



## Machinery Cultivations

# Not all about no-till

**There was plenty in the machinery lines at Cereals 2018 for those whose preference or requirement is for either slightly deeper working or full inversion of field surfaces. CPM reviews the options.**

*By Martin Rickatson*

Conservation tillage may be grabbing much of the limelight at the moment, but there are a number of good reasons why most growers choose to shift soil post-harvest. Cereals 2018 was a good opportunity to take a look at recent developments in this sector, and review the range of options available.

### Ploughs

As a weed control 'reset button', burying shed seed deep before reverting to minimum or no-tillage the following year remains an option for all but the most unwavering reduced tillage enthusiasts. There's also those needing to repair

damaged soil surfaces or work land where roots, vegetables and other non-combinables are in the rotation. Figures suggest the market has fluctuated steadily in recent years between approximately 750 and 850 units/year, and although larger models grab the limelight, the bulk of sales remain centred around 4f and 5f units.

That said, there were some much larger and more numerous-bodied models on show at Cereals, and among them was Amazone's Hektor. Marking the German firm's entry into the semi-mounted market, it's available in 6f, 7f and 8f versions, with 6+1 and 7+1 options, and is said to be suited to use with tractors up to 350hp.

Amazone says simplicity of operation and robustness have been the key criteria behind the plough's design, which is an evolution of engineering by Vogel and Noot, whose plough business the firm purchased alongside the development of Amazone's own Cayros and Cayron ploughs. With the latter attribute in mind, the 150mm x 150mm beam is constructed from 12mm thick steel, while to meet the requirements of the former there's manual furrow width adjustment which works in steps from 36-48cm per body. The ability to be able to cope with high trash levels is

said to be aided by point-to-point clearance of 100cm and an 82cm beam height.

The plough is available with the complete range of Amazone bodies, including the firm's new WX400 PE plastic option, and comes as either the standard Hektor, with shearbolt overload protection or, on 6f and 7f models only, as the Hektor S, which features hydraulic auto reset, with accumulator pressure that can be set from the tractor seat either individually or centrally.

"The design includes a new pivot system connecting headstock and beam,

*Amazone's 6f to 8f Hektor includes a new pivot system connecting headstock and beam which aids accurate tracking behind the tractor for the optimum pull-line.*







“Burying shed seed deep remains an option for all but the most unwavering reduced tillage enthusiasts.”

which aids accurate tracking behind the tractor and produces the optimum pull-line,” says the firm’s Simon Brown.

“Front furrow adjustment is hydraulic to enable the plough to be easily matched to the internal track width of the tractor wheels. The design also features turnover cylinders with hydraulic stop position damping to control drop speed and cushion the plough when reversing the bodies, reducing shock loads on both plough and tractor.”

A large 500/45-22.5 land wheel tyre has been fitted to ease pulling requirement and aid accurate depth guidance, says Simon, while its location further up the frame helps operators plough close to field borders and obstacles. Hydro-pneumatic damping of the wheel is said to protect the plough and aid both safety and operator comfort during transport.

Launched internationally at the end of last year, Kuhn’s Smart Ploughing package is a section control system that uses GPS guidance signals to progressively lower each individual plough body automatically into the ground when entering work and lift it out when reaching the headland. Created to ensure uniform ploughing across the full field width, a patent has



*Kongskilde’s XSD slatted body is based on the profile of the established XLD conventional type, designed for use up to 710mm tyres.*

been applied for to cover the system’s design.

Individual raising and lowering of the bodies eliminates the Z-shaped furrow edge that can otherwise occur and minimises end-of-furrow overlap, says Kuhn, and means fewer tractor passes over the headland, plus burial of all surface trash where the headland is met. The system also improves tractor ride when turning on the headlands, and by automating lifting and lowering of the plough bodies, leaves the operator free to concentrate on tractor operation. ▶

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## Piggyback seeders still prove a draw



*KRM's Soladrill Ares improvements include external pipework, ISOBUS-controlled electric-drive metering, and tine or double-disc coulters.*

KRM continues to specialise in drills for those looking for simple and light mounted tine-seeders, and at Cereals launched its latest contender in its Sola range, the Ares. Featuring a pressurised 1800-litre hopper, it can be ordered as a solo drill or in a piggyback configuration for cultivator or power-harrow mounting, depending on tillage system.

"There's still a significant market for machines

of this type," says the firm's Keith Rennie.

"The 4.0-6.0m Ares design improvements include external pipework for easier cleaning, ISOBUS-controlled electric-drive metering, and either tine or double-disc coulters."

Horsch's Express KR, which features the firm's SingularSystem, is claimed to be the first singulation drill on the market suited to establishment of wheat, barley, OSR and peas, and is reckoned capable of full accuracy at speeds of around 12km/h. A central volume metering unit draws seed from the hopper, the pre-metered seed is then transferred pneumatically to the respective seed row. Up to the coulters, seed supply is carried out conventionally. A new TurboDisc coulters body includes the mounted metering unit necessary for seed singling and placement.

"It's important to operate at 10-12km/h to maintain performance," stresses Stephen.

"The new single-grain metering unit sows two grains each second, so at 12km/h that equates to a seed density of 240 grains/m<sup>2</sup> where a row spacing of 15cm is used."

Inside the metering unit the seed flow

follows a circular path where the grains increase in speed and move to the outer part of the metering disc. One is then selected for the fall tube, with the others transported back to the starting point. The operator only has to enter the desired grains/m<sup>2</sup>, thousand grain weight and germination level, the system then calculating the metering quantity.

*Horsch's Express KR is claimed to be the first singulation drill on the market suited to establishment of wheat, barley, OSR and peas.*



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► By eliminating the need for the tractor to slow at the end of each pass, it makes ploughing a faster process, and by making the operation simpler, it also makes it easier for less-experienced operators to achieve good results, Kuhn claims.

Lemken says there's been an encouraging response to the development of its Optiline adjustment system for semi-mounted ploughs, designed to improve lateral plough guidance and reduce fuel consumption. This is achieved via an additional hydraulic cylinder situated at the plough pivot point. Taking into account the fact the traction points of the tractor and a semi-mounted reversible plough it's working with are fixed, it uses a hydraulic pressure-controlled cylinder to transfer additional torque to the tractor to compensate for the lateral pull of the plough.

The result is that the tractor/plough traction line is shifted further towards the centre of the rear axle and lateral pull in the plough frame is reduced as a consequence. OptiLine is said to make possible fuel savings of up to 10%, while reducing operator strain through elimination of the need to counter-steer against lateral forces, and optimising the

plough's landside pressure and the tractor's lateral pull by adjusting the hydraulic pressure. This, says Lemken, helps achieve consistent front furrow widths and even results, while allowing the depth and intensity of seedbed preparation to be reduced.

## Slatted body

Despite Kongskilde selling its farm implement lines to the New Holland business unit of CNH Industrial in order to focus on its grain drying and storage equipment, red-liveried Kongskilde-branded machinery is still available through the brand's dealers, and at Cereals this included a new slatted body.

"Farmers on sticky organic or clay soils have been asking for a mouldboard of this type for larger ploughs," says Steve Mitchell, responsible for product support across the Kongskilde products and the forthcoming New Holland cultivation equipment ranges previewed at LAMMA and Agritechnica.

"But there's also a lot of demand from those looking for a more broken furrow profile on tougher clay soils. The XSD slatted body, available on all our ploughs, is based on the profile of the established



*Kuhn's Smart Ploughing package is a section-control system that uses GPS guidance signals to progressively lower and lift individual plough bodies automatically.*

XLD conventional type, and incorporates a patented helical design to improve furrow turning and fully bury residue. It suits those seeking to plough from 12-30cm deep at a working width of 35-55cm, and is designed for use with tractors on tyres up to 710mm wide."

While not at Cereals, Pöttinger's recently-launched new 4f and 5f Servo 45 M plough series can be specified with hydraulic furrow width adjustment and ►

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# Cultivations



*Working at around 30mm, the wavy-profiled Crosscutter disc for Väderstad's Carrier is designed to provide intensive mixing and surface compaction removal.*

► hydraulic auto-reset. Inter-body spacing can be specified as either 95cm or 102cm, and standard under-beam clearance is 80cm, with a 90cm option.

A 'Traction Control' system applies plough weight to the tractor's rear wheels, simultaneously improving plough tracking, says the maker, claiming up to 2.0 l/ha fuel benefits from its use, plus reduced slip-induced soil smearing and a more uniform working depth. Applied weight is infinitely variable and can be adjusted

hydraulically between 600 and 1,500kg from the cab.

Maschio continues to make inroads into the plough sector since joining the UK market last year, says importer Opico. "We've had an excellent response to the introduction of Maschio ploughs, particularly in light of changes elsewhere in the sector," notes the firm's Rob Immink.

"While we currently offer fully-mounted models in two ranges with up to six furrows, featuring mechanically or hydraulically variable working-width adjustment and either shearbolt or hydro-pneumatic auto-reset protection, larger models are likely to be available soon."

## Cultivation equipment

Among the new cultivation equipment on display at Cereals, while many items were designed for min-till situations, others were said to suit the flexibility required by those seeking versatility in their systems. These included a number of new stubble processors on display from firms suggesting usage ahead of either no- or min-till drilling, or where full burial of trash, regrown stubbles or cover crops needs

a helping hand ahead of the plough.

Now available for 3.0-12.25m models of its Carrier disc cultivator, Väderstad's CrossCutter disc has been designed for use especially in oilseed rape stubbles and cover crops, says the firm, but is also likely to find favour among those looking to tackle cereal stubble regrowth and ploughed land, depending on soil type and desired results.

"Working at around 30mm, the wavy profile is designed to provide intensive mixing and surface compaction removal for a relatively low horsepower input at speeds of up to 20km/h," suggests Andy Gamble, the firm's UK marketing manager.

"To ensure evenness of working depth across the implement regardless of width, each disc is individually mounted to its own rubber suspended disc arm to aid contour-following."

The 450mm-diameter discs are produced in-house by a Väderstad subsidiary, and are said to be suited to working on ploughed land as well as at 2-3cm directly onto stubbles or cover crops. They're now an option for Carrier 300-400, Carrier 420-820 and Carrier 925-1225 models.

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Lemken says there's been an encouraging response to the development of its Optiline adjustment system for semi-mounted ploughs.

Horsch gave a Cereals debut to the trailed three or four-row GX version of its Terrano, which complements the FX, MT and FM models. Available in 4.0-6.0m working widths, it can be specified with either a three- or four-row configuration, and tine spacing of 28.5-31.5cm. Fitted with the firm's third-generation TerraGrip tines, frame-located springs have a 550kg release force and maintenance-free pivot points.

"With four cultivation point options, we see the GX as suiting a number of possible scenarios and soil types," says Stephen Burcham of Horsch.

### Range of uses

"Depending on what's fitted, that could range from loosening compaction to intensive mixing of trash and soil. By offering a range of different single and double packer options, it can be further specified to suit a

range of soil types and desired finishes."

Also from Horsch were new 5m and 6m Cruiser XL trailed cultivators, fitting between the existing smaller mounted models and the 10m/12m trailed versions. The six-row design and 700mm frame height are designed for situations where thorough mixing of large amounts of trash is required, says Stephen, and a wide range of single and double packer types is available.

"Four different point types means it can be used for stubble cultivation with optimum straw distribution after combining, seedbed preparation, as a fine cultivator for mechanical weed control or for loosening and aerating soils in spring. This is the sort of flexibility many are now demanding from their cultivators." ■



Depending on configuration, Horsch sees its Terrano GX as suiting jobs ranging from loosening compaction to intensive mixing of trash and soil.



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