Feed the Soil – Research to Real-World Practice for Farmers

Catriona Willoughby, Andrew Sincock, Andrew Howard

Feed the Soil

ORGANIC RESEARCH CENTRE

Project Overview

Build a research and knowledge exchange hub for novel organic waste management strategies to build healthy soils and healthy crops

What are we trying to achieve?

Composting can be a useful way of processing organic waste on farm, but outputs from composting can be highly variable due to:

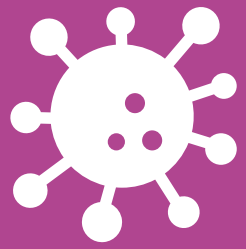
- Feedstocks
- Production methods/equipment availability
- Farm and field context

What systems are we considering?

Vermicompost

Harnessing earthworms to break down farm waste

Bokashi



Anaerobic fermentation achieved through use of specialist bacteria

Johnson - Su

Utilizing a bioreactor to create fungi rich compost teas

Aerobic

Retaining oxygen throughout materials to induce aerobic decomposition

Luebke (CMC)

Aerobic composting including inoculation with beneficial microbes

Feed the Soil

ORGANIC RESEARCH CENTRE

How can we help?

Feed the Soil aims to investigate the impacts of key compost types on:

- Farm incomes – how can we ensure composting is cost effective?
- Soil health and function
- Crop yields and quality

Liquid Compost Extract Field Trial

In partnership with;

Bockhanger Farms

Court Farm Butchery & Country Larder

University of Reading

Co-op Foundation
in partnership with Co-op

Kent Wildlife Trust

The Project

- This pilot aims to explore liquid compost to reduce the amount of synthetic nitrate that needs applying to winter wheat, while still producing a sustainable yield.

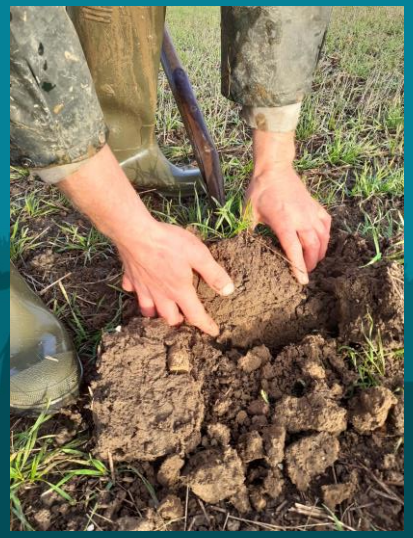
- The trial is a split-plot design with two factors (mineral nitrogen and liquid compost extract) and three blocks. The split plots are the compost extract.

- The extract is made using farmyard manure which is composted with woodchips using the Johnson-Su method and then extracted with tap water using a vortex mixer and filtered to create a liquid compost extract.

Extraction, analysis and application

Split plot design

Monitoring



GRAIN CHECK REPORT

Report No: 47413 **Sample No.** 289740 **Sample Ref.** PLOT 2	**Cropping:** WINTER WHEAT GRAIN **Agronomist:**	**Farm Details:** WITH EXTRACT	**Client:** Y294 BETHANY PATEMAN KENT WILDLIFE TRUST CHATHAM ROAD SANDLING MAIDSTONE ME14 3BD
Received: 13/08/2024	**Reported:** 23/08/2024		

Element	Result (D.M. Basis)	Critical Value	Interpretation	Comments
Nitrogen	1.91 %	1.9 *	1.0 1.5 2.0 2.5 3.0	The critical value for N of 1.9% is variety dependent. Probably the best critical value to use for wheat varieties, is the lower of the two protein values given for each variety in the AHDB recommended list.
Phosphorus	0.288 %	0.32 *	0.15 0.3 0.45 0.6 0.75	Values of less than 0.32% in dry matter indicate a need for further checks on P nutrition
Potassium	0.508 %	0.38	0.15 0.425 0.7 0.975 1.25	RB209 assumes a standard value of 0.55% K in grain. Values less than 0.38 indicate a need for further checks on K nutrition, especially in soil

kentwildlifetrust.org.uk

Making Manures Matter

Andrew Sincock NSch

AGRITON GROUP

Thermophilic Compost

Vermicompost

Anaerobic Digestion

Bokashi Fermentation

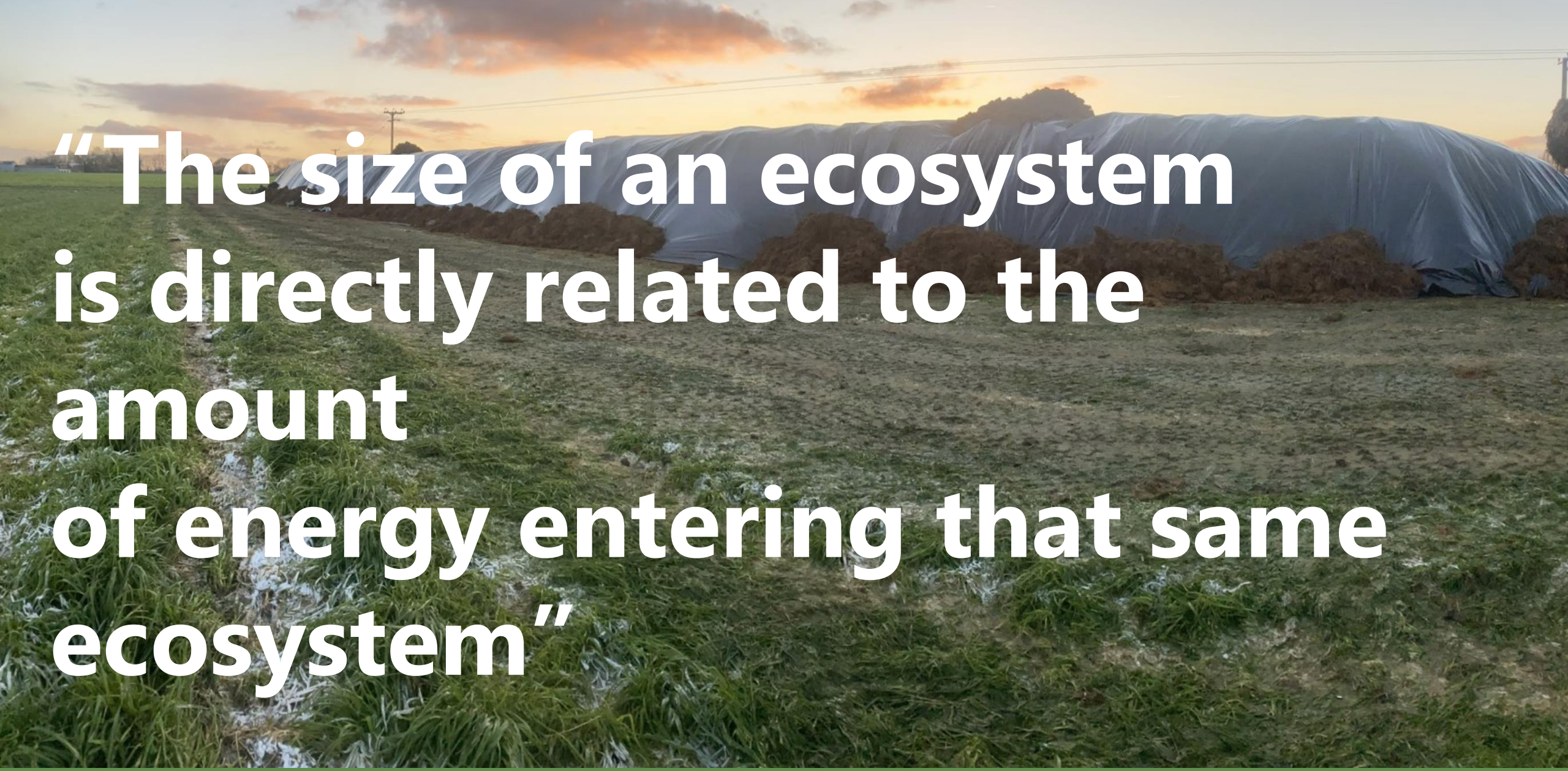
Feed the Soil

ORGANIC RESEARCH CENTRE

100 grams
Vs
100 grams

61 calories

72 calories


“The size of an ecosystem
is directly related to the
amount
of energy entering that same
ecosystem”

Thank you for listening

Any questions?

SCAN ME!