



Väderstad and Case IH launches

Farming red

Case IH and Väderstad have joined forces to launch a host of new products aimed at progressing and improving field tasks, including autonomous options and sustainable weeding solutions. *CPM* attended a press launch in Austria to see first-hand.

By Melanie Jenkins

Envision Austria and it's hard to imagine a picture that doesn't include the Alps. But further north and at a much lower altitude, the country supports a thriving arable and horticultural sector.

This is partially why it was a great location for a joint product launch event between Väderstad and Case IH. But the country also plays host to a rather picturesque Case IH and Steyr factory in the small town of St Valentin. It was here Case set out some of its latest innovations and developments, followed by a field demonstration of one of its most exciting new products, its autonomous tractor.

Autonomous Magnum

Autonomy and sustainability are two key parts of the initiative from the team at Case IH and this has led to its autonomous Magnum. Although the tractor has been presented before at Cema 2022, this was the first time it was demonstrated working in the field.

"The demand on technology has increased a lot," according to Alesso Quatraro of Case IH. "In order to get this machine working in the field, we had to use different technologies, such as guidance and AccuTurn. The machine includes radar and a perception camera to help detect obstacles providing feedback on its surroundings."

Case IH has been working with Väderstad to help automate the full range of operations in the field. This has involved using the AFS Connect portal to upload prescription maps to manage the depth of the implement and then ISOBUS communicates this to the implement.

But this development isn't just about the tractor, adds Mattias Hovnert of Väderstad. "It will change everything that a farmer would normally do in the tractor."

Quadtrac 715

Case IH has now launched the new Quadtrac 715, boasting up to 778hp from a 16-litre FPT Cursor engine with two-stage turbo. The machine has a maximum torque of 3255Nm at a low of 1400rpm.



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Although some might argue that larger tractors aren't necessarily where environmental goals are headed, the firm believes that having one machine that is capable of doing more does provide benefits, and because of its tracked system, ground impact should be reduced.

"The principle behind the development of the Quadtrac 715 is not simply more power," says Franz Josef Silber of Case IH. "Our aim was to create a machine that matches the requirements of our region's largest farms, able to operate implements at their ideal speed, at higher work rates and allowing operations to be performed at the ideal time, even in tough working conditions and to make the most of short weather windows. We also wanted to ensure soil protection via a bigger footprint and fewer passes, which also means greater efficiency and minimal trafficked land."

"The 715 has bigger, longer tracks which allows more track to be on the ground at one time, increasing power and traction while reducing compaction. The drive wheel is about 10cm larger to ensure that five tracks are permanently engaged meaning the torque is used more efficiently and this helps to maximise the lifetime of the tracks."

The bonnet can be opened electronically and provides a large access space to service points. The side panels can also be removed with one rotating push button, allowing access to air filters. "A lot of focus has been put on increasing serviceability and maintenance access," explains Franz.

Optum 340 CVXDrive

Catering for the growing market in multi-purpose, high power tractors, Case IH has launched a new 340hp flagship model for its Optum range. Along with multiple improvements, the Optum 340 CVXDrive with AFS Connect is no heavier than the existing 300 and 270 models while providing more power.

The new Optum is designed for draft and PTO applications, from tillage and seeding to mowing and transport. "The Optum 340 CVXDrive, is our new top model in this segment, to meet the requirements of large farming and agricultural contracting businesses requiring a tractor with a high power-to-weight ratio that gives it the versatility to take on a wide range of tasks," explains Case IH's Dr Solveiga Kalinauskaitė.

At the heart of the tractor is a six-cylinder, 6.7-litre Stage V FPT engine, incorporating Hi-eSCR2 emissions reduction technology. It also includes Automatic Productivity Management (APM) which optimises the CVXDrive ratio and engine speed to suit power output requirements.

The cab includes the redesigned ergonomic Multicontroller armrest, which places 95% of the most-used functions at the driver's fingertips, many of which can be operated either via the touchscreen or new integrated turn-and-press encoder dial.

Vestrum AD8

Case IH has extended the transmission choices for the 100-130hp Vestrum tractor range with the option of the ActiveDrive 8 powershift transmission in lieu of the CVXDrive continuously variable transmission (CVT), to a broader range of specification to suit user requirements.

"We saw there was an increasing demand for this format of tractor that is compact, versatile and able to undertake heavier tasks in the field," says Christel Diebolt of Case IH.

Previously available only on the 115-150hp Maxxum tractors, the ActiveDrive 8 eight-step/three-range powershift option means Vestrum customers who don't require the full capabilities of CVT now have an alternative which comes at a lower price point. Range one offers a 0-10.7km/h speed band to suit heavy draft work, while range two, with a speed bracket of 4.3-18.1km/h, should meet most work demands. For road travel, the transmission can start in range three, with a 0-40km/h speed range, a skip-shift function allows quick powershift step progression.

"By adding the ActiveDrive 8 eight-step powershift option to the Vestrum line, we are aiming to broaden its appeal by offering a greater range of specification to customers in this power segment, to meet a wider range of needs," says Christel.

"This powershift uses our double-clutch technology so there's no loss of drive or traction during speed or direction changes. It also allows the tractor to move off in the highest range, increase field speed without interrupting power to the wheels, delivering almost imperceptible gear changes and, via the Active Clutch 2 feature, come to a standstill using only the brake pedal."

Vestrum ActiveDrive 8 tractors are available with a choice of two specification packages. 'Selection' models are equipped with mechanical remote valves, an 80 or 110-litre/min hydraulic pump, three-speed PTO, front linkage options. The alternative 'Advanced' specification features additional equipment including, front linkage with Front Hitch Management, electro-hydraulic remotes, plus optional features such as Advanced Headland Management, auto guidance managed via the AFS Pro 700 Plus display, and ISOBUS options.

Whether specified with CVXDrive or ActiveDrive 8, Vestrum tractors use the same FPT NEF 4.5-litre/four-cylinder Stage V engines. Developing up to 10hp more than their rated output between 1700rpm and 1900rpm, they produce maximum torque at 1300rpm. The standard implement coupling package includes a Cat 2/3 N 5.5t rear hitch, while a 2.3t front hitch is optional, as is a 1000rpm front PTO with wet clutch.

The suspended cab options include a loader joystick with transmission control buttons. The AFS Pro 700 Plus touchscreen terminal comes with a quick-start menu and up to four camera inputs. AEF ISOBUS certification for Universal Terminal and Task Controller functionalities guarantees compatibility with AEF ISOBUS-certified implements. Optional AFS Connect telematics capability allows remote monitoring and



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instant data capture. Additional features including AFS AccuGuid auto guidance and AFS AccuTurn Pro automated headland turning technology are also available.

Proceed

Väderstad has been building the excitement surrounding its Proceed V seeder since the end of 2021, but now, along with introducing a whole new look to the drill, it has set a commercial availability date of late 2024.

According to Väderstad's Maria Cornelius, the Proceed represents a new category of seeding machines, where one single machine can offer the potential to maximise yield potential in a full variety of crops, including wheat, barley, oilseed rape, sugar beet, peas, maize, sunflower and many more. "The machine plants cereal seeds in singulation and the latest version has had a number of updates.

"New pre-consolidation wheels, which are hydraulically adjusted, carry the weight of the machine and also reconsolidate the ground ahead of the row units, creating the same conditions for each one," she explains. ▶

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► When the seeds reach the row units from the central hopper, an adapted version of Väderstad PowerShoot system takes full control of every single seed all the way down to the soil. Leaving the short seed tube, each seed is received by a stop wheel. This aims to ensure optimal seed-to-soil contact at selected depths all over the working width, says Oskar Karlsson, of Väderstad.

The newest version of the drill has an updated HD packer and the fertiliser system has also been altered so that four distributor hatches mean two sections can be controlled. In addition, there's a newly designed seed disc, which includes 192 holes, as well as updated knock-out wheels and new spiked closing wheels have been added to prevent erosion after heavy rain.

The Proceed has been designed to place the smallest of seeds at the ideal depth with millimetre precision, and Väderstad field trials have shown that Proceed can cut the wheat seed rate by half — while keeping the same yield compared with modern seed drills in the market, says Maria.

Väderstad trials of winter wheat at a seed rate of 150 seeds/m² show an increase of 102% in plant biomass, 72% in root biomass and 62% more shoots per plant, compared with a modern seed drill.

Orders will be accepted from the end of 2024, with production starting at the beginning of 2025.

E-Services TopDown and Opus

Väderstad has also introduced prescription map tillage and E-Services for its TopDown and Opus machines. This means the introduction of the iPad-based control system Väderstad E-Control, as well as the possibility to apply prescription map tillage via ISOBUS Task Control.

Starting with the model year 2024, the combination cultivator TopDown 400-700 and heavy cultivator Opus 400-700 can be equipped with gateway, sensors, and updated electronics.

"We've seen a demand from farmers to optimise the tillage operation even further," explains Wolfram Hastolz of Väderstad. "By being able to adjust the machine setting to the conditions of the field, it's possible to improve the agronomy and working results. The introduction of E-Services to TopDown and Opus is the key to this."

The introduction of E-Services on these machines allows them to use prescription maps, to control the machine setting automatically on the go using a field map. This means that individual working elements

— discs, tines, leveller and packer — can be programmed before going to the field and therefore should behave at specific spots on the field based on for example, soil type, or field characteristics. In the tractor, this prescription map is inserted into the tractor ISOBUS terminal, which then will connect to the Väderstad E-Control system to take control of the machine.

Using the iPad-based control system Väderstad E-Control, the operator will also be able to gain full control of the machine directly from the tractor cab. The driver can set the individual working depth or intensity of the discs, tines, levellers, or packer on the go. To assist the fieldwork, four pre-set buttons can be used to store different machine configurations.

As a backup, the TopDown and Opus can be switched to a manual setting and traditional control if, for example, the tractor has to be quickly changed unexpectedly.

The TopDown 400-700 and Opus 400-700 can be ordered with E-Services as an option starting from October 2023. The machines will premiere at Agritechnica in November 2023, and production will start at the beginning of 2024.

Extract V and L

Väderstad has launched a new product family of inter-row cultivators after acquiring the full product range of inter-row cultivators from the Danish company Thyregod in February of this year.

The new family of Extract inter-row cultivators will initially be sold in two models: the trailed Extract L 16-48 and the mounted Extract V 8-36. Depending on model, both Extract L and Extract V will be available with row spacing of 225mm, 250mm, 450mm, 500mm and 750mm.

"This is a new product segment for us at Väderstad, and one that we see a big potential for in the market," explains Mattias.

"With uncertainty regarding chemical regulations, there's a demand from the market for a machine that can perform mechanical weed control between plant rows. The Extract has a high main frame together with a patented solution for lifting the row units — which both avoids doing damage to the plants while also enabling inter-row cultivation for a longer period in terms of plant height."

From summer 2024, Extract inter-row cultivators will be included in the wide range of Väderstad farm machinery, fully branded in Väderstad colours. The introduction will start with Extract V 8-36, and Extract L 16-48 is planned to follow. ►



Previously available only on the 115-150hp Maxxum tractors, the ActiveDrive 8 eight-step/three-range powershift option is now available on the Vestrum.

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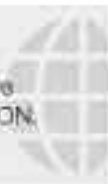


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The new family of Extract inter-row cultivators from Väderstad will initially be sold in two models, including the Extract L 16-48.

► Tempo liquid fertiliser

The high-speed planter Väderstad Tempo L 8-24 can now be optionally equipped with a liquid fertiliser system. The system is fully integrated in the machine and works with the high-speed capacity planting of the Tempo.

“There’s been a demand from farmers to enable additional fertiliser applications with the Tempo planter,” says Väderstad’s Oskar Karlsson. “The liquid fertiliser system includes easy setting, full control, and row-by-row precision.”

The fertiliser can either be applied from a 2000-litre plastic hopper in the seed row via the row units or beside the seed row via fertiliser coulters. For ease, the system is designed to enable a wide range of different liquid fertiliser rates without changing nozzles.

For example, the machine can handle standard liquid fertiliser doses from 30 l/ha all the way up to 200 l/ha without changing nozzles on the machine, at a row spacing of 750mm and 15km/h driving speed, says Oskar.

To control the liquid fertiliser metering, flow sensors constantly monitor the output

rate. Utilising this real-time feedback of the output, the system automatically maintains the selected output rate.

Users set the desired liquid fertiliser rate in terms of l/ha. By monitoring the flow passing through the system, the machine automatically controls the output rate on the move, thereby there is no need for calibration.

The system is fully integrated into the iPad-based control system E-Control, giving the driver full control of the operation in the field. Like the seed metering, the liquid fertiliser also applies row-by-row shut off.

The new liquid fertiliser option will premiere at Agritechnica in November 2023 and will be available for Tempo L 8-24 from October 2023.

Tempo WSX

In the summer of 2024, the Väderstad Tempo F, Tempo V and Tempo L row units will be upgraded with its own-developed new electronic system WSX with brushless motors and improved cabling performance. New features also include automatic seed singulation, active hydraulic row unit

downforce as well as curve compensation.

“The new WSX system enables integration of three new features to optimise the accuracy of the Tempo planter even further,” says Oskar.

Firstly, automatic seed singulation is introduced to help ensure a precise seed singulation in the seed meter, without the need for manual setting. With sensors in each row unit, the seed singulation is continuously monitored and automatically adjusted to the optimum setting.

Secondly, active hydraulic row unit downforce will be introduced to ensure an exact planting depth, independent of the soil condition. The system will add or release row unit pressure to the ground depending on the soil conditions.

“If for example, going over a lighter field area, the pressure will decrease, and if entering an area with a harder soil condition the pressure will increase,” says Oskar. “To ensure quick response times, the system works with hydraulics. The planter can either be equipped with active hydraulic downforce with one feedback and control for the full machine width, or with individual active hydraulic downforce for each row unit.”

The active hydraulic downforce allows the driver to set an optimal row unit downforce, which is kept automatically. This ensures the planting depth precision despite changing soil conditions, as an effect of variations in soil type or soil compaction, he adds.

Additionally, this functionality can be utilised to improve the tramlining, preparing un-planted tracks for the following sprayer. Equipped with individual active hydraulic downforce for each row unit, the planter is also able to employ the system to relieve pressure and lift individual row units when making the tramlines. When doing so, the active hydraulic downforce works together with the dynamic tramlining system of the planter. This means that the tramlines will be clearly visible to the sprayer operator before the crop has emerged.

The third new feature is the introduction of curve compensation. “Gyro sensors identify when the machine is turning and adjust the metering output of each row unit to always ensure a consistent rate over the full planter width,” says Oskar.

The new features and electronic WSX system for Tempo L 8-32, Tempo V 6-12 and Tempo F 6-8 will premiere at Agritechnica in November 2023. A limited series of machines will be out in the field for the spring of 2024, with serial production starting in the summer of 2024. ■



The high-speed planter Väderstad Tempo L 8-24 can now be optionally equipped with a liquid fertiliser system.

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