

“By listening to users’ feedback, we’ve been able to increase efficiency, economy, performance, and functionality even further.”

Sprayers

A raft of new sprayer technology aims to improve performance and efficiencies, both in product use and in the field. *CPM* takes a look at some of the latest offerings.

By Melanie Jenkins

Whether it's a case of increasing efficiency, honing costs, improving soil health, altering management systems or even improving comfort, having the right sprayer, nozzles or tyres can have a big impact on farm. Here are some of the latest innovations to hit the market.

Horsch

Horsch enters the three-point crop care market with the newly developed mounted sprayer Leeb CS. CS stands for CompactSprayer and the sprayer is designed to be both compact and manoeuvrable - ideal for smaller fields.

Horsch's Leeb CS, which was released last autumn, comes with a continuous cleaning system (CCS) or CCS Pro water system with a rotary pump, continuous inside cleaning and other automatic washing programmes.

The CS models are available with three different tank sizes; 1400 litres, 1800 litres and 2200 litres and an additional front tank will be available soon. Available with the technical innovations of its largest siblings, such as the active boom control system

Sprayers on the up

'BoomControl', the Leeb CS can be easily adapted and specified to each customer's requirements, according to Horsch.

Spraying should result in less drift due to automatic boom control and constant target area distance, even at high operational speeds, claims the company. According to Horsch, active boom control is a unique feature of its machines in this sector of the market.

The 25cm nozzle layout is also available for the new Leeb CS. Horsch claims that the optimised centre of gravity makes the Leeb CS easy and safe to operate. A newly developed coupling triangle and hydraulic drive for the pumps allows the Leeb CS to be mounted easily and quickly. All functions are controlled via the Horsch user interface which customers may already know from the Leeb LT and advanced Leeb GS.

Horsch has also expanded its nozzle range and aims to improve wetting in ridge crops with its new tilted nozzle caps for use in band application. Two variants are offered: a grey nozzle with 17.5° angle for a 10cm tilt and a red nozzle with 8.75° angle for a 5cm tilt.

Using a combination of straight and tilted nozzle caps offers a broad range of row width configurations. Each nozzle cap is equipped with an Agrotop RowFan 40-02 E nozzle, including seal and nozzle inserter. The tilted caps are available for the 2022 spring spraying season.

In band spraying application with a 25cm nozzle spacing, the tilted nozzles allow the row width to be adapted by 5cm (red nozzles) or 10cm (grey nozzles). For example, in sugar beet a row spacing of 45cm is possible.

Another interesting aspect of these nozzle caps is the combination of main nozzle (HD) and secondary nozzle (ND) with a nozzle spacing of 25cm — this enables its highly effective wetting of ridge crop, according to Horsch.

John Deere

John Deere has moved into new realms in 2022, having produced its largest ever trailed sprayer in the form of the R975i. This 7500-litre machine joins the rest of the R900i Series line-up, with tank capacities of 4400, 5200 and 6200 litres and spray boom widths from 24m to 40m.

Like other sprayers in the range, the new model includes John Deere Precision Ag technologies and is targeted at customers requiring larger tank volumes and wider booms. John Deere's aim is that farmers and contractors can spend more time in the field spraying, covering a larger area with one tank.

Growers will also get the option of 24cm nozzle spacing on the R900i and M900(i) sprayers for the first time. This is an 'On ▶



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John Deere has produced its largest ever trailed sprayer in the form of the R975i, which will be at Cereals alongside the R740 (pictured).

► Centre' solution that means an additional nozzle is placed between each 50cm nozzle body on the spray boom. John Deere has also added a nozzle body plus an additional nozzle at each end of the boom to offer full coverage and eliminate underdosing at the boom ends.

All trailed sprayer ranges can benefit from the options launched on the R700i Series for 2021. These include Individual Nozzle Control, which limits over — or underdosing to help preserve yields while saving input costs.

Another feature is the new Closed Transfer System, which is an ISO approved coupling. This prevents contact with any spillages of crop protection products, to ensure filling the sprayer is safe for the environment as well as the operator. The R975i and R740 will be on display at Cereals in June.

Kuhn

Kuhn is looking to incentivise precision-led trailed spraying by offering discounts on some specific models.

Both the Deltis and Altis mounted models and Lexis and Metris trailed sprayers will now be offered with GPS section control, boom assist, and five other options at a discount. "We want to incentivise precision farming methods that can reduce costs and increase yield," explains the company's Rupert Greest. "Therefore, Kuhn now offers up to £5000 of additional discounts on options for sprayers."

Further options available include the new Autospray droplet control feature, which enables adjustment of the droplet size from

the cab. Also included in the scheme are automated filling and rinsing, Boom Assist automatic boom height control, nozzle by nozzle shut-off, automated steering axles and working lights.

"The ISOBUS compatible Metris is compact with a hitch-to-axle length of 4.4m and the choice of 3200-litre to 4100-litre capacities. At 3.35m high when specified with 36m booms, it's easy to store, light to tow, and may represent a more cost-effective option to farms looking to move away from a self-propelled sprayer," says Rupert.

The scheme works on a sliding scale, with three precision features triggering a discount of £1000. Thereafter, each additional precision feature adds a further £1000 up to a maximum discount of £5000 when all seven features are included.

Amazone

Amazone has further expanded its trailed sprayer range with its newly developed UX 7601 Super and UX 8601 Super, with volumes of 8000 litres and 9000 litres, respectively.

Both feature compact dimensions with a low centre of gravity to optimise stability and have a low weight, according to Amazone. The frame has been newly developed for these models and leads directly from the axle to the standardly equipped lower hitch drawbar.

The forward-sloping frame shape has been designed to provide ideal weight distribution of the sprayer, meaning permissible drawbar loads and axle loads should be optimally utilised. The centre of gravity is very low due to the new frame

profile, which is designed to provide ideal stability on slopes and when cornering. The narrow profile of the spray agent tank with the freshwater tanks mounted on either side of the frame also contributes to its stability under all conditions, claims Amazone.

The machines have a comparatively low weight due to their one-piece frame without a separate drawbar and the maximum permissible total weight is 14t.

Depending on requirements, both sprayers can be equipped with a rigid or steered axle — up to 28° steering angle. The axle is unsprung as standard, but a hydropneumatic axle suspension is available as an option.

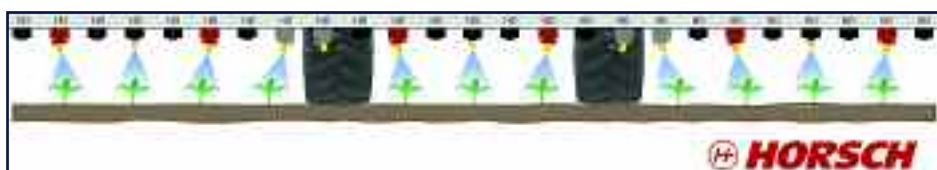
As is the case of the UX 4201 Super, 5201 Super and 6201 Super, the tanks are all made of polyethylene. The difference with the new models — and advantage, according to Amazone — is the generally very rounded form, both inside and outside of the tank. Along with the smooth inner and outer walls of the spray agent tank, the sprayer is designed to be easy to clean. The narrow profile of the spray agent tank should also help to enhance stability when it is partially filled. For example, the liquid cannot slosh around so much when cornering or on a slope, thereby ensuring a safer driving stability, says the company.

The new UX models are equipped with a 250 l/min spraying pump and a 350 l/min agitation pump as standard, both of which are piston diaphragm pumps. The dedicated agitation pump should allow for sufficient agitation intensity with these larger tank capacities, according to Amazone. The company believes the technology behind these piston diaphragm pumps should enable consistently high delivery capacities, regardless of the spray pressure.

Depending on the customer requirement, the spray agent and agitator pumps can either be mechanically driven by a PTO shaft or hydraulically driven. The hydraulic pump drive, which is fully integrated in the ISOBUS control, regulates the required pump speed fully automatically depending on the operating status.

Both of the new UX models can be equipped with the optional HighFlow+ system which should maximise work rates at the wider boom widths by means of higher working speeds. According to Amazone, it should still guarantee effective application by maintaining an adequate water spray rate.

Amazone's control technology should mean both pumps can be used for spraying while maintaining a high agitation intensity. Despite the high application rates of



Horsch aims to improve wetting in ridge crops with its new tilted nozzle caps for use in band application.

400 l/min, the machine should always have sufficient agitation capacity available to maintain a homogeneous spray agent, due to the intelligent control technology. All components of the HighFlow+ system are completely integrated into the cleaning cycle.

The UX 7601 Super and UX 8601 Super are operated via the SmartCenter, which is concealed under the large, one-piece cover on the left-hand side. All machines feature a 60-litre induction bowl with a rinse ring, canister rinse nozzle, mixing nozzle for the effective induction of powdery granules, spray lance, tank cover with large storage space and a function for cleaning the induction bowl with the lid closed.

Househam

Househam's AirRide and Harrier self-propelled sprayers are now being fitted with a new X10 cab from Claas to upgrade operator comfort.

This replaces the current Excalibur unit, which was built by ABT, and should offer more space, a higher-spec interior and better visibility. Views to the boom have been improved, with large, sweeping corner windows and a redesigned engine canopy with chamfered corners.

Standard features of the X10 include automatic air conditioning, a Bluetooth radio, three-way tilting steering column and adjustable sun blinds on all windows. There's also a larger buddy seat with a 27-litre fridge housed underneath.

All of the vehicle and boom controls have been integrated into the cab's original controls which should allow for an easy operator experience, without the need to add additional switchgear.

Entry-level AirRide models will have a simpler interior spec with air-suspended cloth seat, while Harriers get a high-back leather version with climate control and heating. This will be available as an upgrade on all models though.

On both sprayers, Househam has redesigned the mirrors to improve access, fitted LED work lights and installed a hydraulic-folding ladder with a controller integrated into the park brake. An illuminated pressure gauge has also been included, for clearer visibility when working at night.

Sprayer functions and vehicle readouts are housed in the latest high-spec TMC V6 Terminal, which is setup for auto section control (ANC) and auto nozzle select (ANS) as standard.

This has improved graphics and the option of NavGuide mapping software, which uses less processor memory than the

FieldMaster system it replaces. The result is considerably faster operation when using additional functions such as individual nozzle control. The NavGuide system is compatible with most GPS setups and can import a variety of maps to suit different applications, such as variable rate application.

As well as cab upgrades, Househam has brought in new optional engines. Its AirRide sprayers can now be specified with four- or six-cylinder Stage 5 Mercedes engines with power outputs ranging from 170hp to 240hp.

The 170hp option is a single-turbo four-cylinder, the 228hp version uses the same block with twin turbos and the 240hp version is a six-cylinder with single turbo.

These power a hydrostatic motor that drive Poclain wheel motors on AirRide 3000 and 3500 models and heavier-duty Sauer



Kuhn is looking to incentivise precision-led trailed spraying by offering discounts on some specific models, including the Altis.

Danfoss units on all larger versions. However, buyers do have the option to upgrade the smaller models.

Tank options range from 3000 litres to 6000 litres and there's a choice of 24m, 28m ►

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Kuhn's Lexis trailed sprayer is included in the incentivisation offer, which could see growers get a £5000 discount off options.



The UX 7601 Super and UX 8601 Super are operated via the SmartCenter.



McConnel has unveiled the next generation of its low ground pressure, self-propelled crop sprayer, the Agribuggy2 AB30.

► or 30m booms.

The unladen weight is from 6700kg and ground clearance is 1.1m, with the option of increasing this to 1.7m.

Househam's Harrier models have also had an update and now come with a six-cylinder 240hp Mercedes engine as standard and heavy-duty Sauer Danfoss wheel motors.

Spray packs are integrated into the chassis and come with the option of 4000-litre to 6000-litre tanks and boom options up to 36m. Unladen weight is from 8500kg and ground clearance is 1.1m.

On farm prices for the updated models start at £150,000 for an AirRide 3000 with 24m boom and £178,750 for a 4000-litre Harrier with 24m boom.

McConnel

Ludlow-based manufacturer, McConnel has unveiled the next generation of its low ground pressure, self-propelled crop sprayer, the Agribuggy2 AB30.

Redesigned from the ground up, the Agribuggy features a new Stage-V compliant Cummins engine, heavier-duty drivetrain and larger 3000-litres capacity spray tank to improve performance, durability, and output.

With a ground pressure of 8psi when the 3000-litre capacity tank is fully filled, the new Agribuggy AB30 is designed to be a light-footed sprayer that should allow growers to confidently treat crops in challenging ground conditions and allows for safe, productive working, earlier and later in the year, claims the company.

Featuring a robust mechanical drivetrain, larger axles and all-wheel drive the AB30 should offer safe, surefooted traction with the added safety of a mechanical HP24 gearbox and differential to arrest descent with engine braking. The new OMSI drive axles should provide improved traction and handling with 750mm ground clearance when fitted with large diameter row-crop wheels.

Powered by a new, high-performance Cummins 3.8L 148HP turbo charged diesel engine, the powerplant is Stage V compliant to Euro emissions standards. Delivering 600Nm of torque at lower revs and utilising an intelligent engine braking system, the new powerplant aims to provide responsive power and performance both on the road and in the field, according to McConnel.

Further performance optimisation should mean that average daily fuel consumption is circa 70 litres/day. The 110-litre fuel tank should allow for additional working range.

In the cab, new refinements include a category IV active filtration system, cruise control and additional 4WS features for reduced fatigue. An updated cab instrument layout includes a high-definition seven-inch full-colour display and software to help optimise accuracy and sprayer control.

Other upgrades include a new hydraulic powered braking system for enhanced performance, and LS hydraulics which should allow for greater capability at lower engine revs.

The AB30 comes equipped with a 3000-litre sprayer demount that has been internally baffled for extra strength and to prevent surges. A new electronic sight gauge with LED display for tank contents and remote PTO control has been added

to improve convenience and accuracy.

The 12/24m aluminium Pommier booms with a pressure recirculation system remain a standard feature.

"We're excited to bring these new innovations and enhancements to the proven Agribuggy format. By listening to users' feedback, we've been able to increase efficiency, economy, performance, and functionality even further," says John Davis, of McConnel.

Mitas

Mitas has introduced two new 'High Capacity' (HC) radial tyres designed for the next generation of self-propelled agricultural sprayers. The HC 1000 tyre line brings two new NRO (Narrow Rim Option) sizes; the VF 650/65R38 and VF 750/60R46, which are made to handle high load capacities and operating speeds.

"Our latest tyres are ready for an entirely new generation of machines, and in size and specifications ready to rise to the challenge," states Pavel Kott, of Mitas.

The advanced VF (Very High Flexion) construction should include benefits, such as carrying up to 40% higher load capacity with better traction, ground protection and crop yields.

"At Mitas, we want to provide a reliable solution for all the work our customers do. Our newest additions to the HC 1000 range have already shown tremendous promise for US original equipment manufacturers on the latest generation of high-load and self-propelled sprayers. Seeing this initial success, we are excited to bring these tyres to customers worldwide," adds Pavel. ■



Mitas has introduced two new additions to its High Capacity range of radial tyres, designed for the next generation of self-propelled agricultural sprayers.

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