



AMAZONE

Tool carrier ***TopCut***





The intention is to have multiple combination options and trailing units to choose from in the future

The challenge:

The subject of soil tillage is gaining more and more significance in the purchasing decision making on farms. The bigger the problems of lack of moisture, chemical resistance and the requirement for reducing the amount of plant protection agents, the more important correct soil tillage becomes.

A particular emphasis is placed on the initial stubble cultivation. This is precisely where the biggest challenge lies. On the one hand, we need to produce the optimum seedbed for maximising the volume of volunteer cereals and weed seeds. This means that this undesirable regrowth can be accumulated directly after stubble chitting and then be combated mechanically in the second cultivation pass.

Ultra-shallow top working with optimum germination conditions for the fallen cereal and weed seeds and grasses is of extreme importance, particularly with regard to old rape regrowth, and in the problem areas of black grass and loose silky bent.

In addition, rotting organic matter is of enormous significance for field hygiene. Optimised residue breakdown reduces the transfer of fungal disease and pests. It is therefore important to make sure that any shredding or movement of any organic matter be already undertaken during the initial pass.



Instead of the harrow, the tool carrier can, as an alternative, also be equipped with various different rollers for good reconsolidation

The solution: TopCut tool carrier for ultra-shallow soil tillage

AMAZONE started the TopCut development project to accommodate this increasing requirement for ultra-shallow soil tillage. The following aspects were taken into account:

- ✔ Organic material should be shredded to aid the rotting process
- ✔ Adequate fine soil should be generated for optimum germination conditions
- ✔ Working should be as shallow as possible - no burying of seeds and a reduction in soil moisture loss
- ✔ Perfect soil adaption of the tools is a prerequisite
- ✔ Post-distribution of straw should be carried out if required
- ✔ Under dry conditions, good reconsolidation is required for optimum germination conditions

The TopCut continues to be in the project phase. The images show possible tool combinations. These are currently being tested in practice. There is no market availability.



High output with perfect cutting effect

Various different tools for ultra-shallow working

Alongside the most common usage after rape, catch crops or sunflowers, where a combination of a double knife roller and a harrow or roller is used under optimum damp soil conditions, we intend also to develop tools that produce sufficient fine soil under dry conditions, and in cereal stubbles, for optimum germination conditions.

The TopCut consists of three subsequent tool segments that can be equipped with various different tools to suit the customer's needs and requirements. As the pre-working tool, the single knife roller can be thus used. The double knife roller then operates in the main tool area. As an alternative, however, you can use double wavy discs or a combination of wavy discs and knife roller. The combinations cultivate the soil only to a minimum extent, but, on the other hand, they produce fine soil for optimum germination conditions.

Reconsolidation or harrow

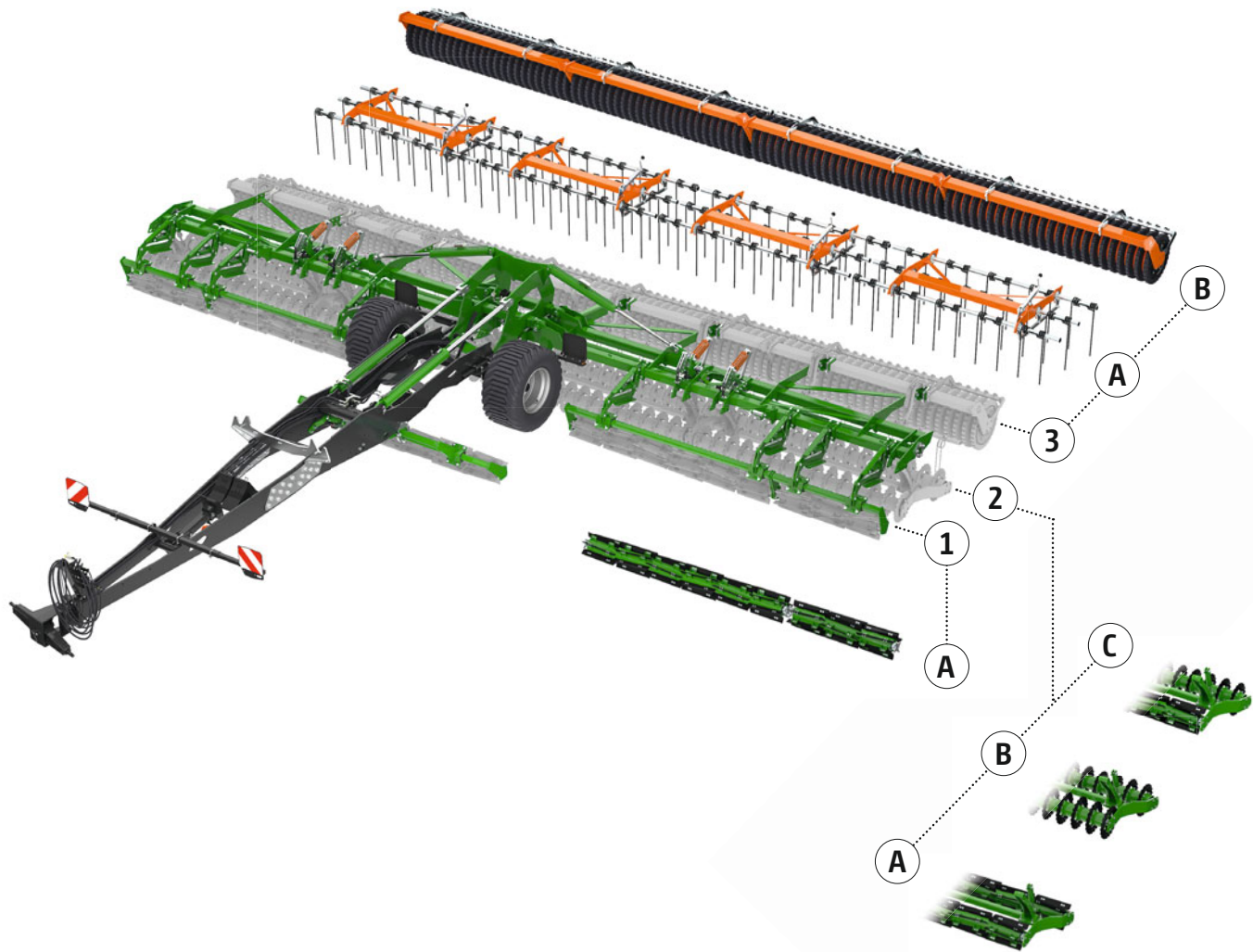
Under dry conditions, it is an advantage if the lightly worked soil is pressed down again. Here we have the option of using the TopCut with a roller, such as the KWM 650 wedge ring roller with matrix profile. In addition, a single row harrow element can also be run in front of the roller. As an alternative to the roller, it is possible to also install a three-row straw harrow as the trailing tool. This provides post-distribution of the straw and also shakes seeds out of the straw, the pods or the ears.

Successful practical experience

The TopCut 12000-2 has been running since 2021 with various different tool combinations on various different agricultural operations, under the most varied of conditions. This was supplemented by a field trial carried out with the University in Bernburg on rape and wheat stubbles in order to assess the tool combinations with regard to growth behaviour, shredding effect, working depth and other parameters.

Results so far demonstrate the benefits of the TopCut tool carrier:

- ✔ Ultra-shallow soil tillage with high proportion of fine soil for perfect germination conditions, even on cereal stubbles
- ✔ Markedly reduced evaporation as compared with other systems
- ✔ Optimum reconsolidation for reliable regrowth
- ✔ Perfect shredding effect in rape, sunflowers, maize stubbles and catch crops
- ✔ High output with low fuel consumption



Overview of all tool combinations of the TopCut:

1st segment

- Ⓐ Knife roller

2nd segment

- Ⓐ Double knife roller
- Ⓑ Double Minimum TillDisc
- Ⓒ Combination of knife roller and Mini-TillDisc

3rd segment

- Ⓐ Harrow
- Ⓑ Roller

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Illustrations, content and technical data are not binding and may differ depending on the level of equipment. Country-specific road traffic regulations apply and must be complied with, meaning that special approval may be required. The permissible axle loads and total weights of the tractor should be checked. Not all the listed combination options are possible with all tractor manufacturers.



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