

Product: Pine bark (S3-23)

Source: North Carolina

Date received:

Moisture content upon receipt: 60.5%

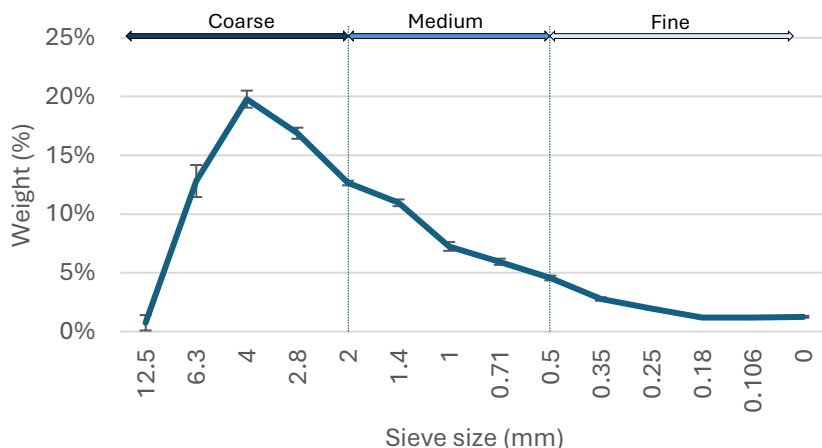
Plant species: *Pinus taeda*, North Carolina

Processing equipment: screened to ½ inch

This material is from the same source as S3-06. While age of pine bark is difficult to discern, it is likely fresher than the samples analyzed in S3-06.



Particle size distribution



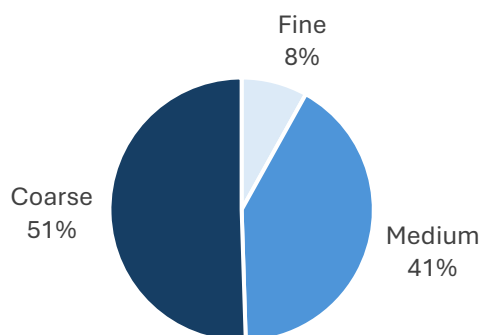
Particle size distribution:

Particle size distribution skews towards coarse particles.

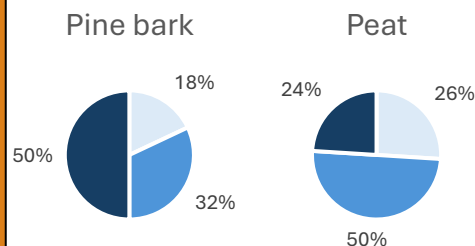
When analyzed by particle size class, it is slightly coarser with fewer fines than most pine bark substrates (below).

The higher distribution of coarse particles in pine bark can be advantageous in outdoor nursery crops where drainage from rainfall is important.

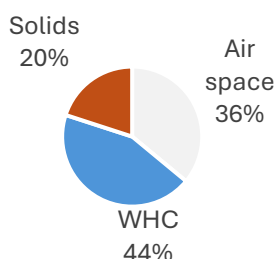
Particle size classification



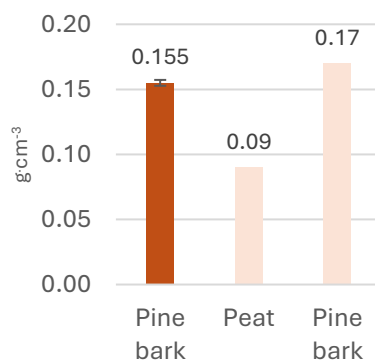
Typical values



Physical properties



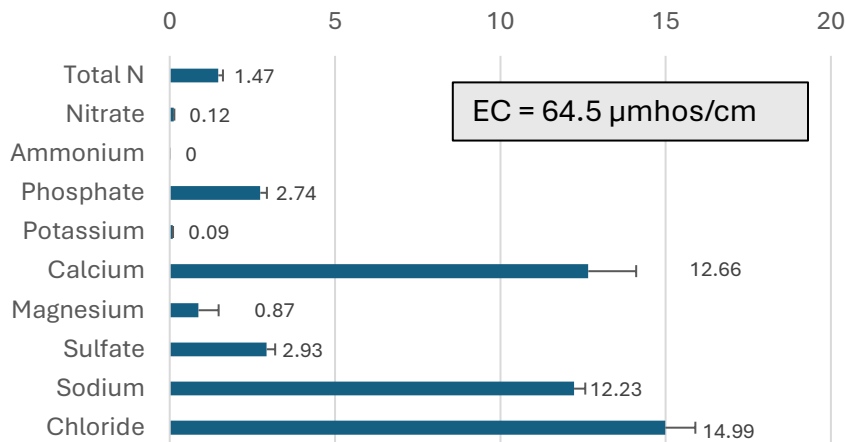
Bulk density



Physical properties:

Total porosity is typical at 80%. Air space is high and water holding capacity is low. Pine bark is often amended with peat or sand to improve its water retention. Bulk density of this bark is similar to other pine barks.

Water extractable nutrients (mg·L⁻¹)



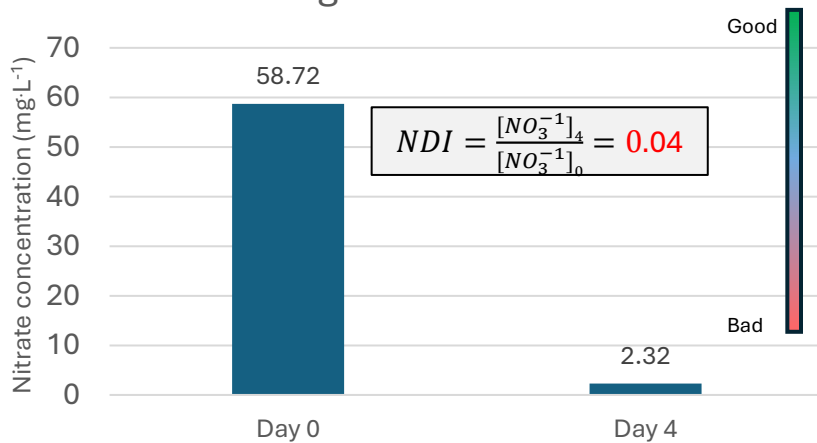
Water extractable nutrients:

Water extractable N, P, and K are low. P is lower than most other bark-based substrates.

Ca and Mg are typical of bark based substrates, and are at a suitable Ca:Mg ratio.

Na and Cl are sufficiently low.

Nitrogen draw-down

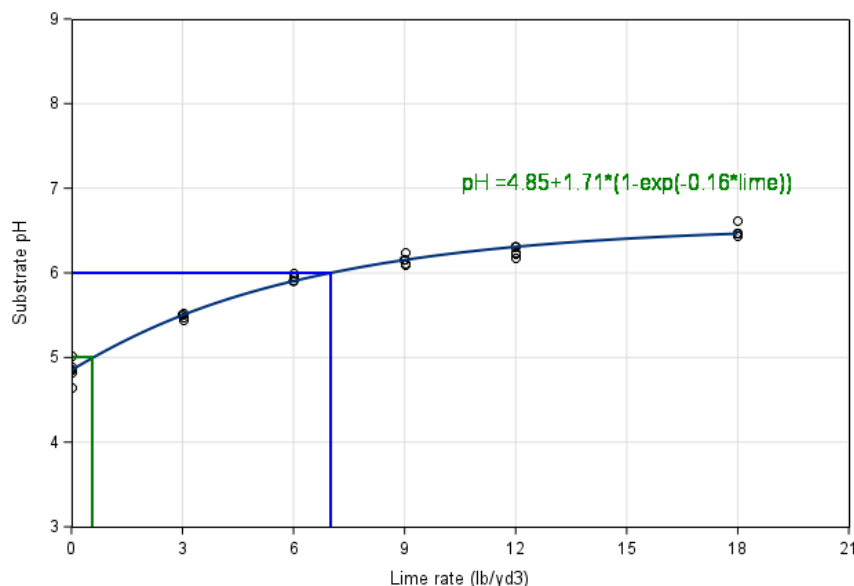


Nitrogen draw down index :

Nitrogen draw-down index (NDI) is 0.04, indicating a high rate of N immobilization. This value is typical of wood- and bark-based substrates that are fresh.

This value is based on 53.8 g dry mass and 0.155 g·cm⁻³ bulk density.

Substrate pH response to lime rate



Lime rate titration:

Lime calibration curves show non-amended bark will have pH about 4.85. Lime amendment can raise pH easily to pH 6.5.

Relatively small amounts of lime are needed to raise pH to 5.

This curve does not inform pH buffering, only how the substrate responds to initial lime application.