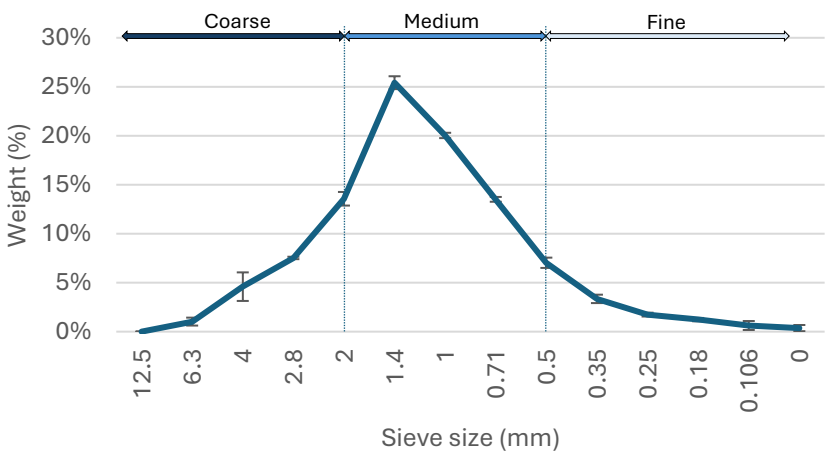
Product: Aged pine tree substrate (S3-18)

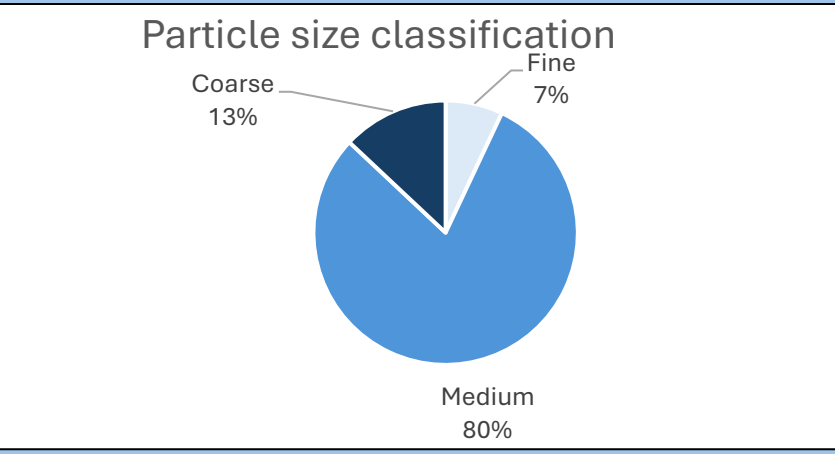
Source: North Carolina
Date received:
Moisture content upon receipt: 59.7%
Plant species: *Pinus taeda*
Processing equipment: hammermill
Nominal equipment size:
Note: this is the same material as S3-19, but aged.

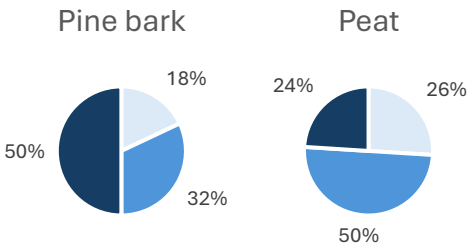


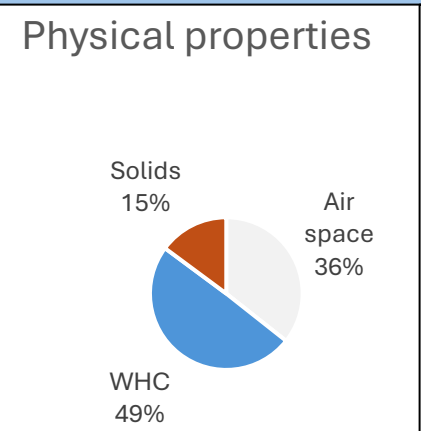
Particle size distribution:

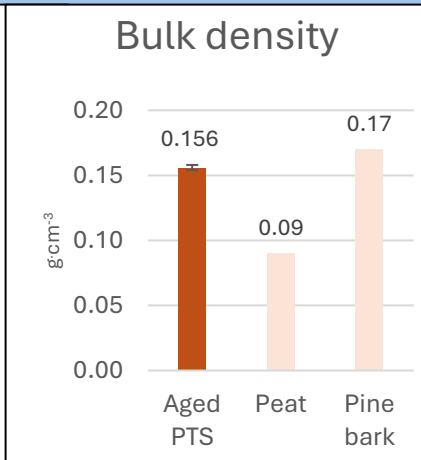
Particle size distribution is uniquely peaked at 1.4 mm. This is likely due to hammermill design.

When analyzed by particle size class, it is overwhelmingly skewed to medium particles with very few coarse particles and relatively low percentage of fine particles.



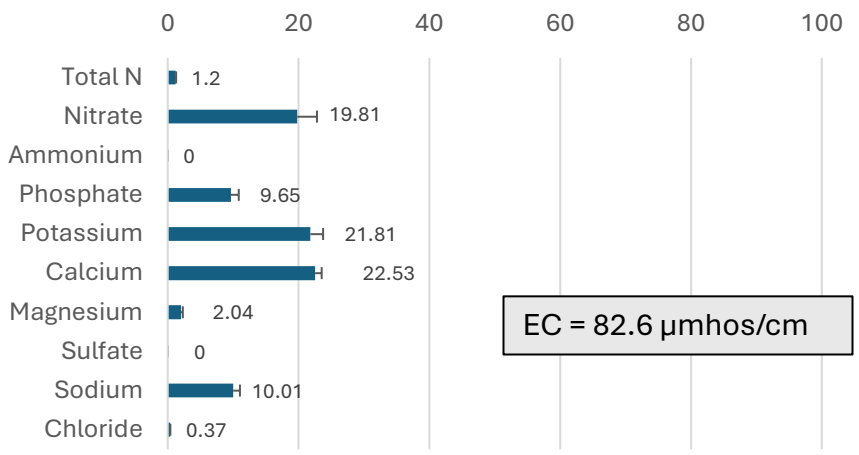






Physical properties:

Total porosity is 85%. Of that, this substrate has high air space. I would expect this material to perform similar to pine bark. Bulk density is slightly lower than other softwood barks, but higher than peat.

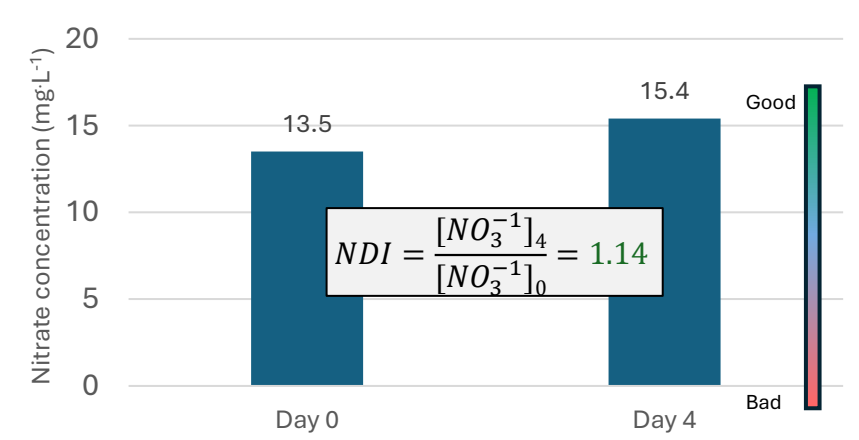


Water extractable nutrients:

All water-extractable nutrients are relatively low.

Ca and Mg are within an acceptable range, however, the Ca:Mg ratio is high (typically there should be 2x to 5x more Ca compared to Mg).

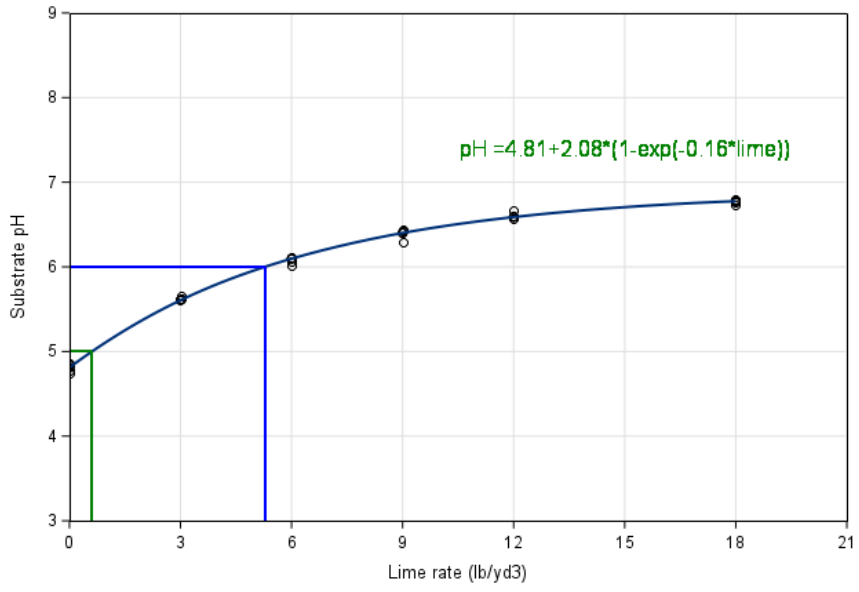
Na and Cl are sufficiently low.



Nitrogen draw down index:

Nitrogen draw-down index (NDI) is 1.14, indicating virtually no N immobilization. This substrate will require little or no additional N at potting for optimum plant growth.

This value is based on 54.1 g dry mass and 0.156 g·cm^{-3} bulk density.



Lime rate titration:

Lime calibration curve shows non-amended whole-tree pine with a pH of 5.43. The pH can be raised up to 6 with just ~1 lb/yd^3 dolomitic lime, and up to a maximum of 7.2 with ~12 lb/yd^3 dolomitic lime.