



“The system is a holistic approach to crop establishment.”

# Decision closes in on precision

## Machinery Drills

A good drill is one of the most fundamental parts of crop production, with a host of new launches adding to the high precision options for growers. *CPM* takes a look at the latest additions to the UK market.

By Charlotte Cunningham

**With the autumn drilling window now behind us, the focus for many in spring will be on precision and low disturbance.**

Speed and technology in this area have come on in leaps and bounds, but if you're in the market for a shiny new drill, there's a lot to consider — are you looking primarily for low disturbance options? Or is output what matters the most to you?

To help growers get a handle on the options available, *CPM* rounds up some of the most recent launches.

### Väderstad

For those looking for something with high output, Väderstad has launched its largest high-speed precision seed drill to date, which will be available from June 2021.

The new Tempo L 32 drill is equipped with

32 row units of 375mm spacing, a 3000-litre seed hopper and Väderstad's Central Seed Fill as standard. To manage a narrower row spacing, every second-row unit is offset. The row cleaner angle and gauge wheel size have also been reduced.

But despite its size the Tempo L 32 can maintain increased output without compromising performance, says the firm's Andrew Gamble.

“To increase the versatility of the Tempo L 32 it's possible to hydraulically raise half of the row units and lock them in an upper position, reducing the number of rows from 32 (375mm row spacing) to 16 (750mm row spacing).

“In practice for UK growers, this means it's possible to drill oilseed rape and then change to maize on 16 rows with 750mm row spacing quickly and efficiently,” he adds.

### Maschio Gaspardo/Opico

Maschio Gaspardo recently announced the debut of its Chrono range of precision drills into UK markets, available through distributors, Opico.

With a completely new seed delivery system, air bag suspension for each unit and electronically controlled metering for both seed and fertiliser, the Chrono range is claimed to offer precision drilling with highly accurate seed placement and depth control, says Dominic Burt, Maschio

Gaspardo product manager at Opico “While conventional precision drills might run at 7-8km/h, the Chrono has the potential to at least double these work rates, at the same time improving the accuracy of seed spacing and depth placement.

“This level of precision is all down to a new design of metering unit. Using a combination of traditional vacuum singulation and then pressure delivery down the coulter tube, the moment the seed leaves the metering disc it is kept under control.”

A neat feature is that the Chrono doesn't just leave it to gravity to ensure seed ends up in the ground. Instead, a venturi puts it under positive pressure, controlling its speed and therefore ensuring it ends up in the soil without bounce, he adds.

Aside from conventional vacuum singulation, the other feature that makes for accurate seed spacing is the angle of each metering unit, explains Dominic. “Set on an incline of 150, seed drops off the disc and straight down the coulter tube without touching the sides. This means it is not slowed up at any point, with the result that seed spacing is consistent.”

According to the firm, the goal for the Gaspardo design team during the development of the Chrono, was to achieve industry-leading work-rates while maintaining accuracy.

“One of the biggest challenges with this ▶



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► is ensuring consistent seeding depth,” he says. “Rather than employing traditional springs to generate downforce on each coulter unit, the design team have integrated air-bag suspension into the Chrono’s

parallelogram linkages.

“As well as providing protection against shock-loading from stones and obstacles, the system maintains constant down-pressure, avoiding the units bouncing at speed. With the ability to adjust coulter pressure to cater for differing conditions, this ensures uniform seeding depth at high work rates.”

The Chrono is fully ISOBUS-compatible, meaning all its functions and adjustments can be handled either through an existing tractor terminal or an additional ISOBUS controller.

In combination with the electronically driven seeding units and microgranular applicator, the GPS-compatible drill controller also provides automatic row shut-off/section control and the potential for variable rate seeding and fertiliser

## Maize for days

For those growing maize, Lemken’s Azurit precision seed drill — featuring the firm’s DeltaRow system — has proved to boost yields in recent trials.

The DeltaRow placement system was launched back in 2016 and effects the way in which seeds are placed in single rows. In practice, this means that two staggered twin rows are spaced 12.5cm apart, which is claimed to give individual plants more surface area for growth — as well as ensuring better access to water and nutrients.

The benefits of DeltaRow sowing with the Azurit drill has been tested in comparison with conventional single row drilling in trials conducted at Osnabruck University.

The trial was conducted in Borken (North Rhine-Westphalia) in the spring last year. The effects of seed rate (seven, eight or nine seeds/m<sup>2</sup>) and sowing approach on crop yield and quality were examined by means of a large-scale plot trial.

“The positive effects were evident in all trialed variations but were most obvious at a seed rate of 8 seeds/m<sup>2</sup>, which is commonly used in the region,” explains Paul Creasy, managing director at Lemken UK. “At this rate, increases of 4.5% in maize yields, 8.2% in net energy lactation, 7.9% in metabolisable energy and 5.4% in gas yields were observed compared to the respective values achieved with single-row drilling without DeltaRow.

“These yield and quality advantages delivered by the DeltaRow approach are due to the fact that DeltaRow gives plants about 70% more space to develop compared to conventional single-row approaches. As a result, each plant has more space to absorb water and nutrients and therefore more room to grow. This has a beneficial effect on plant development.”

And on UK soils, the Azurit has shown similar results, adds Paul. “From a UK perspective, the drilling we have done with the Azurit in the South West has been consistent with results shown in the European trials. Most interestingly, we’ve seen increased cob size over standard sown forage maize and a 10% overall fresh yield where a Azurit 9 maize drill has been used.”



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applications.

Dominic adds that there has also been a deliberate focus on keeping maintenance to a minimum while extending the working life of the various components. "Brushless long-life electric motors fully sealed from dust ingress are used for the seed and microgranular metering units. In addition, there are individual filters for the air intakes on each seeding unit as well as a larger one for the main lobe compressor to ensure zero contamination of the workings."

Standard specification includes air-bag suspension, GPS-compatible ISOBUS controls, 60 litre, low-level, easy-fill seed hoppers and front disc-openers to ensure



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consistent coulter penetration in UK conditions, he concludes. "Electronically controlled microgranular applicators with 16-litre hoppers are an option, as are trash-cleaning wheels for minimum tillage and direct-drilling situations."

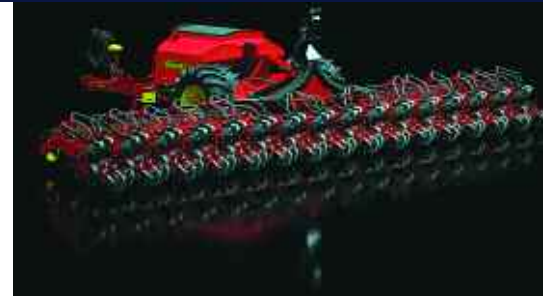
## Claydon

Adding to the low disturbance choices for growers is Claydon's new range of lower disturbance 'LD' options which can be specified on new mounted and trailed versions of its Hybrid drills or retrofitted to existing models.

The LD set-up consists of a twin-tine unit and optional double front cutting discs, allowing the Hybrid to drill directly into stubbles, chopped straw, cover crops and grassland.

Replacing the standard seeding tine, the twin-tine unit can be used either with Claydon's leading tine, which works to relieve compaction and aerate the soil, or in combination with double-cutting discs that minimise soil disturbance and reduce the power requirement.

The two 44mm x 12mm hardened steel tines in the twin-tine unit are four times stronger than normal 30mm x 10mm tines, explains the firm's Jeff Claydon. "Fitted



*The new Tempo L 32 drill is equipped with 32 row units of 375mm spacing, a 3000 litre seed hopper and Väderstad's Central Seed Fill as standard.*

with 15mm points, they feature unique double-leaf helper springs which maintain a consistent seeding depth even in very dry, hard, heavy soil conditions, yet permit enough lateral movement to displace surface trash and prevent blockages."

Providing a more traditional finish than band seeding, the seeded rows from the twin tine set-up are spaced 150mm apart but the brackets which hold the tines in place can be moved in by 50mm. "This allows the width of the seeded band to be reduced to 100mm, providing more space for a Claydon TerraBlade inter-row hoe to take out weeds growing between the rows."

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The Chrono range features a new seed delivery system, air bag suspension for each unit and electronically controlled metering for both seed and fertiliser.

► the Hybrid drill's standard leading tine can be replaced with twin 330mm-diameter front cutting discs, either a plain design or

Claydon's 330mm fluted 'Spiradisk', both of which are equipped with an integral scraper to keep them running cleanly, he adds.

"The plain cutting disc offers minimal soil disturbance and reduces power requirement by approximately 50% compared with the standard leading tine set-up. The fluted Spiradisk does an excellent job of cutting through trash without 'hair pinning' material into the slot and creates a slightly wider channel with a nice amount of tilth, providing the seed with perfect growing conditions."

According to Claydon, the main benefits of the 'swap-in, swap-out' design are the ease and speed of changing from a standard direct strip-till set-up to the LD option. "The standard A-Share can be replaced with the twin tine set-up simply by undoing three bolts and changing them over, while the standard leading tine can be

replaced with the double disc unit in seconds by removing just one pin," adds Jeff.

While Claydon has been developing and evaluating low-disturbance options for several years, he believes the new options make the Hybrid the most versatile drill on the market.

"With a few simple, quick modifications Hybrid drills can now be used for conventional sowing, low-disturbance establishment, and zero-till seeding, with or without fertiliser placement between or in the seeded rows. This makes them a much more versatile, cost-effective solution compared with purchasing a strip till drill and a specialist low-disturbance drill.

"The Claydon Opti-Till System is a holistic approach to crop establishment which delivers consistently good, high-yielding crops at low cost for maximum profitability. Over 90% of the Hybrid drills we manufacture leave the factory with our patented leading tines and standard 18cm or 14cm-wide A-Shares on the seeding tines. These do an excellent job of strip seeding any crop that can be air-sown in most soils or conditions and allow it to be kept clean using the Claydon TerraBlade inter-row hoe.

"However, we recognise that some farmers wish to use a low or lower-disturbance approach, either all the time or in certain situations. For example, they might want a lower-disturbance option for drilling directly into cover crops and require front cutting discs to slice through the green material. Others will feel that a low or lower-disturbance approach helps to minimise grassweeds."

## Horsch

Last year saw Horsch announce the launch of a new mounted disc drill, designed predominantly for smaller/irregular shaped fields.

The new Taro HD and Taro SL drills have a 6m working width and are combined with



Adding to the low disturbance choices for growers is Claydon's new range of lower disturbance 'LD' options.

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a front-mounted Horsch Partner hopper for a compact design.

The latest launch features a tyre packer and PowerDisc seed coulters and works by the packer levelling and creating consistent sowing conditions in front of each coulters, while the PowerDisc seed coulters promotes optimum depth control, even in heavy conditions with a lot of clods.

The Horsch Partner front tank is available with either 1600-litre or 2200-litre capacities and optimises the weight distribution of the tractor and seeding rig. An offset method enables separate passes for tillage and sowing and offers greater sowing flexibility, especially in years with high rainfall.

## Pöttinger

Pöttinger has extended its range of Terrasem mulch seed drills with the new Classic series.

Available in working widths of between 4-9m, the Classic machines have a low power requirement, making them an easy and cost-effective investment, according to

Pöttinger.

The Dual Disc coulters features two discs with a single coulters mounted on a parallel linkage that precisely places the seed in the soil. Pressure is then applied to the coulters to ensure the seed is deep enough to last the germination process, even in areas of low precipitation or extended phases of dry weather.

High output is optimised by the large seed hopper with a volume of 3000 litres on machines up to a working width of 6m, or 3950 litres if the machine is equipped with a hopper extension.

On the machines with 8-9m working widths, and on all Terrasem Fertiliser Classic seed drills, the seed hopper has a volume of 4000 litres — or 5100 litres with the hopper extension.

The Terrasem Classic is also capable of applying fertiliser between the seed slots. Using the Fertiliser Pro coulters, fertiliser is deposited during the drilling process, between two rows of seeds, and the placement depth can be adjusted hydraulically. ■

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