USER STORY

Fertilizer management and the potential of real-time soil maps

Focus: Automated data evaluation with the Topsoil Data Analyzer Software (TSDA)

The Topsoil Data Analyzer is a desktop software that can be installed on a laptop directly in the field. This means that the just collected data are transferred to the laptop and analyzed automatically. The raw data and the processed data are displayed as maps after a few seconds. So e.g. soil samples can be taken immediately and accurately based on the locally determined zone maps.



The **benefits** of the software at a glance: the quality of the data is immediately verifiable, work processes are significantly reduced, automated and consistent data analysis by an analyst (the TSDA software), independence in determining different soil parameters (relative water content, soil type and compaction).

In this user story we are pleased to introduce you to **Helge Beckurs**. After many years of experience in his own 200-hectare business and numerous leading positions in agricultural companies, he founded the agricultural consultancy Beckurs in January 2007.

Together with his team, he offers a comprehensive consulting portfolio in Oschersleben, Germany, as well as the development and implementation of effective management systems. Crop cultivation optimization, balance sheet analysis, liquidity planning, advice on questions of general crop cultivation, fertilization, crop protection, project management, Reco-phos are the main areas where Helge Beckurs supports his customers in practice.

What expectations did you have regarding the system?

„In May 2017 we decided to buy the Topsoil Mapper (TSM). Our expectations were manifold. We hoped to be able to verify differences in the soil type with the sensor, and then in a next step to establish fertilization plans for the individual units managed.

The creation of the yield potential maps should be improved by the addition of the water content data.

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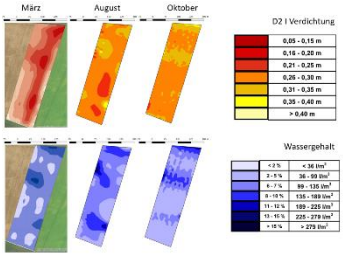
The identification of soil compaction zones was also an issue we were expecting from the mapping with the Topsoil Mapper.

1. Record on the field

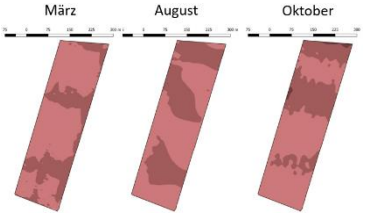
2. Autonomous evaluation

3. Analysis & Application



Were your expectations fulfilled?

We have been working with the TSM for about a year now and due to the simple handling, we constantly collect data. These are then compared over time and show constant developments in different test runs. This means that the zones of different conductivity classes are reflected during the year.



Helge Beckurs: „*Soil compaction leads to yield losses of up to 15%!*"

On the basis of the soil compaction maps, we are already successfully planning tillage operations on larger farms and avoid negative effects of soil compaction on the yield potential of sub-areas (for example in sugar beet cultivation). In order to compare the data additional soil samples are taken and from this an effective tillage plan is created. Thus, it is possible to identify the scale of soil differences in the area.

Our range of services also includes the implementation of penetrometer measurements. Using TSM data, we have a perfect basis for doing this quickly and efficiently, verifying the data we collect, and deriving yield potential maps in a next step.

The intersection of the TSM data is not only possible with soil sample data but also with other information available for the farm (harvest yield maps, sowing maps ...). After analysis and interpretation, clear guidance (fertilizer planning, plant protection) can be derived.

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We are also in the process of testing further applications. These include e.g. the application of growth regulators in cereals according to the supply of water from the soil, as well as the creation of differentiated sowing maps - seed strengths (for example corn, cereals, oilseed rape). "

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