Press release Geoprospectors

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GEOPROSPECTORS
Know your soil

Soil analysis on the go.

Contactless and sustainable soil mapping is possible in a single step with the Topsoil Mapper.

Why are modern farmers increasingly focussing on precision farming? Why go to the increased expense of automation, sensor technology, navigation, steering systems and the resulting flood of data?

This question is actually easy to answer. Farmers are increasingly faced with the challenge of increasing yields while protecting the soil as much as possible and working ecologically. Changes in the market price can usually only be accepted and ever stricter legal requirements regarding pesticides and fertiliser quantities must be implemented.

The screw that farmers can still actively turn is the use of operating resources. By managing fuel, water, seed and fertiliser correctly, farmers still have the opportunity to remain competitive.

The use of geophysical measurement systems is one of the key factors in precision agriculture when it comes to understanding soil mechanics and sustainable soil management. When cultivating agricultural land, differences in the soil and varying yield capacities within a field are taken into account.

With the Topsoil Mapper, the agronomist can independently detect inhomogeneities in the soil over a large area and map soil parameters such as soil type, water saturation and compaction over a large area. These soil parameters can then be used in real time for variable machine control.

The Topsoil Mapper - contactless analysis of soil structures

The Topsoil Mapper records the soil zones at four depths, the conductivity, the relative water content and the soil type in a contactless and motorised manner during agricultural operations.
The Topsoil Mapper can be used on all agricultural soils, regardless of the weather and vegetation. It can be used with any implement and on any work trip.

The advantages of using a Topsoil Mapper are manifold, here are just the most important ones:

Non-contact soil mapping: Thanks to its advanced sensors, the Topsoil Mapper can accurately measure soil parameters without the need for soil sampling or physical soil contact.
Real-time data: Farmers get immediate access to soil information to make better decisions regarding fertilisation, irrigation and crop protection.
Better crop yields: The precise data from the Topsoil Mapper enables farmers to optimise soil conditions and therefore achieve higher crop yields.

Environmental friendly: By making targeted use of resources, farmers can reduce the use of fertilizers and water, which reduces the environmental impact of agriculture.

Variable control of agricultural machinery in real time

Site-specific tillage is primarily used to improve productivity and at the same time conserve available resources. The TSM is used to map and thus analyse the soil. At the same time, the ATC can be used to control the soil tillage machine.

When using the TSM in tillage, the soil parameters determined in real time are included in the calculation of the optimum tillage depth. These are forwarded as control parameters to a suitable implement and implemented in parallel to the data collection during tillage.

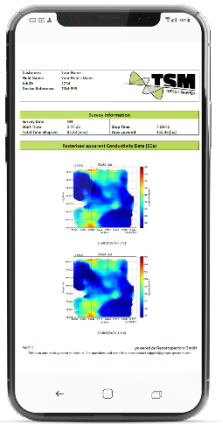
Depending on the cultivation strategy (shallow tillage, deep loosening, deep contour), there is also the option of making appropriate pre-settings on the terminal in order to take the respective characteristics of the field into account.

There are several reasons why site-specific tillage is used:

Soil variability: Soil properties such as texture, nutrient content and pH value can vary within a field. By mapping these differences, targeted measures can be taken to cultivate the soil efficiently and gently. This can affect tillage, fertilization and irrigation.
Resource efficiency: The precise application of fertilizers, pesticides and water to the needs of the plants in different sub-areas allows the use of these resources to be optimized. This reduces costs and environmental impact while minimizing potential oversupply or undersupply of the plants.
Yield increase: The yield potential can be maximized through the customized management of sub-areas. Plants can be given the conditions they need for optimum growth, which can lead to higher crop yields.
Sustainability: Site-specific tillage can contribute to sustainable agriculture by increasing resource efficiency, reducing environmental impact and minimizing the use of chemicals. Targeted cultivation can also reduce erosion and soil compaction.

Overall, it can be said that site-specific tillage is the key to sustainable soil management.

Data analysis anytime and anywhere due to the TSM Client Cloud



In the past, analyzing soil data was not only dependent on experts and laboratories, the evaluations were also usually only available within 1-2 weeks. The aim of all Geoprospectors products is therefore to make the user autonomous when collecting AND analyzing data.

With the TSM Client Cloud, agronomists can upload their data directly in the field and have it processed automatically. They immediately receive a report by e-mail. The raw data and the processed data are displayed in map form after just a few seconds. This means that the recorded data can be checked in the field and, for example, soil samples can be taken immediately and accurately based on the zone maps determined on site.

The TSM Client Cloud is available to registered users 24/7 and the recorded data can be exported to any standard farm management software for further processing.

The company

Geoprospectors is a leading provider of ground measurement technology in the field of precision farming and subsurface engineering. For our innovative solutions, we exclusively use non-invasive geophysical technologies, including electromagnetic induction, ground penetrating radar, electrical and soil resistivity measurement, to obtain valuable information about the various resources in the subsurface.

The core team at Geoprospectors is made up of specialists from the fields of geophysics, agricultural engineering, measurement and electrical engineering. Since the company was founded in 2014, we have been working together to develop robust and motorized measurement systems that are used to more accurately detect and evaluate different soil structures. Our challenge is to make geophysical measurement technology accessible and available to our customers for a wide range of requirements and applications.

With a strong focus on sustainability and efficiency, Geoprospectors is continuously working to provide farmers with the tools and information they need to increase their yields while protecting the environment.

The Topsoil Mapper is distributed internationally through Geoprospectors' global sales and service network.

Michael Pregesbauer, CEO & Co-Founder of Geoprospectors "We are excited to make this groundbreaking technology available to the agricultural industry as a complete package. The Topsoil Mapper and Automatic Tillage Control help farmers to cultivate their soils more sustainably and efficiently, which brings both economic and environmental benefits."

Prizes & awards

2015: Silver medal for "Innovations" at Agritechnica
2016: Lower Austrian Innovation Award "Special Prize for Digitalisation / Industry 4.0" from the State of Lower Austria
2016: 3rd place in the "GEWINN Young Entrepreneur Competition" organized by the business magazine GEWINN
2016: 3 stars for ground-breaking innovations at Agromek
2017: "Born Global Champion" award from the Austrian Federal Economic Chamber
2018: Gold medal for "high level of innovation" at Polagra

Customer testimonials

'The Topsoil Mapper was an important turning point for us. The size, the weight and the non-contact attribute, which massively increases the application window, are some of the advantages we see with this sensor."
Martin Luzzi, Managing Owner at Consultora Oeste / Argentina

'Our customers benefit from accurate soil data that helps them to optimise their agricultural practices and increase their yields.'
Oliver Martin, CEO at Farmblick / Germany

'Our fields are easier to work and cultivate after variable tillage using TSM and ATC and we have also noticed a better capillary effect. All in all, this leads to higher yields and we also save fuel. In the future, we could use the technology to monitor the condition of the soil over the years.'
Valentin Ratasich, farmer and machinery dealer / Austria

'We have been using Topsoil Mapper since 2019. The system enables us to understand complex soil structures and offer customised consulting services.'
Henrique C. Junqueira Franco, Co-Founder and Owner, Cropman / Brazilien

'I like the ease of installation of the sensor and the fast and accurate data collection. The maps are consistent with our experience with similar technologies, but the TSM gives us more detail.'
Matt Rohlik, Managing Director, Arva Intelligence / USA

'In my opinion, the system is perfect for this. Scanning the subsoil, determining exactly where there is compaction and variably setting the right working depth during tillage. Saves fuel, loosens where necessary, avoids waterlogging and unnecessary soil movement."
Edmund-Siegfried Marton, Crop Consultant & Sales Manager, BayWa / Germany

Press enquiries

For more information about Geoprospectors and the Topsoil Mapper, please visit the company's website at www.geoprospectors.com or www.topsoil-mapper.com or contact us at

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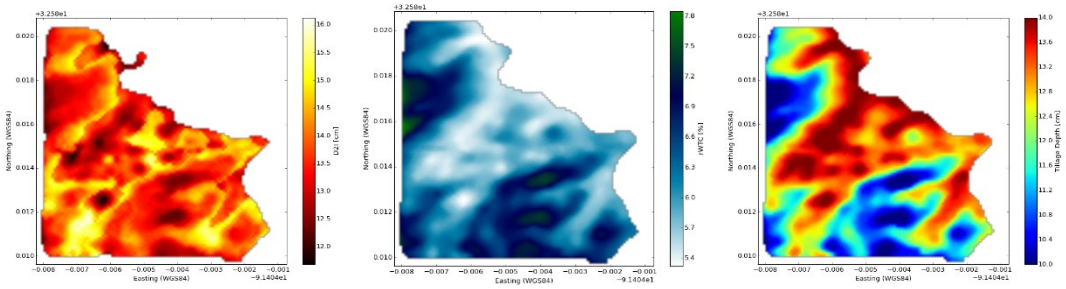
Image material

Caption: The Topsoil Mapper can be used to determine parameters such as compaction and relative water saturation as well as soil zones. Measuring 1680 x 340 x 265 mm and weighing just 25 kg, the device can be installed on a towing vehicle in no time at all.
Source: Geoprospectors GmbH

Caption: It is possible to mount the Topsoil Mapper* on different vehicles for data collection. The sensor can be used at speeds of 25 km/h and above. For optimum measurement results, the distance to the ground should be around 30 cm.
Source: Geoprospectors GmbH

Caption: The Topsoil Mapper* can be used all year round, regardless of weather conditions and plant growth, as NO soil contact is necessary.
Source: Geoprospectors GmbH

Caption: The device transmits the data collected to the agricultural machine for simultaneous tilling of the soil, enabling efficient depth control. A higher average working speed during tillage, savings on diesel and machine wear as well as a reduction in maintenance costs per hectare are direct results of variable tillage in real time.
Source: Geoprospectors GmbH



Caption: The self-explanatory maps visualise data on compaction, soil type and water saturation. They can be saved in the Topsoil Data Box, visualised and imported to the terminal or to a farm management system for further processing at any time.
Source: Geoprospectors GmbH

Further images can also be found in the press area at https://geoprospectors.com/en/press/