



The Bray's farm at Martley, Worcestershire. "Operating the Claydon System has improved our quality of lives enormously at key times of the year because of the time savings."

Having reached a yield plateau using a traditional plough and power harrow-drill-based crop establishment system, Richard and Matthew Bray changed to Claydon strip seeding in 2013 – and they say that there is no going back.

"The old-school approach is to believe that the more time and effort it takes to do a job the better the outcome, but when it comes to establishing crops that is definitely not the case," says Richard Bray.

"By using the Claydon Opti-Till® System I almost feel that somehow I am cheating, but the cost savings have transformed the profitability of the business, our soils and soil biology have improved immeasurably, while the huge time savings have transformed the quality of our working and family lives at peak times."

Richard became a convert after visiting a neighbour who was trialling a Claydon Hybrid drill, somewhat ironically and unsuccessfully, to persuade him not to buy it. Having seen the job it did and subsequently visited the Claydon farm in Suffolk with his agronomist, Paul Fisher from ProCam, Richard and his brother Matthew ordered a 3m Hybrid drill and 7.5m Straw Harrow. That was in 2013 and seven years later, they have no regrets.

The Bray family own 200 acres and run 650 breeding ewes at Noak Farm, Martley, a few miles north west of Worcester. Contract farmed land takes the area to just over 1,000 acres, encompassing soils from black sand to heavy red clay and limestone. The cropping normally includes 340 acres of winter wheat, 180 acres of winter and spring barley, 160 acres of oilseed rape, 80 acres of winter beans, plus spring beans and oats.

"Previously we operated two five-furrow reversibles and a 3m power harrow-drill combination, neither of which were very worm-friendly and destroyed the soil capillaries the worms created," Richard outlines. "Timeliness is crucial on our land and opportunities to work it are sometimes extremely limited, so we used to start drilling on 20 September and finished at the end of October. The system involved a lot of time and used a lot of fuel. Wearing metal had to be replaced every three days and operating costs were very high.



FOCUS WORCESTERSHIRE

FARM FACTS

Farmers: Richard and Matthew Bray

Location: Worcestershire

Area farmed: 1,000 acres arable

Soil: black sand to heavy red clay and limestone

Cropping: winter wheat, winter & spring barley, oilseed rape, winter & spring beans & spring oats



Matthew and Richard Bray: "Cost savings have transformed the profitability of the business, our soils and soil biology have improved immeasurably"

The autumn workload was very intense, with long hours and lots of stress.

“Weather-related risks were also a big factor, because heavy rain after land had been worked down would quickly turn it into a slurry which took days to dry out and run-off could be a problem. Nevertheless, we were relatively happy with the results from a system that has been traditional in this part of the world for decades. But with the benefit of hindsight its shortcomings were considerable.

REASSESSING THE FUTURE

“Our father was taking less of an active role in the business at that stage, so my brother and I had to reassess how we would manage in the future. Having heard Jeff Claydon discuss the benefits we decided to change to the Claydon System in autumn 2013. Not wanting the added expense of replacing our two 150hp John Deere 6150 tractors we chose a 3m mounted Hybrid drill and 7.5m Straw Harrow, both of which they would handle comfortably. In the first year the saving on the autumn fuel bill alone came to £7,000 and the tractors clocked up 600 hours less than previously - which meant that we did too.

“Initially, we followed the Claydon System as Jeff uses it to the letter, but coming from a plough-based system our soils were not in great shape and because conditions here are very different to those on the Claydon farm we adapted it to our conditions. By assessing what these soils need and doing what we know will produce the best results we are now achieving excellent outcomes, without the crazy hours and expense of the previous system.

“Our soils and worm counts have improved dramatically over the last seven years, but it took two or three seasons to begin to see substantial changes – for the fields to level out, the worm population start to build up and the soil structure to improve. We continue to fine-tune it to suit our conditions even now. After the very wet winter, for example we did a little more in the way of pre-drilling cultivations this spring to get the soil exactly right for spring crops, but that comes from decades of experience of our conditions.

“From an agronomic perspective, using the Claydon System has given us a wake-up call by making us far more aware of the soil and the importance of maintaining it in

the best possible condition to achieve the best results. Previously our wheat yields had plateaued at 2.8-3.0t/a, but they are now 0.5t/a higher and last year we averaged 4t/a. It will not be that high this season, but the crops are in excellent order despite the extremely wet winter and very dry spring.

“We chop some of the straw but bale the majority, then go in with the Straw Harrow because it is a key component of the system. If the land is hard and dry we might run over it with discs set very shallow to create a little bit more tilth to help chit weed seeds and volunteers, then Straw Harrow again and apply glyphosate before drilling.

“If I think that there might be some residual chemicals still in the soil from the previous cereal crop I might disc 2.5cm deep ahead of the drill to create a little bit more tilth and help to avoid them sapping the vigour of oilseed rape seedlings so that they grow away quickly to reduce the impact of cabbage stem flea beetle. Creating slightly more tilth is also useful when planting small seeds such as oilseed rape to bring up a little more moisture, then we roll directly behind the drill to press the seed into contact with the moist soil.”

“One of the key things about the Claydon Hybrid is its simplicity and low running costs. My local dealer, Ross Farm Machinery, has a branch in the village so it is very quick and easy to obtain spare parts.”

HIGH OUTPUT CREATES DRILLING OPPORTUNITIES

“Last autumn, seemingly everyone was advising not to drill until the second or third week of October, but then the wet weather set in and many farms in this area were in real trouble because so little had been planted. For some, it was April before they could get on land that had been ploughed or min-tilled.

“We had land which had been into oilseed rape and that was drilled in September, then we established 240 acres of winter wheat in four days before persistent rain started on 23 September. It rained almost continuously until we had another window of dry weather towards the end of October when we were able to drill our second wheats. Had we still been operating our previous plough and power-harrow-drill system we would have ended up with 120 acres ploughed and not drilled.

“Operating the Claydon System has improved our quality of lives enormously at key times of the year because of the time savings. We could double the daily output, but despite working far fewer hours than before still comfortably average 40 to 60 acres a day, with much improved timeliness and much lower exposure to weather risk. The Claydon Hybrid operates at 10 to 15kmh and just knowing that we have the capacity to easily cover all the ground in timely fashion takes a lot of the stress out of the job.

“It is also much more relaxing to use than our previous power harrow-drill combination which needed to be replaced regularly due to the rapid wear and tear on components. It is also much easier on the tractor, so I now spend little time in the workshop.

“One of the key things about the Claydon Hybrid is its simplicity and low running costs. My local dealer, Ross Farm Machinery, has a branch in the village so it is very quick and easy to obtain spare parts. I can replace all the wearing metal in under two hours and at the end of every season go through the drill and replace anything that is worn; it basically means that I have a new drill every year, without having to accept any compromises, unlike one with lots of swivels and bearings which would take a lot of time and expense to replace but still never be perfect.

“The land on this farm has always had blackgrass, which thrives in cold, wet



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ground with little crop competition, so the aim is to optimise crop cover to crowd out weeds by using more robust seed rates. By no means are we blasé about weeds and we do everything possible to stay on top of any issues, including glyphosate prior to drilling. The weed burden is low, and I can say with certainty it is no worse with the Claydon System than previously, despite the more restricted range of ag-chems options now available.

“I thought that after eight or nine years of using strip seeding we might have to ‘reset the system’ by ploughing but there’s been no need to do that, which I am pleased about because in reality you just bury the problem, but it doesn’t disappear..

“Farming is becoming less about growing the highest yielding crops, but those which produce the highest margins. Going forward, I think that will become much

more important, because at the end of the day farming must pay, otherwise there is no point in doing it. The Claydon System provides massive cost savings, as well as other significant benefits, but you have to be realistic, not expect instant results and realise that whilst cost savings happen quickly, improvements to soil structure and biology take time.”

THE AGRONOMIST'S VIEW

The Brays' agronomist is Paul Fisher from ProCam. He has been involved at Noak Farm since 2011 during which time the transition has been made to Claydon strip seeding.

"Conventional establishment systems, particularly the plough, power harrow-drill combination which have been traditionally used in this region, can be tough on soils and soil biology," Paul states. "While it incorporates air into the soil and can free up more available N, P and K, it can also hide underlying deficiencies in crop nutrition and ultimately lead to a plateauing of crop and yield performance. This may be less of an issue on traditional mixed farms where manures and organic matter are returned to the soil, but this is not the case on farms which no longer have livestock or rely solely on bagged fertilisers.

"Since adopting the Claydon System, there has been much greater consistency in terms of field conditions, with noticeable improvements in soil structure, crop development and yield performance. Despite having just experienced one of the most bizarre seasons that any of us have ever witnessed, the Brays' crops came through the exceptionally wet winter and dry spring very well. That is testament to the fact that they ignored popular calls to delay drilling until mid-October (which would have meant that crops would not have been drilled) together with the excellent soil structure, drainage and optimum soil nutrition.

"It's not all been smooth sailing, because there is a learning curve with any new system and transitioning from the plough and power harrow-drill to strip seeding was no different. In year one, the crops were amazing and we got good yields right at the top of the farm's potential, then in year two they grew away quickly but

then just sat there going nowhere, which was worrying for all of us. In one instance what should have been a prime piece of first wheat, following oilseed rape, emerged well but then at the three-leaf stage just stopped developing and would not move on.

"Richard and I were certain it was no fault of the drill and eventually worked out that the most likely explanation was that most of the phosphate and readily available key nutrients had probably been locked-up. It highlighted the need for more detailed soil analysis to generate more information than the normal soil pH and P K levels that basic sampling provides. The soils in this area can be dominated by magnesium and after heavy rain and cultivations they can tighten up, reducing the levels of oxygen and particularly phosphate availability. After that was addressed, and we increased the amount of sulphur applied, there were no further such incidents. In year three everything came back very quickly and has been fine ever since.

"I don't see this as a negative, simply something that anyone who changes to any strip seeding or direct drilling system should be aware of. Buying a drill and expecting miracles is too simplistic an approach, often driven by the desire for quick cost savings rather than as part of a considered long-term management plan. I would therefore suggest that anyone in this situation should involve their agronomist before at an early stage and pre-empt any potential issues by ensuring that soil nutrition, structure and organic matter levels are spot on."

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