

A Leicestershire contractor with an eye for detail has invested in direct drilling to help his customers unlock greater potential from the ground they farm. Geoff Ashcroft reports.

# Helping drive soil health focus forward

**B**ased at Villiers Farm, near Melton Mowbray, RAC Contractors operates a contract fertiliser spreading business which sees around 20,000 hectares covered each season.

Run by Richard Chandler and son James, the two have developed a keen eye for doing the job as accurately and efficiently as possible. It is an approach which sees soil analysis and nutrient application carried out with an almost unhealthy obsession for detail.

Richard says: "If we can't do the job properly for our customers, we'll not do it. We can't afford to waste customer's time or money – so what we do must be cost effective and carried out correctly."

It is a focus which has led the business towards offering a direct drilling service using a Sky Agriculture EasyDrill imported through Opico.

"With all the nutrient analysis and testing which we do, it lets us keep an eye on soil health and well-being, and we feel a direct drilling service compliments



RAC Contractors is conducting trials to assess how Sky Agriculture's EasyDrill might benefit soil structure.

what we already do for customers," Richard says.

He believes the first step towards improving soil health is to consider the role of direct drilling and cover crops, to help soils improve their condition.

"The more we move soil, the more we encourage the wrong things to grow, and the only means of control is with sprays," he says. "To help the soil to repair itself, we need to tread lightly and not move soil unne-

cessarily. Our focus is to help customers to unlock more potential in the ground they farm."

The shift into direct drilling followed last winter after Richard attended a seminar which got him thinking about micronutrients, biodiversity and naturally-occurring soil bacteria.

## Value

"It struck a chord with what we already do," he says. "The direct drilling principle supports our way of thinking. And it has made me believe that as a nation of farmers, we [the industry] need to look at ways of improving soil health and soil structure.

"Unfortunately, we have become a little too reliant on chemicals, because we've taken a simplistic approach to rotation to pursue yield at all cost – and I believe there is a better, more efficient way to get greater value

from soil, with the potential to cut chemical expenditure by up to 50%.

"I don't believe in glyphosate, as I think it's bad for soil, but we can't yet farm without it," he says. "We need to farm much smarter and I believe we're at the start of something new and exciting for UK crop production."

His attention was drawn to the EasyDrill, and a demonstration for the 2016 spring planting campaign was initially planned. But he says there was so much interest from customers that a six-metre version was bought without a demonstration. And RAC Contractors completed 150ha of spring drilling earlier this year.

Having spent the best part of £100,000 on an all-new drill system, a 10-year-old Fendt 924 then followed as tractive ▶



Richard Chandler (right) and son James run RAC Contractors.

power for the new establishment system.

"We were told we didn't need so much horsepower, but soils around here are hard and heavy," he adds. "It needs a bit of pulling, particularly in wet spring conditions on banks and into trash."

"With the exception of land at Villiers Farm, everywhere we went, the drill had to operate in ground which had been cultivated in autumn and left to over-winter," he says. "It has been a steep learning curve, but the results are encouraging."

Richard has particular praise for the even germination which has followed in what has been noted as a less than ideal spring.

"We'll also try our Fendt 718 with it after harvest, on stubbles. We still have a lot to learn and a lot which we want to try, particularly into different stubbles, standing crops and stale seedbeds."

According to James, the drill offers numerous crop establishment options.

He says: "We have the flexibil-



With its six-metre Sky EasyDrill, RAC Contractors is looking to boost soil health as a result of direct drilling.

ity to put seed into the slot with fertiliser behind and vice-versa. And we've sown spring barley in the slot with clover laid behind. There are lots of options."

**Ideas**

While the EasyDrill is predominantly aimed at direct drilling, the French maker says it is also suitable for use with plough-based and min-till systems.

"Dad and I keep bouncing

ideas off each other, but at the end of the day, the system has to be practical," explains James.

"We have the potential to put organic matter and nitrogen – the latter through under-sown clover or lucerne – back into soils," he says.

"And we're working with a customer who wasn't sure what to do with a couple of fields in the spring, but we're using his field to see how black oats and

crimson clover might benefit the soil type.

"We've dug holes and found virtually no worm activity – the soil is tight, wet and sad. So do we sub-soil it? Do we plough the standing crop in? Do we graze it off? Or do we turn it into hay and take it off? There are many options ahead."

James says the drill has so far worked very well, and is both easy to set up and calibrate.



Simultaneous sowing of spring barley and clover at Villiers Farm.



Nodes are visible on a clover plant.

"Hydraulic for lift and lower have proved a bit slow, so I've set a headland sequence to lift the front of the drill on the linkage-mounted drawbar to speed up raise and lower at the headland," he says.

"We also have half-width shut-off, but on just one side of

the drill, and we can manually shut-off coulters if we wanted to use alternate coulters."

While it is very early days for RAC Contractors' new drilling service, the firm is clearly enthusiastic about the potential to improve customers' soil health through direct drilling.

"We are on our way to finding cost-effective and efficient ways of injecting life into numb soils which have been beaten into submission in pursuit of yields while attempting to control grass-weeds," says Richard.

"Better soil health and biodiversity will help profita-

**Drill data**

- ▶▶ Model: Sky EasyDrill
- ▶▶ Working width: 6m
- ▶▶ Weight: 7,780kg
- ▶▶ Seed hopper: 2,450 litres
- ▶▶ Fertiliser hopper: 1,650 litres
- ▶▶ Small seeds: Pro Hopper
- ▶▶ Power requirement: from 150hp
- ▶▶ Coulter spacing: 16.6cm
- ▶▶ Coulter type: Straight disc set at 3.5 degrees
- ▶▶ Price: £103,613

bility in the long-term," he says. "Farming is not always about maximum yield – it's about making the most of all your resources, above and below ground, so cropping remains profitable."

**Specification**

»RAC Contractors' 6m EasyDrill is a trailed pneumatic machine, with two 3m folding sections and a row spacing of 16.6cm. With RTK and auto-steering, the Chandlers opted to ditch bout markers and pre-emergence markers, shaving a little off the £103,613 price tag.

The firm specified the drill with twin hoppers allowing two types of crop, or seed and fertiliser to be simultaneously applied. In addition, a third hopper for micro-granules or slug pellets, has been fitted up front, and feeds material into one of the

existing distribution heads. Working elements follow a rubber-tyred press roller upfront, which has the effect of flattening any crop, stubble or trash ahead of the disc coulters. Each seeding unit comprises a single disc, which runs against a tungsten-tipped skim coulter.

Discs are set at a very shallow 3.5-degree angle and are leant over at a barely visible 1.5-degrees. This lets each disc open a narrow slot without moving or disturbing too much soil.

The skim coulter acts as a disc scraper and can be depth adjusted to position

seeds precisely where you want them, particularly in relation to a second seed or fertiliser, which can be placed by a second seed tube.

This second seed drop position is adjusted by moving the tube backwards or forwards; the closer you get it to the disc and the freshly opened slot, the deeper a second seed or fertiliser can be placed. Conversely, the closer you position this second seed tube to the consolidation wheel, the shallower the seed will be positioned, to the point of being on the surface.

A chamfered press

wheel follows behind, to seal and consolidate the seed slot.

Seeding units are mounted in pairs on an arm, with the rear consolidation wheels connected in pairs through a balance beam to create a bogie – similar to a rocking beam axle on a trailer – which is able to follow contours.

Overall disc depth is based on their position in relation to the front press roller. Weight can also be transferred from the discs to the front roller via a hydraulic ram. Up to 250kg of coulter pressure can be applied to each disc.