BODEN
ökologie analytik landschaft
TB UNTERFRAUNER GMBH

SOIL SAMPLING

The basis of reliable analysis results!

www.bodenoekologie.com

Taking soil samples is the first important step

- To determine measures to maintain and increase soil fertility
- For economic optimization

The correct execution of the sampling decides on the quality of the analysis results and the recommended measures, as well as the economic success through their implementation.

1

Why soil samples?

A soil sample is the essential basis of soil analysis and therefore the basis for understanding soil. It provides the tools for the economic success of your business!

The objectives

- Preservation / improvement of soil fertility
- Optimizing the fertilization strategy „mobilization instead of fertilizing“
- Increase in yield and quality
- Documenting the status quo for „Lease / purchase decision“
- Compliance with regulations
- Detecting possible burdens (e.g. pollutions)
- Economic optimization

2

Plan the sampling

Sampling should be considered as a **management project** of the company and should be well planned. Only a highly qualitative sampling will bring the desired success.

The correct preparation

The taking of soil samples must be planned precisely and carried out in a coordinated way.

Planning should include:

- Selection of the sampling area - delimitation of homogeneous partial areas
- Determination of the optimal sample timing
- Preparation of the adequate tools
- Familiarization with the implementation

3

Proper timing

The proper timing significantly influences the quality of the analyses. Only a soil in steady state is suitable for a basic characterization.

The proper timing

The soil should not have been disturbed for 6 to 8 weeks (fertilization, cultivation). **The ground must not be too soggy** (should be passable).

Favourable conditions are:

- In spring before preparing the seedbed
- In summer after the harvest before the stubble breakage
- End of vegetation in autumn

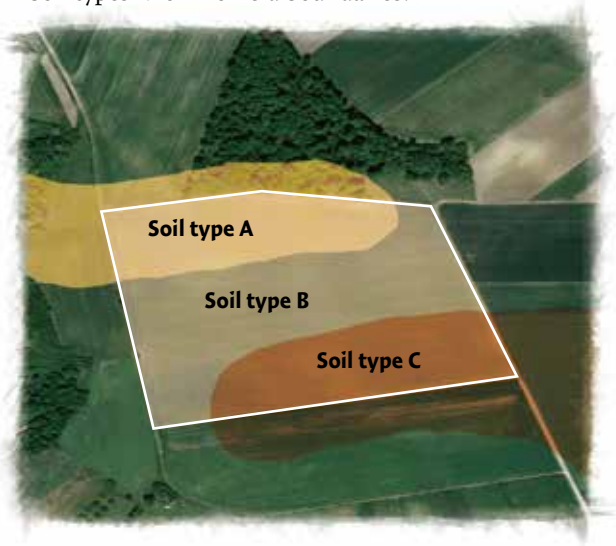
A soil sample can be taken at any time for acute questions.

4

Heterogeneous fields

Agricultural fields are often very heterogeneous and often consist of **different** soil types! These differ in terms of productivity, biological activity, chemistry, and physics.

Different soil types
Soil types know no field boundaries!



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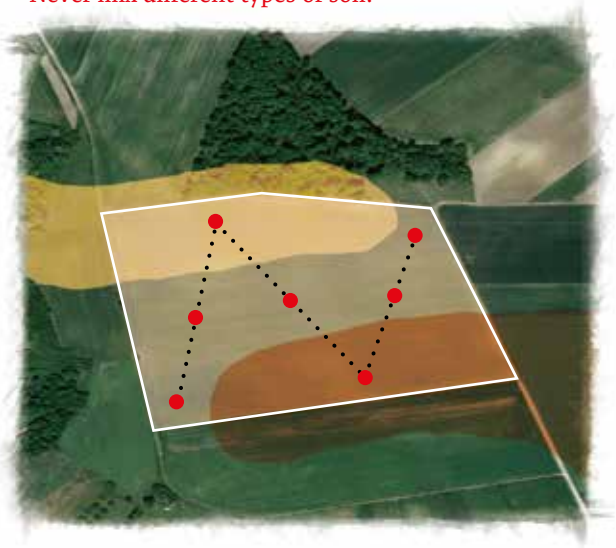
Risk of a mixed sample

Mixing different soil types leads to recommendations that do not correspond to any of the sub-areas and can lead to a deterioration in productivity!

Incorrect sampling
Never mix different types of soil!



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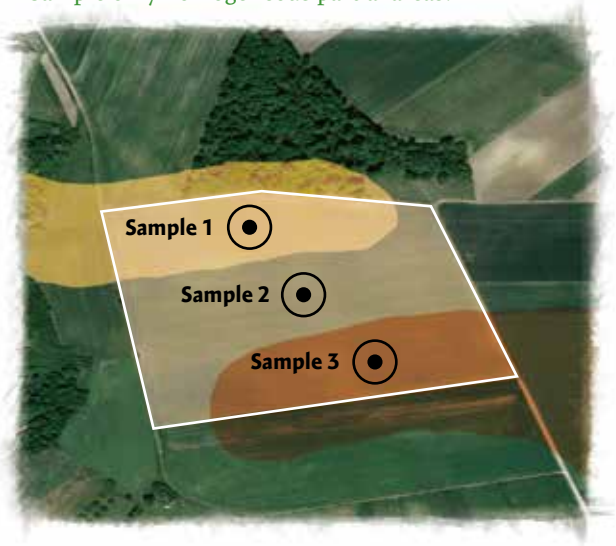
Homogeneous partial areas

Only mixed samples should be taken from homogeneous partial areas! Soil maps, yield maps, field experience and aerial photographs are used to delimit these.

Correct sampling
Sample only homogeneous partial areas!



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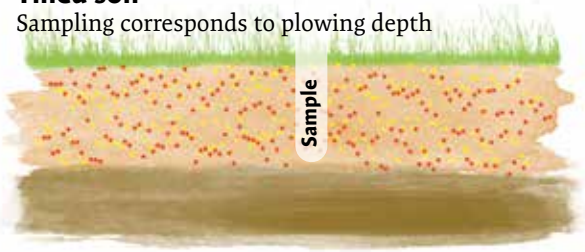
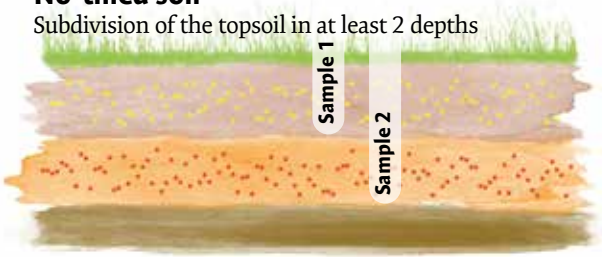
The right sampling depth

Soils can also be heterogeneous in depth (soil horizons). Samples may only be taken from homogeneous horizons!

Tilled soil
Sampling corresponds to plowing depth



No-tilled soil
Subdivision of the topsoil in at least 2 depths



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Implementation

Sampling should be carried out according to clearly defined methods and techniques. This ensures that the sample is representative for the homogeneous sub-area and that soil samples can be compared with one another.

Procedure of the sampling

1. Determination of the circular sampling plot (Ø 20 to 100 m) and documentation of the midpoint
2. aTking 10 to 15 individual samples from the sampling circle (spade, drill)
3. Mixing of the sample material in a clean bucket
4. Filling approx. 1.5 kg of homogenized material into a clean container (e.g. plastic bag)
5. Labeling of the sample
6. Filling out the order form
7. Shipment of the samples

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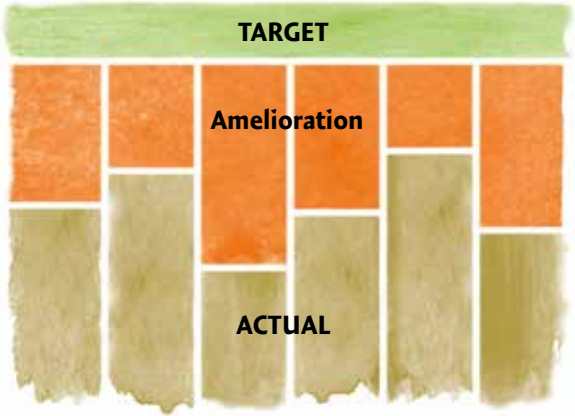
Analytics

The ACTUAL status is determined using the “Fractionated Analysis” method. The potential soil fertility represents the TARGET state. Differences between the ACTUAL and TARGET can be remediated by specifically derived measures (AMELIORATION).

Every soil condition requires its specific treatment

Only measures specifically adjusted to the specific soil conditions of the respective field lead to potential soil fertility being achieved!



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Success

Correctly taken samples and the subsequent implementation of the specific measures ensure and maintain soil fertility and are essential pillars of economic success.

AKRA
Karner Düngerproduktion

Competent implementatiog

AKRA fertilizer production supports companies from sampling to implementation of the recommended measures.

www.duenger-akra.at

Ecological & Economical

Good partners lead to success!

On-site consultation: The experienced employees in the field service of AKRA fertilizer production can explain the results from the „Fractionated Analysis“ and discuss them in more detail.

Implementation: The approach of the AKRA fertilization strategy complements the philosophy of “Fractionated Analysis”. The implementation of the recommended measures often requires adaptation to company-specific conditions and support in the selection of suitable products.

Success: By implementing a customized fertilization strategy, the potential of the respective site is sustainably secured, and business success is optimized.