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'How healthy is my soil?' – A soil care app

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Soil structure and soil health depend on many physical, chemical and biological factors that interact in a complex way and can be hard and expensive to measure. In order to develop a tool to assess soil health and increase awareness among farmers, students and advisors of the importance of good soil health, a soil app, 'How healthy is my soil?' was developed. The EU Rural Development Programme funded the work.

The mobile app is based on earlier research where a Field Test was developed. This Field Test has now been digitized and developed further into the free-of-charge mobile app 'How healthy is my soil?' and is available in Swedish and English for iPhone and Android phones.

The app contains three major parts: 1. General questions about the field, 2. Soil health tests, and 3. A water infiltration test. All tests are easy to perform, and the equipment needed is generally found on a farm. You are step-by-step guided through the tests and asked questions that normally have three answers to choose from. Many pictures, films, and extra information help you interpret what you see. The results are presented and summarized at the end of each test. You can create a PDF with the results to be sent by e-mail to any address of your choice. The GPS and map function in the app makes it easy to find your way back to the same place later to follow up on soil improvement measures taken. More tests will be included in the app in the future.

To get a first picture of how your soil generally works, choose a location representative of the field. To learn more about your soil, you can perform the test at more locations in the field, one that is better than your representative site and possibly a worse place. Then you can compare the actual soil health in the field to how it can appear at its best and worst.

When you have done the tests for a field, you can think about possible mitigation measures based on the overall impression of the results. In the app, you get tips on various soil conservation measures to improve your soil and what you should avoid and minimize to achieve good soil health. You can make an action list for each field.

All parts of the app can be performed separately, but together they give an even better picture of the soil health. By doing the tests regularly, preferably together with other farmers and advisors, it is possible to assess and monitor soil health. From this knowledge, it is possible to develop a long-term strategy to improve the soil of your fields.