



## FOCUS MILTON KEYNES

# Claydon System cuts costs, improves timeliness

**Faced with declining prices for agricultural commodities farmers are looking to reduce establishment costs, without reducing yields. Developed by Suffolk farmer Jeff Claydon to do just that, the Claydon System is now used on farms the world over, including one in Northamptonshire.**

The need to replace machinery often provides a catalyst for change and that was exactly how the Davies family came to adopt the Claydon System, which has dramatically reduced costs, improved timeliness and benefited soil structure, while improving yields and profitability.

Having farmed in Clifton Reynes since the 1920s, starting out with 72ha, they expanded up to Newton Lodge with an additional 65ha in 1988. With a further 60ha and 190ha on FBTs the family now farm 404ha, 387ha of it cropped. Group 1 winter milling wheat is the mainstay, with 239ha of Crusoe, Gallant and Skyfall, supplemented by 118ha of winter oilseed rape and 30ha of Explorer spring barley grown on contract for Budweiser. The farm encompasses a wide range of soils, from sand and gravel to sandy clay loam, corn brash, silt and Hanslope Series clay, often all in the same field, challenging any establishment system.

"It's no exaggeration to say that the Claydon System has transformed the way that we

think about farming and how we actually farm. Now that we have experienced the benefits we continually ask ourselves why didn't we didn't consider the move earlier. But, had we not done so when we did we would not be in such a strong position today and given the way that grain prices are at the moment I am very pleased we made the transition voluntarily rather than being forced into it by lack of profitability, as I suspect some will," explains Rick Davies, who farms in partnership with his father, Mike and mother, Christine.

Having studied Agriculture and Business Management at Newcastle University, Rick graduated in 2003 and became a trainee Farm Manager for Velcourt, initially spending two-and-a-half years on a 6,000-acre unit near Sleaford in Lincolnshire until 2007, aged 24, being appointed Manager of the 3,400-acre Mawthorpe Farms near Alford, Lincs, where he remained until 2012. At that point he returned to the family unit, alongside a two-year stint as Area Manager for Syngenta in Bedfordshire and Hertfordshire, before

joining the family business full time in December 2014. He explains:

"While I was in Lincolnshire the family unit had reached a crossroads where significant investment in new machinery was required. It was decided to contract out spraying, top dressing and drilling to a local contractor who did the rape swathing and OSR drilling previously, so it made sense to have him extend his operations.

### BETTER RESULTS

Since 2002 we had been establishing OSR with a Vaderstad Rapid direct into wheat stubble. We had some good results over the years but establishment in a dry year was often hit and miss. When our contractor changed to the Claydon V-Drill in 2006 the emergence was much more consistent and yields were significantly higher, which improved further when he bought a 3m Claydon Hybrid in 2010. Having continued to use conventional establishment for wheat, we had him drill 20ha of wheat with it in 2011 and the following season I returned to the farm and we decided to buy our own drill, so that we could go when conditions were exactly right.

We had seen what the Claydon Hybrid could do but looked at what else was on the market. We considered the Mzuri, but that scared the life out of us because of the number of moving parts and seemingly high risk of blockage. We also looked at what Dale and Vaderstad offered but preferred the Claydon Hybrid because its leading tine concept creates a drainage channel and alleviates shallow compaction.

## FARM FACTS

<b>Farmer</b>	Rick Davies
<b>Location</b>	Milton Keynes
<b>Area Farmed</b>	Circa 404ha
<b>Staff</b>	Two full-time, plus one part-time at harvest
<b>Soil Type</b>	Sandy and gravel, sandy clay loam, Corn Brash Hanslope Series clay
<b>Annual Rainfall</b>	Circa 50-70cm
<b>Mainline tractors</b>	200hp John Deere 7530 130hp John Deere 6620 100hp Massey Ferguson 3085
<b>Combine harvester</b>	25' Massey-Ferguson Centora 7280 (eight straw-walkers)
<b>Drill</b>	3m Claydon Hybrid
<b>Sprayer</b>	3000-litre/24m Amazone front/rear combination
<b>Spreader</b>	Kverneland 24m 3500 litre variable rate spreader
<b>Plough</b>	Kverneland 6 furrow

## Cropping

**Wheat 239ha**  
*Crusoe (first wheat)*  
*Skyfall (first wheat on contract to Gleadell)*  
*Gallant (second wheat)*

**Oilseed rape V316**  
*OL Vistive HOLL*

**Spring barley**  
*Explorer (on contract to Budweiser)*

<b>5-year average yields</b>	First wheat	10.3t/ha
	Second wheat	9.6t/ha
	Oilseed rape	3.9t/ha
	Spring barley	8.8t/ha

The Claydon seemed right because of its simple, straightforward design. We also liked the fact that it had been developed by a working farmer and was proven in all soils and conditions. We considered the 4m version but decided the 3m, which has nine leading tines and nine seeding tines, better suited our needs. We felt that our John Deere 7530 would be boss of the 3m and we could achieve a good forward speed on slopes and heavier ground. The drill works at its optimum at 12- 14 km/hr. Our fields range from 0.9ha to 34ha, averaging 10.6ha, and the 3m is very manoeuvrable.

Some farmers will imagine that a 3m drill would be too small on 400ha, but that is not the case and I have often drilled up to 45ha of OSR in a (16-hour) day and 35ha of cereals with it. Having tried a range of forward speeds I operate at 14kph in OSR and 12kph for cereals, which is ideal because it enables the tines to create just the right amount of soil movement, shatter and create an ideal sowing environment. Again, having tried different depths, both deeper and shallower, I now operate the leading tines at between 10cm and 15cm dependent on soils and crop.

## NUMEROUS ADVANTAGES

When we moved away from swathing oilseed rape, which required 330mm row spacing to keep the swath off the ground, we were able to change to 660mm row spacing,

which requires less seed, horsepower, reduces soil disturbance - which helps to control blackgrass - and cuts the draft requirement, allowing us to operate at a higher forward speed and create a good tilth.

Though the Claydon Hybrid was bought primarily to establish oilseed rape, which was our priority at the time as we were 50/50 wheat/oilseed rape, we always planned to use it to establish first and second wheats. The key was to get off to a clean start, so in 2012 we sub-soiled

the entire farm to take out existing 36m tramlines and wheelings, then ploughed everything to provide a clean start for the new system. That year we drilled all the oilseed rape with the Claydon Hybrid, together with 40ha of second wheat on the lighter land.

Harvest 2014 provided a true comparison between conventionally established and Claydon drilled Gallant grown as a first wheat on very similar fields, ranging from sandy gravel to sandy clay loam.



**Leading tines can be adjusted to stimulate the soil to the required rooting depth, from 0cm down to 15cm for deep rooting crops such as oilseed rape. Rick Davies operates them at 12.5cm for the majority of situations, while adjusting the seeding tine as shallow or deep as necessary.**





**Rick Davies's 3m Hybrid: "It's no exaggeration to say that the Claydon System has transformed the way that we think about farming and how we actually farm."**

One crop was established using two passes with a 7.5m Claydon Straw Harrow to encourage volunteers and blackgrass to germinate, then Gallant was drilled with our 3m Claydon Hybrid, while the other was ploughed, subsoiled, pressed, power harrowed, drilled and rolled. Though they were drilled within two days of each other, throughout the season the two crops looked very different. This was partly because with the Claydon System the residues from the previous crop are still there after the next has been drilled and partly because if you looked down the rows you could see more open space. The head count for the Claydon was 540 and the plough based was 615. Based on the way it looked early in the season my father reckoned that the Claydon-drilled fields would do well to yield 10t/ha. Happily, that was not the case.

At harvest, the conventionally established 12ha field, which had cost £200/ha to establish, yielded 12.06t/ha, while the Claydon drilled gave 12.03t/ha, off 10ha, yet it cost just £100.50/ha. Wheat from the Claydon plot also had a specific weight of 84kg/ha, 2kg/hl higher, which I put down to more sunlight getting through to the plants.

Having used conventional cultivations and become used to seeing perfect-looking seedbeds for so many years moving to the Claydon System was a huge leap of faith and it took time to get used to the idea that it would look different. But, the results prove that you can't judge a crop by its initial visual appearance and what really counts is how much goes into the combine tank.

### HELPS WITH WEED CONTROL

Blackgrass is an issue which is on many peoples' minds at the moment and when I came back to the farm in 2012 the situation was getting worse, with Atlantis resistance in some fields. I decided we needed a radical change in approach and started hand rogueing, which initially proved very slow progress but has since proved very effective, so we decided that if we were to go the Claydon route we had to ensure that blackgrass was brought under control. The first step was to stop using Atlantis, which at £40/ha was costly and ineffective, and invest in hand rogueing.

That first year that was a difficult but very satisfying job and the results were vastly improved.

Over the last four years the job has become much quicker and easier. When we started a 34ha field took eight people four days

to rogue, yet this year it took just half a day, which shows just how much progress has been made. Timing is the key - we try to rogue when the plant is flowering, which is normally the second week in July. All the pulled material is taken off the field and burnt.

In 2012 we spent £60/ha on rogueing, in 2014 that dropped to £45/ha and in 2015 on our own farm it was just £16/ha. That is much less than using Atlantis and the farm is all but clear of blackgrass, providing a long-term solution instead of a short-term fix. The slight downside to taking out Atlantis is that we are starting to notice a few more wild oats and bromes creeping into headlands

By 2014 I was happy that we had blackgrass under control and decided to drill everything using the Claydon.



## IDEAL FOR TODAY'S CONDITIONS

The Claydon System is very fast, easy, efficient and cost-effective, but you need to understand how to get the best from it and want to make it work to achieve the best results.

Claydon claim to produce advanced yet simple machinery which is of high quality, hard wearing and long lasting, which seems to be the case in our experience. In terms of set-up the Claydon Hybrid is the easiest drill I have ever used and being tine-based it is much more suited to our soils than the previous disc coulters drill, particularly the corn brash which includes large stones. We did consider specifying the optional hydraulic auto reset system, but I've only had three shear-bolts break in two seasons so it really isn't an issue.

Before drilling, we carry out one pass with our 7.5m Claydon Straw harrow, which encourages any weeds to germinate and significantly reduces the slug population. Once the drilling has hazed off we carry out another pass with the Straw Harrow to create a really level finish, it provides another light cultivation before we roll. I look at it effectively making the seed bed once drilled; this provides a better surface finish and allows the pre-emergence sprays to work more efficiently.

You have to realise that with the standard 7" seeding coulters the Claydon Hybrid is not a low-disturbance drill but rather one which cultivates and conditions the soil, leaving moist, well drained, conditions in which the crop can establish, as well as fields that are firm, level and support the weight of traffic much better than a conventional system. As time goes on this situation will only get better.

With just myself and father working full time, the Claydon System provides huge time, labour and cost savings, as well as increasing drainage, worm activity and increased soil organic matter. Ultimately, it gives us more time to manage our farm rather than just doing tasks that are often ineffective and costly.



**Three years of direct drilling with the Claydon System have produced much-improved soil structure.**



**The Claydon System provides an ideal environment in the soil which encourages deep rooting.**



**This photograph clearly shows the 660mm row spacing used to establish oilseed rape, providing plants with optimum space to develop and achieve their maximum yield potential.**



**Rolling is an essential part of the Claydon System. Here, Mike Davies carries out the first of two passes with a 12m set of rolls with clod breakers, weighing 10 tonnes which are very good at consolidating and breaking any oversized clods. The crop is ideally rolled within two hours of drilling to establish a really firm contact between seed and soil and to primarily conserve soil moisture.**



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