AN IDEAS MAN

Strip till drilling has evolved since the first Claydon drills were sold in 2001 but the concept remains unchanged. On the heavy clays Jeff Claydon farms near Newmarket he says the soil's structure has improved markedly since he adopted his own drilling system.

Jeff Claydon (right) developed his products as a direct result of his own on farm needs. Pictured with his son Oliver, the Claydon enterprise remains a family affair with increased manufacturing capacity being matched with new development ideas.

Jeff Claydon is known to generations of farmers and contractors, but whether it is for his Yield-o-Meter, furrow cracker or drills, it reflects a continuing contribution he and his family have made to British agriculture. Ever inventive, Jeff has definitely made an impact but how did it all begin and what does he have up his sleeves for the future?

FC and LSF: How did your move into agricultural engineering begin?

When I was 8, my father Eric bought me an old Morris car to tinker with to learn about how it all worked. The family farm comprised 250 acres of mainly tricky Hanslope Grade II clay, 70 sows and a big mortgage. When I was due to leave school, wheat was fetching £20 a ton and this was not enough to warrant me coming home to farm with my father and brother Frank. So I went off to study engineering. A year into my course, my father became ill so I came home, continuing to study engineering on day release for the next five or so years.

FC and LSF: Many farmers and contractors associate you with the pioneering Claydon Yield-o-Meter, but was this the first of your engineering developments?

When I came back to the farm I was always looking at ways to make a job easier or more efficient. I did the spraying with a 12m sprayer but found it tricky to match bout widths in an emerging crop. So I modified the drill so that two coulters were wider spaced to leave an easy to follow gap in the emerging crop. I then improved on this by moving two sets of coulters to provide enough space for the tractor wheels to run between the rows of the crop. The trouble was, I had to wait for the crop to emerge which was no help with the pre-emergence sprays we were starting to use. So I then fitted the drill with pre-emergence coulters. Simple idea, and one that lead to me developing the drill so three passes exactly matched the sprayer boom width. My pre-emergence spray marker idea was subsequently adopted by drill manufactures right up until the advent of tramlines in the mid- to late-70s.

FC and LSF: So how did the Claydon Yield-o-Meter come about?

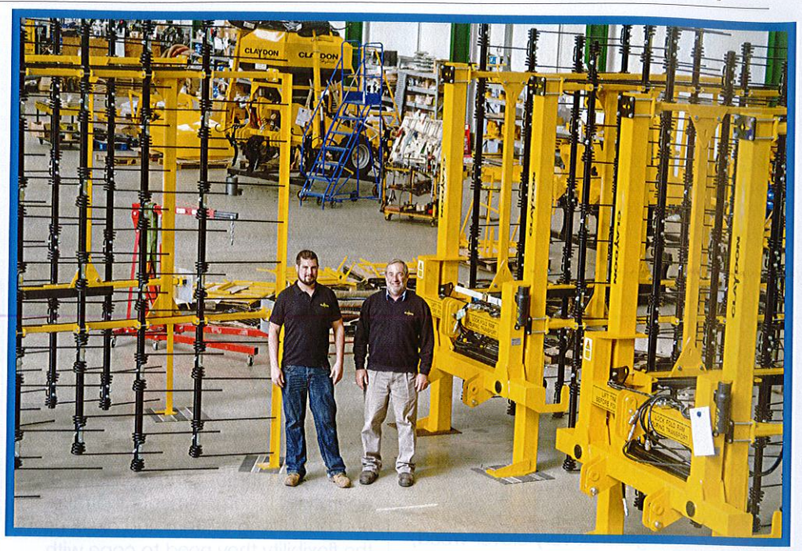
The 1970s saw a tremendous amount of development in crop varieties, fertiliser and sprays. I wanted to follow all the latest ideas but my father was less keen. At the time wheat was fetching £25 a ton and Roundup at £14 an acre was expensive. We had a lot of couch grass and I wanted to show getting rid of it boosted yields enough to justify using Roundup. So I devised an on the spot yield monitor to allow me to demonstrate exactly where we were getting better yields in those areas with no couch. I refined the idea in response to people asking me for a meter for their combines, setting up Claydon Yield-o-Meter in 1980 to meet growing demand. I patented this idea, having learned that not protecting my ideas sees them copied. We continued making meters up until 1996 when they started to be offered by combine makers. We still stock meter spares, incidentally, a number of Yield-o-Meters still being in use.

FC and LSF: So combine manufactures caught up with you eventually by offering their own 'in house' yield monitoring systems. Did you then consider giving up on the engineering side and go back to solely farming and contracting?

Farming always throws up its challenges and, as practical farmers, we saw how wheat prices and the stubble burning ban were changing the ways in which we could economically establish our crops. On our clays, we needed to bury a lot of crop residues but just like everyone else ploughing a stiff clay found getting the best burial meant setting the plough so it left a 'horse's head' furrow. That made it hard work to produce a level seedbed. On my travels marketing the Yield-o-Meter in Germany, I had come across what we went on to sell as the Furrow Cracker. This bolt on attachment comprised a set of blades that sliced the furrows to help break them up. On some soils, the system worked well enough to allow drilling directly into the ploughed land. On our clays the cracker cut down on the cultivation needed and could save a power harrow pass. It was a great attachment and we imported them from 1995 up until 2001.

FC and LSF: So why did you give up on the Furrow Cracker?

Wheat prices have a great impact upon how we farm. In 1983, a ton of feed wheat would fetch £125, climbing to £150 for milling wheat. We had the margins to invest in establishing a good seedbed, even when it was a struggle. By the 90s we were getting average prices nearer £100 a ton, so although ploughing remained viable it was getting tight. Come 2000 and wheat prices dropped to nearer £60 a ton. That certainly concentrated the mind! So we, as farmers, needed to see how we could cut costs and the first area we looked at was reducing dependence on the plough. And so did everyone else. The Furrow Cracker market dried up as ploughing fell out of favour and farmers and contractors looked to cheaper cultivation methods.



FC and LSF: So is this why you came up with the Claydon direct strip till drilling concept?

We had actually been looking to reduce cultivation costs for some time. In the late 90s we were farming 1,000 acres, all down to a rape and wheat rotation, but we were losing money and needed to cut costs. We had looked long and hard at our fixed seed, spray and fertiliser inputs and saw no way of trimming them without hampering yields. So although I was considering alternative cultivation techniques I knew none would work consistently well with our soils. Direct drilling was a possible consideration but as it was a technique that had not worked for us in the 1970s I did not think that was the way to go. Chemical costs had been a problem for us in the 70s but the main difficulty for us was that our soils are prone to 'sealing over' when wet. That had caused germination problems so I knew direct drilling was not the answer for us.

After a lot of thought and building a few working prototypes I came up with the idea of using a tine to break up the soil ahead of a coulter to then place seed either side of of the disturbed area. The drill I built around this concept was used successfully to establish oil seed rape initially but it worked so well I then used it for wheat too. The Claydon strip till drill was born out of necessity on our farm. As it worked for us I knew it would work for others so I applied for, and was granted, two patents to protect the drill's design.

FC and LSF: How did you start to make and market your drills?

In 2001 we started to fabricate drills in our farm buildings here at Wickhambrook near Newmarket, initially selling by word of mouth and gradually expanding output following successful selling direct to customers. Sales just grew so we started to expand our manufacturing capacity to meet demand. We now employ around 40 people and have over 1,000 machines out working in 26 countries around the world. We are in the process of another expansion stage, although delays in getting planning consent have held us back.

FC and LSF: This actually raises an interesting point. Do you get any help or support as a British manufacturer?

We were offered a grant to expand our facilities here but unfortunately persistent planning delays meant we missed the grant deadline. Other than that, we have never had any outside input. It is all down to us. Since 2009, we have put up a new assembly building, installed a modern in-house paint shop and put in a new driveway to by-pass the village. Once some planning hurdles have been overcome, we will build new storage and welding facilities but it will all be financed by us. I do not want to upset anyone but

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it does seem you have to jump several hurdles before you are allowed to progress.

FC and LSF: What other items of equipment do you produce or do you just buy them in and spray them Claydon yellow and black?

We manufacture our own stubble rakes alongside the drills. We have used stubble rakes on our own farm pretty much from the outset, making our own from 2010. Using a stubble rake is integral to the Claydon drilling system so it makes sense to make our own. We know it will do the job. Stubble rakes can be a hard sell for us because you can rake a field and think you have achieved very little. Time the job right and you can get that very clever weed, blackgrass, to germinate when it would otherwise have lain dormant. In rape, repeated raking really does help to control slugs too, disturbing the egg laying cycle and exposing those eggs that have been laid to the elements. So the rake is a key tool for us and one that is starting to sell well to those who may not – yet – follow it up with the purchase of one of our drills!

FC and LSF: Are Terra Star shallow 'cultivators' a development of yours too?

Yes, the Terra Star is one of ours. In dry weather there can be a problem relying on just raking. So we developed the Terra Star to create 'pockets' of disturbed soil in the stubble. These help to provide a surface that works in combination with the stubble rake to allow it to produce a 30mm depth of disturbed soil. The pockets of disturbed soil also promote water uptake so a Terra Star pass ahead of rain can really help make the most of available moisture in a dry back end. Like the straw rake, the Terra Star is designed for fast and economical operation. It complements the rake and our drilling system and gives users the flexibility they need to cope with different conditions.

FC and LSF: You also make wide area rolls. Are they part of the Claydon system?

There is no single drilling 'system' that will work for every soil in all seasons. The key is to offer complementary products that enable crops to be established economically and in a timely fashion. My brother Frank does all the drilling on our farm, which is now just over 900 acres, and covers between 3,000 and 4,000 acres of autumn and spring drilling on a contract basis using a 6.0m Claydon drill. Between us we have worked out how to establish crops in not just a range of soils but in as broad a range of conditions as you can typically expect to find. This has enabled us to work out when to rake or when to use the Terra Star. Rolling also has its place. Sometimes you can rake once or twice and then drill, others you may want to use the Terra Star and rake several times, drill and then roll. The key is to work with nature and not to try to force drilling when the conditions are not right.

FC and LSF: You are not the only strip till drill maker. Do you see rival designs as a threat or a compliment?

The Claydon drill is the first and original strip till drill and I have two patents protecting its design. Any strip till drill that is offered by a rival manufacturer cannot follow my design principals. I have no problem with competition as it keeps us on our toes. Our drills have evolved in a number of ways over the years as a result of user feedback and our own new ideas. Competition and following my ideas is proof that the system works, which is good. Copying my ideas is not.

Claydon started to make its own Straw Rakes in 2010, with a complimentary Terra Star tiller offering a degree of shallow cultivation to further help promote weed germination.

FC and LSF: So what have you got up your sleeves for the future?

For 20 years we sold attachments to fit existing combines and ploughs. For the past 14 years we have made our own equipment. My aim is to keep looking ahead, refining and developing and ensure Claydon remains a growing company. My son Oliver now takes care of manufacturing and design and his brother Spencer is in charge of sales and marketing. We have a good team and it is what is up their collective sleeves that will be important.

My brother Frank and I continue to farm and for me that is what it is all about.

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