PASTEURISATION AND DRYING OF FAECAL SLUDGE BY USE OF MEDIUM WAVE INFRARED (MIR) RADIATION

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30,000 VIP latrines in Durban area
LaDePa (Latrine Dehydratation Pasteurisation)
Lab scale
Parameters studied:
- Speed belt residence time
- MIR intensity (drying temperature
- Pellet diameter

+ Biological, chemical and thermal characterization of product
Conclusion 1

Drying at higher MIR intensities reduces drying time but it can cause charring of pellets when temperature exceed 200°C.

Increasing the pellet diameter leads to an increase in drying time.
Pasteurization is achieved after 8 minutes for temperatures higher than 90°C.

Or less than minutes for the higher MIR intensity (220°C)
The use of pellets would be beneficial as a fertilizer, particularly due to its relative rich phosphorus content (~85 g/kg dry faecal sludge), or as a fuel source with a calorific value close to wood (~19 MJ/kg dry faecal sludge).
THANKS!

FOR MORE DETAILS, I KINDLY INVITE YOU TO JOIN ME DURING THE POSTER SESSION

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