

# The need to feed the seed with P

Placing nutrients such as nitrogen and phosphate next to wheat seed using combination drills may not be as common south of the border as it is in Scotland. But Lincs arable farm manager Peter Cartwright has given it a go and already seen input costs reduce, yields increase and a general streamlining of operations.

He manages the 1220ha cereal and root crop enterprise at Revesby Farms, with the Wiggins-Davies family, on the 2400ha Revesby Estate near Boston. Minimum tillage techniques and autumn drilling account for 550ha of first and second wheat, 200ha of winter oilseed rape, 60ha of spring barley and 100ha of sugar beet. Land rented

out for potatoes and vining peas along with various ELS and stewardship schemes plus permanent grass makes up the remainder of the land.

Long term average wheat yields are currently a respectable 8.6t/ha. Soil types vary greatly across the farm, from heavy clay loams mainly found on the lower Fenland to sandy loams and chalky clays on the Foot Wolds.

The farm has recently moved away from a plough-based system to one that's more reliant on minimum tillage, although the plough is still retained for root crops.

"We run a very efficient system, aiming for the perfect balance between cost control and quality of operation. The minimum-tillage route has meant we can do all the cultivations

The purchase of a new drill has allowed a Lincs grower to explore the benefits of placing phosphate with the seed at drilling. *CPM* finds out.

By Rob Jones

with one man. But weather patterns play a key role in how easily we can make a quality seedbed — our nine-year-old Väderstad Rapid 600 struggled in the wet. But a Rapid A 800C we had on demo performed well, allowing drilling to take place where otherwise it would have been left until the spring," says Peter Cartwright.

"We had another very good reason to invest in the Rapid A 800C — on our alkaline soils, we find a large amount of phosphate (P) is getting locked up. We're placing Kieserite just below the wheat seed, which helps release the P by acidifying the soil

A photograph of Peter Cartwright, a Lincs arable farm manager, standing next to a red Väderstad Rapid A 800C drill. He is wearing a light blue checkered shirt and dark trousers. The drill is a large piece of agricultural machinery with multiple rows of furrows. The Väderstad logo is visible on the side of the drill.

“ I think we'll make much more significant yield and quality differences by placing essential nutrients near the seed. ”

around the root rhizosphere. An added benefit of the Kieserite is an increase in the amount of magnesium and sulphur that's also deficient in our soils, and normally has to be applied throughout the growing season.

"This drill means we can place the Kieserite with the seed where the P is required — it helps with root development, which is especially important on sandy free-draining soils where drought can be an issue. Better use of P already in the soil should help reduce fertiliser inputs by 25%."

He applies Fibrophos — a good cheap source of P, he says — to the stubbles as a top dressing after harvest and before cultivating to compensate nutrient take off. On the heavier soils, where P isn't so rapidly locked up, TSP is placed down the spout at drilling.

On the heavier soils with a P index of 2 and above, he expects to reduce TSP applications by around 25%, but still maintains levels, building these up where needed. On Index 1 soils, Peter Cartwright will still apply the recommended rate of P to improve the soils.

So this autumn, on Index 1 soils 100kgP/ha will be placed around the seed with the remainder being broadcast

(120kgP/ha) on top. "On Index 2 soils, there'll be no need to apply any top up with a spreader as it'll all be placed just below the seed," he says. "I'm hoping the average yields will increase to about 10t/ha."

Overall he expects to save up to £3000 on his P requirements this year alone, at current prices. Cutting out an application with the fertiliser spreader should save a further £10/ha and by increasing yields, the new Rapid A 800C after trade-in should be paid off in four years.

### Significant differences

"Placing P down the spout at drilling isn't a common practice in this area. Lots of growers — including ourselves — are using trace elements in foliar applications, but I think we'll make much more significant yield and quality differences by placing essential nutrients near the seed and more crucially in the rooting zone."

The farm stepped up to an 8m Väderstad drill to make best use of ideal drilling conditions. This is becoming more of an issue as blackgrass pressure is increasing, Peter Cartwright explains. What's more, the larger capacity drill reduces wheelings, resulting in less compaction. With the drill usually traded out after eight years, it makes the investment far easier to justify.



The new Rapid A 800C allows Peter Cartwright to put Kieserite down the drill spout with the seed, which he believes helps release the P into the crop rhizosphere.

"We looked at other drill manufacturers but we felt the Väderstad Rapid is superior to anything else on the market. It can place fertiliser precisely and exactly next to the seed if necessary. The System Disc and the ability to achieve uniformity of depth are second to none," he says.

"The only downside of the new drill is its size. However, it carries very well on its own front dolly wheels. This improves weight distribution which is taken off the crawler so compaction is minimised.

"Less compaction should give us better establishment on the headlands and because the drill's size allows a bigger turning circle, we're not having to screw back round on the headlands in order to get the drill back in," he points out. ■

## iPad app brings wireless control to Tempo



The new app allows you to control Tempo drills wirelessly while planting through an iPad.

Väderstad's six to eight-row Tempo drills can now be controlled wirelessly while planting through an iPad. There's also an app that can be used to order spare parts. Known as the E-services control system, it will also be fitted to other machines in 2014 as well as the option for retrofitting to older models.

No active internet connection is needed for the main functions of E-services, which manages the planting process including seed, fertiliser and microgranule application. Other features include the configuration of Tempo, individual row shut-off, tramlining and data logging.

E-services operate with ISOBUS and Non-ISOBUS compatible tractors with the

Gateway, or "black box", placed on the Tempo machine displaying the necessary data to Väderstad-approved virtual terminals. In a non-ISOBUS environment, the operator can control the machine with an iPad connected wirelessly to the Gateway. The Gateway also logs GPS, seed quantity, alarms and other event data.

With an internet connection, the app allows the operator to connect directly to the virtual Väderstad E-Parts shop and provides easy identification of parts in a 3D view, with the possibility to order straight from the tractor cab. Orders can be placed directly with a preferred dealer.

In a non-ISOBUS environment, the operator can control the machine with an iPad connected wirelessly to the Gateway on the drill.

