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profi Tractors and Farm Machinery: An Daragh · Lealands · Hellingly · Hailsham · East Sussex · BN27 4DY · UK
Tel: + 44 (0) 1323 449 962 · E-mail: marketing@profi.com
profi Tractors and Farm Machinery: D-48084 Münster · Tel: + 49 (0) 2501 801 281 · Fax: + 49 (0) 2501 801 856 · E-mail: kristin.sewald@lv.de

Claydon V-Drill and SR seeders:

Direct drilling does the business

In 2002, Jeff Claydon and his team built ten of his then new V-Drill direct drills; a decade on, and the concept has evolved through SR to current Hybrid designs. Today, Claydon drills enjoy a strong following both in the UK and abroad, but how do these single-pass seeders stack up as a second-hand buy? James de Havilland reviews the pros and cons of a machine that looks to both cut establishment costs and improve the yields of all arable crops

When looking at any item of used equipment, the most important question to answer is whether the machine will do the job required of it on your farm. So it follows that those arable farmers seeking out a used Claydon drill must determine whether an early V-Drill or a later SR unit is the way to go.

Let's help with a few pointers. Firstly, the V-Drill was offered in 3.45-, 4.0-, 4.8- and 6.0m working widths, and depending on soils, it demands a tractor of 200-300hp up front. Fully mounted, the central section of pre-2004 machines is based around a 3.45m frame, which can pose transport problems for those not farming within a ring fence. Thankfully, from 2004 the central chassis shrank to a more manageable 2.8m.

USED DRILLS Search

Machine data:

Year: 2008

Condition: Excellent. Carbide tine points, 180mm coulters, 1,250kg hopper, mechanical metering, batter boards

Price: £28,000.
Pay around £20,000 for 3.0m, £24,000 for 4.0m

Machine: Claydon SR 3.45m

USED DRILLS Search

Machine data:

Year: 2003

Condition: Good. Carbide tine points, 180mm coulters, 1,250kg hopper and tyre press. Wide 3.45m central frame

Price: £16,000.
Pay around £13,000 for 3.45m, £14,000 for 4.0m

Machine: Claydon V-Drill 4.8m

The actual working principle of the V-Drill is pretty much the same as for subsequent machines. Narrow tines at the front cut the initial channel in the stubble, followed by a Bourgault A-share coulter in the same slot to open it out and allow the seed to be band-sown behind. Three sizes of A-share coulter were and continue to be marketed: 180mm (most common), 120mm and 80mm.

Where all versions of the Claydon can also vary is in what's installed next. Some drills were built with no form of post-coulter consolidation, although most will have left the factory with a set of rear spring-tine mounted tyre press wheels/harrows. Farm-modified drills might incorporate other systems, the most common of which will be a set of straight sprung tines.

Original V-Drill has closer coulter spacing and shear bolt protection for the front tines (far left), whereas the subsequent SR drills feature Bellota auto-reset front tines and staggered mounting on two frames to increase the inter-coulter clearance.

Like all subsequent models, the V-Drill is fully mounted. This is an important aspect of the Claydon design and is particularly useful when working in less than ideal soils: if the drill blocks up, it can be raised out of work and cleared. Then it's back to work. In other words, it's not a major operation.

Batter boards became optional kit on SR drills. A tyre press and harrow remained as the standard specification.

USED DRILLS Search

Machine data:

Year: 2005

Condition: Good. Carbide tine points, 180mm coulters, 1,250kg hopper and rear tyre press/ harrows. Narrow 2.8m central frame

Price: £24,000.
Pay around £15,000 for 3.45m, £16,000 for 4.0m, £20,000 for 4.8m

Machine: Claydon V-Drill 6.0m

Another trait of the V-Drill is that its tight inter-coulter clearance pretty much dictates when stubble/soil condition is suitable for drilling. Where the soil is too wet or trashy, or both, the V-Drill is prone to bunging up. Then again, if the straw has been baled, this makes a big difference.

Stony soils? Again, these working conditions can create problems for the V-Drill design, as shear bolt protection of its front tines can see bolts pinging with frustrating frequency. There's more welcome news at the rear, where the seeding coulters' S-tine spring-steel shanks simply lift out of the way when they encounter a large stone.

At this point it's rather tempting to dismiss the V-Drill and just move on to subsequent SR (Stone Release) models, which have been marketed from 2006 and overcome both the trash clearance and break-back issues. Yet there are two key items to consider before assuming an older V-Drill definitely isn't the right machine for you:

- First, Claydon has evolved the advice it offers to users of both its current and older drills. Initially, the machines were sold as providing the ability to drill direct into stubble, whereas now it's well-known that they perform better when stubbles are worked free of excess trash and/or weeds.
- Second (and related to the first point), the wider adoption of stubble harrows has helped to reduce any issues with trash. A pre-drilling pass with a harrow can dramatically improve the effectiveness and output of a V-Drill.

Although the focus of this profi article isn't on the complete Claydon approach to crop establishment, it's important to appreciate the trash-dispersing advantages of putting in at least one field pass with a straw harrow. In addition, straw harrows also aid slug control, with Claydon making the claim that three passes, properly timed before drilling oilseed rape stubbles, can virtually eliminate the need for slug pellets and also assist in the chitting of volunteers/weeds before spraying off.

Back to the seeding hardware. Around 80 V-Drills have been built, and over time these machines' second-hand demand has certainly strengthened among those seeking a dedicated rape drill. For this application, tines can be removed to extend their spacing out to 600mm, rather than work the drill with a full set spaced at a nominal 300mm. The drill's front tines can also be dropped down to their maximum working depth of 150mm – this loosens soil for optimum OSR tap root formation – and the rape is then sown in a

WEARING PARTS PRICES FOR CLAYDON V-DRILL, SR AND HYBRID DRILL

Description	Price (£)
80mm spoon coulter	10.96
120mm A-share coulter	14.53
180mm A-share coulter	15.25
Front tine – chrome steel tip	36.00
Front tine – carbide tip	74.00
Spring harrow tine	13.00*

**One more required than coulter number*

The bulk of Claydon's pre-Hybrid drills will have Sulky MP3 metering with ground-wheel drive. Simple and reliable, this unit meters seed for all combinable crops. Important checks are to ensure that drive to the fan is sound and that the various delivery hoses are in decent order.

Current Hybrid drill (left in pic) has a simplified frame, but it's built around a heftier chassis to allow working widths of up to 6.0m; the predecessor SR line is heavier and tops out at 4.0m. Both drills are fully mounted, which is reckoned to be a key feature when seeding in less than ideal conditions.

175-180mm wide band, with 400 to 450mm between the rows.

Indeed it's this OSR establishment niche that, in reality, has been largely responsible for copper-bottoming the residual values of the V-Drill. To give an idea of output, Claydon suggests that a tine-reduced 4.8m V-Drill can plant OSR at a rate of 50ha/day+ behind a 180hp tractor – fewer tines equates to reduced power – with fuel consumption put at 8l/ha or less. And afterwards there's then the option to reinstall all the coulters and tines for establishing first wheats in rape stubbles. Just bear in mind the previously mentioned V-Drill limitations when working in stony ground.

NUMBER OF TINE AND COULTER UNITS PER DRILL

Width (m)	Number of units
3.00	9
3.45	11
4.00	13
4.80	15
6.00	19

NB: This applies to V-Drill, SR and Hybrid drill models (nominal 300mm row spacing)

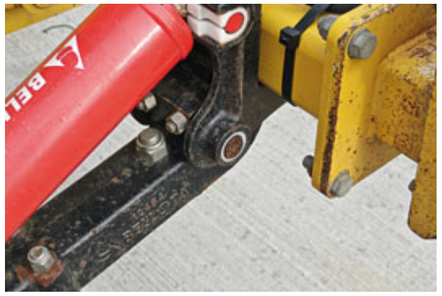
Other key V-Drill characteristics include a 1,600-litre/1,250kg capacity seed hopper, though you might still find an early 1,000-litre/800kg variant – but these are rare. As for metering, a few of the first V-Drills relied on an Accord system. The majority, however, will have Sulky MP3 units. And, coming right up to date, the 2009-and-on Hybrid drill models are supplied with Kverneland Accord metering units linked up to GPS-compatible RDS Artemis controllers.

The rear tyre press can be swapped with batter boards on SR drill models (in background) – and vice versa. Note the sprung tines to the rear of the tyres in the picture: Claydon users often request a choice of following tools for drills that operate in different conditions and varied soils.

The majority of V-Drills will have had a tyre press fitted from new, whereas current thinking now tends to favour tine-following harrows behind the wheels. When buying a second-hand machine, factor in the cost of switching to the press/harrow type where appropriate.

SR (Stone Release) drill models

As mentioned earlier, the hefty 'V'-shaped chassis of V-Drills is robust, but it isn't able to accept any form of break-back front tine. On top of that, the narrower clearance between the tines also compromises performance on stubbles with chopped straw and where trash and weeds haven't been controlled by a previous pass or two with a straw harrow.



Bellota break-back pivots have nylon bushes – wear items that are both inexpensive and simple to replace. It's well worth checking this area, as metal-to-metal contact is the result if worn items aren't replaced in time.

Claydon completed warranty repairs on some early V-Drills, but look out for poor user patch-ups that aren't up to standard. Where proper frame repairs have been made, there shouldn't be a problem.

To resolve these issues, Claydon came up with a new twin-frame design, fitted with two staggered rows of auto-reset HD Bellota front tines in place of the rigid-type tines originally installed. Bourgault coulters and band seed outlets are employed, as on the V-Drill.

The weight of the front Bellota tines and the seed hopper are both carried by the tractor in work, and it's this that allows the tractor's hydraulics to control the working depth of the front breaking tines. The Bourgault drill coulters mount on the second frame section, so that the actual sowing depth is set by the control wheels and adjusted on a turnbuckle. Bringing up the rear, Claydon pretty much offered its tyre press and harrows as standard spec on the SR, although revised batter boards remained an option.

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Bout markers come in disc (left) and tine/wheel designs. Always take time to inspect the marker arm, checking for damage and pivot wear.

An important SR drill plus is that it could be made in a 3.0m width and, as a result, can be used behind tractors of 150hp plus. All SR models are better able to cope with trash, whilst stoppages in stony conditions are virtually eliminated. Claydon claims a 3.0m unit behind a 150hp tractor can average about 2ha/hour at 8-10km/hr.

Is there a downside to SR ownership? Sort of. Their twin-frame design makes SR drills relatively heavy, which forced Claydon to limit working widths to just 3.0, 3.45 and 4.0m. Nonetheless the SR still sold strongly, with around 130 units built over its years in production.

What was missing? A wider SR for extra output. So along came the Hybrid.

Hybrid drill models

In 2009, Claydon moved to a much simplified frame design. In effect, the company developed its own combined front tine and rear coulter units that enable them to be mounted in two banks on a single frame. This returned Claydon to the simple concept of the original V-Drill design, albeit with a more conventional 'straight' chassis.

At present, Hybrid drills are a rare used find, although you might come across the occasional 4.0m unit as users upgrade to a wider alternative. Currently, Hybrid drills are sold in 3.0, 4.0, 4.8 and 6.0m widths (see profi driving impression 12/09).

Before you go shopping

The key consideration before looking at any used Claydon drill is to establish what you want to achieve. Are you going to concentrate initially on rape establishment, or will you want to plant other combinable crops such as beans? Work out how the drill will fit into your existing drilling regime. If you are planning to switch from a traditional plough-based or 'min-till' system, you need to think well beyond just the drill.

Another point is straw harrowing. Claydon makes no apologies for promoting its own straw harrow, because the company claims this piece of kit has a significant impact on direct drilling efficiency, slug populations and weed control as well as providing a hike in productivity. So if you're contemplating direct drilling, Claydon recommends factoring in the cost of a straw harrow, too.

As a guide, a 7.50m Claydon straw harrow costs £12,500. Designed to operate behind a tractor of 150hp, Claydon says the harrow should be able to cover around 80ha/day, with fuel use of just 1l/ha and its wearing metal at around 14p/ha.

What to look for

Claydon sells direct. Old drills are taken in part exchange, returning to the firm's base near Newmarket, Suffolk, for preparation before being sold on as a second-hand unit. So, even though you will see drills for sale privately or through a machinery dealer, for the widest selection of used examples it's probably best to speak to Claydon.

Regardless of where you locate a drill, the most important point is to focus on the drill model and ensure that it has the appropriate specification for your needs. Although you can switch between a batter board or tyre press, it's generally more cost-effective to buy a machine with the correct spec from the start.

In terms of the basic structure of the drill, V-Drill units are reasonably tough, with any chassis damage tending to be rare though not unheard of. Claydon carried out some modifications to early machines, but, for the most part, any frame problems should be repairable. If in any doubt, ask Claydon for advice.

Next, consider wear and tear, though, compared with some drills, there are relatively few wearing parts (see table for guide parts prices). Bear in mind that, if drilling different crop types is on the agenda, you might need to swap the A-share coulter to suit: as a guide, the 180mm and 120mm shares are typically recommended for rape and cereals, whereas the narrower 80mm share is better suited to spring beans and peas.

Alternatively, you can retain worn shares for the pulses, and there's a 25mm slot coulter for winter beans.

More choice comes when selecting wearing metal type. The leading tines can be bought with either standard chrome or hard wearing carbide tips, and this option brings the customary life-cost dilemma: carbide costs twice as much, yet should last twice as long – at least. When pricing parts, refer to the table outlining number of tines/machine.

Other areas of wear to inspect on an older machine are the Bellota tine pivot points on SR drills and the pneumatic hoses leading to the seed distribution unit. The metering systems are generally reliable, employing a simple land-wheel drive on both the V-Drill and SR.

Summary: There is nothing too complicated about a Claydon drill, making it relatively simple to check over a potential second-hand purchase. Yet, as is so often the case, it's not the machine itself but the system in which it fits that will be the most important element of any buying decision.

With regard to prices, entry-level 3.45m V-Drills list from £14,000 in ready-to-go condition from Claydon. SR drills are priced from £20,000 for a 3.0m model, and you'll probably have to pay double that figure for a 4.0m Hybrid unit – if you can find one.

Also take heed of Claydon's advice on the advantages of operating a stubble harrow. Depending on your drilling regime, it might make sense to factor in the cost of one of these machines, too.