



Life Through Our Soil

SOIL MANAGEMENT FOR SUSTAINABLE FARMING

PROBLEM

Most Romanian farmers lack vital scientific knowledge on soil management practices needed to preserve fertility, sustain productivity and combat desertification, leading to significant soil degradation.

SOLUTION

Soil analysis, training and mentoring to help farmers work *with* the land to produce strong, sustainable harvests.



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Fostering sustainable soil stewardship

Romania boasts some of the richest, most fertile soils in all of Europe, yet this natural treasure remains vastly underutilized by its farmers. Alarming, the health of these precious lands is increasingly threatened by desertification and nutrient depletion. The root of the problem lies in a widespread lack of scientific understanding about soil care and management, as many small farmers rely on hearsay and advice from agricultural input sellers—often leading to an alarming overuse of pesticides, fungicides and other chemicals that further harm the land (by up to 90% of family farms, according to FAER's research and experience).

Over 90% of Romania's farms are family-run, a percentage unmatched elsewhere in Europe, underscoring the vital role that small farms (typically up to 10 hectares) play in shaping the nation's agricultural landscape.

Overview



A detailed soil analysis can uncover the problems responsible for inconsistent crop performance, and provide a roadmap for working with the land to optimise the conditions needed to produce a given crop. This analysis can also shed light on how the soil's chemical composition can shift dramatically even over very short distances (less than 100 metres) due to factors such as slope orientation, terrain gradient or water retention. This lack of knowledge threatens not only the preservation of soil fertility, but also local biodiversity and water quality.

Against this backdrop, FAER offers education and training on soil analysis techniques. Its specific objectives are to:

- Train 200 farmers in 3 counties on good soil management practices and the circular economy (what it is and what it means for farmers)
- Conduct comprehensive soil analyses for 100 farmers to identify the main substances affecting the soil and offer actionable advice to mitigate the impacts of excessive pesticides and fertilisers
- Complete follow-up soil analyses after 12 months, allowing FAER to track changes in the chemical composition of area's soil, and help farmers create medium-term plans for sustainable soil management
- Build the capacity of its staff in to support its clients in good soil management practices going forward.

Needs analysis

In a previous two-year project with 250 farmers managing plots up to 10 ha—FAER found a lack of farming education and willingness to learn and adopt new methods. It also found excessive pesticide use, where farmers simply followed the example of previous generations or their neighbours without considering the needs of the land. At the time, FAER collected 40 soil samples with which to back up its anecdotal findings with data but lacked funding to further explore this issue at the time.

Building the team

At the outset, FAER enlisted the expertise of an agri expert with over 20 years of hands-on farming experience. This agri expert not only developed the training programme and soil sampling guide, but met with participating farmers to share and explain the soil sampling results.

Targeting clients

As part of this initiative, FAER's agri expert and project manager went on field visits to connect with farmers directly, fostering dialogue with the community and the local government. To help create visibility for the initiative, a number of mayors even issued public announcements and encouraged farmers to join discussions and share ideas around the need for sustainable soil management. This strategy allowed FAER to identify which farmers were most receptive to the idea and invite them to participate. In Romania, where farmers associations are few and far between, working with mayors at the county level also helped for facilitating the exchange of best practices.

The farmers selected typically manage plots ranging from 1 to 10 ha, focused on mixed production (chiefly animals and cereals), and operate within family farming frameworks with limited access to formal education.

Development



Sampling the soil

The project worked with 100 farmers to conduct two rounds of basic soil analysis at a 12-month interval to enable detailed comparison of soil quality improvements over time. The results of the analysis will help farmers pinpoint optimal crop choices, balanced chemical application, and long-term soil health improvements.

FAER partnered with a local supplier to design customised testing kits capable of testing for levels of potassium, phosphorus, nitrogen and calcium.

The kits also contained a detailed two-page soil sampling guide for farmers that was created by FAER's agri expert.

Following the initial soil sampling, results were shared with farmers through the agri expert and trained field staff, ensuring that the complex scientific findings would be “translated” into understandable and actionable insights. As this feedback phase unfolded, it became clear that staff were unable to provide more than only a basic interpretation of the data, highlighting the need for the presence of the agri expert to offer tailored insights on each farmer's unique circumstances.



Implementation

Training farmers

To date, FAER has trained all 200 farmers through 9 in-person events lasting up to an average of 16 hours (split equally between classroom and field work). These sessions combined the training expertise of FAER with the technical background of the agri expert to develop a comprehensive training guide. This guide covered topics such as: soil degradation processes, the role of micronutrients in soil health, the connection between soil and the circular economy, eco-farming practices, climate change, and best practices in farm maintenance—including water, fertilizer and waste management methods.

As part of this hands-on training, FAER organized three study groups, each comprised of 60 farmers and 20 staff to visit farms, one in each county. Due to unexpected quarantine restrictions arising, only one farm was ultimately available to host a study visit. Instead, FAER made alternate arrangements for farmers, including visiting an agricultural exhibition and visits to larger farms to showcase how soil management techniques worked in practice at that scale.

Launching e-learning

Recognising that each farmer faces unique challenges based the specific characteristics of their land, FAER introduced e-learning modules to offer tailored solutions that would empower farmers to work with the soil to improve their harvests. Each of the five modules developed offers soil management theory supported by useful graphs.

Weekly social media updates (on Meta) highlight when a new module has landed; dissemination of this information has relied primarily on word of mouth so far, but plans are in place to develop a more robust communication strategy (involving municipal authorities and local farmers) in the near future. As of the end of the project, 43 users had accessed at least one module.



What did clients think?

Farmers were surprised by the results of their soil analysis, which often contradicted advice from chemicals sellers. For example, some were advised to add phosphorus, only to discover their soils already contained an excess. The curiosity and enthusiasm of the farmers to learn improve their soil quality was a positive outcome.

Having experts and events in close proximity boosted farmers' motivation to participate, given how busy farmers are and how little spare time they have to dedicate to travel.

What didn't work?

A major hurdle was ensuring the full participation of farmers (especially older generations) who often approach new practices with caution (especially when they contradict popular wisdom). This reluctance became clear after the first round of soil tests: not all the farmers who participated applied corrective measures despite having clear and compelling data in hand.

At the same time, FAER's capacity was stretched thin. With only one agri expert on staff, bottlenecks emerged when farmers approached the team with too many technical questions at once.



Outcomes

Additionally, FAER struggled to align its activities with farmers' schedules. Given that agricultural work is highly seasonal, farmers are busiest during the spring, summer and autumn—making it difficult for them to participate in trainings and workshops during these times, resultant of which engagement remained lower than expected. The mismatch also led to delays. To stay on track, FAER started the second soil sampling survey earlier than planned in hopes of retaining the same 100 farmers to allow for comparative soil sampling. The original project timeline simply didn't match the realities of the farming calendar.

Adapting in real time

FAER made several decisions to tackle emerging challenges during the project:

- **Flexibility:** Meetings were planned at different times to suit farmers' schedules, with results were mixed.
- **Localisation:** The team shifted away from larger, more centralised events, in favour of smaller more localised ones.
- **Direct approaches:** FAER discovered that a personal, face-to-face approach was the most effective. However, this came with its own challenges around ensuring staff capacity to provide effective support and guidance.
- **Expanding e-learning:** Developing more online content would allow farmers to learn at their own pace, especially at times when they are less busy.

In the ideal case, the project would have run for two years in order to complete the planned activities while avoiding peak farming periods. Having started the project in mid-February, it took more than a month to get farmers adequately engaged with the program schedule—which meant adding more time onto the back end of the project to allow for completion of the second soil sample. As it was, the project's short (15-month) timeline made it difficult to encourage, facilitate and observe real changes in soil management practices.



Recommendations

To other organisations embarking on similar initiatives, FAER would counsel:

- **Collecting feedback:** Face-to-face tools for collecting feedback garnered more and richer insights than digital tools. Farmers distrust technology, particularly farmers in remote rural areas.
- **Ensuring organisational buy-in:** Continuous communication with the board and staff is vital to avoid missteps and misunderstandings (lost forms, crossed wires, duplication of effort and more).

Next steps

In future, FAER envisions:

- **Offering practical solutions:** By offering non-financial support (through grant funding) to farmers to improve oil quality
- **Pairing with finance:** Within the next four years, FAER aims to develop a blended green loan + training product to promote more ecological practices
- **Institutional commitment:** FAER aims to develop its own institutional environmental policy with guidance from Cerise+SPTF
- **Thinking outside the box:** The next iteration of this project could look at ways to promote interest in organic/green markets, which perceived as being too costly for poorer families to afford. Making the financial case for greener agriculture could be useful here—which could be done by tracking harvest improvements alongside soil improvements.



FAER was founded in December 2005 as an extension of the work of the FAER Foundation (founded in 1992) to encourage the creation and preservation of jobs in rural areas—supporting farms, small and medium-sized businesses by financing their development and modernisation.

FAER aims to improve the living standards of clients and local communities in its area of activity, to contribute with microfinance services to the development of projects, activities, businesses, including community projects and economic development projects to improve the living standards of local communities, especially in rural areas.

Next steps



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