

Project overview

The NFS MORE trial examines the use of a wide range of soil amendments and compares these to the use of bagged nutrients. The rotation follows a typical farm rotation based around combinable cropping with sugar beet. The experiment is a factorial design, with three replicates, that received either a single dose (diminished) application or repeated rotationally (augmented) additions of turkey manure (ca. 8 t/ha), green waste compost (ca. 35 t/ha) or paper crumble (ca. 50 t/ha).

Recent findings have demonstrated that incorporating soil amendments (turkey manure, paper crumble and green waste compost) have an impact on nutrient supply and availability and improved crop yields associated with specific soil amendment approaches.



New Farming Systems

Further information

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The New Farming Systems Project

is managed by NIAB TAG in conjunction with an independent advisory group and supported by The Morley Agricultural Foundation and The JC Mann Trust. The NFS project also contributes to a range of other research programmes.



NEW FARMING SYSTEMS

Soil amendments – Manure and Organic Replacement Experiment (MORE)

The New Farming Systems (NFS) project is a series of experiments and system demonstrations. The project aims to explore ways of improving the sustainability, stability and output of conventional arable farming systems. The research takes place on a sandy loam soil at Morley in Norfolk and started in 2007, with an additional study added in 2011.



New Farming Systems

Soil amendments – Manure and Organic Replacement Experiment (MORE)

This study examines the use of a wider range of soil amendments and compares these to the use of bagged nutrients. The rotation follows a typical farm rotation based around combinable cropping with sugar beet. The experiment is a factorial design, with three replicates, that received either a single dose (diminished) application or repeated rotationally (augmented) additions of turkey manure (ca. 8 t/ha), green waste compost (ca. 35 t/ha) or paper crumble (ca. 50 t/ha). Further detail of the treatments and the design is presented in the following table; in total the experiment has ten treatments.

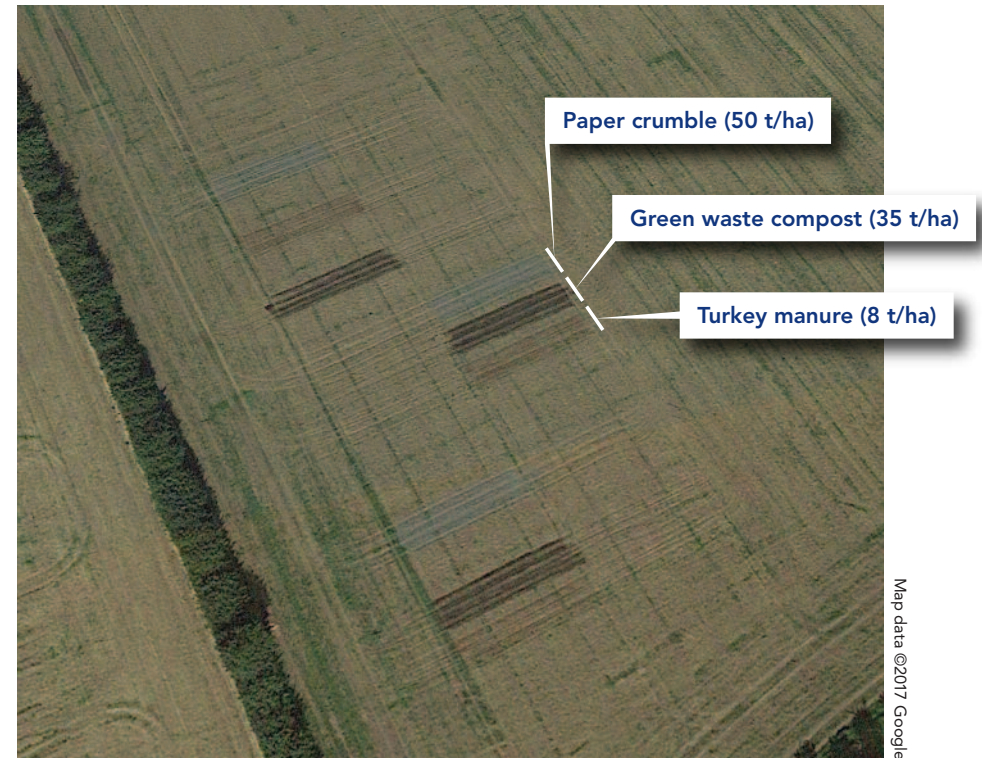
Treatment and rotational progression details

Cropping and harvest year														
Rotation		2012 (Year 1)	2013 (Year 2)	2014 (Year 3)	2015 (Year 4)	2016 (Year 5)	2017 (Year 6)	2018 (Year 7)	2019 (Year 8)	2020 (Year 9)	2021 (Year 10)			
Augmented	✓	wwt	sbt	speas	✓	wwt	wosr	wwt	✓	sbt	sbly	soat	✓	wwt
Diminished	✓	wwt	sbt	speas		wwt	wosr	wwt		sbt	sbly	soat		wwt

✓ = Amendments applied

Cropping key:

wwt (winter wheat), sbt (sugar beet), speas (spring peas), wosr (winter oilseed rape), sbly (spring barley), soat (spring oat)



Map data ©2017 Google

NIAB TAG soil amendments trial – post-harvest application of organic materials, September 2017.

REP 2

Untreated	Green Compost	Turkey Manure	Untreated	Paper Crumble	Untreated + Bagged P+K	Paper Crumble	Green Compost	Turkey Manure	Untreated
Diminished	Diminished	Diminished	Diminished	Diminished	Augmented	Augmented	Augmented	Augmented	Augmented

REP 3

Turkey Manure	Untreated	Paper Crumble	Untreated	Green Compost
Diminished	Diminished	Diminished	Diminished	Diminished

REP 1

Paper Crumble	Untreated	Turkey Manure	Untreated + Bagged P+K	Green Compost	Turkey Manure	Untreated	Untreated	Green Compost	Paper Crumble
Augmented	Augmented	Augmented	Augmented	Augmented	Diminished	Diminished	Diminished	Diminished	Diminished

REP 3

Untreated	Paper Crumble	Untreated + Bagged P+K	Green Compost	Turkey Manure
Augmented	Augmented	Augmented	Augmented	Augmented