



Pot Trial Methodology - Wilson Inlet Catchment Committee

July 2024

The purpose of these trials is to provide evidence of the effect on growth rates and/or productivity of plants grown in pots which include varying rates of Fasera biochar in the soil composition.

Fasera biochar is produced from oil mallee biomass that is residual from the steam distillation of eucalyptus oil. The oil mallees are grown on farms throughout the wheatbelt, having been planted to address rising salinity and erosion due to over clearing. The oil mallees lower the saline water level, provide wind breaks and shelter belts but in time need to be harvested to reduce their drawings on the limited soil minerals, nutrients and water. Oil mallees coppice after harvest, regenerating to be suitable for further harvesting every 3 – 7 years, providing a sustainable biomass resource.

As we have a consistent, natural source material Fasera can produce a consistent soil ready biochar.

Fasera is pleased to partner with WICC and the Denmark community to provide biochar for the purposes of pot trials to evidence in field results in varying circumstances.

Fasera Char Technical Data

Bulk Density – Bone Dry – 330 kg/m³ (330 grams per litre)

Bulk Density – Quenched (as you will receive it) ≈ 660 kg/m³ (660 grams per litre) i.e. ≈ 50% moisture content

Typical analysis results

pH ≈ 10

Organic Carbon ≈ 70-80%

Total Hydrogen ≈ 2.5%

Total Oxygen ≈ 8.1%

Total Nitrogen ≈ 0.9%

Total Calcium ≈ 2.6%

Total Magnesium ≈ 0.2%

Total Potassium ≈ 0.76%

Total Sodium ≈ 0.71%

Total Sulphur ≈ 0.06%

Pot Trial Guidance

Fasera recommends trialling biochar to soil ratios in pots at between 10% and 25% of the potted soil by VOLUME e.g. in a 4-litre pot the volume of biochar to soil ratios would be:

10% biochar = 400 ml + soil of 3600 ml
15% biochar = 600 ml + soil of 3400 ml
20% biochar = 800 ml + soil of 3200 ml
25% biochar = 1000 ml + soil of 3000 ml

Fasera encourages participants to experiment as much as possible with ratios and even the placement of the biochar. i.e. it can be mixed fully through the soil or part mixed and part placed on the bottom of the pot. The more variation in the trials the more we will learn and can share with others.

Important considerations:

- 1) Plan your pot trial parameters and record them.
- 2) Follow the plan and record how it was implemented
- 3) Be consistent with pot size, shape and soil for each trial
- 4) Mark your pots so you can identify each variation in the trial
- 5) Plant all pots in each trial using the same methodology
- 6) Place all pots in the same or similar position with respect to shade, sun, water etc
- 7) Rotate the position of the pots on a regular basis if needed to ensure they share the same conditions
- 8) Observe, measure and record on a regular basis
- 9) Photos are a great way of preserving data and visualising results
- 10) Share results as they happen with others conducting trial
- 11) Fasera have conducted pot trials using transparent pots so we could observe the root growth through the trial.

Photograph 1 Pot Trial 10 Kikuyu Seeds Per Pot 29 April 2023



Photograph 2 Pot Trial 10 Kikuyu Seeds Per Pot 1 June 2023

