

Controlled traffic farming: A new track for soil and weed control in organic farming

Problem

Each passage with the tractor on the field results in at least superficial soil compaction. In compacted soil, the growth of crops is inhibited and the soil processes are disturbed.

Solution

With controlled traffic farming (CTF) using real-time kinematic positioning, it is possible to drive on the same track for all operations and create tramlines. Real time kinematic positioning is a technique that enhances the navigation-precision by means of satellite-based positioning systems (like GPS). The approach can be adapted to the specifics of a farm (existing equipment, land, crops, etc.).

Outcome

The soil between the tracks remains undisturbed. Its structure is crumbly and thus optimal for plant growth.

Applicability box

Theme

Soil quality and soil fertility, nutrient management, weed control

Geographical coverage

Worldwide

Application time

At least one season. Repetition over several years is recommended using the same tracks

Required time

No more time than the standard practice. High efficiency in case of repeated use.

Period of impact

Multiannual

Equipment

RTK-GPS on tractors (and other equipment). Customized machinery is optimal for reduced tillage.

Best in

All crops especially in combination with reduced tillage

Practical information

- Controlled traffic farming is a system approach that has an effect on the entire farm. Good preparation is necessary, e.g., by getting informed from colleagues who already use CTF.
- Depending on the farm and the available mechanization (esp. working width), there are several ways to work with tramlines. Examples are bed-cultivation with a 1.5 to 3.2 m track width or a default track-width (often 1.5 m) with standardized, often wide machines (3 to 9 m in width).
- Use standard equipment and standard working widths that are used on your own and on neighbouring operations (e.g. farmer-colleagues, agricultural contractors) as much as possible. Also, bear future developments of your own operation in mind.
- Provide tramlines that are 10 to 20 cm wider to minimize the impact on the crop. Light equipment is still required.
- Ensure proper preparation in the field: How do you configure the parcels? Which driving direction will you use? Which side of the parcel will you choose as a reference? Choose AB lines with correct distances to the parcel border.
- It also provides new possibilities for diversity in the plot e.g., strip cultivation/flowers strip that result in more resilient farming systems.

Controlled traffic farming in pictures



Between the tracks the soil remains undisturbed. This leaves behind a crumbly soil structure and space for soil life. It allows a homogeneous rooting, which leads to a robust crop development and increased yields.



A uniform plant- or seedbed with solid tracks ensures better weed control because weeders can be adjusted more accurately, and there is more opportunity for the creation of a false seedbed. The plot can be accessed sooner after the rain.



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Share your experience

Use the comment section on the [Farmknowledge platform](#) to share your experiences with other farmers, advisors and scientists! If you have any questions concerning the method, please contact the author of the practice abstract by e-mail.



Further information

Web Links

- [Inagro Homepage](#)
- [Report](#) on tramlines at Biokennis (in Dutch)
- [Website](#) on controlled traffic farming

About this practice abstract and OK-Net Arable

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