

# Improved analysis of solid manures and slurries



## Why analyse?

The nutrient content of solid manures and slurries can vary considerably from the typical values presented in Defra's Fertiliser Manual (RB209), 8th edition. Given this variability and the increasing cost of manufactured fertiliser it is worthwhile analysing nutrient content of representative samples of solid manures and slurries.

## Improved analysis

A three-year collaborative Defra LINK project with sixteen research and industry partners has shown that Near Infra-red Reflectance Spectrometry (NIRS) can provide low cost, rapid and reliable analysis of:

- dry matter\*
- total N (Figure 1)
- readily available N (can be taken up rapidly by the crop)
- phosphate (P<sub>2</sub>O<sub>5</sub>)
- potash (K<sub>2</sub>O)
- sulphur (as SO<sub>3</sub>)
- magnesium (as MgO)

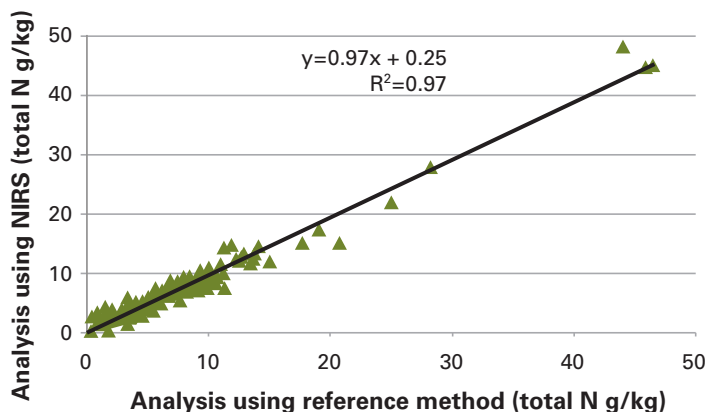
\*Dry matter content of slurry samples must be greater than 5%.

Eurofins, a project partner, currently holds the licence to use the project data and provide NIRS-based analysis of solid manures and slurries.

## Benefits of NIRS analysis

- **Wide analysis range** – robust assessment is based on a very substantial sample set, covering a wide range in nutrient content and from a wide geographical range across the UK and Ireland
- **Reduced analytical costs** – due to rapid preparation and analysis
- **Larger sample analysed** – more representative of a manure store or heap
- **Results delivered quickly** – results delivered by email within five working days

**Figure 1.** Relationship between total N results obtained using NIRS analysis and the standard reference method.



## Action

Plan the use of nutrients on your farm.

Analyse the nutrient content of manures and slurries.

In an NVZ you must plan and record all applications.

Always consider your local conditions and consult a FACTS qualified advisor if necessary.

## Key project contacts

**Eurofins** 0845 604 6740  
sales@eurofins.co.uk  
www.eurofins.co.uk

**BPEX** info@bpex.ahdb.org.uk

**DairyCo** info@dairyco.ahdb.org.uk

**EBLEX** admin@eblex.ahdb.org.uk

**HGCA** James Holmes, Research and Knowledge Transfer Manager  
james.holmes@hgca.ahdb.org.uk

**Potato Council** Gary Collins, Technical Executive  
gary.collins@potato.ahdb.org.uk



## Nitrate Vulnerable Zones (NVZs)

Areas of England, Wales and Scotland where nitrate restrictions apply are known as NVZs. Nitrate restrictions apply to all farms in Northern Ireland.

To find out if your farm is in an NVZ and for further information on the regulations that apply, visit:

- in England [www.defra.gov.uk](http://www.defra.gov.uk)
- in Wales [www.wales.gov.uk](http://www.wales.gov.uk)
- in Scotland [www.scotland.gov.uk](http://www.scotland.gov.uk)
- in Northern Ireland [www.doeni.gov.uk/niea](http://www.doeni.gov.uk/niea)

DairyCo has produced a Slurry Wizard tool to help calculate the storage capacity needed to comply with regulations. Slurry Wizard forms part of the Dairy Wizard which is available by request from **024 7669 2051** or [info@dairyco.ahdb.org.uk](mailto:info@dairyco.ahdb.org.uk)

BPEX has produced two calculators to help pig farmers calculate their manure spreading, deposition areas and slurry storage requirements, available online at [www.bpex.org.uk](http://www.bpex.org.uk)

## Nutrient management

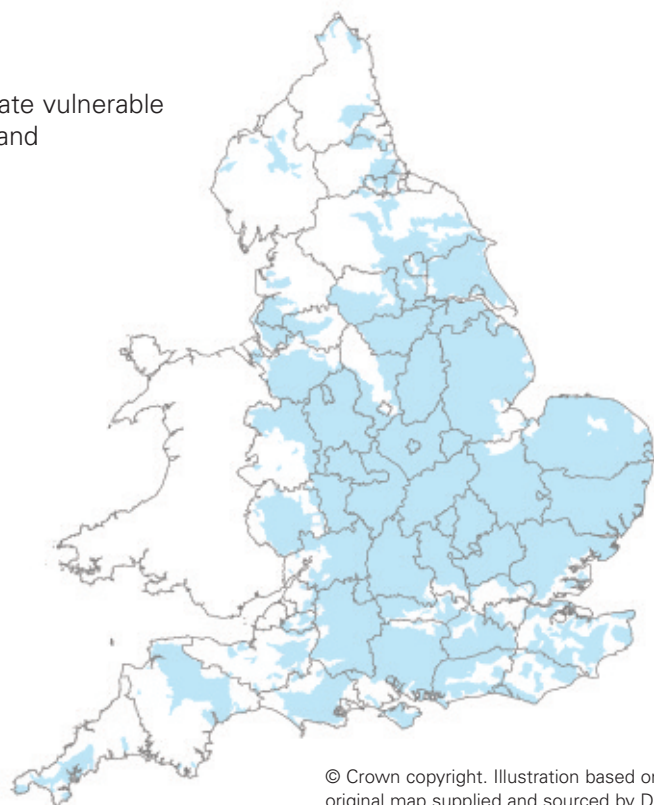
A comprehensive and robust nutrient management plan is not only an essential business tool, it also helps you meet reporting requirements if you farm in an NVZ. A number of computer- and paper-based systems are available to help you manage nutrients.

PLANET, a computer-based system for farms in England, Wales and Scotland, available online at [www.planet4farmers.co.uk](http://www.planet4farmers.co.uk)

Tried and Tested, a paper-based system, available online at [www.nutrientmanagement.org](http://www.nutrientmanagement.org)

**Figure 2.** Nitrate vulnerable zones in England

 NVZ Area



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## Project Partners

The research was a collaborative project involving 16 research and industrial partners:

- ADAS UK Ltd
- Agrivert
- BPEX
- Bruker UK Ltd
- DairyCo
- EBLEX
- AJ Duncan Farms (Grampian Country Food Group)
- Eurofins
- GrowHow UK Ltd
- HGCA
- Potato Council
- Rothamsted Research North Wyke
- Spreadwise
- Severn Trent Water
- Yara International ASA
- Yorkshire Water

The project was sponsored by Defra through the Sustainable Arable LINK Programme.

## Further information

Fertiliser Manual (RB209)  
[www.defra.gov.uk/rb209](http://www.defra.gov.uk/rb209)

HGCA Nitrogen for winter wheat management guidelines  
[www.hgca.com](http://www.hgca.com)

Dairy Wizard  
[info@dairyco.ahdb.org.uk](mailto:info@dairyco.ahdb.org.uk)

BPEX calculators  
[www.bpex.org.uk](http://www.bpex.org.uk)

Crop nutrition for potatoes  
[www.potato.org.uk/fertiliser](http://www.potato.org.uk/fertiliser)

PLANET  
[www.planet4farmers.co.uk](http://www.planet4farmers.co.uk)

Tried and Tested  
[www.nutrientmanagement.org](http://www.nutrientmanagement.org)

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