

Using Quality Composts to improve yields and reduce inputs



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what are quality composts ?

- composts are natural products, from the controlled aerobic biological decomposition of biodegradable materials such as garden and food waste
- produced to BSI PAS 100 quality standard; controls inputs, ensures traceability, results in a product
- available from several sites in Scotland.



using composts



- helps maintain and enhance soil organic matter levels
- improves soil water holding capacity and workability
- supplies major crop-available nutrients and trace elements
- improves crop establishment and yields

strawberry trial

- field trial at EMR, on sandy loam soil, Malling series, on the potential benefits of green and food-included composts on 'Elsanta' production over 2 seasons



WRAP

Material change for
a better environment


emr
east malling
research

 myInfield
research services

 scri
living technology

design

Class 1 strawberry plants June-bearing field production; 2 seasons; Elsanta in 6 x 30m beds;

3 treatments;

- 1) fertigated control; typical fertiliser rates (RB209)
- 2) green compost (NVZ)
- 3) food included compost (NVZ)

last 2 did not receive supplementary nutrition



measurements



data logger



ECH2O moisture probe

soil moisture
plant development &
fruit yield
berry quality
& shelf life
human pathogens
financial implications



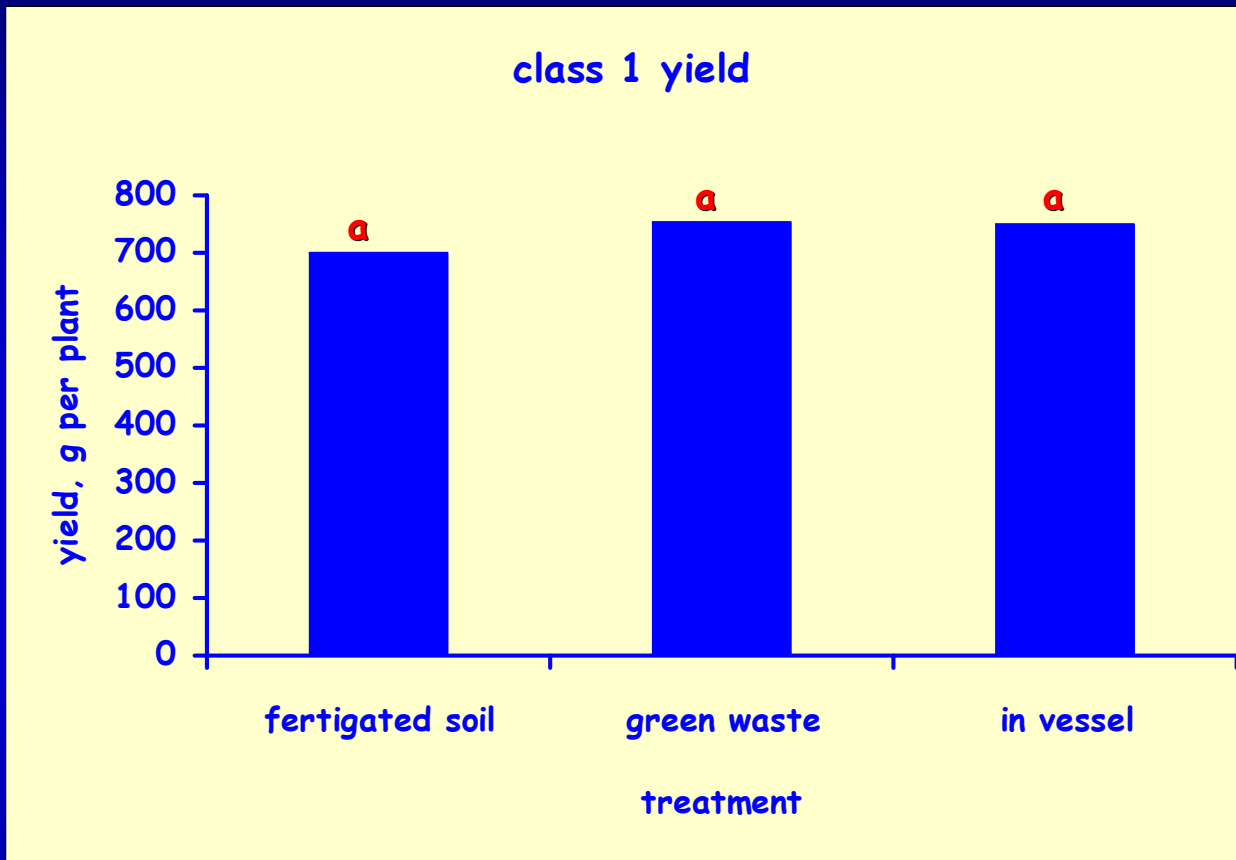
berry firmness
penetrometer



berry ssc,
refractometer

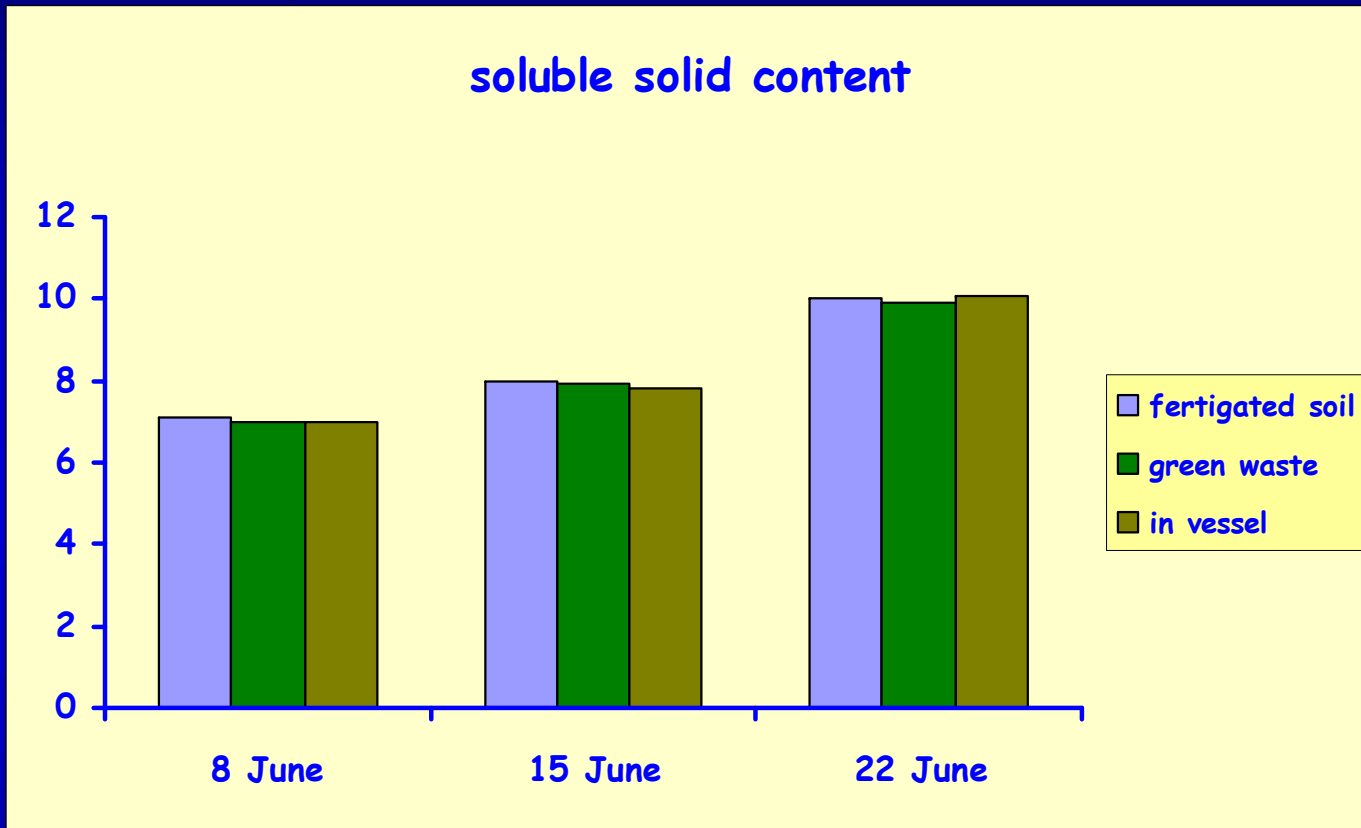


yields, second season



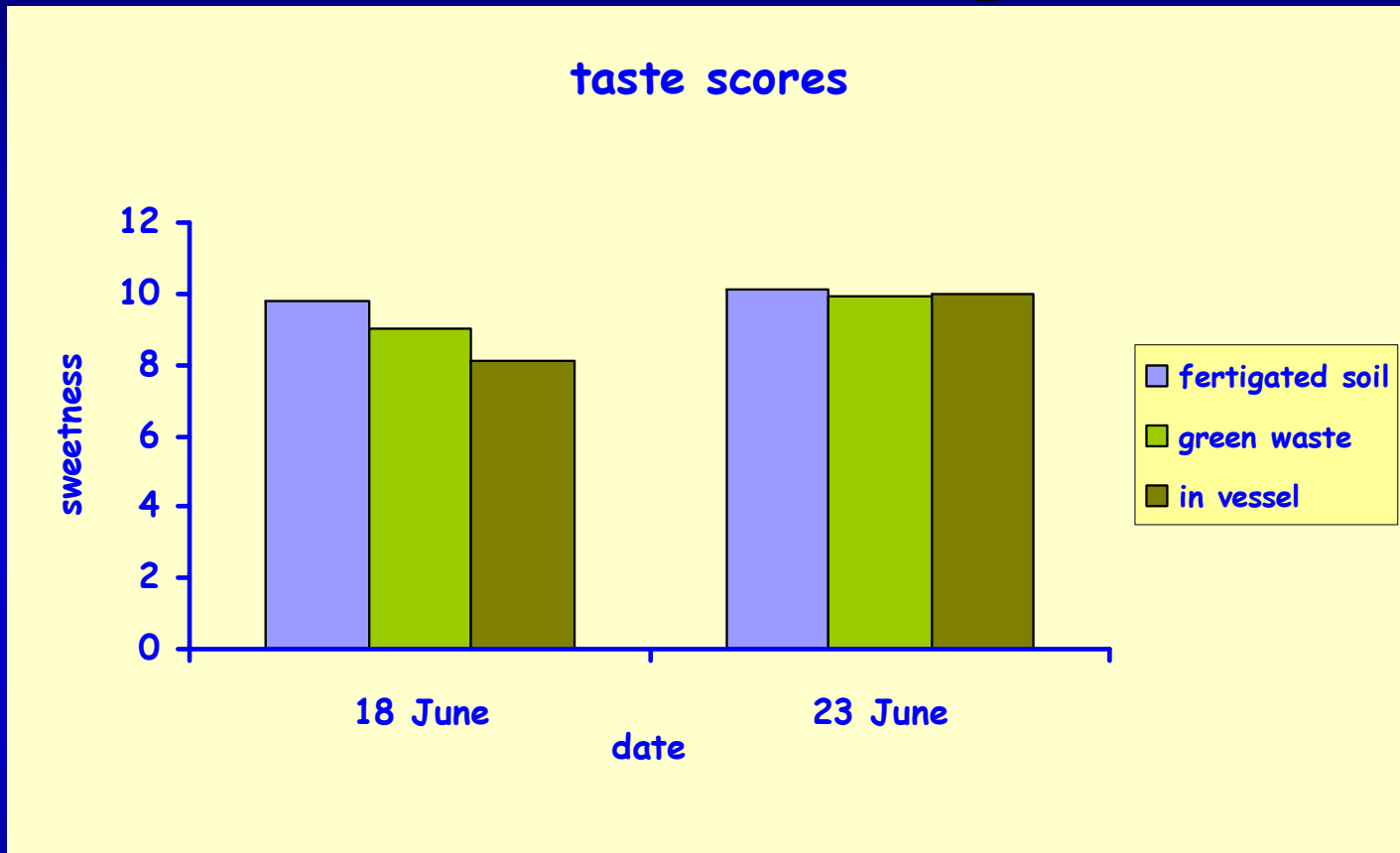
no significant difference in yields

berry soluble solid content



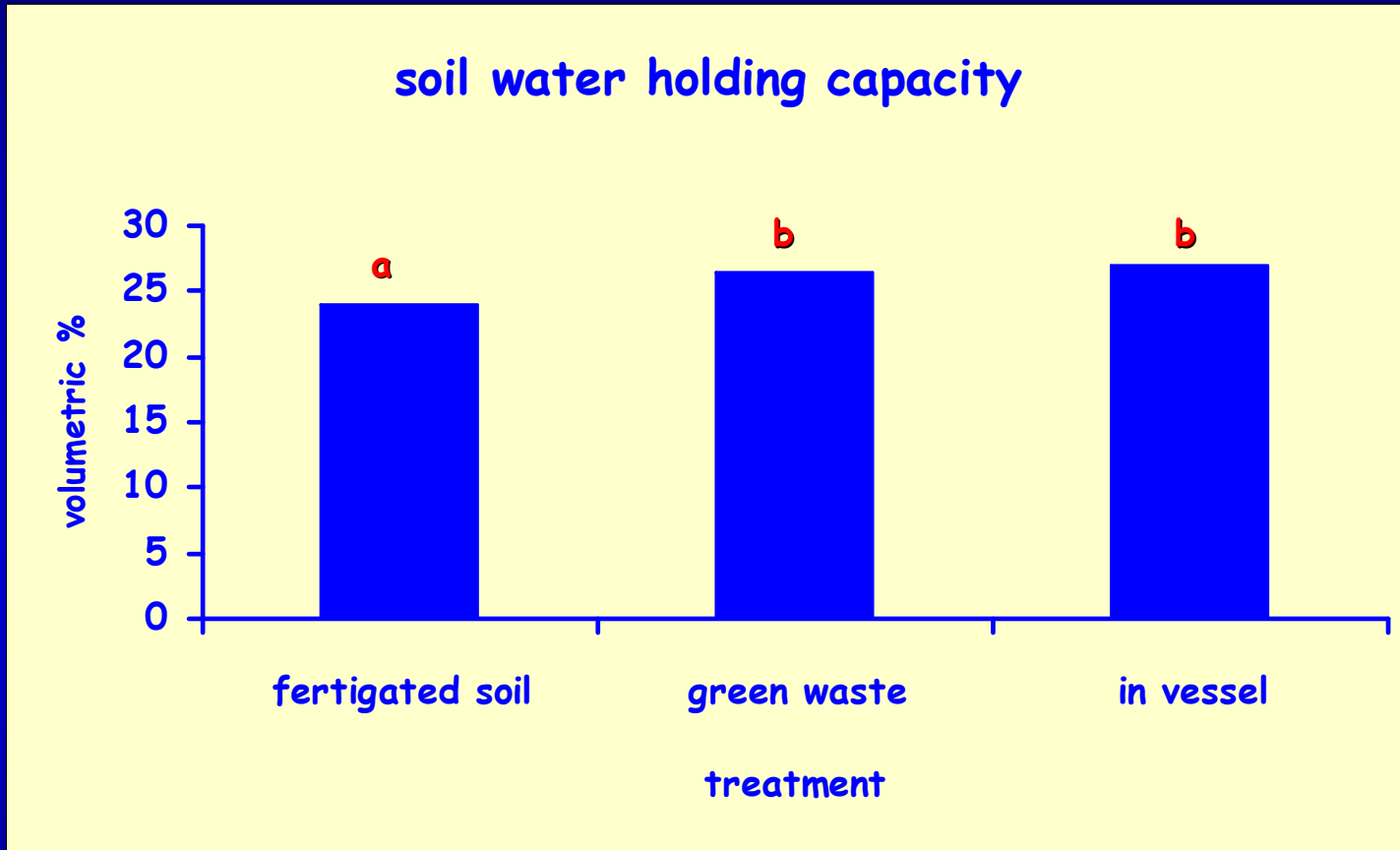
no significant difference in ssc

taste testing



no significant difference in taste tests
and shelf-life same in all

soil moisture



significant increase in WHC

other results

- no nutrient deficiencies across the treatments
- no human pathogen contamination problems

general conclusions and implications

- improved water use efficiency; improved soil water retention, so reduced irrigation requirements
- improved nutrient use efficiency
- cost implications; compost use could remove need for traditional fertilisation; ~£300 - 600 per ha per annum
- combine with composts in tunnel cultivation
- to find a compost supplier near you go to www.wrap.org.uk/composting and follow the link to the online compost suppliers database.