

Seedbed fertiliser can boost OSR performance

Should you add fertiliser to the seed bed when drilling oilseed rape?

Band applications of nitrogen have been gaining in popularity over the past four to five years and, if the difference in plant size seen at Roy Ward Farms' Glebe Farm in Lincolnshire last November was anything to go by, there could definitely be something in it.

Glebe Farm, near Leadenham, has twice hosted the Cereals event and has recently become a Masstock SMARTFarm. At an open day in November, the difference between the plots which had received a seedbed fertiliser and those which had not, was clear for all to see.

The theory of seedbed fertiliser is not new but it does seem logical, especially when non-inversion establishment techniques are followed.

Masstock's Philip Marr explains: "Effectively you apply the fertiliser in bands with the seed so that fertiliser is available to the young roots as they develop and not wasted on parts of the field the roots cannot yet reach."

"We have had some encouraging results from the technique, including a 0.5 t/ha yield response from the Brotherton SMART Farm last season" adds Mr Marr.

At Glebe Farm, the Opico subsoiler + Nitrojet and Simba DTX have been used to drill and simultaneously apply two fertiliser rates during drilling. Nitrogen application rates of 15kg/ha and 30kg/ha were used.

INCREASED EFFICIENCY

Because the applications were banded and the fertiliser placed close to the developing crop, the rate of nitrogen recovery by the crop is likely to be much higher than the usual 60%. It is this increased efficiency of use of nitrogen which explains why

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Andrew Ward, right, who manages the 650ha all-arable Roy Ward (Farms) business, with Masstock's Philip Marr, in the oilseed rape plots

banded applications can perform so well.

"At the open day there was virtually no difference between the two fertilised plots," comments Mr Marr.

"That suggests that the lower rate was sufficient. The increased ground cover will help the crop to be more pigeon-proof and if we can retain the higher Green Area Index (GAI) into the spring we will be able to reduce our spring nitrogen application rates."

GrowHow adviser Dave Towse agrees that oilseed rape can benefit from Nitram or an NPK fertiliser at drilling, but says caution is required. "It will depend on the season," he warns. "Remembering back to late August 2010 when the oilseed rape went in, it turned wet and was pretty cool, too. This combination probably meant that nitrogen was in short supply, hence the response we have seen to the seedbed applications."

When it comes to nitrogen fertiliser, however, there are no guaranteed blueprints to follow.

"The only way to be sure nitrogen is used cost-effectively is to tailor rates to the situation and

season, which is why we recommend our N-Min and N-Calc soil sampling and recommendation system," Mr Towse advises.

Research undertaken by ADAS for GrowHow has shown the importance of canopy management in oilseed rape production.

"You can get around 0.4t/ha extra yield simply by managing fertiliser inputs so that the canopy doesn't get too big," Mr Towse explains. "The target should be a

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Green Area Index of 3.5 by flowering. This will ensure that sufficient light can penetrate and so optimise yield."

Mr Marr continues: "We know that to achieve a GAI of 3.5 the crop must take up 175kg/ha of nitrogen. So whether the crop had received seedbed fertiliser or not, come January/early February you need to do two things: get a GrowHow N-Min soil test done and estimate the crop's GAI so that you know how much nitrogen the crop has already taken up."

OPTIMUM CANOPY SIZE

The research indicates that, in general, the fertiliser required to achieve the optimum canopy size should be applied at the start of stem extension (late March/early April).

The exception to this, however, is for very small crops when a little nitrogen, usually 40kg/ha, will be required in late February/early March.

BROTHERTON SMART FARM 2009-10 Variety: Excalibur, drilled at 25 seeds/m²

	Yield t/ha	Feb GAI
Simba DTX 300		
No N	3.8	1.1
20kg/ha N	4.3	1.5
40kg/ha N	4.3	1.6
Opico HeVa Sub Soiler + Nitrojet		
No N	3.7	1
20kg/ha N	4.4	1.7
40kg/ha N	4.4	1.8

Soil N-Min sample taken in January/February showed 20kg of nitrogen available in soil.