

Biocyclic-Vegan Agriculture

by Axel Anders and Dr Johannes Eisenbach

In last year's Summer/Autumn issue of *Growing Green International* (No 37) you were introduced to the Biocyclic Network [1], an association of organic growers from Greece and Cyprus that has been working for many years according to the Biocyclic Standards. These standards can basically be considered as a stockfree approach to farming, but with the growers being unaware of its 'vegan aspect'. The article also mentioned that the Biocyclic Network, after discussions with the representatives of the German Bio-Veganer Netzwerk [2], discovered that vegan organic farming perfectly matched their own principles and so an intense cooperation began, leading to the revision of the Biocyclic Standards and to their renaming as the Biocyclic-Vegan Standards [3].

The Biocyclic-Vegan Standards will soon be integrated into the IFOAM 'Family of Standards' (International Federation of Organic Agriculture Movements [4]), as the only international IFOAM-approved stand-alone standard for vegan organic agriculture. This will make it possible for any vegan organic producer worldwide to be certified vegan organically through their national inspection and certification bodies.

In parallel, a growers' association of biocyclic-vegan farmers, Biozyklisch-Veganer Anbau (BIO.VEG.AN.), was set up in Germany and adopted the Biocyclic-Vegan Standards as the basis for their activity. The first producers in Germany are about to become certified according to these standards, and will soon start to sell their products under the biocyclic-vegan label.

Owing to a well established partnership between members of the respective Greek and German networks, and some of the most prominent distributors/retailers of organic fruits and vegetables, there is actually strong support and this helps to get biocyclic-vegan products onto the shelves of supermarkets and organic food stores in Germany and Austria.

This development is fostered by a growing awareness and demand from the consumers' side. For varying reasons they want to buy products that have been produced in a responsible manner with regard to the environment, animal ethics, health and social welfare.

The principles of Biocyclic-Vegan Agriculture and the Biocyclic-Vegan Standards

The Biocyclic Standards had been developed since the 1950s by Adolf Hoops (1932-1999), a pioneer of organic farming in North Germany. From the very beginning Adolf Hoops had been fighting against the dogma prevailing among organic farmers that sustainable soil fertility can be achieved only through animal husbandry and the use of animal manure. At his organic horticultural farm *Bio-Modell Walsrode* he developed an ecologically orientated stockfree farming method where he



Adolf Hoops

tried to close the nutrient cycles as much as possible by producing the necessary inputs of organic matters on site. For the improvement of soil fertility, great importance was attached to the use of a purely plant-based compost in the form of *humus soil*, as well as to the use of wild and medicinal herbs. (See section next page on 'The importance of compost and humus soil'.)

Decades of experience demonstrated the feasibility of this approach. In the 1990s Adolf Hoops joined Dr (of agriculture) Johannes Eisenbach in Greece, where they worked together refining the Biocyclic Standards and adapting them to the Mediterranean climate zone. Today these standards are successfully practised by approximately 100 farmers in Cyprus and Greece, who form the Biocyclic Network.



Johannes Eisenbach (organic farmer, agronomist and doctor of agricultural economics) at Biocyclic Park in Kalamata, Greece. The beetroots were cultivated directly on biocyclic humus soil.

The use of animal manure in the Biocyclic Standards was fundamentally rejected, but there were some exceptions where it was tolerated under certain conditions. With respect to the paradigm shift taking place in our societies regarding environmental issues as well as animal ethics, and with the increasing demand for products grown in a vegan way, it has been a logical step for the Biocyclic Standards to return to the principles of their initial philosophy and be given a new frame in the form of the Biocyclic-Vegan Standards. This will give farmers the possibility to free themselves from the need to combine their crop production with animal husbandry and/or the use of animal manure and slaughterhouse waste as fertilisers. It will also permit them to market their products

under the biocyclic-vegan label, while for the consumers it will create full transparency from field to table.

The meaning of the term ‘biocyclic’

The fundamental principle of biocyclic-vegan farming, in a global sense, is the conservation or rehabilitation of healthy cycles of life (Greek: *bios* = life, *kyklos* = cycle/circle). This requires a responsible interaction with the environment that we humans use and influence. All personal and economic activity is thus considered to take place in a holistic context, with the goal of making a conscious and sustainable contribution. It should be a development fit for the future in the area of agriculture and the food industry, where healthy soil will lead, via healthy plants, to healthy humans.

In such a way the biocyclic “circle of the living substance” (Dr Hans-Peter Rusch) can be seamlessly influenced and enhanced in a sustainable manner, in harmony with the laws of nature. Only an activity that puts a strong emphasis on the cyclic concept will at the same time yield a multiple benefit in different areas such as health, the environment, global food, etc.

In this sense biocyclic-vegan agriculture aims to activate the self-healing potential of an agricultural ecosystem in providing conditions of growth as close to nature as possible, thereby increasing the ecosystem services altogether. This activation actually starts from the level of the macromolecules and soil life, from where it can subsequently have a positive influence on the entire food chain.

Biocyclic-vegan farming stands in the soil science tradition of renowned researchers from the 18th, 19th and 20th centuries (Albrecht Thier 1752-1828, Justus von Liebig 1803-1873, Sir Albert Howard 1873-1947 and Dr Hans-Peter Rusch 1906-1977). And it combines them with the practical experiences of organic farming and composting that exist today, as an indispensable factor for the improvement of soil fertility.

The importance of compost and humus soil in Biocyclic-Vegan Agriculture

The Biocyclic-Vegan Standards are characterised by the fact that they attach particular value to the consistent use of compost and humus soil. Even in organic agriculture, compost is often not yet sufficiently considered as a component of basic fertilisation, and among many farmers there prevails the erroneous opinion that animal manure contains more nutrients and is thus indispensable for soil fertility. For this reason the application rates of compost often remain too low. Additionally, in many cases the compost used is too fresh. The real benefits of compost, however, manifest themselves only when the compost undergoes a post-maturation process, taking it to a soil-like state beyond substrate maturity and turning it into humus soil.

Humus soil is a comprehensive, balanced and long-lasting reservoir of organically bound nutrients (‘nutrient battery’). Due to the fact that these nutrients are not water soluble, plants growing on fully mature humus soil have to activate an absorption mechanism which enables them to ‘crack’ the nutritional elements bound in stable humus-complexes. The same mechanism in nature



Growing biocyclic-vegan basil on humus soil in springtime – Vassilis Koustaloupis at Biocyclic Park, Kalamata

enables plants to grow in an environment with generally very limited access to water soluble nutritional elements. This is a key factor in guaranteeing a sustainable purely plant-based soil fertility, which is even accentuated by the use of wild and medicinal herbs.

Owing to the stability of humus soil, and the fact that nutrients can virtually no longer be washed out, any over-fertilisation is excluded even if large quantities are applied. Thereby biocyclic humus soil makes a significant contribution to the solution of the actual global nitrogen issue. Particularly with respect to the excessive nitrate levels in ground and surface waters, humus soil can help to reduce eutrophication of freshwater and marine areas, and it is the ideal source of nutrients in water protection zones.

Additionally, by virtue of the fact that humus contains a high percentage of carbon, the increased use of humus soil in biocyclic-vegan farming will allow considerable amounts of carbon to be sequestered in the organic substance of the soil. This will help to transform farmland into carbon sinks – a major factor in addressing the climate issue.

Owing to their physical properties, compost and humus soil can also be considered as ‘soil improvers’. The reason for this designation is their ability to contribute to a better aeration of the soil as well as to an increased water retention capacity and an acceleration of soil tilth. In addition, the high concentration of microorganisms of various kinds that it contains makes a significant



*Biocyclic Park in Kalamata, Greece, where the first ever biocyclic humus soil was produced.
The windrows are planted with beetroots.*

contribution to the enhancement of soil life. Through the deliberate use of large quantities of humus soil, on the basis of using purely plant-based composts, biocyclic-vegan farming can also be a means to terminate and reverse the degradation and erosion of soils.

As a consequence, humus soil – with its extensive use in biocyclic-vegan agriculture – will in future be at the forefront of efforts to protect soil, water, climate, biodiversity and resources all together.

Furthermore, the use of humus soil is of particular importance when it comes to the closing of nutrient cycles. In line with the biocyclic idea it makes sense that, beyond internally sourced materials, also the residues generated in large quantities by the ecological food processing industry (as well as other waste materials of plant-based origin issuing from food production, trade, biogas production, etc, and sometimes also algae or seaweed collected from the beaches) are integrated into the agricultural nutrient cycle through systematic composting – as long as the process eventually leads to the production of humus soil.

In biocyclic-vegan agriculture even so-called absolute grasslands (or other areas previously used for the production of forage, or for extensive grazing on the grounds of landscape conservation) can make an important contribution to the supply of plant-based raw material for the production of biocyclic-vegan humus soil.

Outlook

The members of the International Biocyclic-Vegan Network are confident that the accreditation of the Biocyclic-Vegan Standards at IFOAM, as well as the increasing availability on the market of fruits and vegetables sold under the biocyclic-vegan label, will make this approach more and more visible to the public.

A growing awareness on the consumers' side regarding the benefits of biocyclic-vegan agriculture will trigger an increasing demand, which again will motivate farmers who have been hesitating to go that far to eventually take the step to join this initiative. The International Biocyclic-Vegan Network is ready to welcome them. ◆

Websites mentioned at the start of the article:

- [1] www.biocyclic-network.net
- [2] www.biovegan.org
- [3] www.tinyurl.com/biocyclic-standards
- [4] www.ifoam.bio



*Biocyclic-vegan cultivation of Jaffa oranges in Cyprus.
Apart from orange trees the orchard has plenty of other trees different from the main culture in order to increase biodiversity within the cultivated area.*



*Biocyclic-vegan production of navel oranges
in Agrinio, Western Greece, near the Ionian Sea.
The strict non-use of animal manure or other
growth stimulants derived from animals
(like feather meal, blood meal, etc)
leads to more uniform fruits and a better shape*