

CULTURES

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CHEZ EUX

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**SPECIAL EDITION
COMPARISON TESTS**

16 three row tine cultivators on test



Operational performance in the field
16 three row tine cultivators on test
In weekly magazine La France Agricole



TECHNICAL DATA

- ▶ Actual working width : 2,97 m
- ▶ Number of tines : 11
- ▶ Disc diameter : 460 mm
- ▶ Roller model : Tandem roller
- ▶ Weight per metre : 706,67 kg

2. Amazone Cenius 3002 Winner of the comparison test

The elegant and highly original Cenius is a mulch cultivator that doesn't cause any issues and where you look in vain for anything to criticise and so, accordingly, the operational results are extremely good..

The Cenius on test is the **second generation** of the mulch cultivator which was introduced to the market in 2004. We tested the mounted version with a working width of 3 m and 11 tines. The implement seems very bulky – an impression which is increased still further by the tine housing that protects the coil springs.

MOUNTING THE IMPLEMENT:

there is no great amount of toing and froing: Amazone only offers one position (Cat. 2 or 3) for the lower links and two for the top link pin. It is impossible to step past the frame to lock the automatic hooks – unless one has the figure of a mannequin because, with our John Deere 6930, the distance between frame and tractor wheel was only 12.5 cm.

FRAME. The frame includes three pieces of box section for the tine carriers. The first and the third one are forged from one piece and welded onto the two cross members.

TINES : in every respect the Amazone tine is something special. The tine carriers are bolted onto the frame

and secured by two clamp brackets. Underneath, the tine is neither bolted nor welded but fixed with the aid of a clamp-on pin which is positioned to the rear of the tine carrier. Thanks to this design, the tine can move freely in 3 directions (3D tines).

For safety's sake, the designers did their best and equipped the implement with two horizontal coil springs which are arranged towards one another at a slight angle. The rubber stop attached to the spring head prevents a quick spring back after the release of the springs. Finally, the shear bolts form an additional overload protection against larger obstacles. As far as the share tip is concerned, Amazone is one of the few manufacturers who do not use the classic wing share, but choose the

POSITIVE POINTS

- + Quality of finish, attention to the detail.
- + Pivot system on the roller.
- + Settings.

WEAK POINTS

- Little space for mounting to the tractor.
- Scale for the disc setting is unfavourably positioned.
- Soil in the holes of the telescopic arm.



Safety : the tine is held in work by two horizontal springs and one rubber buffer. The total unit is mounted within a housing.

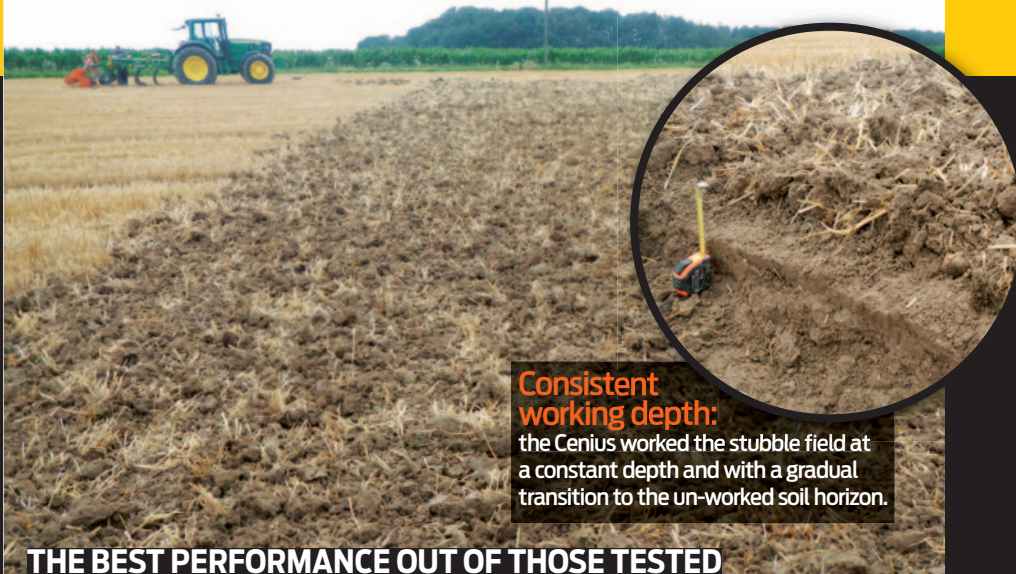


Working depth : as an option, the Cenius can be equipped with hydraulic depth adjustment.

so-called stubble share, which can be used with the Vario Clip quick change system whereby the share tip is fixed with a simple expansion pin.

DISCS : the smooth discs are arranged in pairs and equipped with separate bearings and four sprung rubber buffer blocks. The carrier bar for the discs is interconnected with the roller. Via a flange system it is joined by the two carrying arms to the roller. Amazone shows so much attention to detail because the torsion safety device of the bolts is integrated into the structure to stop them turning. With at least 8 holes, the telescopic side discs offer a wide range of setting possibilities which are fixed with pins and secured by lynch pins. The only negative point is the fact that these holes are easily clogged with soil. Also the side discs are mounted on sprung rubber buffer blocks and thus offer multiple setting possibilities for the disc height and the cutting angle.

ROLLER : the roller frame is fixed to the rear arm with four clamp bars.



Consistent working depth: the Cenius worked the stubble field at a constant depth and with a gradual transition to the un-worked soil horizon.

THE BEST PERFORMANCE OUT OF THOSE TESTED

The Cenius was tested on dry, however, fresh soil. As for the finish, it provided a uniformly mixed soil surface with an equal distribution of clods and stubble. The proportion of clods of less than 5 cm and of between 5 and 10 cm amounted to a share of 35 and 30 % of the aggregates respectively, those more than 15 cm made up 10 %. Also at the deeper soil levels, it showed the same evenness of mix. The

working depth of the tines was set to 12 cm and provided a very even working horizon. In the upper 10 cm of the working horizon the soil is very well loosened and aerated. The crumb size distribution includes lumps of all sizes including 20 cm thick clods which have been broken up by the shares and reconsolidated by the roller. The vibration of the tines breaks up the lumps even below the working depth. Below a depth of

12 cm, a transition layer is noticeable featuring a finer aggregate size distribution in a size of 14 to 17 cm. The transition to the un-worked horizon is gradual and very good and the mix of straw is homogeneous over the entire working horizon. Heaps or concentrations of straw are very rare. The Cenius achieved a better shredding of the stubble than the test average. 40 % of the collected stalks were between 5 and 11 cm.



Quick : the share tip is fixed with a simple expansion pin which makes for an easy share change.

Not very practical : the depth scales for setting the discs are poorly visible from the side of the Cenius.

For the prevailing farm conditions on the test, Amazone recommends the tandem roller. The first roller is a 520 mm diameter cage roller which, due to its clever design, is prevented from clogging because they are not linked at their outer ends. The second roller is a classic 380 mm diameter bar roller. The pendulum compensation is designed for simplicity and efficiency.

SETTINGS : our model was equipped with hydraulic depth adjustment. This equipment is offered as a special option at a price of 410 Euro and it would be a pity to work without it. With the aid

of a scale, the setting of the ram can be controlled from the tractor cab. The height of the discs is adjusted via two setting spindles, each one attached to one side of the implement. A small lynch pin locks the spindle in the desired position, however, it requires the setting steps to be at least one quarter of a revolution. An additional scale eases the matching of both sides.

MAINTENANCE : the Cenius features six lubrication points: the bearings of the roller, the setting spindles on the discs and the pivots of the tandem roller. ■

THE PERFECT ALLROUNDER



CENIUS – mounted mulch cultivator

Stubble cultivation, soil tillage and deep loosening
in 3, 3.5 & 4 m working widths

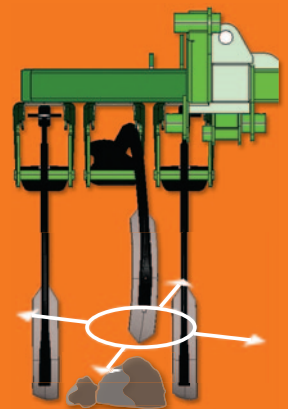
- 3 row tine stagger
- runs blockage-free even with copious amounts of straw or grain maize residues; 270 mm tine spacing and 750 mm tip to tip spacing for more reliable operation
- Fuel consumption: 8 - 10 l/ha at 15 cm depth of work
- Theoretical work rate of 4 ha/h (3 m); 5 ha/h (4 m)

Tailor-made specifications for every operation

- From choice: hydraulic depth control
- Multiple share options and a Vario-Clip quick change system available
- Choice of wedge ring, cage, tandem, knife ring or tooth packer roller
- Bolt-on GreenDrill seeder box for catch crop sowing

Cenius Super with 3D tines

Ideal for heavy and stony soils, with integrated overload protection (500 kg) and 3-dimensional deflection



Cenius Special

Tines with shear bolt protection, trailing spring-loaded covering tines

