



“ It has the potential to improve productivity, while keeping ownership costs in check.” ”

Machinery Material handlers

A helping hand?

Whether you use them for loading, lifting, stacking, or moving – or all of the above – the right material handler can bring a multitude of efficiencies to arable farms. *CPM* takes a look at some of the most recent innovation.

By Charlotte Cunningham

of our large platform Loadall telescopic handlers, such as the hydraulic performance and all-new Command Plus cab, to operators who need a 3t, 6m telescopic handler,” says John Smith, managing director at JCB Agriculture. “It has the potential to improve productivity, while keeping ownership costs in check, and giving operators unprecedented levels of comfort and excellent visibility in all directions.”

Looking to the nuts and bolts, what exactly does the new Loadall have to offer?

The Loadall 532-60 AGRI comes with a joystick switch-controlled four-speed powershift transmission and a 109hp JCB EcoMAX four-cylinder, 4.4-litre engine.

Its 140-litre/min piston pump hydraulics system provides 3200kg maximum lift capacity to 6.2m full height, and 1400kg at full forward reach.

The all-new Command Plus cab is standard and provides clearer forwards and upwards visibility through the one-piece curved windscreen, meaning more effective ventilation, and a host of handy storage solutions, including a lift-out bin behind the driver’s seat, explains John.

In terms of market position, the Loadall 532-60 slots into JCB’s telescopic handler range with the same lift capacity as the new-generation 532-70 at 3200kg, but in

a shorter and slightly narrower package.

JCB’s latest compact rigid arm and telescopic wheeled loaders also have more fuel-efficient powertrain upgrades.

The 2.2t lift TM220 telescopic loader has a 74hp engine coupled to a two-speed 35km/h transmission or a three-speed version providing increased tractive effort and a livelier 40km/h top speed.

Its new Eco Drive Mode electronically reduces engine revs once the machine’s top speed has been reached, resulting in



For those looking for a compact package, the latest instalment in JCB’s Loadall range — the 532-60 AGRI — could tick a few boxes.

Few would argue that material handlers are an essential piece of kit on arable farms, but it can be hard to pinpoint how improvements to both the technology and the efficiency of the latest models bring time and labour-saving benefits.

So *CPM* has rounded up some of the latest launches to make their way onto the market and explored the features designed to set them apart.

JCB

For those looking for a compact package, the latest instalment in JCB’s Loadall range — the 532-60 AGRI — could tick a few boxes.

“This machine brings the advantages

a quieter journey and up to 16% lower fuel consumption during road travel, claims JCB.

For larger scale material handling operations, JCB's 419S and 435S top-end wheeled loaders have been given more power and torque, but also added fuel economy potential thanks to the new auto-idle

engine stop and Dynamic power management features.

The JCB 419S now has a 'default' power setting of 144hp and 660Nm of torque. But when full power is needed for maximum productivity, the operator can select Dynamic mode to release up to 195hp — a 6.5% increase over the ▶

Optimising electric

In what's claimed to be a world-first, Schäffer launched its new electric loader at LAMMA earlier this year.

According to the firm, the 23e is the world's first compact loader with lithium-ion technology, offering a top speed of 20km/h — but how exactly does it work?

The emission-free kit has two electric motors with high-voltage technology which are responsible for the working hydraulics and the drive. Users can choose between two charging systems and two battery packs — the standard battery system (6.7kWh) for most farm work, or the power battery system (13.4kWh) that doubles operating time to several hours.

Schäffer offers an on-board charger as standard, which is operated with a standard 230 V power supply, while an optional 400 V external charger can be added for even faster charging, with the power battery system claimed to charge up to 80% in just 30 mins.

According to the firm, this means enough energy for the entire working day with a quick charge, for example during a lunch break.

The battery can also be charged at any time without affecting the lifetime — another advantage of lithium-ion technology, it says.

Friedhelm Brede, head of development at Schäffer, is convinced that the advantages of the lithium-ion battery are particularly apparent in this new launch. "Thanks to the pioneering technology, we can guarantee this extraordinarily long battery life. In addition, lithium-ion batteries are absolutely maintenance-free, there's none of the dangers associated with lead or sulphuric acid, and the 23e works reliably even at low temperatures."

The use of an electric loader with lithium-ion technology also brings significant savings, he adds. "The 23e's maintenance requirements are significantly lower than those of the diesel model. Much higher efficiency and significantly lower energy costs per hour of operation result in additional savings potential. The 23e is likely to be of particular interest and benefit to those generating electrical energy in the form of a biogas or photovoltaic system."

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Material handlers



For larger scale material handling operations, JCB's 419S and 435S top-end wheeled loaders have been given more power and torque.

▶ previous engine — and 5% more torque at 881Nm.

Corresponding figures for the JCB 435S are 230hp and up to 840Nm of torque for routine work. In Dynamic mode, output reaches 252hp, which is a 9.5% increase on the current model, with 25.5% more torque at 1186Nm.

“Our ‘S’ series loaders, which are built and equipped specifically for agricultural applications, have always been at the top of their game and as the output of self-propelled forage harvesters continues to increase, we’ve responded with these new machines so that big farm and contracting operators can keep pace,” says John.

To enhance the performance of the 419S

and 435S, JCB has launched new hydraulic-folding forks for handling grass and maize silage, which were seen for the first time at this year’s LAMMA.

The new heavy-duty Folding Grass Fork comes in two sizes with increased load volume capacity at 5.50m³ for the JCB 419S and 6.70m³ for the ultimate clamp-filling machine, the JCB 435S, says JCB.

“Both versions have been designed and engineered for optimum strength and weight, which together with the increased volume capacity, maximises the performance potential of the JCB loaders, resulting in increased productivity when filling forage crop storage clamps.”

The 3.62m wide, 5.50m³ Folding Grass

Fork is designed for existing JCB 419S loaders or the latest Euro Stage V version featuring Dynamic power management, which provides a regular output of 144hp and 660Nm of torque, or maximum outputs of 195hp and 881Nm when outright performance is needed.

“The front-end implements produced by our JCB Attachments division are performance-matched to each machine in the extensive JCB materials handling range, from fixed and telescopic boom skid-steer loaders, through compact wheeled loaders and telescopic handlers, to the industry’s only purpose-built agricultural wheeled loading shovels,” adds John.

Claas

Claas has expanded its Scorpion line of telescopic handlers with the addition of a new 9m model and a number of upgrades and new features to other machines in the range.

The new Scorpion 960 completes the large platform range of Scorpion telescopic handlers and joins the current Scorpion N 756 and 746 models.

Capable of lifting 6000kg at 600mm load centre — rising to 6500kg at 500mm load centre — the Scorpion 960 has a maximum lift height of 8.79m, according to Claas. “These maximum rated lift capacities are 1000kg (20%) greater compared to the previous generation Kramer-built Scorpion 9055,” explains Steffan Kurtz, Claas UK.

As with the 756, the new 960 is powered

Weigh as you work

Loading specialists, Quicke, recently unveiled a new load-weighing device which is claimed to help farmers accurately measure materials using a tractor mounted interface and a mobile app.

Q Companion uses sensors mounted on the loader to accurately weigh the contents lifted by an implement.

Each lift is displayed and can be recorded and aggregated on an easy-to-mount screen. This enables the operator to assess when the correct quantity has been loaded and keep a record for future reference or comparison, explains Steve Hewitt, general manager at Quicke UK.

It also integrates with a readily downloadable app to offer users the option of saving and comparing jobs using just a mobile phone. “Q Companion is a really useful device for those who are doing a lot of loading and want to keep a track of the amounts they are lifting,” adds Steve.

According to Quicke, early adopters of the technology — especially contractors — are

already finding it useful to demonstrate accuracy when carrying out tasks for farmers.

Alistair Hynd, a Perthshire contractor and arable farmer, has been using the device for a few months to measure the weight of the turnips he grows and sells. “We have farmers come to collect turnips from us and I use Q Companion to show them the exact weight I have loaded. We don’t have a weighbridge nearby, so it saves me a lot of hassle and gives my customers confidence that they have the correct amount,” he says.

Concerns with overloading trailers and breaking regulations are another way that the device is helping its users. “It’s often difficult to know the weight of a bale, especially if very wet or dry. I used to think that I could only get 14 bales on a trailer, but using Q Companion I can weigh each bale, so later in the day when bales are drying out I can often get 15 or 16 on a trailer which saves me a journey,” explains Alistair.

The device has a position monitor that shows



Quicke's new Q Companion uses sensors mounted on the loader to accurately weigh the contents lifted by an implement.

the operator the implement height and angle reference. This negates the need to readjust the manual indicator rod when changing implements. It can also store up to 30 implements which can be calibrated for both weighing and position monitoring.

The Q Companion device can be retrofitted to most loaders and is priced at under £1000.

by a 4.1-litre Deutz engine, he adds. "Drive is through a three-speed 40km/h Varipower Plus transmission which, in addition to the main 45° wide-angle hydrostatic pump, incorporates a second 32° swivelling variable displacement pump to provide greater tractive and pulling power."

The drive system also benefits from the Claas Smart Roding system which automatically adjusts the engine speed when accelerating and once maximum road speed is reached, adds Steffan. "As an option, the 960 is also available with Dynamic Power, whereby the engine speed is automatically regulated depending on joystick movement.

"The use of both these systems in tandem ensures that only optimum engine is used for the operation in hand, so saving fuel and noise."

A 4WD lock-out is also available on both the new Scorpion 960 and the 756, which for road-work allows the 4WD to be switched off, therefore reducing tyre wear and saving fuel, he adds.

The 960 also uses the Claas Dynamic Cooling concept, which automatically controls the fan speed and guarantees demand-driven cooling of the engine. "Clean air is drawn in from the front of the engine, flows around the engine and passes out at the back," says Steffan.

"The reversing fan is also automatically activated, based on operator settings, or in particularly dusty conditions it can also be manually engaged. This system ensures that only clean air is drawn into the engine, but also saves both power and fuel."

The telehandler also has a 200-litre/minute load-sensing hydraulic system — rated at 270 bar. "Using the Claas Smart Loading control system, operators are armed with the control and precision needed for the wide range of operations a telescopic handler is used for, in combination with automatic overload protection," he adds.

In addition to the new large platform 960, the rest of the Scorpion range has benefitted from a number of new features this year. "In order to meet Mother Regulation 2 compliance, all Scorpion machines are now fitted with side marker lights and reflectors," says Steffan.

The Mother Regulation 2 is the second phase of the Tractor Mother Regulation, enforced by the EU, which applies to all machines built since Sept 2017.

Designed to optimise operator safety, key requirements include safety decals and labels, warning indicators, and at least two ▶



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Claas has expanded its Scorpion line of telescopic handlers with the addition of a new 9m model and a number of upgrades and new features to other machines in the range.

► lines on the braking system.

In addition, all machines now come with plastic fuel tanks, which for small platform models has helped improve the filling angle, resulting in easier filling and less chance of spillage, says Steffan. “A free-flow return hydraulic pipe is also now available on all models.”

Fendt

Last year’s Agritechnica saw Fendt launch its first telehandler — the Cargo T955.

What makes this telehandler unusual is its lifting cab with vibration damping, while the firm’s Richard Miller also notes its tough, durable build. With a load of 5.5t and a lifting height of 8.5m, the Fendt Cargo T can meet high demands in loading work, he says. “The Fendt Cargo T955 combines the advantages of a conventional telehandler — such as lifting height, reach, low body height,

high manoeuvrability while being incredibly stable — with the performance characteristics of a wheel loader in the same weight class.

“Features such as its robust steel construction, the thrust characteristics, a maximum load capacity of 5.5t and the Z-kinematics for breakaway torque, make it the ‘wheel loader among the telehandlers’.”

A neat feature on the Cargo T955 is the unique lifting cab. “It can be raised to a viewing height of 4.25m,” notes Richard. “Just lifting the cab by a mere 20-30 cm gives you the best 360° all-round view, the likes of which have only been seen on wheel loaders and telescopic wheel loaders.”

As well as this, there’s no dashboard to obstruct the lower part of the continuous windscreen — meaning operators have a floor-to-ceiling view of surroundings, he adds. ■



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