



Shifting the soil, baling the straw

Post-harvest machinery

As harvest approaches, CPM takes a look at some new and some familiar machines that will soon go to work after the combine, from balers to tillage equipment.

By Melanie Jenkins

Groundwork preparations are often the set up at the start of the season, meaning getting the desired seedbed is of vital importance, and requires the right machine for the job at hand, be it a cultivator or a plough. Here's a look at some of the latest launches and farm staples from manufacturers.

Amazone

A new addition to Amazone's stable is the KE 6002 2-400 Rotamix rotary harrow. Released at the end of last year, the latest version of the KE 02 Rotamix range comes as a 6m variant for use with tractors up to 400hp.

The machine has been designed with high work rates in mind, with a quick folding 3m transport width, but be aware that it's been designed for solo use and therefore can't be coupled with a seed rail, advises the firm's Simon Brown.

Amazone's Quick+Safe system provides

the 29cm tines with an integrated stone release and the tines can be easily exchanged without the need for tools. The trailing tines are designed to produce a good crumb structure, including on heavier soils. This means the Rotamix should be well suited for seedbed preparation, particularly behind a plough.

According to Simon, the heart of the new rotary harrow range is the DirectDrive gearbox — mounted on both side wings — via which the higher power flow is transmitted directly to the spur gears of the tine carriers. On the new model, there's no power redirection to ensure a low-wearing power transmission. The short coupling ensures that the leverage effect on the tractor is reduced, and therefore it should have a lesser lifting power requirement than with some other rotary harrows. The rotary harrow can be used with a PTO speed of 1000rpm, and exchange gear sets enable the tine carrier speed to be adapted to the different soil conditions.

To achieve precise and consistent working depth settings, the machine can be precisely adjusted mechanically via a series of holes with an eccentric pin which has been designed to be easily altered by the operator.

The height of the levelling board is guided by the roller and deflects upwards due to integrated overload protection. And the levelling board has been shortened by 10cm for improved soil passage and for better levelling of the soil.

And a number of roller types with varying diameters are available for targeted reconsolidation. The tooth packer roller provides full area crumbling and reconsolidation, while the wedge ring roller — for light to medium soils — reconsolidates in strips and comes with optional Matrix profile for better drive in lighter soils. And lastly, the trapezium roller also allows for strip reconsolidation.

Earlier in 2022, Amazone introduced its Cobra shallow tine cultivator, available in working widths of 6m and 7m. "It meets the demands of the growing market for machines that work the top 5cm and chits stubbles behind the combine," says Simon. "The Cobra provides farmers with a different type of machine compared with those that have been previously available."

The Cobra utilises the standard semi-trailed TX frame format of swivel drawbar and braked, central running gear for perfect weight distribution, tight headland turns and safe, comfortable, high-speed travel on the road, says Simon.

The machine has six rows of tines, spaced at 13.3cm, with a tip-to-tip clearance of 80cm and a frame height of 60cm, meaning it should be capable of handling copious amounts of crop residues at high forward speeds without blockages, he explains.

"For use in cover crops, the leading knife roller bruises the foliage speeding up the breakdown of the organic matter and presenting the longer stalks in the ideal ▶



 **HORSCH**

#FUTUREGROUND

PRECISE AND QUICK STUBBLE CULTIVATION **JOKER RT**

The Joker RT cultivator works intensively in residues like straw and volunteer crops. An updated DiscSystem offers increased flexibility, the discs are serrated for aggressive working and a good soil penetration and their position has been optimised improve working quality. **HORSCH.COM**

- High quantities of fine soil within the germination zone
- 5m to 12m working widths with 3m transport width
- Additional tools can be mounted such as a MiniDrill



Scan to find out more

TOGETHER FOR A HEALTHY AGRICULTURE

Post-harvest machinery



Amazone's Cobra was launched to meet the demands of the growing market for machines that work the top 5cm to help chit stubbles behind the combine.

► orientation to be handled by the ECO leaf spring tines."

These tines can be equipped with a

choice of narrow points or duck foot shares depending on the task in hand;

when using the duck foot option, the tines

have an overlap of nearly 9cm. Maximum working depth is 13cm and the Cobra can be specified with any one of nine rear rollers or the double harrow.

Grange

Grange Machinery has added a new product line this year, aimed at helping farmers reap the benefits of strip-till cultivations.

Designed with input from farmers looking for the ideal tool to help establish their maize, sugar beet or brassica crops, the Strip-Till Preparator has been developed over several seasons and is now available in 3m, 4m and 6m working widths; and requires a minimum of 210hp.

Proven patriot

Those after a versatile machine may not have to look any further than Cousins of Emneth's Patriot. Although this combination cultivator has been on the market for a few years, it's proven itself able to cope with various soil types, both on farm and across fields, says the firm's Laura Cousins. "It provides three working elements, from its front tines which are followed by two rows of 50cm discs, to the Razor Ring press at the rear — there's a lot of versatility in this machine."

Available as both a trailed folded version and as a mounted machine, the tines can work from 15cm to 40cm depth. "There's a big depth variation and operators can adjust the machine depending on their requirements," says Laura.

Tine depth can be simply adjusted on the rear press and the discs altered using hydraulics from the tractor cab while on the move. "Discs

are easily adjustable, and this is relative to tine depth, plus further alteration to the disc sub-frame allows for it to be tipped forward and aft to adjust the bias between the front and back row of discs."

The rear Razor Ring press provides good consolidation across working widths and come with a weather proofed finished, giving them a corrugated look.

The standard tine is a quick foot one-piece point wing and shin assembly, but there's an option to also fit a less-lift tine, which is designed for lower disturbance, says Laura. The tines are spaced at 60cm, and the machines comes with two rows of discs, a plain front disc and a cut away disc at the rear, as standard. "The machine can even be run with the discs out of work so it solely acts as a loosener, providing that extra level



Cousins of Emneth's Patriot provides three working elements, including its front tines, followed by two rows of 50cm discs and the Razor Ring press at the rear.

of versatility," she adds.

The three-point linkage mounted model comes in 3m and 3.6m versions, while the trailed versions is available as a 4.2m, 5.4m and 6.6m machine.

GET DOWN TO THE

DISC

YOUR INVITATION TO OWN A NEW HOLLAND DISC HARROW



"We designed and built three prototype machines which had various changes and additions to the frame and the general layout in the row to achieve a truly effective and versatile implement," explains the firm's Rhun Jones. "It's essential to get the design of this type of machine exactly right to make the perfect strip to allow targeted planting and application of fertiliser, making the best use of costly inputs, preserving moisture and improving soil quality."

Three independent rows of cultivation discs can be hydraulically adjusted while working in harmony with a low disturbance tine and point, a feature which should allow the Preparator to create an ideally cultivated row that is ready for planting.

A zonal Guttler prism roller ring performs the final part of the cultivation pass to break down any clods that have flowed through the system as well as consolidating the row in readiness for a planter.

Another feature the Preparator offers is the option of applying either granular or liquid fertiliser behind the loosening tine.

Leg spacings can be set at different row centres to suit a range of sowing systems and crops. Hydraulic front cutting discs are fitted for trash management and to provide minimal disturbance. The Strip-Till Preparator is now in full production and can be seen working this season.

Horsch

The Fortis AS is a new cultivator from Horsch that has been developed to work with tractors powered up to 600hp, as well as providing more flexibility in working



Grange's Strip-Till Preparator has been designed with input from farmers looking for the ideal tool to help establish their maize, sugar beet or brassica crops.

depth and adjustment options.

The Fortis 6 and 7 AS, have 6m and 7m working widths, respectively, and can operate with a working depth between 40cm and 30cm — aimed at deep loosening and primary tillage. Depending on the conditions, the operator can decide to manoeuvre on the packer or on the chassis, and the changeover is carried out simply by means of a three-way valve.

The design of the packer focuses on flexibility with the options to select the type of packer and whether it's connected rigidly to the frame or pretensioned hydraulically. In the pretensioned option, the weight of the front packer roller can be transferred to the rear roller preventing sinking on light soils.

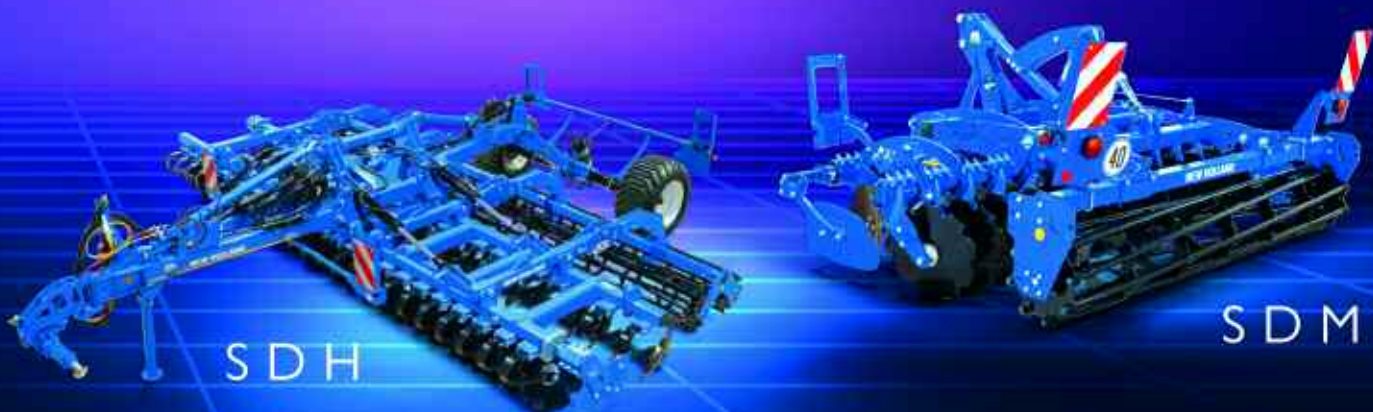
To ensure a consistent levelling quality in this wide working range, the fourth bar was placed further backwards so there's always enough loose earth in front of the levelling discs to achieve the desired

result. The 27cm tine spacing on the four-bar design is suitable for shallow tillage and an all-over cutting in all conditions, but also meets the requirements for a lower horsepower tractor performing deep primary tillage.

The option of single or double front support wheel is intended to offer precise soil adaption, ranging from a simple depth control to supporting the machine in case of high working depths. The depth adjustment can either be carried out by the clip system or fully hydraulically from the cab. The Fortis is equipped with an integrated traction reinforcement system which transfers up to 1.2t to the rear axle of the tractor to help prevent slippage.

Lemken

The new Karat 10 three-beam cultivator from Lemken is available as both a mounted and semi-mounted machine and comes in working widths of 3m and 7m. ▶



- MEDIUM & HEAVY SERIES
- TRAILED OR MOUNTED OPTIONS
- 3-7M WORKING WIDTH

Post-harvest machinery



The Fortis 6 and 7 AS, have 6m and 7m working widths, respectively, and can operate with a working depth between 40cm and 30cm – aimed at deep loosening and primary tillage.

► Tines are arranged symmetrically around the tensile axis for a low draught and to avoid side draft, which is important when using the cultivator with track guidance systems.

The wing shares, aimed at shallow cultivation, have been widened, and alternatively, narrow shares can be used for deep cultivation. DeltaCut shares can be used for ultra-shallow cultivation, and the standard quick-change system allows them to reach working depths of up to 30cm.

Centrally adjustable levelling tines are designed for an even finish and specially shaped levelling discs, which are for heavy soils, are optionally available. Also newly available are boundary discs and tines that can be folded up mechanically or hydraulically.

The cultivator can be equipped optionally with a hydraulically adjustable leading disc section. This ensures that large volumes of organic matter can be incorporated into the soil. The discs, which are individually

suspended on leaf springs, chop organic matter and break up coarse soil clumps so that the machine can mix soil intensively and work without clogging.

A traction booster and the ContourTrack system, which ensures an even working depth in hilly terrain, are available for the semi-mounted models.


Opico

This year's Cereals Event was the launch pad for the new version of the three-in-one cultivator, the He-Va Combi-Disc from Opico. The 'Stealth' variant of this combination cultivator is now available in working widths of 2.45m and 5.25m in both mounted and trailed formats. It has ultra-low disturbance legs and a choice of different points, depending on the level of sub-surface action required.


Two leading rows of soil loosening legs are followed by two rows of serrated Sabre discs to provide a surface chopping and mixing effect. This is all followed up with a V-profile roller to create a corrugated, weather-proof finish.

In normal circumstances the tines, discs and press are used in partnership to turn previously uncultivated ground


HELPING TO SOLVE YOUR PROBLEMS IN THE FIELD FOR OVER 70 YEARS
Designed and built in Britain for cultivation, consolidation, cover crops and more...




PATRIOT




TOP DISC




LESS LIFT



CROP CHECK



HD HZ CONTOUR ROLLS



01945 584600
sales@cousinsofemneth.co.uk
www.cousinsofemneth.co.uk

COUSINS

OF EMNETH LTD



The 'Stealth' variant of this He-Va Combi-Disc combination cultivator is now available in working widths of 2.45m and 5.25m in both mounted and trailed formats.

into a seedbed in one pass. But when conditions require it, the discs can be lifted completely out of work, enabling the unit to be used as a straightforward subsoil loosener/pan-buster or as a straightforward shallow disc cultivator.

"With the increased focus on regenerative practices, we're seeing a desire for cultivation kit that can reduce soil disturbance but still deal with compacted layers in the soil profile to ensure decent drainage and rooting to maximise crop potential," explains Lemken's Glenn Bootman. "With this new leg option, the basic principle is medium-depth, low disturbance soil loosening

combined with shallow surface cultivation."

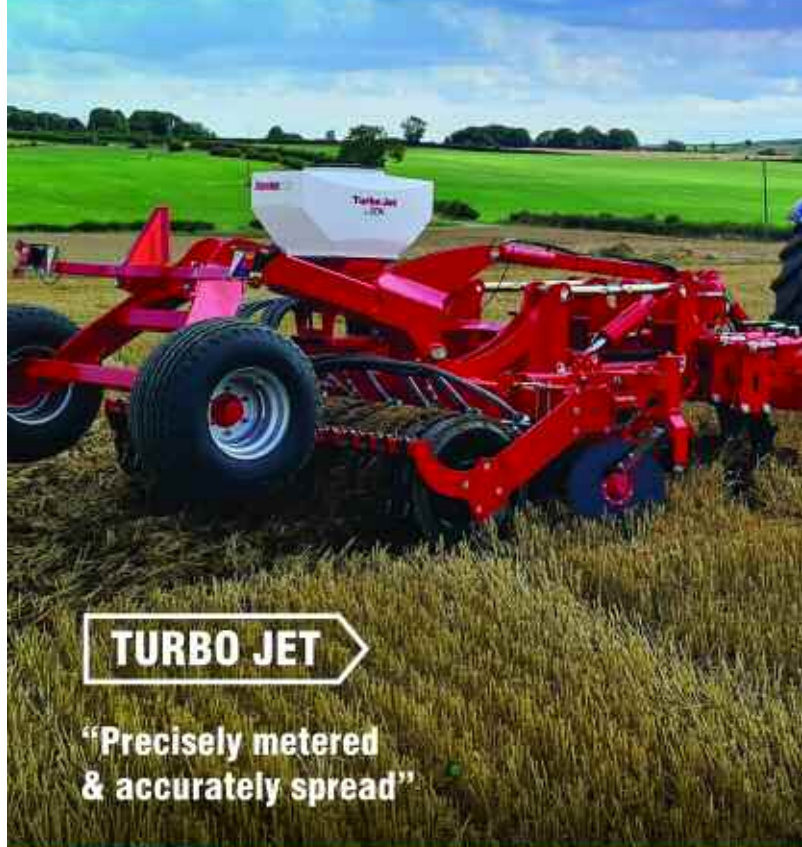
The 15mm wide Stealth leg allows deep soil loosening while minimising surface disturbance and preventing mixing of the soil profile. The narrower legs are made from ultra-strong Hardox steel and can be interchanged with standard 25mm wide subsoiler legs as necessary. The Stealth standard 12cm low disturbance point has a shallower wing angle and shorter nose, designed to open up the soil to create drainage fissuring without mixing the whole soil profile.

Väderstad

Last year saw Väderstad introduce a number of upgrades and additions to its ▶



Väderstad's latest disc cultivator comes in the form of the Carrier XL 725 – a 7.25m machine that bridged a gap in the existing models.



TURBO JET

"Precisely metered & accurately spread"



STOCKS HAVE IT COVERED

SCAN ME

Scan from your mobile to find out more: www.stocks-ag.co.uk



ROTOR METER

"Versatile, precisely metered application"



StocksAG

Stocks Ag Limited, Cromwell Road, Wisbech, Cambridgeshire, PE14 0SD, UK
+44 (0)1945 464909 | sales@stocks-ag.co.uk | www.stocks-ag.co.uk



Post-harvest machinery

► range of cultivation equipment, including the CrossCutter Disc Aggressive, with sharpened TrueCut cut outs that provide higher penetrative capabilities in challenging field conditions.

The firm's latest disc cultivator came in the form of its Carrier XL 725 — a 7.25m machine that bridged a gap in the existing models, which range from 4.25m to 12.25m. The machine is available with 51cm TrueCut discs, CrossCutter Disc or the new CrossCutter Disc Aggressive.

On the compact disc cultivator front, Väderstad's Carrier XT is based on the former Carrier X and is available in a mounted, mounted galvanised and in a trailed version, and has working widths of 4.25m, 5.25m and 6.25m. The main feature of the machine is its hydraulically rotating disc angles.

Moving into the foldable cultivators, the Cultus HD 425 and 525 are available in working widths of 4.25m or 5.25m and can work to depths of 30cm and is equipped with three tine axles, resulting in a tine spacing of 27cm.

The heart of the machine is made up of the new heavy-duty tines which have a release force of up to 680kg, allowing the machine to work in a full range of conditions.

A stack of balers

From efficient pick-up to perfectly uniform bales, a number of new launches are offering to make baling a smoother process than ever before.

Fendt

From Fendt comes a new generation of large square balers with features including a new tandem axle, updated pick-up and smart features.

All square balers with a tandem axle for the 2023 model year will be equipped with

a new improved suspension system and passive steering axle as standard. The design increases manoeuvrability and avoids damage to the ground and turf.

An additional row of tines has been added to increase the performance and working speed of the pick-up. Plus, new plastic pick-up bands now come as standard and help to reduce friction and ensure clean crop flow.

The electronics of the square balers have been comprehensively revised, accompanied by an update for the Bale Create user interface. In addition, all models measure the bale length precisely as standard to ensure that they do not exceed the preset length. The optional twine monitor records the amount of twine used and provides a warning when the twine spool is running low.

In conjunction with a TIM-capable tractor, the square baler controls the forward speed of the tractor according to the harvesting conditions and selected target parameters such as bale length, number of layers per bale or even the width of the individual layers.

And the Bale Link system collects and processes information on each individual square bale. During the baling process, the baler records bale-specific data on the quality of the bale, its GPS position, the bale moisture, the number of layers per bale, as well as information on the addition of additives and the dimensions of the bale.

Kubota

Kubota has extended its baler range with its new FB1000 non-stop round baler wrapper combination. The machine integrates a pre-chamber, main chamber and wrapper.

ISOBUS compatible, the baler is operated through an IsoMatch Tellus Pro terminal, offering fully automatic control of

the baling and wrapping processes, along with manual over-ride functions to suit changes in field topography.

Operating as a pre-chamber, the front half of the FB1000 produces two-thirds of the bale. As the pre-chamber reaches its preset density, crop flow is diverted into the main bale chamber allowing baling to continue non-stop. The pre-chamber is then opened, moving the pre-formed bale into the main chamber, where it can be taken up to its maximum size of 1.25m.

Once bale formation is complete, crop flow is switched back to the pre-chamber without stopping, allowing round baling to continue as a non-stop process. Net is then applied to the completed bale in the main chamber. After which, the tailgate is opened and the finished bale is transferred onto the wrapper. This entire sequence enables baling to continue uninterrupted.

Massey Ferguson

Massey Ferguson has introduced a range of new features and options to improve operation and productivity on its MF RB Series round balers.

"These enhancements include new specification packages that automate repetitive tasks, making the balers easier to operate and reduce the workload on operators, which increases productivity," explains the firm's Jérôme Aubrion.

"Tractor Implement Management (TIM) specification provides high levels of automation and also includes stopping the tractor. Other new features include automatic greasing and an entry-level touchscreen BaleControl terminal."

The TIM package allows the baler and tractor to communicate through the ISOBUS connection to automate a range of operations and features and doesn't require load-sensing hydraulics.

"These new features and options are likely to appeal to high-capacity users that will benefit from the productivity gains. The extra choices also enable users to select a higher level of specification to suit their requirements and levels of investment," he adds.

It also includes bale moisture sensing, bale weighing as well as automatically leaving the last bale layer uncut (when knives are engaged) for a flatter outer surface.

The firm has also made additions and enhancements to its MF 2200 Series large square balers. As well as purportedly



Fendt has introduced a new generation of large square balers with features including a new tandem axle, updated pick-up and smart features.

being easier to operate using the new MF BaleCreate terminal display, the latest balers now inherit low maintenance, robust components from the high-capacity MF Ultra HD model and come equipped with new running gear, a higher capacity pick-up and stronger, more durable components.

“Numerous other updates boost capacity and performance, including the new axle, to make the MF 2200 Series balers now less than 3m wide on the largest tyres,” says Jérôme.

McHale

McHale has created its highest output pick-up in the form of the Fusion 4 range. The new Profi-Flo pick-up has been designed to increase crop intake through more efficient crop flow and has been engineered to ensure end users are operating with a high-performance pick-up that is designed to suit various working conditions.

The new tapered feed channel encourages the crop to flow from the pick-up, towards the rotor and into the bale chamber, maximising throughput. To reduce maintenance, all Profi-Flo pick-ups are fitted with a heavier driveline which reduces chain load and increases chain life.

Customers can choose between a five-tine bar cam track pick-up or, the optional six tine bar camless pick-up which has increased in width. Behind the tines, there are a number of changes to improve the flow of crop into the chamber.

McHale has also introduced the Adaptive Intake which has been specifically designed to allow the intake area to automatically adjust up and down to changes in material flow. It automatically adjusts to the volume of crop which allows the machine capacity to be maximised in light and heavy rows or swaths. And intake area automatically adjusts to allow the machine to better handle uneven and lumpy rows or swaths.

“The new Fusion 4 range has focused on higher output and comfort for the operator. There’s an increase in throughput thanks to the new Profi-Flo pick-up along with higher bale density and faster wrapping speeds,” explains the firm’s Martin Mchale.

All machines in the Fusion 4 range are equipped with a 540rpm gearbox as standard. In order to optimise machine performance, a 1000rpm gearbox is available as an optional extra which provides an increase in PTO speed with reduced torque. This



Kubota has extended its baler range with its new FB1000 non-stop round baler wrapper combination.

reduces the sharp loads on the drive line, providing the clutch setting with 10% more capacity which reduces the risk of blockages and provides more throughput.

New Holland

Last year, New Holland extended its baler offering with its new BigBaler 1270 Plus Density and premium Pro-Belt baler.

The new BigBaler 1270 Plus Density ▶



Cultus HD

The new
Cultus HD 425-525

Keeping the depth. Always.

Cultus HD sets a new standard in the mounted line cultivator segment. It is designed to never compromise on its exact depth precision and high field performance.

The heart of the machine is the new heavy-duty Cultus HD tines. With a release force of up to 680kg, Cultus HD will keep its depth in a full range of conditions.



Learn more at vaderstad.com

VÄDERSTAD

Where farming starts

Post-harvest machinery



McHale has created its highest output pick-up in the form of the Fusion 4 range.

► features reinforced and upgraded components to produce bales with up to 10% greater density, reducing logistic and handling costs. It features re-engineered and upgraded components to produce bales with up to 10% greater density than

the BigBaler 1270 Plus. This means fewer bales per field for the same crop amount, reducing the cost for farmers and contractors to handle, transport and store bales.

To match the increased material feed supplied by an upgraded plunger, bigger

density hydraulic rams deliver a 113% force increase (more than double) on side density doors and 25% more force on the top doors than those on the existing BigBaler 1270 Plus.

The Pro-Belt baler has been developed to meet the specific needs of contractors and farmers who clock up a high annual use of their balers. It has a split gearbox for high mechanical efficiency and robustness and a streamlined design with fewer, stronger components and moving parts.

The heavy-duty 520mm diameter rotor in combination with the active drop floor, provides constant feedback to the operator, helping to maximise productivity with high throughput and non-stop feeding. It should perform equally well in silage and dry straw, with a capacity up to 30t/h and 140kg/m³ in straw. ■

Plough preparations

Amazone

Earlier this year Amazone launched new versions of its Tyrok 400 Onland semi-mounted reversible plough. The machine has been designed to provide a high level of flexibility with the quick change between on land or in-furrow operation. The new models of the plough are available with seven, eight or nine furrows and are designed for use with tractors up to 400hp.

According to Simon, both tractor and tyre size will determine the plough's operation in the furrow or on and beside the furrow. Constant depth control is provided via the front guide wheel, which runs permanently on the unworked soil. A uniform working depth is also aided by the high-tensile steel rectangular beam, which shouldn't bend under difficult ground conditions.

The SmartTurn system of the machine allows for fast turning on headlands, which is hydraulically slowed down just before the end to result in a damping effect that reduces stress on the plough structure.

The plough is equipped with mechanical furrow width adjustment as standard. As an option, the working width can be infinitely adjusted hydraulically from the comfort of the tractor cab to suit the conditions. The front furrow adjustment can also be provided mechanically or hydraulically. An advantage here is the direct linkage of the front furrow cylinder at the front of the plough for precise matching to the last furrow.

Kverneland

Bridging the distance between the plough and the cultivator, Kverneland previewed its Ecomat

On-land shallow plough in the latter part of 2022, ahead of its launch this year. This machine has been designed for minimum disturbance seedbed preparation and is aimed at providing mechanical control of pests and weeds through soil inversion, reducing reliance on chemicals.

"The Ecomat is a half-way house between a plough and a cultivator," explains the firm's Adam Burt. "As a shallow plough, it still turns soil over but without needing to work as deep as a traditional plough. This means it's much easier to pull, and it does a far better job of inversion than a cultivator."

The 10-furrow plough has a working depth range of 6cm down to 18cm. Furrow widths are mechanically adjusted from 30cm to 50cm, creating a range of working widths from 3m to 5m, while its 65cm point-to-point clearance contributes to a compact overall size.

Lemken

Lemken has shrunk its Juwel plough to add a smaller version to its existing range of mounted reversible ploughs. The new low-draught model is to replace the EurOpal and VariOpal 5 and 6 ranges.

The new Juwel 6 is suitable for tractors from 70hp to 130hp and has a 11cm frame box section and an underframe clearance of 80cm and is available in versions with three to five furrows.

The M version offers four different working widths per body which can be adjusted mechanically. The Juwel 6 M V features an infinitely variable hydraulic working width



Bridging the distance between the plough and the cultivator, Kverneland's Ecomat On-land shallow has been designed for minimum disturbance seedbed preparation.



Lemken's Juwel 6 plough is a smaller version to add to its existing range of mounted reversible ploughs.

adjustment and hydraulic frame swivelling is available as an optional extra. When combined with the iQblue Connect electronics kit, the implement can be easily transformed into a smart plough with ISOBUS control.

The basic equipment includes Dural bodies, but DuraMaxx bodies are also available, and mechanical non-stop overload protection is recommended for stony soils.