



All you need

Five years ago Amazone introduced the first drill that had double-disc coulters. Now the company presents an entry-level version of these coulters for their Cataya Special mechanical drill. We put a pre-production unit through its paces.



 \bigtriangleup Amazone offers double-disc coulters also on the mechanical Cataya Special model.



 \triangleright The power harrow depth is set on two eccentric pins, one on each side. The levelling board, too, is adjusted quickly.

Seed settings and calibration testing are done on the left side of the machine.

e introduced the Amazone Cataya Special two years ago (top agrar 07/2018). At the time, the drill was solely available with the RoTec single-disc coulters and mandatory Isobus control with electric drive - a level of specification that made the machine both complex and expensive and also a bit over the top for many applications that could be mastered equally well with a mechanical machine yet with double-disc coulters. Getting the point, Amazone developed the Cataya Special and specced it with the TwinTeC Special coulters. We gave the 3m drill a workout before it was launched on the market.

PREPARING THE SOIL

The tilling part in our combination was played by the KE 3001 Super power harrow on to which the drill is mounted with the helpf of cat. 2 or 3N couplers. The pto shaft and the oil hoses are stored in dedicated holders when not in use. Approved for up to 135kW/180hp tractors, the power harrow

has side plates that are fixed in two mountings each and height adjusted with a universal wrench. The press on our test combination was the 'small' ring packer with 500mm diameter wedged rings. On the smaller-diameter packers, the levelling board is adjusted by refitting a pin on each plate, which is done quickly with a 19-inch universal spanner. On the larger 580mm and 600mm presses this is done from one single control on the left side. Yet, as the board is always mounted on the press, its height needs changing only rarely.

The tines are arranged at an angle and their work depth is set on two eccentric pins, one on each side. Those who want hydraulic depth control have to order a heavy power harrow with vertical tines. There is also a power harrow version for smaller tractors of up to 102kW/140hp - the KE 3001 Special. All versions have quick-changing tines. The bout markers are always mounted to the cultivating unit, are shear pin protected and manually secured in their transport positions.

MOUNTED

The Cataya Special has the Quick-Link coupling points which make mounting the drill on the harrow a matter of about 5 minutes. The mechanical top link is a standard feature which adjusts the angle between the power harrow and the mounted drill. This top link can be hydraulic as an option and will also raise the coulters out of work for giving the headland a harrowing pass, for example. The spike wheel though doesn't always lift out high enough - a detail Amazone is going to change. Joining the two machines also means connecting a number of electric and electronic lines to the lights and sensors.





 \bigtriangleup The agitator was modified and no longer

SUMMARY

needs shielding.

Cataya Special from Amazone is a completely mechanical machine that has double-disc coulters.

All settings can be altered manually with a universal wrench.

The cultivator drill offers many useful details that make the machine nice and simple but do not come cheap.



 \triangle The Special double-disc coulters mount on one central box-section bar. Seed depth and coulter pressure are adjusted separately.



 \triangle The terminal is merely used for monitoring the machine functions and controlling the tramlines. It is not a must for operating Cataya.

MECHANICALLY STEPLESS

Initially available only with an electric-drive metering shaft, Cataya can now be ordered also with the established stepless gearbox. Unlike the gearbox on the AD, this mounts on the left-hand side and has an integral overrun slip clutch. The spike wheel is slightly bigger but continues running on the right side where it is easily seen from the cab. Amazone says its large 128cm diameter and active springloaded ground pressure control eliminate any variations in the seed rate whether it is running on cultivated or uncultivated soil. During road transport, the 13.5kg wheel is stored in a separate parking position on the machine, which is an easy job after the machine is lowered a bit.

The mechanical seed metering system



 \bigtriangleup The 650-litre seed hopper can be extended to 850 litres.

is the Precis which is sourced from Cataya. Changeovers from small-seeded to normal-seeded crops are made by adjusting two sliders on each peg wheel and take less than two minutes. Great. The metering units are made of plastic and bolted onto the metal boxes. The seeds drop through small hoppers right in front of the peg wheels - a design that ensures the seed tank is cleared out completely. Nice. The agitator is enabled and disabled with a pin and since it has its fingers replaced by less aggressive plastic discs it no longer needs shielding by a screen. The delivery tubes are routed at steep angles, which helps prevent blockages.

For calibration testing you move the plastic trays in position and operate the flaps. A neat detail here is that a small red plate signals the position on the side of the settings centre so the operator can check the proper position from the seat.

Calibration testing is done with the traditional crank or the universal wrench and takes 18.5 turns. Turning the crank at 'normal' speed simulates a forward speed of about 20km/h. So you can actually operate the handle a bit more slowly to simulate the speed rate during actual drilling. The calibrated seeds are weighed with the digital scales and the foldable bucket, all supplied with the machine and stored inside the plastic lid of the hopper. The correct gearbox setting is then determined with the help of a calculator disc; and if you want to be safe you calibrate a second time.

DISCS IN A NEW ARRANGEMENT

The TwinTeC Special double-disc coulters are a real novelty and come in two different 12.5cm and 15cm row spacings. In either configuration, the roller on the power harrow matches the specific spacing. Staggered at 19.5cm, the coulters are clamped to the box section bar with rubber elements. The longer coulter holders have 3.5cm wider rubber elements which are reckoned to apply a nearly uniform pressure to both coulter gangs. The maximum pressure on each coulter is 40kg and is altered by operating a central crank handle. By comparison, this is 60kg on the Cataya Super. Therefore Amazone recommends forward speed shouldn't exceed 10km/h depending on soil conditions. In fact, the coulters on our pre-production machine did wobble a bit in our light and sandy soils so the developers plan to optimise the rubber blocks on the production machines.

The coulters are followed by firming wheels which control their depth; the wheels can have optional scrapers that keep them clean. Unlike the coulters on Cataya Super, these coulters are not arranged on a parallelogram frame but the design is identical with that on the Cataya Super coulters. Scrapers made from tungsten carbide on the inside of the discs keep these clean. The coulter depth ranges between 0mm and about 40mm to suit various soil conditions and is altered by adjusting the coulter legs with the universal wrench. This is done quickly. If you wish to work deeper than that, you reposition the firming wheels. A central depth control is available only on the Super model.

The firming wheels are followed by an optional tine bar that covers up the seed slots. These tines can be set individually to one of two working positions and one parking position. Amazone's established Exakt tine bar is not available for the Special model with TwinTec Special coulters.

DISPENSABLE ELECTRONICS

Our pre-production machine came with the entry-level AmaLog+ (€943) terminal which displays the current forward speed and the bout number of the tramline system. This information is supplied by a sensor on the valves that operate the markers. With regard to calibration testing, you can press the keys 'C' and 'Enter' simultaneously before starting calibration. This makes the terminal count the number of revolutions and issue an alarm when the necessary number is completed. To select the proper tramlining pattern in the AmaLog+ unit, you'll have to grab the manual. A wrap spring clutch disengages the layshaft which disables up to 2 by 5 rows. To shut off one width you

slide two finger clutches in position. This is done manually and is not very easy as these clutches are housed under a metal deck - a safety requirement, says Amazone. The hopper has an optional capacitive proximity switch which triggers a content alarm on the terminal when the seed level is low. The appropriate sensor slides up and down into the required position in an elongated hole. The rear lights on the Cataya Special are traditional bulbs whereas the two small lights inside the hopper are LEDs. Our machine also had a work light. This is turned on and off by flicking a switch, provided the tractor has a second three-pin socket.

Those who don't need tramline control can operate the mechanical Cataya Special without any electronics at all – certainly a very reliable option for many years to come. Yet, those who wish to alter the seed rate on the move must opt for the electric drive. This comes with the machine-specific terminal AmaDrill2 ($\in 2,409$) or the Isobus-compatible version (from $\in 2,657$). A straightforward pneumatic or hydraulic ram is not available for adjusting the seed rate, which is too bad. To make up, the Isobus machine uses application maps.

We were impressed by the Amazone Catava Special with TwinTec Special coulters and landwheel. This is a very simple machine where the developers focused on the essentials. All settings are made quickly and manually. Calibration testing is exclusively carried out on the left-hand side. With appropriate front weights, the combination (empty: 2,690kg) is easy to handle by medium-sized four-cylinder tractors. Last, the price. The tested version of the KE3001 Super power harrow costs €18,668, the price tag on Catava Special is €24,093. Although this is a much greater investment than for various lower-priced competitors, the combination offers a well-thought-out design in nearly all respects.

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