


Soil analysis

Goal	Avoid the impact of fertilizers on aquatic biodiversity and habitats conservation.
Target group	All farmers.
Description of the measure	<p>Soil analysis are the best way to know the soil composition as well as the nitrogen content remaining in it, and therefore the best way to ensure that the farmer is really applying the nitrogen needed for the coming season. This information is critical for designing the fertilization plan and without this information, farmers can very easily unbalance the nitrogen budget in their crops.</p> <p>A conventional soil test can provide some information about biological and physical soil properties. A complete soil condition assessment covers physical, biological and chemical soil properties of the topsoil and subsoil.</p>
Suitable sites	All farms and crops.
How a good implementation looks like	<ul style="list-style-type: none"> Frequency: soil analysis shall be carried out within a reasonable frequency and in the same soil. A least a basic analysis (NPK, organic matter...) must be done before planting. The periodicity varies depending on the mobility of the elements to analyse. For P and K, one analysis every 5 years should be enough. However, the presence of N is more variable, so an annual analysis is recommended. Salinity and OM content can be evaluated once every 5 years, although if any action has been taken to increase the OM content, it is advisable to perform some extra analysis. The results of the analyses must be linked to the operations such as tillage and fertilization. Homogenous areas: soil analysis must be carried out in the different types of soils in the farm. Check soil analysis type: basic or complete.
Effects on biodiversity (ecosystems, species, soil biodiversity)	 <p>Bennefits for edaphic fauna.</p> <p>Soil analysis is a basic measure to implement other conservation soil measures. Soil tests — and proper interpretation of results — are an important tool for developing a farm nutrient management program, which is critical to healthy soils. A healthy soil is defined as the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.</p>
Other positive effects/benefit for the farmer	An excess of nitrogen can lead to several diseases as well as making the plant more vulnerable for pest and fungi. In some varieties, nitrogen excess can lead to very vigorous plants with a more difficult crop management.

Indicator/key data	<ul style="list-style-type: none"> ▪ Frequency of soil analysis performance. ▪ % of UUA covered with soil analysis carried out.
Risk and further recommendations	
Timeframe (When to start a measure and anticipated time for implementation)	Permanent Action.
Additional special resources/equipment/skills needed	A soil analysis must be done with the purpose of fertilizer plan management. In this context an advisory system can be need in order to interpret the results and define the feralization in the crop.
Reference	<ul style="list-style-type: none"> ▪ Soil Testing and Interpretation. Doris Blaesing, RMCG ▪ FAO 2017. Voluntary Guidelines for Sustainable Soil Management Food and Agriculture Organization of the United Nations. Rome, Italy

Further information: [Knowledge Pool](#)

This Action Fact Sheet belongs to the training package for advisors of standard organisations and companies and was developed within the project LIFE Food & Biodiversity (Biodiversity in Standards and Labels of for the Food Industry). The main objective of the project is to improve the biodiversity performance of standards and sourcing requirements in the food industry by helping standard organisations to integrate efficient biodiversity criteria into their schemes and motivating food processing companies and retailers to include comprehensive biodiversity criteria into their sourcing guidelines.

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