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Catros bares its teeth

Distributed by:

Picture: Mumme

Since last year the Catros and Catros+ have been available as the TS-model with a separate bogey chassis meaning that, for shallow work, lighter tractors can be used.

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Test report **Amazone has equipped the Catros with bigger, serrated discs and its own chassis, enabling a larger choice of following rollers and the lifting power required is no longer the limiting factor to its performance. The following is an overview of our impressions.**

Amazone was one of the first manufacturers to realise the potential of compact disc harrows at an early stage. The Catros was introduced way back in 2001 and is manufactured today in working widths of between 3 and 7.50 metres (or 12 m with coupling frame for Eastern Europe) in the Leipzig factory in Saxony.

The plus points of the standard Catros, with its smooth discs, were its low pulling power requirement and suitability for very shallow operation. However, with the 460 mm discs, the working depth was limited to approximately 12 cm. And with increasing amounts of harvest residues prevailing, such as maize stubble and in very dry soil conditions, there are clear limits as to the range of application. But only so far, because now the Amazone engineers have provided the Catros+ with larger and, above all, coarsely serrated discs. These are available for all models, no matter whether three-point linkage mounted or trailed. Also brand new is the separate transport chassis for models with working widths of 4 to 6 m. These TS models allow a bigger selection of following rollers and the use of lighter tractors. In the following report we layout the details of our impression of the machine in practical operation:

Larger discs

With their 510 mm diameter, the serrated discs of the Catros+ provide a 50 mm larger diameter than on the "normal" Catros to increase the maximum possible working depth which Amazone indicates as being approximately 15 cm. In addition, the wear limit is not reached so quickly.

Of particular note is that the discs are very coarsely serrated, minimising the danger of harvest residues being simply run over – ideal, above all, in places where the combine, due to lodged grain, had to drive slower or, for a short time, had to reverse. In addition, the Catros+ can also be used

for stubble work after grain maize. With the standard Catros this often did not go so well. This benefit was confirmed when we worked the machine after grain maize.

The serrated discs really do an aggressive job. The Catros+ pulls itself perfectly into the soil and cuts the stubble nicely from the soil. In this situation, the smooth discs would have given way to the side or upwards. We were surprised that the discs deliver the soil flow relatively shallowly behind the machine and hardly any soil is thrown into or even over the roller.

In stubble work, we frequently varied the working depth but, even at its maximum depth and with a fully lifted roller, the Catros+ still runs very smoothly. Neither did we notice a rocking or too a heavy pull to one side. The large serrated discs, however, also have a disadvantage. During stubble cultivating and above all when following rape, the job cannot be done as shallow as it can with the smooth discs. In order to ensure an even operation all across the full width, the Catros+, according to the manufacturer, needs to be adjusted somewhat deeper.

Maintaining the tried and tested

The designers have maintained the layout of the 40 discs. The cutting angle still is 17 degrees at the front and 14 degrees on the rear disc row and disc row spacing is kept at 12.5 cm. Also the frame, the bearings (double sealed and maintenance-free twin row angular ball bearings) and the overload safety protection with its rubber buffer mountings are absolutely identical to the "usual" Catros models.

The serrated discs are easily pulled into the soil with the maize stubble being almost entirely separated from the soil and yet, in spite of the relatively shallow throwing angle of the discs, the Catros provides an excellent mixing performance.

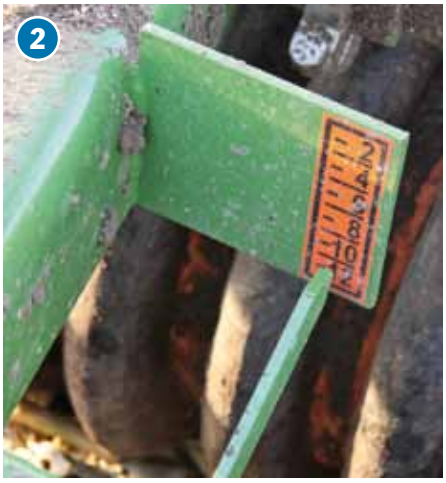
The disc stagger can be adjusted as usual via the eccentric pins. This is surely not the most comfortable way and the setting still takes some time but, however, when the stagger is set optimally, any readjustment of the discs is actually only necessary when they are heavily worn.

Hydraulic adjustment of the working depth on request

Depth control of the Catros+ is on the following roller and the tractor lower links. As standard the rollers are adjusted via turnbuckles.

1 The coarsely serrated 510 mm discs of the Catros +TS. Cutting angle and disc spacing are identical to the standard Catros models.
2 The double sealed twin row angular ball bearings are maintenance-free.

Pictures: Mumme



1 The hydraulic depth adjustment via a double acting control valve is available as an option (for an add price of 550 Euro).
2 A scale on front of the roller indicates the approximate actual working depth, depending on the wear condition of the discs.

We had the optional hydraulic depth control, requiring an additional double acting control valve on the tractor. The depth control responses sensitively, a scale in front of the rollers acts as guide. This is clearly readable and even shows the approximate actual working depth. The only downer: The scale is only adhesive and this solution may not last for ever.

Separate chassis

On the headland, the Catros+ TS is lifted via the tractor lower links. The transport chassis is not required at this stage. Where undulating soil conditions prevail, the discs on the back row still can touch the ground – depending on the maximum lift height of the tractor's lower links. However, one doesn't need to fear of causing any damage.

The hydraulically folding chassis actually serves only for road transport. In its folded position, the wide transport axle, with its 15.0/55-17 tyres, keeps the Catros+ TS stood up securely. In the field the axle, with the chassis frame, is hydraulically folded and swivelled up in front of the roller. So it is not only ballast for the roller but also for the discs – perfect.

By the way, the Catros+ TS is based on the three point linkage mounted version. To change, only a drawbar is bolted on and the rear chassis is mounted onto the frame. All this can also be converted back. The drawbar is somewhat short so that anyone who operates with dual tyres has to accept a bigger turning circle. Especially for Scandinavia, Amazone intends to offer a longer version soon.

Still easily pulling

The Catros+ TS still can be pulled comparatively easily. With a weight of approximately 4,425 kg it is, however, not the heaviest representative in this machine sector. As an option, Amazone offers ballast weights which can be pushed onto the frame. In this way, up to 400 kgs of additional weight is added. For our test report we used 280 HP, but this was over-powered. Even at its maximum working depth, 13 – 14 km/h was easily achieved. Nevertheless: a somewhat higher

Praise and criticism

Operational performance: the incorporation ability and penetration behaviour are noticeably better than on the Catros with its smooth discs. Good levelling with the wedge ring roller providing a good reconsolidation.

Handling: The optional hydraulic depth adjustment is comfortable and enables a sensitive control over the depth. Manual stagger adjustment. Lifting at the headland is done only via the tractor lower links.

Robustness: Good finish, maintenance-free twin row angular ball bearings in the discs promise long-term quality. Safe road transport due to the wide transport axle.

Functionality: For working depths of approximately 5 to 15 cm. Hardly any rocking and only little lateral pull can be noticed and the separate chassis means it is possible to use a lighter tractor and means a bigger choice of roller. In addition, it transfers additional ballast on the discs and the consolidation roller. The drawbar needs to be longer or telescopic.

Technical data	
Working width	5,00 m
Number of discs	40
Disc spacing	12,5 cm
Disc diameter	510 mm
Working depth min./max.	5 cm/15 cm
Disc suspension	individual
Stone safety device	rubber elements
Stagger adjustment	mechanical, standard
Working depth control	hydraulic (option)
Following roller	wedge ring roller, others as option
Roller diameter	580 mm
Transport width	3,00 m
Total weight	approximately 4,425 kg

dlz 2011

1 For the adjustment of the disc stagger, two eccentric pins have to be re-inserted in the relevant series of holes.
2 The stagger between the two disc rows can be adjusted in 7 mm steps.

Pictures: Mumme

1 On the headland the Catros+ TS turns on its roller and is lifted only via the tractor lower links. In the field the chassis serves as extra ballast for the discs and the roller.
2 The lower link cross shaft enables tight turning manoeuvres but for tractors with dual wheels, however, the drawbar is too short.

power requirement has to be calculated for the Catros+ compared with the standard model, as one usually operates this one a bit deeper and the discs mix more aggressively.

Five following rollers on offer

As mentioned already, the separate chassis of the Catros+ TS allows a bigger choice of following rollers. In total, Amazone actually offers five different roller types:

- Cage roller
- Tandem roller
- Tooth packer roller
- Knife ring roller
- Wedge ring roller

Result

With the Catros+ TS, Amazone significantly expands the range of application for its compact disc harrows. Thanks to the chassis, now lighter tractors are able to pull relatively large working widths – for example for stubble cultivating where little pulling power is required. Compared with the mounted models offered so far, the additional benefit is that the customer can select one of five roller types. However, three double acting control valves are required in total. The hydraulic depth control, available as option, operates directly on the roller. The chassis is not required in the field but here it serves as ballast for the roller and the discs. The Catros+ TS is lifted only via the tractor's lower links on the headland with the roller acting as the running gear. In our test the large, serrated discs did a perfect job on grain maize stubble. We note positively that the soil flow is not thrown over the roller *mu* ■

Thanks to the wide transport axle, the Catros+ TS rides safely on the road. In its folded position the width is kept down to 3.00 m.

Pictures: Mumme