

Practical Test: Amazone Centaya 3000 Super power harrow drill:

# Near perfect planting

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While there is lots of talk of low-disturbance drilling, the long-serving power harrow drill is still the tool of choice for getting many arable crops in the ground. Focus for our practical test is the Amazon KG harrow and Centaya pneumatic drill combo, which impressed with its precise performance

**T**he majority of power harrow drill combinations sold in the UK and Ireland will depend on a pneumatic sower such as the featured Centaya. Much more has changed than just the plastic hopper over the AD-P Super drill it has replaced, as we found out in last year's driving impression. We tested the newcomer last autumn to see what difference those changes make to drill performance and operation. Under the test Centaya was the well proven KG3001 Special power harrow. However, our main focus for this practical test is the drill, so here's a quick round-up from our test time with the harrow:

- Straightforward attachment to the three-point linkage, with the lift arm up/down movement taking care of contouring
- The gear changing gearbox handles all three pto speeds

- Overall set-up concept is well thought out
- On the whole the KG delivers good quality tilling and levelling
- Bout markers (£2,005 option) have large discs and depth limiters that work well. The impact protection and the hydraulic fittings could be better and is something Amazone is addressing
- The 600mm (outside diameter) wedge ring packer (an £860 option over the 600mm toothed packer) rolls with little resistance, consolidates the row properly and absorbs plenty of weight.

**Back to the Centaya. Our machine's plastic moulded 1,600-litre hopper was big enough to hold 1,000kg of barley and wheat from big bags. If you want more volume, then there is the option of a 2,000-litre version for a £1,195 premium; you just need to check that**

your tractor's lift capacity and rear axle load rating can keep up. Our well kitted out combination tipped the scales at 3.4t when clean and completely empty, but it rose to 4.5t with a full hopper and caked in soil.

**The seed-only hopper is accessed from a fold-down ladder to the side and platform to the rear, although handles near the ground would make the climb easier. The Centaya mechanical drill has a sensor to warn you if the steps have been left unfolded, but this is not on the Centaya. We usually filled the hopper from the side using big bags, which was all**



fine and dandy. If you are dealing with 50kg bags, then you need to park alongside, as the distribution head is at the rear of the drill and consequently at risk of getting damaged. The 2.40m by 0.90m hopper opening is also large enough to fill with a loader bucket. We like the roll-up cover that seals the hopper surprisingly well and winds up automatically. Excellent.

There is the option of a full width loading grid for £180. Not only does this keep foreign objects out of the metering unit, but it also provides a good rest for bags, although the



The sensor on the top link switches the Centaya drill on the headland and controls tramlining.



There is the option of full width grids for the hopper. Having the platform sandwiched between the hopper and distribution head means you ideally need to park alongside with a pallet or trailer if using small bags. Photos/graphs: Stefan Tovornik.

1.20m tank edge is a bit high. In addition, you can use the screen to 'store' spare seed bags. Raised tank edges now prevent 25kg bags sliding forward, says Amazone. Of the three grids, the central section folds up easily for jobs such as adjusting the low-level sensor.

Two low-level alarm sensors are even better. A second low-level alarm sensor is an option, and this is fixed above the metering unit (£270). The sloping hopper sides meant there were no issues with seed flow to the outlet on land with modest slopes.



The SmartCenter is kitted out to make calibration nice and simple.

## TEST ASSESSMENT

### Amazone Centaya 3000 Super

#### Technical

Seed hopper	++
Seed level gauge	++
Metering system	++
Distribution head	++
Tramline control <sup>1)</sup>	+/-
Half-width shut-off system	++
TwinTeC coulters	++
S Exact tines	++
Pre-emergence markers	++

#### Quality of work

Maintaining the calibrated drill rate	++
Lateral distribution <sup>2)</sup>	++/○
Quality of placement	++

#### Handling

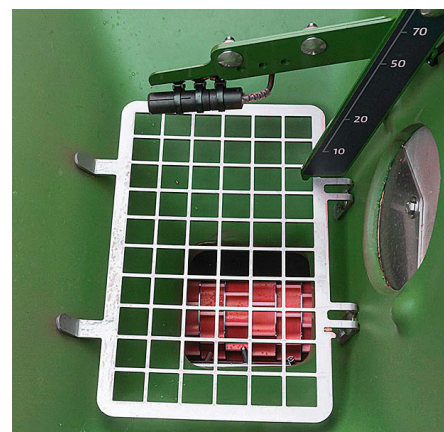
Filling the hopper <sup>3)</sup>	++/○
Converting to small seeds	++
Calibration testing	++
Setting seed depth/coulter pressure	+/-
Setting the tines	+
Emptying the seed hopper	++
AmaTron 4 terminal	++
Steps/platform	+
Coupling the drill/power harrow	+

#### General

Quality of build/paint finish	++
Changeover to transport position/transport width	+
Warning panels/lighting	+
Service and maintenance	++
Operator's manual/parts list	++

<sup>1)</sup> Susceptible to failure due to dust (-) sorted now; <sup>2)</sup> Wheat/rape seed/grass; <sup>3)</sup> with big bags, bags

Grading system: ++ = very good; + = good; ○ = average; +/- = below average; -/- = poor



Optional low-level alarm sensor is available to complement the adjustable filling level sensor.



The metering units are stored in capped plastic tubes and are swapped in no time (left pic).



The distribution head.

Pluses also went to the tank-emptying options:

- The quickest solution is a hose with slider (£140 option)
- Removing the metering unit and controlling emptying with the outlet slider
- Activating emptying by a high-speed metering unit from the cab-based terminal.

Unlike the ADP Super predecessor, the metering unit is mounted across the direction of travel and, as you would expect, is electrically powered. The speed signal is either taken from the tractor or, as an option, by a radar speed sensor (£460 extra).

The metering system did an excellent job in our tests with only a very minor difference between the calibrated and actual seed rate. The calculated amount of seed left in the hopper is shown on the terminal screen and the reading is pretty much spot on. For example, in one field we filled 4,000kg into the hopper and entered the weight into the terminal. At the end of the job the computer said we had drilled 3,970kg. We emptied the tank and weighed the remaining seed, the result was 15kg, an accuracy of over 99%.

Changing the cell wheels in the metering unit is simple with good accessibility and handling. There are three cell wheels for rape seed and cereals, nine altogether. All the cell wheels are stored in capped tubes within reach of the metering unit. Excellent.

The fan is hydraulically powered and relatively quiet. The distribution head lives behind the seed hopper. Drawback to this new home is that it may hamper movement when on the platform and you can't see it from the tractor seat. But the big advantage is the pipework is kept short and doesn't sag – a vital detail for precise control on headlands. In addition, in this position the distribution head is easier to access for service and maintenance plus there is better weight distribution as the hopper is kept closer to the tractor.



We used red tape to level the drill.

As per the profi testing norm we measured seed distribution across the rows (see the graph on the next page). The coefficient of variation was 3.1% in wheat and 4.3% in rape, which puts it in the 'good accuracy' ball park on the DLG scale. In grass the C of V was 3.8% – a satisfactory result.

## MEASUREMENTS AND PRICES

### Amazone Centaya 3000 Super

Hopper volume	<b>1,600 litres</b>
Opening width/depth	<b>2.38/0.88m</b>
Filling height from ground/platform	<b>2.19/1.19m</b>
Distrib. across rows in wheat	<b>CoV = 3.1%</b>
Distrib. across rows in rape	<b>CoV = 4.3%</b>
Distrib. across rows in grass	<b>CoV = 3.8%</b>
No. of coulters/row spacing	<b>20/150mm</b>
Coulter diameter/spacing	<b>34/200mm</b>
Coulter pressure <sup>1)</sup>	<b>6.5/12 to 58/72kg</b>
Diameter/width press wheel	<b>33/50mm</b>
Drill kerb weight	<b>1,251kg</b>
Working width	<b>3.00m</b>
Transport width <sup>2)</sup>	<b>3.15/2.99m</b>
Total weight <sup>3)</sup>	<b>3,370kg</b>

#### Price for the drill excl. VAT

...Base specification price	<b>£29,400</b>
...Test specification price	<b>£40,125</b>

#### Price for the combination excl. VAT.

...Base specification price <sup>3)</sup>	<b>£49,230</b>
...Test specification price <sup>3)</sup>	<b>£58,350</b>

<sup>1)</sup> Coulter pressure on the leading/rear bar;

<sup>2)</sup> Tines in working/transport position;

<sup>3)</sup> with KG 3001 Special power harrow and 600 wedge ring packer

The segmented distribution head has the option of an integrated half-width shut-off for either side (a £795 option). This consists of a partition that is lowered vertically into the head by an actuator, shutting the outlets of one section. As for tramlining, the seed rate is then reduced by the in-cab computer.

The standard tramline feature controls two rows on either side. Our machine had the optional system for controlling five rows per side (£390 extra) and allowed us to adjust the machine to individual fields by activating and deactivating the actuators. This is done by unplugging and re-plugging the power cords, not the most convenient solution. Contractors will no doubt prefer on/off switches on the actuators or even a button on the control box. Some of the flaps occasionally seized, which



The robust 15mm following harrow tines are straightforward to alter for good seed covering.

may have been down to the high percentage of particles in the air flow due to the extremely dry conditions. Amazone is tweaking the design to solve this issue. A cyclone separator is also available as a £565 option.

**Centaya scored mostly pluses for operation, in particular for the universal tool and the convenient calibration testing.** Like the levelling board on the power harrow and coulters depth, all steps are logical and carried out from the left-hand side.

The 'SmartCenter' also impressed the test team with useful details. Here the operator finds everything needed to calibrate the drill plus a hand-wash tank with soap dispenser (£275 option). The catch tray ensures the seed outlet is in the right position for calibration and sowing. And when you close the lid of the SmartCenter, this automatically folds in the holder for the scales. The system reduces the risk of any operator error. Excellent. Our test machine was ISObus compatible with the recently introduced AmaTron 4 terminal for £2,265 and the small TwinTerminal for

nearly £620 which allows operators to carry out all calibration steps from the SmartCenter. A non-ISObus Centaya has the AmaDrill 2 terminal and a £800 saving.

**AmaTron 4 has an 8in touch screen with a logical user interface and menu structure.**

Another plus is that the buttons are customisable and the touch screen 'buttons' are duplicated as softkeys on the right-hand side.

The TwinTec double-disc coulters did a good job of putting the seed to bed and are not prone to blocking or any other issues, at least not on 150mm rows (20 coulters on a 3.00m drill). There is a 24-row, 125mm row spacing on the Centaya, but, in heavy, sticky soil and very trashy conditions, our preference would be for the wider spacing.



Another nice touch: the pre-emergence markers are easily adjusted to different track widths.

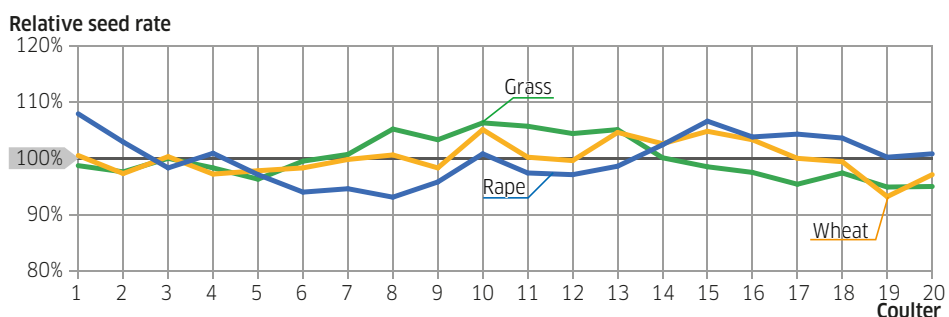
**The coulters alternate between long and short parallelograms.** We found the coulters pressure was not uniform between the front and rear, although the width of the rubber mounts had been altered. But this is hardly noticeable in the field thanks to the good depth control of the press wheels. Maximum coulters pressure is 58kg and 72kg which was always enough in our heavy soil conditions at the test site.

We weren't too keen on the Bowden cable-operated finger on the scale to highlight the hydraulic coulters pressure. It was not fail safe, but Amazone is working on a sensor-based alternative for ISObus compatible drills.

**Further details in a nutshell**

- The Centaya certainly looks sleek, but what annoyed us was the mounting for the plastic tank is at a very steep angle at the rear, making it difficult to align the drill. We used red tape as a workaround
- The S 3000 harrow with Exact tines on the Centaya is raised hydraulically and worked well in heavy soil. Two things we liked were the massive 15mm diameter construction, meaning plenty of wearing metal, and the fact that the complete tine bar folds when the machine is accidentally reversed
- Pre-emergence markers (nearly £1,530) are big and sturdy, easy to change and have adjustable spring tension giving effective marks. You can change the position of the discs without a requirement for tools to suit different bout widths
- The GPS-Track parallel guidance system is a £970 option for the AmaTron 4. This gives good guidance in the field with a range of bout modes. But it did fail more than occasionally, and the same applies to the reversing camera – another £925 option
- Warning panels, road lights and interior hopper illumination are all standard. The full LED work light package costs £595 and includes two lights for illuminating the coulters bar and lots of small units for shining on individual assemblies
- A base specification Centaya 3000 Super drill with 20 TwinTec coulters costs nearly £29,400
- With all of the options, the test machine lists closer to £40,000. Add in the KG3001 Special harrow with 600 trapezium roller and the outfit costs £58,350.

**SEED DISTRIBUTION ACROSS THE DRILL**



The coefficient of variation for distribution across rows was 4.3% in rape seed and 3.1% in wheat – an impressive performance. It is 3.8% in grass, a figure that just misses out on a 'good' rating.



*Our Centaya was mounted on a KG3001 Special power harrow with wedge ring packer.*



*This is what Amazone calls the 'Quick-Link' attachment system between the power harrow and drill. The cultivator and drill are quickly split thanks to the two attachment points on the roller frame and the top link.*



*The Bowden cable-operated indicator for showing the coulters pressure is easily irritated.*

**Summary:** The power harrow-mounted Centaya pneumatic drill put in a near flawless performance and offers good hardware, handling and quality of work. Provided you are willing to part with nearly £58,400, you will get a mature and solid cultivator drill with excellent build quality and lots of neat details making it straightforward to operate.

**Gottfried Eikel**