

A new biosolids derived fertiliser supports crop yields

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Introduction

- Biosolids (BS) are rich in phosphorus (P) - up to 5% in total P
- EU : close to 9.4 M tonnes BS and nearly 40% recycled to land
- UK : nearly 1.5 M tonnes BS and nearly 68% applied to agriculture

Aim

- To evaluate efficacy of BS derived fertilisers in supporting major crops in agriculture

Methodology

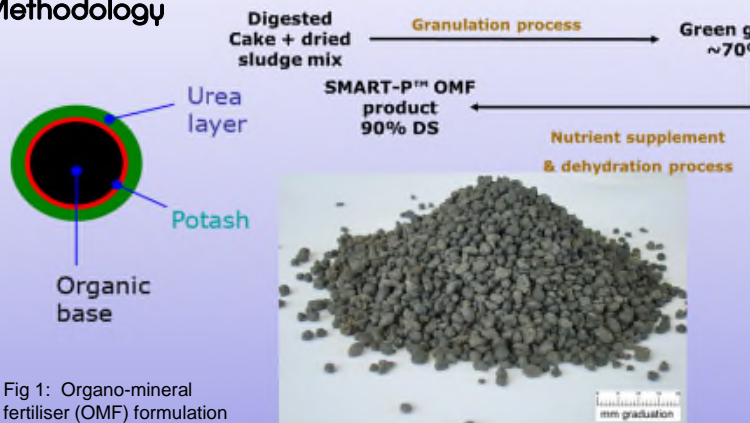


Fig 1: Organo-mineral fertiliser (OMF) formulation

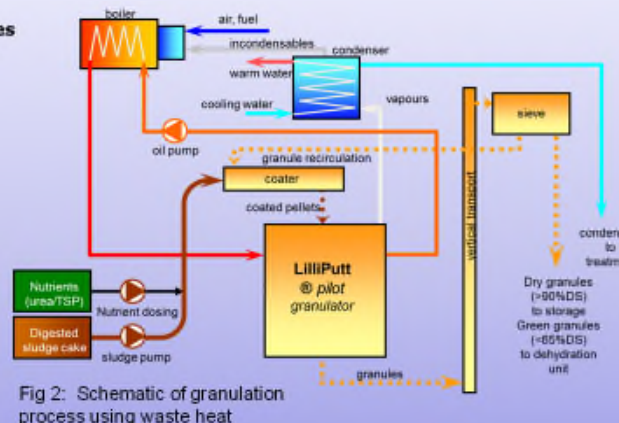


Fig 2: Schematic of granulation process using waste heat

Major Findings

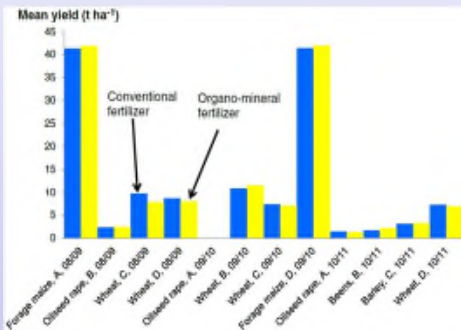


Fig 3 : Yield of major combinable crop applied with OMF and conventional fertilisers (Deeks et al (2013), Agron. Sust. Dev 33(3), 539-549

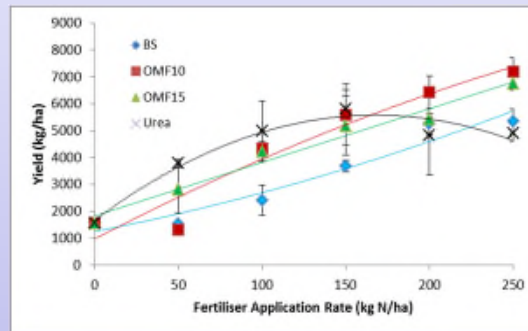


Fig 4 : Yield of grass applied with OMF and conventional fertilisers (Pawlett et al (2015), Field Crops Research (In Press)



Fig 5 : Ryegrass plots showing responses to treatments

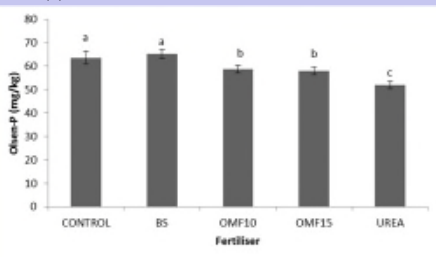


Fig 6 : Trends of Olsen-P from various treatments. Letters above histogram bars represent significant (p<0.05) groupings

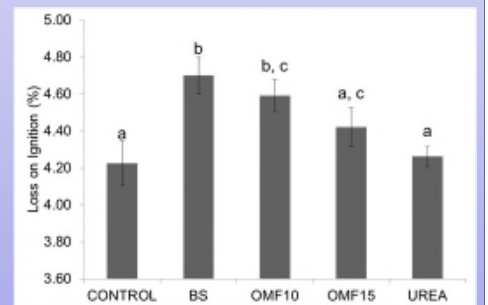


Fig 7 : Changes in organic matter for various treatments

Conclusions

- Crop yield was not compromised by biosolids derived fertiliser - sustainable approach
- Soil P level did not change and build up of organic matter - improved soil fertility

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