



اَبُو سَمِيْعٍ تَبْكُو لَوِيْنِ فَمَارَا
UNIVERSITI
TEKNOLOGI
MARA

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Kampus Bukit Besi

TITLE:

“PRODUCTION OF TEA CHAR AT DIFFERENT CARBONIZATION
TEMPERATURES”

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AUTHOR'S DECLARATION

“I hereby declare that this report is the result of my own work except for quotations and summaries which have been duly acknowledged.”

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ABSTRACT

The research is to investigate potential of using the carbonized tea char as a soil booster. There is necessary to know at which temperature and time of tea pyrolysis process can produce highest quality tea char as soil booster. The methodology involves preparing tea as raw materials, conducting pyrolysis process using furnace, and performing elemental analysis to know composition of the tea at different temperature and time. The different temperatures used for pyrolysis of tea is 400°C, 500°C, and 600°C for 40 minutes. Meanwhile, 60 minutes, 40 minutes and 20 minutes at 500°C is used at different times of pyrolysis process. Elemental analysis is conducted to determine which temperature or time have higher percentage of nitrogen. Nitrogen is good for plant growth and higher nitrogen in soil means it can enhance soil fertility. Based on the results, the pyrolysis at temperature 400°C for 40 minutes has the highest percentage of nitrogen. At lower temperatures, the thermal breakdown of nitrogen is less complete. This makes more nitrogen stay in the tea chair. The effectiveness of soil that has been mixed with this charm is proven through plant growth. The plant growth taller and healthier than plants that grow in the normal soil. This demonstrates that the tea char can serve as an effective soil booster if it is used in agriculture activity.

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