CLAYDON CUSTOMER

FARMFOCUS

Graham Potter has achieved excellent results from the combination of cover crops and direct strip seeding at Topcliffe Grange, where yields average 11.5t/ha for first wheats, 10.5t/ha for second and third wheats, and just under 5t/ha for oilseed rape.

FOCUS YORKSHIRE

FARM FACTS

Farmer: Graham Potter

Location: Thirsk, Yorkshire

Area farmed: 200 hectares

Soil: 20 types from blowing sand to heavy clay

Cropping: cover crops, wheat, high-erucic oilseed rape, fodder beet and grass

Direct strip seeding and cover crops are key part of farm's forward-thinking approach.

Cover crops established using direct strip seeding provide significant agronomic, economic and ecological benefits on one North Yorkshire arable farm where they have been grown since 2014.

"Cover crops are doing one hell of a job here," Graham Potter, who farms at Topcliffe Grange near Thirsk, states. "We began growing them in 2014 and they've become an established part of our system. The results have been unbelievable. Low soil organic matter was traditionally an issue here, but our index has increased from 1 to 1.5 to between 4 and 4.5, which is amazing in such a short time. The cover crop mix includes vetch, oil radish, phacelia, clover, buckwheat and oats which work very well together and with chopped straw to provide a deep mulch which is very beneficial for earthworms and other insects."

Topcliffe Grange is one of three farms in the area that are taking part in a pilot study for Yorkshire Water, which is encouraging farmers to grow cover crops to reduce environmental issues such as soil run-off during very wet weather. This is the first year of the study, which is designed to improve the structure of soils in the River Swale catchment and get them to act like a sponge so that rainfall is absorbed, held in the ground and released slowly.

"Run-off has been a problem on some farms which use conventional cultivations and leave land bare over winter because soil, nutrients and chemical residues, including metaldehyde, wash down into rivers. We were keen to participate in the

Like every other operation, drilling is carried out using RTK guidance to an accuracy of 2.5cm, which also enables spring barley to be drilled between cover crop rows, while second and third wheats are also inter-row sown. The Claydon Hybrid's high output allows the farm to be drilled comfortably in just four days.

project and work closely with Catchment Sensitive Farming to achieve the best results," Graham states.

READY TO FACE THE FUTURE

A former Farmers Weekly Arable Farmer of The Year finalist, Graham is the third-generation to farm W. Potter & Sons' Topcliffe Grange, which includes 20 types of soils from blowing sand to heavy clay. Bordering the River Swale, the farm once employed 11 staff. It kept sheep, pigs and cattle which returned nutrients and humus back to the land but those all went many years ago and cropping now includes 38ha of cover crops, 42ha of first wheat, 61ha of second and third wheat, 46ha of high-erucic oilseed rape, 8ha of fodder beet and 6ha of grass.

"The Government is set on moving away from direct area-based payments in favour of schemes which deliver more environmental benefits, so we have been progressively changing how we farm for several years. There is no point in farming land unless it can be done profitably, because that is a waste of expensive inputs and reduces average yields and profitability. We use the Gatekeeper programme to produce margin maps which highlight areas where this is the case. If we cannot fix whatever issues are causing it that area goes into a mid-tier scheme, such as cover mixes for birds.

"For three years we have used a drone to map our crops for issues such as weeds and slugs, then that data generates variable-rate maps which are used for everything, from seed rates to agrochemicals and fertilisers. If we can save inputs we will do, because all the savings mount up and become very significant. Attention to detail has allowed us to reduce our production costs to well under £100 per tonne for wheat: we believe it is important to do that because of all the political uncertainties currently surrounding the farming sector.

"A key factor in achieving that was the move from traditional methods of crop establishment to strip seeding in 2013. I first saw the benefits in Western Australia, where I worked my first harvest in 2001 and went back every year for the next ten years. The most progressive farmers there always use the latest technology and most switched from discing and drilling to direct seeding. Many of the drills in Australia use angled discs or low-disturbance tines and work well in dry soils, but that configuration is totally unsuitable for UK conditions.

"Working in Australia highlighted the need to move away from plough-based crop establishment to reduce the time and cost of establishing crops, improve timeliness and benefit the farm's ecology. Also, I wanted to operate the farm myself so that

The new 4.8m Claydon Hybrid trailed drill features front shouldered discs, which allow it to work effectively directly into cover crops.

This 215hp John Deere 6125R is used to pull the 4.8m Claydon Hybrid drill at 10-11 km/h, which had been found to give the best results and optimum soil cover behind the rear levelling boards and harrows.

The ITEC control system, controlled through a screen on the corner post of the cab, ensures absolute accuracy and reduces driver fatigue.

in addition to any savings in establishment costs I didn't have to pay someone else to do a lot of work which was unnecessary from an agronomic point of view.

"My uncle bought a Claydon Hybrid drill in 2012 and despite the exceptionally wet autumn and spring he achieved very good results, so I thought that if it would work then it would cope with anything. After visiting the Claydon farm in Suffolk the following year I bought a 4.8m Claydon Hybrid drill to fit in with our 24m system. It was simple, well made, cost very little to maintain and made a big difference to farm profitability through savings in establishment costs. I hadn't expected higher yields, but they were a pleasant surprise.

"Previously, half the farm was ploughed and on the other half I used a Sumo Trio followed by a KRM disc-type combination drill, which was expensive, labour intensive and time consuming. I and a part-time employee clocked up hundreds of tractor hours every autumn just turning the soil over. We spent three weeks ploughing the farm and it took two weeks to drill it. The cost of establishing wheat was £116/ha, which included £47/ha for ploughing, £57/ha for drilling, plus £12/ha for rolling.

"Using the Claydon System I was able to establish all the crops myself for just £76/ha - £14/ha for the Claydon Straw Harrow, £50/ha for drilling and £12/ha for rolling. The number of tractor and man hours fell dramatically because it was a quick job to get crops in the ground, in one pass, behind a 205hp John Deere 7830, which handled it comfortably at 11 to 12 km/h.

"With the system we simply carried out two or three passes with our 7.5m Claydon Straw Harrow after harvest and then went in with the Claydon Hybrid drill, which took just four days. The condition of the land improved significantly and because it was better able to support the weight of following machinery I could spray or apply fertiliser well before other farms in the area. Yields increased steadily, from 8t/ha with the previous systems to 10.5t/ha in 2013, 11t/ha in 2014 and continued upwards from there.

"The Straw Harrow is essential to distribute chopped straw evenly across the field, control weeds and keep on top of slugs. I carried out trials to see what difference stubble height makes to how well the Claydon System works, with some stubbles left at 30cm some at 25cm and others at 15cm. The drill worked best when the stubble is15cm high, which also produced the best germination and crop, so now I set the combine's header to that height and the chopper to cut the straw as short as possible.

"We stubble rake once a week between harvest and drilling to control weeds, volunteers and any slugs that may be there. This means three or four passes

Deep-rooting cover crops help to drain and aerate the heavy soils, making them much easier to work and more resilient. Improvement in soil texture has been noticeable since cover crops were introduced.

on oilseed rape ground and two or three on wheat. The ability to deal with slugs effectively has become increasingly important in any establishment system because seasons have changed, and we've had no hard winters to naturally reduce pest populations and disease issues.

"Where slugs are an issue it doesn't seem to matter how many pellets you throw at them, within the limits allowed, so on some fields I take advantage of hot, dry weather after harvest to go over the stubbles with the Straw Harrow at up to 25km/h to knock out as many slugs, nests and eggs as possible. In 2018 it was so effective that we've not needed to use any slug pellets.

Volunteers and weeds are left to chit and then killed off with glyphosate before drilling, rolling and applying a pre-emergence herbicide. The Straw Harrow is also very useful for breaking down any clods which remain on the surface of heavier fields after drilling, so plants are better able to germinate, and herbicides work more effectively.

"After five seasons, in 2018 I traded in the 4.8 Hybrid M mounted drill for a new 4.8m Hybrid T trailed model to allow DAP fertiliser to be applied at drilling as this helps the crop to establish quickly, especially where there is a large amount of chopped straw. The trailed model also allows us to use front shouldered discs and can drill directly into cover crops, which is important now they are a permanent feature of our system.

"The Claydon Hybrid will drill up to 130 acres a day, so first wheats can be established in just two days, second wheats the same. This allows me to take on contract drilling for other farms, which provides additional income.

"For the last two years I have used the ITec Pro control system on the 215hp John Deere 6125R. This ensures that the drill is lowered and raised exactly where needed so there are no overlaps when turning on headlands. This saved one tonne of seed last year, worth approximately £500. It also automates the whole process, so that the implement is raised automatically, the tractor turns automatically and then the implement drops back into work automatically, which makes it much easier and leaves me feeling much less tired at the end of a long day.

"This year has been the first that the 6m Claydon TerraStar has been used. It was bought to produce slightly more tilth than the Straw Harrow on certain soils, under certain conditions, and that has made a big difference to weed germination. We have also moved to double-rolling all seedbeds, often on the same day as drilling, to achieve better consolidation and make it a less attractive environment for slugs. The recycled gypsum we apply to provide sulphur and help to break up the heavy clay soils also helps to dry out and kill slugs. This has been very effective and last year we did not need to apply any slug pellets, which is a considerable cost saving and better for the environment."

Areas which cannot be farmed economically are used for environmental areas, such as this corner of a field which was being excavated to form a shallow pond.

Double-rolling seedbeds after drilling has been very effective in reducing slug numbers and no slug pellets have been applied in the last 12 months.