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LANDWIRTSCHAFT AUF DEN PUNKT GEBRACHT

MIXING IS POSSIBLE



The discs cut, mix and till at depths of up to 14cm and, depending on the points fitted, the tines work from a shallow depth down to a depth of 30cm.

With compliments from



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MIXING IS POSSIBLE

Ceus 3000-TX is a combination of a short disc harrow and a **cultivator field of new C-Mix tines** which ensures effective mixing and incorporation of organic material. Bernd Feuerborn reports on what we like and dislike about the new machine.

Those who opt for a Ceus from Amazone opt for combining two passes into one, i.e. for a machine that cultivates and discs at the same time. The leading field on the Ceus is a short disc harrow that offers work depths from 5cm to 14cm and cuts and incorporates large amounts of trash.

It is followed by a tine field that can do just that, but, if fitted with the new C-Mix tines, can do even more. On the one hand, the new tines work at a shallow depth and at full width and, on the other hand, work up to a 30cm depth doing narrow cuts – effectively incorporating catch crops in one single pass and min-till schemes. You can also use each field separately and easily swap the rear roller for harrowing tines.

THE 3M RIGID MODEL

The 3m version is an addition to the existing Ceus range which so far has lined up only wide models and as such presents an intriguing option for small-scale farms. Although Amazone says that a 150hp tractor would be fine to pull the implement, it would actually require 200hp and more for deep work. Agility, by the way, is not a strong point of the 8.50m long machine despite its integral and mid-mounted running gear.

LOWER LINK ATTACHMENT

Let's take a look at the details of Ceus 3000-TX. It attaches to the lower links, which we find is a good solution, because it frees operators from watching out it isn't fouling with the tractor – which is indeed a risk especially in small fields.

So, Ceus is typically controlled by the lower links and the rear roller. Raise the lower links until the machine is level for a uniform finish. Headland turns are managed with the machine being carried on

IN A NUTSHELL

- Ceus combines a short disc harrow with a heavy cultivator.
- The machine is very versatile and offers many setting options.
- The short disc harrow and the cultivator can also be used as solo machines and also without the roller.

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the mid-mounted running gear. The same applies to road transport. This function requires one double-acting spool and works fine both in field and road work.

The discs are operated in the same straightforward way, with a double-acting ram controlling the depth between 5cm and 14cm. Although the prominent scale doesn't indicate the current depth in centimetres, it does offer reasonable guidance. The scalloped discs are 5mm thick and 51cm in diameter and space the cuts at 12.5cm.

For full-width work, the leading gang has its discs arranged at a more vertical angle than the following gang. Both gangs mount in a parallel linkage for consistent depth control. Should the leading discs lose depth due to wear, it is possible to adjust them separately from the rear gang.

STRAIGHTFORWARD DEPTH CONTROL

The depth of the tine field is adjusted mechanically by refitting the familiar Amazone eccentric pins. Depth control itself comes from the roller at the rear.

When the tine depth is changed, it is also necessary to raise or lower the link arms to ensure the machine is level. The initial set-up should start on the cultivator and then continue on the tines. For the roller to create a smooth finish, it is also necessary to adjust the levelling discs that run between the rear roller and the cultivator, which is also done by refitting pins.

C-MIX TINES

The tines are sourced from the modular system of the Cenius cultivator. Overload protection for the C-Mix-Super tines on the rigid Ceus comes from pressure springs which trip at 600kg and which should be fine in most soils. In our stone-free soils, the tines never tripped, but we hear from Amazone



1 Depth control for Ceus 3000-TX comes from the lower links and the roller at the rear. The cultivator depth is changed by refitting pins; disc depth is altered hydraulically.

2 The gangs of 510mm scalloped discs mount in a parallel linkage for uniform depths. The outermost discs are folded manually into work.

3 Pressure springs provide 600kg overload protection for the tines. Winged points or narrow bar points for deep work are available for the tines.

4 Cultivator depth is controlled by eccentric pins. The clips on the ram on the running gear are only needed for depth control when no roller is fitted.



that they always lift clear out of work even when set to a 30cm depth.

350MM WINGS

Our machine had the C-Mix winged tines which are basically bar-point tines with 35cm wing points. As these don't cut at full width due to the 40cm line spacing, Amazon now offers also 43cm wings for the first and shallow stubble incorporation pass. Yet the 35cm tines were fine for us, because we were operating Ceus after the first stubble incorporation pass with a disc harrow. The speciality about the C-Mix tine is the twisted shin on the leg which deflects the soil stream to the right and left for thorough mixing.

There are six different tine points available for Ceus by now, which make the machine so versatile and range from the 35cm wide duckfoot point and the mentioned wings to the 4cm narrow chisel point, enabling the machine to work at very shallow but also at 30cm depths, the latter requiring the necessary horsepower though and refitting the tines.

LUGGING POWER REQUIRED ...

We operated our Ceus with the C-Mix bar points and 35cm wings in the second stubble incorporation pass and with the cultivator set to a 15cm depth. The discs were

set to about 10cm. This configuration did in fact utilise the 220 horses of the Fendt 720 Vario and the same applied to our Fendt 824 Favorit, so ground speed maxed out at 10km/h.

This means that even the narrow 3m version shouldn't be underestimated in terms of draft requirement. To make up, Ceus left a perfectly finished seedbed for the following break crop that was sown with a power harrow mounted drill, which would otherwise have taken two passes.

... GOOD RESULTS

Our machine had the heavy double-disc roller making up the rear for good consoli-



The levelling discs, too, are (mechanically) adjustable for a level finish.

TRAILED CEUS 3000-2TX DISC HARROW CULTIVATOR COMBINATION

PLUS & MINUS

- + Ceus 3000-TX combines two implements into one and is very versatile.
- + Ceus boasts a generous inter-row clearance and incorporates large amounts of trash without a hitch.
- + Many setting options allow owners to customise the machine to individual needs for optimum rotting.
- Intensive mixing and crumbling take a suitably powered tractor.
- The machine is not very manoeuvrable in small fields although it has a mid-mounted running gear.
- Pulling out the outer discs and folding them into and out of work is done manually.

**Minimum use
350ha/year**

$$MU = \frac{Fc}{rc - vc} = \frac{€4,547/\text{year}}{€17/\text{ha} - €4/\text{ha}} = 350\text{ha}/\text{year}$$

Explanations

MU	Minimum use
Fc	fixed costs: €4,547/year (=8.33% of the purchase price)
Vc	variable costs/ha: €4/ha (wear, service and maintenance)
RC	Rental costs: €17/ha

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Technical data

Working width	3.00m
Work rates	8 - 15km/h
Tractor power	150hp - 300hp
Number of discs	2 x 12
Disc diameter / thickness	510mm / 5mm
Disc spacing	250mm
Spacing of cuts	125mm
Discing depth	5-14cm
Number of tines	7
Number of tine rows	2
Spacing of cuts	42.8cm
Tine depth	5-30cm
Tine overload protection	Spring
Underbeam clearance	80cm
Tractor attachment	Lower links
Transport length incl. lights	8.50m
Transport width	3.00m
Transport height	2.00m
Weight without roller	4,400kg
Roller weight	795kg
Number of double-acting spools	2

Prices

Ceus 3000-TX Super base machine	€21,060
LED lights	€2,200
Cat 3 couplers	€1,380
Braked axle	€2,160
Disc field	€9,300
Discs	€1,536
C-Mix-Super tines	€6,078
Levelling discs	€2,159
Double disc roller	€8,695

Price of test machine

€54,588

Source: Manufacturer information, list prices excl. VAT



- 1 The heaviest roller in the Amazone product range, the double-disc roller consolidates the soil in nice and uniform 12.5cm strips.
- 2 The outboard discs are operated manually. The pin latches in place automatically – very practical.
- 3 Courtesy of the mid-mounted running gear, Ceus makes for quite agile headland turns. This said, operators are yet advised to work in lands to keep headland size at bay.



dition. The roller tips the scales at 270kg per metre work width and is the heaviest roller in the product range. Of course, it gives an excellent consolidation but certainly increases the draft requirement. The finish was nice and level and yet rough enough for the soil to soak up heavy rainfall.

THERE'S ALSO SOME MANUAL WORK TO DO

Typical for a 3m implement, some functions are operated mechanically, such as lowering the outermost discs into work – a necessary evil that does justice to the Road Traffic Regulations. Folding them into work is nice and easy, courtesy of a pin that is not cotted in place and fitted single handed.

The traditional split pin is used for securing the outermost levelling discs which telescope into the machine for 3m transport width. With all discs offering separate adjustment, a smooth finish is guaranteed.

Road safety comes from an air brake for reasonable deceleration and from warning panels and lights for good visibility.

MANY OPTIONS

Ceus reflects an intriguing concept - a cultivator that consists of discs and tines and is suitable for incorporating straw, cutting and mixing in potato foliage and loosening the soil in a single pass or for preparing the maize seedbed in a single pass after green rye. The leading discs and the high ground clearance cultivator field are indeed excellent for incorporating plenty of trash after a break crop or grain maize, for example.

The machine put in an excellent performance as it incorporated straw in the second pass. Though boasting a mid-mounted running gear, the trailed machine left us struggling in small fields. ●



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