

FOOD QUALITY IN BIODYNAMIC FARMING SUMMARY

One of the stated objectives of biodynamic farming is to produce food of high nutritional and taste quality for body and soul. This is one of the reasons why the Demeter label was created well before organic labels.

Although academic research on the food quality of biodynamic products has been conducted for many years, it is only at the beginning of the 21st century that this topic has gained recognition with the publication of scientific articles in peer-reviewed journals.

The number of scientific publications on biodynamic food quality has increased significantly in recent years, together with publications in the fields of viticulture and soil quality. Nutritional properties are the most frequently discussed topic in scientific literature on food quality. In this fact sheet, we provide an overview of current scientific knowledge.

ARE ORGANIC AND BIODYNAMIC FOODS HEALTHIER THAN CONVENTIONAL FOODS?

This is a complex issue on which it is difficult to reach a scientific consensus. With regard to undesirable substances such as pesticide residues, there is no doubt that organic and biodynamic products are healthier than their conventional counterparts.

Based on available data, a trend emerges: organic and biodynamic products tend to contain higher levels of antioxidants, such as polyphenols and flavonoids, than their conventional counterparts, which contributes to their nutritional quality.

However, we still do not have definitive evidence from human food trials regarding the vitality of organic and biodynamic foods, even though the number of publications has increased steadily over the last decades.



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FOOD QUALITY IN BIODYNAMICS, A FIELD OF INNOVATION FOR NEW SCIENTIFIC METHODS

From a scientific point of view, the concepts of quality and vitality are difficult to define and evaluate. Since its inception one century ago, the biodynamic movement has contributed to the advancement of knowledge by developing innovative methods of analysis and evaluation. These include empathic food testing, which focuses on consumer perception, the so-called 'picture forming' methods (e.g. biocrystallisation) or the more recent "cucumber-test" for assessing the vitality of products. The initial results of these methods are promising and make it possible to differentiate between products from organic farming and those from biodynamic farming.

BIODYNAMICS FOR A HOLISTIC APPROACH TO FOOD

According to Santoni et al. (2022), the 'One Health' concept " posits that there is a link between human, animal and environmental health. Indeed, the health conditions of all organisms in an ecosystem are interconnected via the cycles of microbial communities from the environment (particularly the soil) to plants, animals and ultimately humans (Van Bruggen et al., 2019). The 'One Health' approach, combined with the superior performance of biodynamic soils in terms of microbial indicators (Christel et al., 2021), could therefore support the idea that biodynamic products are healthier for consumers.



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[6] Christel A., Maron P.A., Ranjard L. (2021). *Impact of Farming Systems on Soil Ecological Quality: A Meta-Analysis*. Environmental Chemistry Letters 19, n° 6.

[26] Van Bruggen, A.H.C., Goss, E.M., Havelaar, A., Van Diepeningen, A.D., Finckh, M.R., Morris, J.G. (2019). One Health - Cycling of diverse microbial communities as a connecting force for soil, plant, animal, human and ecosystem health. Science of The Total Environment 664.

[32] Santoni, M., Ferretti, L., Migliorini, P., Vazzana C. & Pacini G. C. (2022) A review of scientific research on biodynamic agriculture. Org. Agr. 12, 373–396.

