

Biodynamic Agriculture

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Introduction

Biodynamic agriculture is a form of alternative agriculture very similar to organic farming. but it includes various esoteric concepts drawn from the ideas of Rudolf Steiner (1861–1925). Initially developed in 1924, it was the first of the organic agriculture movement. It treats soil fertility, plant growth, and livestock care as ecologically interrelated tasks, emphasizing spiritual and mystical perspectives.

Biodynamics has much in common with other organic approaches – it emphasizes the use of manures and composts and excludes the use of synthetic (artificial) fertilizers on soil and plants. Methods unique to the biodynamic approach include its treatment of animals, crops, and soil as a single system, an emphasis from its beginnings on local production and distribution systems, its use of traditional and development of new local breeds and varieties. Some methods use an astrological sowing and planting. Biodynamic agriculture uses various herbal and mineral additives for compost additives and field sprays; these are prepared using methods that are more akin to sympathetic magic than agronomy, such as burying ground quartz stuffed into the horn of a cow, which are said to harvest "cosmic forces in the soil".

Environmentally friendly

Biodynamic agriculture is undoubtedly the oldest organized agricultural movement in the world. It is considered as an organic agricultural farming approach and determined as the oldest organized alternative agricultural movement in the world. The great ecological effect of the application of the biodynamic agriculture is expressed in soil preservation and preservation of the living organisms in the soil, as well as maintenance of the natural balance in the vegetable and animal kingdom. The biodynamic calendar is based on the positioning of

the stars and the moon. While many biodynamic farmers utilize the lunar calendar, it is not a requirement for Demeter certification.

The first known presentation of organic agriculture, were held in response to a request by farmers who noticed degraded soil conditions and a deterioration in the health and quality of crops and livestock resulting from the use of chemical fertilizers. The 111 attendees, less than half of whom were farmers, came from six countries, primarily Germany and Poland The lectures were published in November 1924; the first English translation appeared in 1928 as The Agriculture Course.

Today biodynamics is practiced in more than 50 countries worldwide and in a variety of circumstances, ranging from temperate arable farming, viticulture in France, cotton production in Egypt, to silkworm breeding in China. Demeter International is the primary certification agency for farms and gardens using the methods.

- In the United States, biodynamic farming dates from 1926. From 1926 through to 1938, 39 farmers and gardeners in USA pursued biodynamic practices. The Biodynamic Farming & Gardening Association was founded in 1938 as a New York state corporation.
- .In Australia, the first biodynamic farmer was Ernesto Genoni who in 1928 joined the Experimental Circle of Anthroposophical Farmers and Gardeners, followed soon after by his brother Emilio Genoni. Ernesto Genoni's first biodynamic farm was at Dalmore, in Gippsland, Victoria, in 1933. The following year, Ileen Macpherson and Ernesto Genoni founded Demeter Biological Farm at Dandenong, Victoria, in 1934 and it was farmed using biodynamic principles for over two decades.
- In France the International Federation of Organic Agriculture Movements (IFOAM) was formed in 1972 with five founding members, one of which was the Swedish Biodynamic Association.

Biodynamic Method of Farming

In common with other forms of organic agriculture, biodynamic agriculture uses management practices that are intended to "restore, maintain and enhance ecological harmony Central features include crop diversification, the avoidance of chemical soil

treatments and off-farm inputs generally, decentralized production and distribution, and the consideration of celestial and terrestrial influences on biological organisms. Disease and insect control are addressed through botanical species diversity, predator habitat, balanced crop nutrition, and attention to light penetration and airflow. Weed control emphasizes prevention, including timing of planting, mulching, and identifying and avoiding the spread of invasive weed species.

Biodynamic agriculture differs from many forms of organic agriculture in its spiritual, mystical, and astrological orientation. It shares a spiritual focus, as well as its view toward improving humanity, with the "nature farming" movement in Japan. Important features include the use of livestock manures to sustain plant growth (recycling of nutrients), maintenance and improvement of soil quality, and the health and well being of crops and animals . Cover crops, green manures and crop rotations are used extensively and the farms to foster the diversity of plant and animal life, and to enhance the biological cycles and the biological activity of the soil.

Biodynamic farms often have a cultural component and encourage local community, both through developing local sales and through on-farm community building activities. Some biodynamic farms use the Community Supported Agriculture model, which has connections with social three folding.

Biodynamic preparations

This "agricultural course" Steiner prescribed nine different preparations to aid fertilization, and described how these were to be prepared. Steiner believed that these preparations mediated terrestrial and cosmic forces into the soil. The prepared substances are numbered 500 through 508, where the first two are used for preparing fields, and the other seven are used for making compost. A long term trial (DOK experiment) evaluating the biodynamic farming system in comparison with organic and conventional farming systems, found that both organic farming and biodynamic farming resulted in enhanced soil properties, but had lower yields than conventional farming. Regarding compost development beyond accelerating the initial phase of composting, some positive effects have been noted: The field sprays contain substances that stimulate plant growth including cytokinins. Some

improvement in nutrient content of compost is evident from the ingredients included, but not necessarily as a result of the practices and exact preparations as Steiner described them.

Field preparations

Field preparations, for stimulating humus formation:

500: A humus mixture prepared by filling a cow's horn with cow manure and burying it in the ground (40–60 cm below the surface) in the autumn. It is left to decompose during the winter and recovered for use as fertilizer the following spring.

501: Crushed powdered quartz stuffed into a cow's horn and buried in the ground in springtime and taken out in autumn. It can be mixed with 500 but is usually prepared on its own. The mixture is sprayed under very low pressure over the crop during the wet season, as a supposed antifungal.

Planting calendar

The approach considers that there are lunar and astrological influences on soil and plant development—for example, choosing to plant, cultivate or harvest various crops based on both the phase of the moon and the zodiacal constellation the moon is passing through, and also depending on whether the crop is the root, leaf, flower, or fruit of the plant. This aspect of biodynamics has been termed "astrological" and "pseudoscientific" in nature.

Seed production

Biodynamic agriculture has focused on the open pollination of seeds (with farmers thereby generally growing their own seed) and the development of locally adapted varieties.

Biodynamic Certification

The Demeter biodynamic certification system established in 1924 was the first certification and labelling system for organic production. As of 2018, to receive certification as biodynamic, the farm must meet the following standards: agronomic guidelines, greenhouse management, structural components, livestock guidelines, and post-harvest handling and processing procedures.

The term *Biodynamic* is a trademark held by the Demeter association of biodynamic farmers for the purpose of maintaining production standards used both in farming and processing foodstuffs. The trademark is intended to protect both the consumer and the producers of biodynamic produce.



In Egypt, SEKEM has created the Egyptian Biodynamic Association (EBDA), an association that provides training for farmers to become certified. As of 2006, more than 200 wineries worldwide were certified as biodynamic; numerous other wineries employ biodynamic methods to a greater or lesser extent.

