



Deutsche Umwelthilfe



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# The common basis for agriculture and nature conservation is the living soil

## Living soil as the basis of all terrestrial life is not substitutable!

**We see:** Soils that support agro-ecosystems are just as much living nature as natural ecosystems. Both the country's biodiversity and human nutrition are inescapably dependent on the nature of soils, that is, on the soil itself. For this reason, soil conservation must be given priority in every respect over short-term maximum yield performance and increase.

**We recognise:** Life in and from the soil has its own needs, to know and take account of which must become a basic prerequisite for sustainable agriculture and thus good agricultural practice. Full root penetration of the soil by the plants and the supply of food for earthworms must be ensured. The diversity of wormlike and arthropod species, of fungi, protists and bacteria/archaea and their interaction must be recognised and integrated into practical agriculture and nature conservation (all without genetic manipulation). This requires a view of soil that goes beyond a view of soil as a "raw material (mere resource) and "service provider" for solely human needs.

**We say:** Because soils are nature, soil protection is nature conservation! For the future, we consider it indispensable to understand soil protection in agriculture as part of nature conservation (integration strategy). This requires with the help of practice, research and education, to establish ecologically sustainable agriculture oriented towards the characteristics of natural ecosystems. Only if biodiversity is permitted and promoted in the soil can there also be biodiversity above ground. Arable land and grassland, together with nature conservation areas, should be understood as an integrated system. Both practitioners and nature conservationists should take these principles into account in their work.

# Key demands for a changed practice of agriculture and nature conservation

## 1 The absolute priority of net soil conservation over other factors in agriculture

At the end of a (preferably wide) crop rotation, the soil status shall not be worse than at the end of the preceding one. The protection of soil substance and structure also has priority in grassland. The following four points must be implemented simultaneously and should not be seen as a catalogue of optional measures.

- 1.1 Maintenance or increase of **humus content**, estimated by a combination of measurements and modelling. This involves methodologically innovative consideration of humus quality, which of course is much more than just the content of soil organic carbon.
- 1.2 Preservation or improvement of **soil structure** and the crumb and surface stability of the soil that is made by life. This can be evaluated, for instance, by means of rating structures and root penetration.
- 1.3 Maintaining or increasing the **activity of soil life**, assessable on the basis of earthworm activity and the degradability of straw or other organic input with a wide C/N ratio, complemented by studying the activity of a manifold soil life.
- 1.4 Preservation or augmentation of **soil substance**, defined by the absence of visible or measurable erosion events, supported by natural soil formation and nutrient extraction from the mother rock. Implementation of measures must effectively meet binding and ecologically appropriate minimum requirements of "good professional practice". It is to be carried out in consistent consideration of testable scientific findings and local practical experience. In order to keep the bureaucratic burden within limits, the emphasis should be placed primarily on the personal responsibility of the farmers in agriculture and horticulture (subsidiarity principle). A certain degree of control that the crash barriers for ecological and soil characteristics are observed will nevertheless be indispensable. It is true that some soil properties can hardly be determined in the field and are difficult to determine in the laboratory. However, there is a great deal of knowledge about how they are influenced positively or negatively by changes in the management system (crop rotation, tillage etc.).

## 2 The principle of restoring and improving the natural productivity of soil-plant systems which are ecologically and locally adapted

- 2.1 By **natural productivity** we mean one that is made effective by a functional diversity of life with little or no external nutrient supply. This involves largely closed nutrient cycles (including the global nitrogen cycle). Animals must be fed on a range-bound diet: The consequences would be animal populations adapted to individual farms and regions with approx. 1.4 to a maximum of 2 livestock units per hectare, more legume cultivation also on livestock farms (including groups of farms); and an end to feeding based heavily on the purchase of concentrated feed.

2.2 **Nature conservation may and must also exist within agriculture** and horticulture. It is important here to clarify “how much” and “what nature” is necessary in agriculture and horticulture for their long-term survival, and how much nature can and must be tolerated in addition to the approximate “minimum requirement”. (The actual situation shows in many cases too little natural diversity in the cultivation system). Partnership with nature is preferable to a fight against nature or an anthropocentric paradigm of nature control, even in agriculture. Any kind of soil management therefore always requires compensatory action for the soil.

2.3 **Structural change in agriculture also requires change in agricultural culture**, which affects ideas of “cultural landscape” and “ideals of nature” (also outside agriculture) and the associated psychological, physical and social well-being of people. More equivalence and balance of material-functional and emotional, aesthetic and ideal dimensions in the relationship with nature is needed again. Nature is often surprisingly different (e.g. more “self-willed” and “messy”) and may often not correspond to the structured planning and aesthetic ideas of people.

### 3 **Demands for socio-political changes so that the soil can be preserved as a common ground**

3.1 Food must again be given **a price adequate to its value**. Environmentally friendly products shall not be at a cost disadvantage in the shop, because others are cheaper because the consequences of the damage they cause are not included in the price. Instead, hitherto hidden costs caused by production, but also corresponding benefits for nature and mankind, should be made more visible (true costs). These prices must reward farmers and growers better, which in turn benefits animals, plants and the soil. This can be particularly well achieved where there is a clear and binding link with their marketing channels, which are either organised directly by them personally or supported by regionally responsible trade. **More human attention to the details of the agro-ecosystem** and “more dialogue with nature” are needed again during and after the agricultural policy changeover. To achieve this, value creation must return more to the farms and horticultural enterprises.

3.2 The lasting value of **farmers’ freedom and autonomy** should be explicitly emphasised in a new “arable farming strategy”. Farmers’ freedom of action and self-responsible management within a clear and enforceable framework can also be understood as a chance for nature conservation.

3.3 A change towards ecologically sustainable land management in agriculture requires impetus and support, also through **changed social values**. Today’s usually sharp division between nature conservation and agriculture must also be overcome from a social and cultural perspective. This requires a new appraisal of the value of nature in agriculture. Also for the health aspects of near-natural, organically grown products, for intangible values and for **more ecological approaches in farming training** at all levels – as well as **more agricultural knowledge in the field of nature conservation**.

## **Background**

In order to bring farmers and nature conservationists closer together on soil, WWF established a background discussion group in October 2016 by: nature conservationists farmers as well as people with bridge-building functions meet regularly to identify and negotiate opinions and assumptions, facts and demands on soil-related issues point by point.

This position paper is based on a detailed thesis paper of 2018 (Lebendiger Boden für Landwirtschaft und Naturschutz (wwf.de) ), which was developed by a close working group. In 2020, the paper was submitted to a larger circle for signature. Today, more than 40 individuals and organisations, including nature conservation and agriculture, are signing the paper.

The essential basis for this continues to be the assumption that living soils are indispensable for the future of both land management and nature conservation.

## **Imprint**

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