

# BIODYNAMIC HORN MANURE

Horn manure (500) is one of the main biodynamic preparations and is certainly among the most widely used, along with horn silica (501) and the preparations for treating compost. As such, it is the subject of much research aimed at characterising its effects and understanding its mode of action.



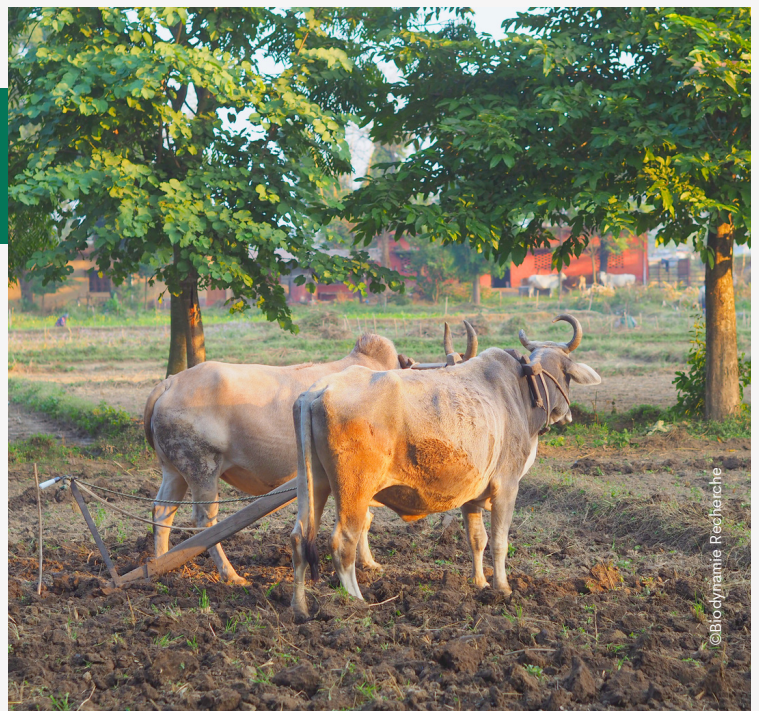
## COMPOSITION

Biodynamic horn manure (500) is the final product of natural biotechnology based on the anaerobic humification process of manure. The relatively lower fungal activity during the anoxic humification of manure is conducive to a considerable content of aromatic compounds due to a partial degradation of manure' lignin. These phenolic lignin residues are known to have an intense biological activity that confers to the humified horn manure a significant biostimulation on plants, such as that exerted by the auxin hormone, even at very low doses.

## ACTION

Horn manure stabilises and compensates plant growth and yield, fostering adaptation to different environmental conditions.

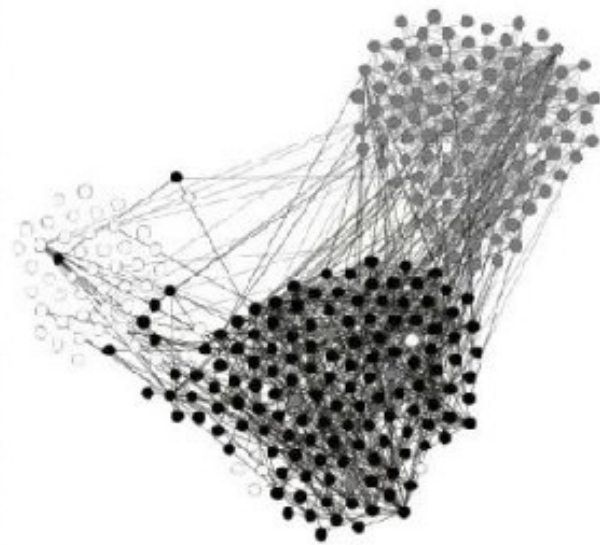
When horn manure is diluted and spread at  $100\text{g}\cdot\text{ha}^{-1}$ , as recommended by the Demeter standard, its final (nanomolar,  $10^{-10}$ ) concentration in the soil fits well within the known ranges of biological activity, which are effective on plants even at femtomolar ( $10^{-15}$ ) concentrations.



## CONVENTIONAL

# EFFICACY

Laboratory bioassays have shown the effect of horn manure on cress root growth through a stabilising pattern of actions that regulate growth under stress conditions. This indicates the potential to increase the resilience of agricultural systems even in adverse soil environments, such as flooding and thermal shocks, as well as salinity and drought conditions.



Sample Us149

Figure : **Specific organisation of fungal communities in soils according to cropping patterns.** Source : [Ortiz-Álvarez et al, 2021.](#)

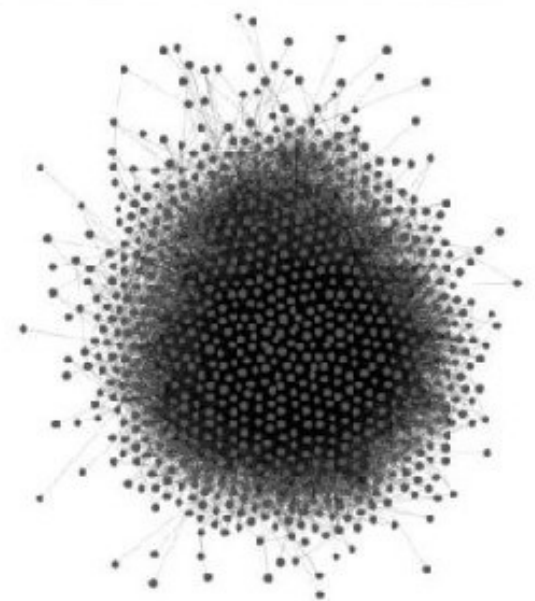
# SYSTEMIC STUDIES

Systemic studies found the soil microbiome, i.e., microbiological diversity, abundance and functionality, to be better under biodynamic management than in organic and conventional agriculture. This general improvement of the soil microbiological status can most likely be attributed to the use of horn manure even though there is no evident correlation.

Get a detailed booklet on that theme:  
<https://www.sektion-landwirtschaft.org/en/research/basics>



## BIODYNAMIC



Sample Us60