

Benefits of soil analysis

Name: Peter & Jane Chapman

Region: Thornton, Middlesbrough

Farm: Mixed dairy and arable

Size: 167 hectares



Background

Peter and Jane Chapman are tenants on Thornton Grange Farm. Most of the land lies within one block in the village of Thornton with a further 15 hectares some 3 km away on the other side of the A174. The main enterprises are a dairy herd and winter wheat (typical yields are nine tonnes per hectare). The farm has 94.5 hectares of grassland, 64.5 hectares of wheat and eight hectares of forage maize. Five hectares of rough grassland are only grazed in the summer (by dry cows).

The farm has 175 Holstein cows and 105 followers (30 calves aged up to 6 months and 75 over 6 months old). The herd calves all year round in cubicles on paper 'envirobeds'. The young stock and 15 of the cows are housed in straw-bedded yards. The cows are housed from October to late April/May, and continue to be barrier fed through the summer. The farm uses contractors for slurry spreading and for baling, but has its own combine. Peter seeks advice from an independent agronomist and nutritionist as required.



What does your nutrient management plan consist of?

Four years ago Peter was encourage to arrange a soil analysis after attending an ATB/ADAS arable day. He found that the nutrient content of the organic manures he was applying meant he could reduce inorganic fertiliser inputs and still maintain his yields.

A contractor spreads slurry every three weeks using a tanker or an umbilical system to surface spread (a shoe is used near housing in the village to reduce odour). Solid farmyard manure (FYM) is spread onto wheat stubble or onto maize land pre-ploughing. The farm has a low volume electric irrigation system used to spread dirty water. No manures or other organic waste are brought onto the farm.

The organic manure produced by the dairy herd has a significant nutrient content. Cow slurry analysed in January 2008 contained 5.74 per cent dry matter (DM), total nitrogen 6.35 kg/tonne DM, total phosphorous 0.58 kg/tonne DM and total potassium 2.41 kg/tonne DM. Based on December 2007 fertiliser prices, its value is £9,151/year.

What other factors affect your nutrient decisions?

The farm's rolling annual application limits to comply with the NVZ Regulations and the Code of Good Agricultural Practice (CoGAP) are 81 m³/ha dairy slurry (6 per cent dry matter) and 42.5 tonnes/ha cattle FYM.

What are the benefits?

Considerable savings in artificial fertiliser costs are possible at Thornton Grange Farm if the contribution made by organic manures is taken into account by using a nutrient planning tool. These manures have a value of around £9,150/year based on December 2007 fertiliser prices.

If fertiliser prices rise still further, there will be even more need for accurate planning of fertiliser application and maximum use of organic manures.