The Biocyclic Vegan Growers‘ Guide

A STEP-BY-STEP INTRODUCTION

Biocyclic Vegan
INTERNATIONAL

Dear growers interested in biocyclic vegan agriculture,

In agricultural and environmental policy, the course has long been set for reducing the number of livestock, and thus an alternative form of food production is gradually growing. Biocyclic vegan agriculture, an ecological and regenerative approach to farming without commercial animal husbandry and without the use of fertilisers or other inputs of animal origin, offers a future-oriented alternative to intensive animal husbandry, which is harmful to the environment and the climate. It contributes to tackling the global crises of the environment and food security and, at the same time, respects the dignity of the animals.

How can you, as a grower of agricultural and horticultural products, set out as a pioneer to implement this sustainable way of running your operation? In recent years, we have received many inquiries: How can the nutrient supply be ensured in a farm cycle without commercial animal husbandry? What must I do to have my operation certified according to the Biocyclic Vegan Standard? And is conversion conceivable for me from an economic point of view?

This Growers' Guide was developed by a team of the German association "Förderkreis Biozyklisch-Veganer Anbau" within the framework of a project "Vegan Organic Farming" (Veganer Ökolandbau – VegÖL), which was significantly funded by the German Environment Agency. It is an introductory guide for all those who are interested in having their operations inspected and certified by the IFOAM-accredited Biocyclic Vegan Standard, allowing them to label their products with the Biocyclic Vegan Quality Seal, and thereby identifying them as "vegan from the field".

As interest in biocyclic vegan agriculture is growing worldwide, we considered it helpful to make the information presented in this guide available in English to an international audience of interested growers.

Although the approach has mainly developed in the Central European and Mediterranean regions, biocyclic vegan agriculture can be applied worldwide – in all climate zones from Iceland to New Zealand, from Alaska to South Africa. The fundamental principles of plant growth and soil health are the same everywhere! There are already initiatives developing in countries like Brazil, Colombia, Paraguay, Nigeria, and India. So there will surely be more chapters added in the future tackling specific questions, e. g. on agriculture in tropical or arid regions.

We thank the authors and editors of the German edition for the very sound preparation of this Growers' Guide in both theory and practice – and for agreeing to publish this international edition. We would also like to thank our British partner organisation, "Stockfree Farming", for their help with the translation and their financial support, which will enable farmers not only in the UK but also in many other countries around the world to take the first steps towards biocyclic vegan agriculture.

In this sense, we wish the Biocyclic Vegan Growers' Guide a broad dissemination so that it can contribute to the transformation of the global food and agricultural system, a process that is on its way and can no longer be stopped.

Axel Anders
Co-Founder and Member
of the Board of Directors of
Adolf-Hoops-Gesellschaft mbH
/ Biocyclic Vegan International

CONTENT

List of abbreviations

BOI Biocyclic Operation Index
BNS BNS Biocyclic Network Services Ltd
BVL Biocyclic Vegan Label Ltd
BcVSt Biocyclic Vegan Standard
N Nitrogen
SDGs Sustainable Development Goals

1. Introduction

1.1 WHAT IS BIOCYCLIC VEGAN AGRICULTURE?

Biocyclic vegan agriculture is purely plant-based organic farming. This form of cultivation excludes all kinds of commercial animal husbandry and slaughter and does not use any inputs of animal origin.

Nutrient cycles are closed by purely plant-based fertiliser systems and well-planned crop rotation management. Targeted promotion of biodiversity, systematic humus build-up and the non-use of synthetic fertilisers and pesticides contribute to the health of soil, plants and nature.

Biocyclic vegan agriculture is not a specific farming method but a cultivation principle that can be applied to various approaches in agriculture. This explicitly includes forms of agroforestry, permaculture, agroecology, and regenerative farming (the goals of which, as the „original principles“ of organic agriculture, are also anchored in the Biocyclic Vegan Standard) – under the condition that the principle of prohibiting livestock farming and the use of inputs of animal origin is adhered to.

In a period when the call to reduce the number of livestock is becoming louder and louder in the public debate, and many livestock farmers are also considering abandoning animal husbandry for profitability, biocyclic vegan agriculture offers a promising perspective. In addition, there is currently a paradigm shift in public opinion regarding the relationship between humans and animals, especially among the younger generation. More and more people see the exploitation and killing of animals for human consumption as no longer ethically justified or necessary from a nutritional point of view. A market is also developing here for businesses that meet the expectations of this growing target group through their consistent vegan focus in production.

1.2 THE ADVANTAGES OF BIOCYCLIC VEGAN AGRICULTURE

Biocyclic vegan agriculture shares the advantages of classical organic farming but goes beyond this by avoiding the various problems associated with animal husbandry concerning the environment and sustainable development. This involves climate, soil and water, biodiversity, health and food security, small-scale farming and animal ethics.

Biocyclic vegan agriculture is good for ...

... Climate

By consistently refraining from livestock farming and slaughtering animals and from using fertilisers of animal origin, as well as by using purely plant-based quality compost and Biocyclic Humus Soil with its high carbon binding capacity, biocyclic vegan agriculture makes an effective contribution to climate protection.

... Ground and Surface Waters

By eliminating livestock farming and animal manure, excess nutrients in the farm cycle are consistently avoided. In addition, using mature compost of plant origin and Biocyclic Humus Soil, which is characterised by a physiologically stable molecular structure, can significantly reduce leaching, e. g. of nitrate. This can lead to an improvement in groundwater quality and contribute to counteracting the eutrophication of surface waters.

... Soil

Biocyclic vegan agriculture means maintaining or restoring the natural fertility of the soil. This is achieved through a high supply of organic matter in various forms, such as green manure, mulch, the spreading of mature, purely plant-based compost and the large-scale use of Biocyclic Humus Soil. These measures contribute to protecting soils from erosion and drying out, to the long-term binding of atmospheric carbon and the increased formation of permanent humus.

... Biodiversity

Establishing a natural ecological balance is an essential principle for preventive plant protection and the promotion of biodiversity. On biocyclic vegan farmland, biodiversity increases significantly, which is achieved through wide crop rotations, systematic mixed cropping, gentle and varied tillage, the establishment of hedgerows and flower strips, and the creation of habitats within the farm area.

... Animals

On biocyclic vegan farms, keeping livestock and animals for slaughter and other uses, as well as using inputs based on slaughterhouse waste, is prohibited out of respect for the dignity of the animal. Furthermore, farmland that is managed in a biocyclic vegan way not only hosts countless microorganisms in the soil but also provides ideal living conditions for wild animals, such as birds and rare insects. This leads to a nature-like state of equilibrium above and below ground.

... Health

Due to the absence of commercially farmed animals, the risk of contamination by drug residues from animal husbandry (e. g. antibiotics) and pathogenic, partly multi-resistant germs from slurry and slaughterhouse waste is significantly reduced in biocyclic vegan agriculture. Healthy soils contribute to human health through resistant, vital and nutrient-rich plants – according to the principle: from healthy soil to healthy plants to healthy people.

... World Food Supply

The systematic improvement of soil fertility, increased productivity through the introduction of nature-like cultivation methods and more efficient land use – exclusively plant-based food production for human consumption, no cultivation of animal feed – are essential elements of biocyclic vegan agriculture. This way, it can make a sustainable contribution to global food security.

... Smallholder Farms

Biocyclic vegan farming also makes an important contribution to the development of predominantly smallholder agriculture in the countries of the global South. It offers local farms methods for developing a circular economy, which enables a permanent increase in soil fertility by using locally available plant resources and thus ensures long-term and sustainable yields. This also reduces the economic dependence of farmers on the pesticide and fertiliser industry.

The Global Sustainable Development Goals (SDGs)

From the perspective of the 17 Sustainable Development Goals (SDGs) adopted by the United Nations General Assembly in 2015, biocyclic vegan agriculture provides practical solutions for achieving every one of these goals.

Detailed information on the 17 goals can be found on the website of Biocyclic Vegan International:
www.biocyclic-vegan.org/the-sustainable-development-goals/

1.3 THE BIOCYCLIC VEGAN STANDARD

The principles of biocyclic vegan agriculture are established in the Biocyclic Vegan Standard, which was included in the IFOAM Family of Standards as an independent global organic standard in 2017 and can thus be used worldwide. For the first time, this makes it possible for biocyclic vegan farms to have their unique farming approach inspected and certified.

Background

The Biocyclic Vegan Standard emerged from the efforts of Adolf Hoops and Dr. agr. Johannes Eisenbach to promote organic farming with a particular emphasis on biocyclic principles, which include the development of sustainable soil fertility based on purely plant-based principles without using inputs of animal origin. It particularly addresses those farmers and growers who have become aware of the importance of restoring and maintaining natural life cycles and soil fertility as the starting point for sustainable agricultural production and, at the same time, are looking for an alternative that allows them to manage their farm according to organic as well as vegan principles and without the use of animal manure.

Key Aspects of the Biocyclic Vegan Standard

Besides the aspects of animal ethics, the Biocyclic Vegan Standard is characterised by the fact that it places particular emphasis on the consistent use of thoroughly decomposed compost, Phytoponic Compost Substrate and, if already available, Biocyclic Humus Soil, and the promotion of a diverse agroecosystem.

The core elements of the Biocyclic Vegan Standard can be summarised as follows:

The conversion to biocyclic vegan cultivation takes place on a whole-farm basis.

No fertilisers and inputs of animal origin, such as horn shavings, feather meal, solid manure or slurry, may be used. Furthermore, keeping animals for commercial use and/or slaughter is prohibited.

The vegan approach also requires a fundamental change in the human-animal relationship. Therefore, the keeping of honeybees, as well as hunting and fishing, are also prohibited.

In addition to the systematic build-up of humus in the soil and various methods to consistently increase soil fertility, the production of Biocyclic Humus Soil (see pp. 18-20) is also recommended as a source of nutrients.

The biodiversity of flora and fauna should also be successively promoted in the sense of preventive plant protection. This can be done, for example, by installing flower strips, planting hedges, and practising mixed cultivation (see pp. 27-28).

It must be ensured that the areas cultivated by the farm are protected against contamination, especially by synthetic pesticides from conventional neighbouring areas. This is checked in the BOI survey (Biocyclic Operation Index, see p. 12).

Further, the Standard contains comprehensive social standards that must be observed in employee dealings.

Green List

The large number of commercially available agricultural inputs (plant treatment products, fertilisers, etc.) approved for organic farming makes it necessary to identify at certain intervals those inputs that comply with the requirements of the Biocyclic Vegan Standard and may therefore be used.

The “Green List”, initially published by BNS Biocyclic Network Services Ltd with the first version of the Biocyclic Vegan Standard, specifies a number of inputs and preparations approved for use in biocyclic vegan cultivation and has since been continuously updated and expanded.

Since 2022, BNS has been cooperating with the German Research Institute of Organic Agriculture (Forschungsinstitut für biologischen Landbau – FiBL) for this purpose, which means that all preparations newly included in the FiBL list of inputs that meet the approval criteria will now also be identified as such in this list.

The Green List indicates the trade name, the product’s origin, information on the production process, its mode of action, the nutrient or active ingredient composition, instructions for use, and possible restrictions. If the origin of specific components of a substance is not explicitly stated or not fully traceable, or if there is no information on the production process, the preparation in question cannot be included in the Green List.

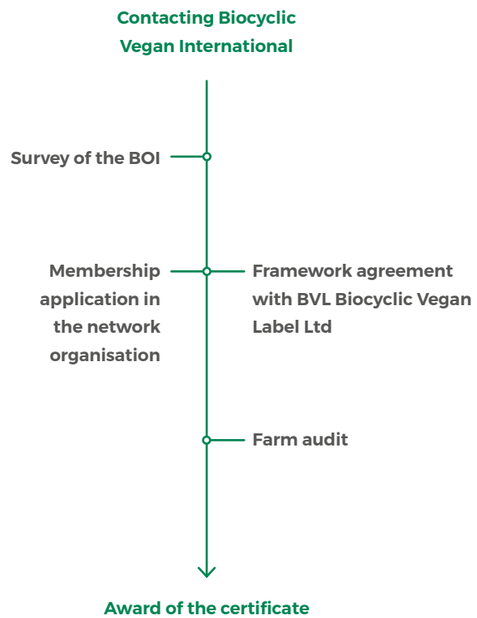
In addition to the Green List, which explicitly lists the trade names of products, Annex A to the Green List lists further substances permitted to be used in biocyclic vegan cultivation and processing.

1.4 THE BIOCYCLIC VEGAN QUALITY SEAL

A professional control and certification system offers consumers full transparency at all levels of the value chain. The quality seal “Biocyclic Vegan Agriculture” guarantees that the products labelled in this way have been cultivated not only organically but also according to vegan principles.

Agricultural producers, as well as trading and processing companies that have successfully undergone a company inspection and certification according to the Biocyclic Vegan Standard, are entitled to label the products they produce, package or process with the Biocyclic Vegan Quality Label after concluding an agreement concerning the use of the label.

2. Step by Step Towards Certification



2.1 INITIAL CONSULTATION

The first step towards biocyclic vegan certification is to contact Biocyclic Vegan International or the network organisation in your country that provides training and advice on the Biocyclic Vegan Standard (see p. 50). Here you will find competent contact persons who will give you expert advice on your farm situation and answer all your questions about biocyclic vegan agriculture. An initial consultation is free of charge and usually takes place via video conference or telephone. Frequently, questions arise about a suitable reorientation regarding fertilisation and the use of grassland cuttings. Together with your contact person, you will work out a conversion plan tailored to your farm, should there still be non-compliances with the Biocyclic Vegan Standard and adjustments to the farm be necessary.

To contact Biocyclic Vegan International, please send an email to the following address:
Mail: ahg@biocyclic-vegan.org

2.2 CONVERSION PERIOD

In countries of the European Union, farms marketing organic products must undergo inspection according to the EU Organic Regulation and label them with the EU organic logo. Therefore, certification according to the Biocyclic Vegan Standard requires that your farm has already received the EU organic certification.

In other countries, national regulations apply.

The conversion period from conventional to organic farming is usually two years; for permanent crops, the period is extended to three years. But even if your farm is still in the conversion phase to organic farming or you still have to undergo your first organic inspection, you can already contact our advisory team.

Information on conversion to organic farming in the EU can be found at:
https://agriculture.ec.europa.eu/farming/organic-farming/becoming-organic-farmer_en

If a conventional farm still is in the conversion period, it can label its products with the grey quality label "Produced in preparation for biocyclic vegan certification" as soon as it complies with the Biocyclic Vegan Standard.

If, as an organic farm, you want to obtain the biocyclic vegan certification and be allowed to use the quality label, you have to prove during the farm inspection that your farm has already complied with the Biocyclic Vegan Standard in the previous growing season.

For more information on labelling your products with the Biocyclic Vegan Quality Label, see pages 46-47.

Produced in preparation for biocyclic vegan certification

2.3 DETERMINATION OF THE BIOCYCLIC OPERATION INDEX (BOI)

The Biocyclic Operation Index (BOI) is determined before the inspection by a member of Biocyclic Vegan International or the local country organisation. Its primary purpose is to identify the interactions between a cultivated area and its natural and/or anthropogenic environment. This includes the activities carried out by you in terms of promoting biodiversity (read more about biodiversity and preventive plant protection on pp. 27-28), maintaining soil fertility and product safety concerning contamination. Particular attention is paid to buffer zones and field margins such as hedges, unpaved paths and flower strips to avoid contamination through drift from neighbouring conventional fields.

The assessment, free of charge for the operation, takes place after the initial consultation and before the actual inspection. It is usually carried out on-site by specially trained advisors from the network of Biocyclic Vegan International. In exceptional cases, the survey can also be carried out online by a person commissioned by BNS Biocyclic Network Services Ltd (see p. 51).

With the help of the BOI, whose scale ranges from 0 to 10, it is possible to make an overall analysis of weaknesses and to discuss possible corrective measures with the farm management before the actual inspection. The operation must achieve a minimum score of 6 to be admitted to the inspection (cf. BcVSt, B 1.1.5).

If the score is not reached during the initial BOI assessment, specific measures to increase biodiversity and/or protection against spray drift of contaminants from neighbouring fields in the total farm area will be agreed upon with the advisor in order to be nonetheless admitted to the initial inspection.

Finally, the date of the BOI assessment also serves to get to know each other and to clarify any remaining questions about the biocyclic vegan control and certification system. If necessary, the BOI will be updated annually, especially if new areas are added to the farm. Your contact person will arrange an appointment to assess the BOI and inform you of the result. The certification body should receive the BOI form before the actual inspection date.

2. STEP BY STEP TOWARDS CERTIFICATION

2.4 MEMBERSHIP IN A BIOCYCLIC VEGAN COUNTRY ORGANISATION

Operations wishing to be certified according to the Biocyclic Vegan Standard must, in accordance with the specifications contained therein, be a member of a national organisation recognised by the Adolf-Hoops-Gesellschaft mbH [Adolf Hoops Society] / Biocyclic Vegan International, which aims to promote biocyclic vegan cultivation (cf. BcVSt, B 1.2.1) such as the Förderkreis Biozyklisch-Veganer Anbau e. V. (for the German-speaking countries), Stockfree Farming (for the UK) or Biocyclische Veganlandbouw (for the Netherlands and Flanders) (see pp. 52-53). As non-profit organisations, they advise farms on conversion and promote the spread of biocyclic vegan agriculture. They are the contact for producers, processing and trading companies as well as for interested consumers and connect these stakeholders.

In countries where a local organisation does not exist, an arrangement will be found with Biocyclic Vegan International.

2.5 LABEL USE AGREEMENT

A further prerequisite for admission to the inspection procedure is the signing of the label use agreement with BVL Biocyclic Vegan Label Ltd (see p. 51). The agreement regulates the subsequent use of the Biocyclic Vegan Label by the successfully certified farm. In particular, this includes an agreement on the system contribution (see pp. 44-45) and specific regulations on product labelling (see p. 46).

2.6 INSPECTION AND CERTIFICATION

In the following, you will find all information about the inspection according to the Biocyclic Vegan Standard and the obtaining of the biocyclic vegan certificate.

Inspection body

To keep the expenses for the inspection as low as possible, it is recommended that the audit according to the Biocyclic Vegan Standard is done by the same inspection body that also carries out the audit according to the EU or other national organic farming regulations. In this way, all inspections can be carried out in one day, which means that travel costs are only incurred once.

As a farm manager, you can contact your inspection body and ask about the possibility of a combined audit. If the inspection body is willing to be trained to carry out inspections according to the Biocyclic Vegan Standard, BVL will check the formal qualification of the inspector designated for this task. If all requirements for a reliable audit are met, the inspection body will receive training from BNS Biocyclic Network Services Ltd.

The audit of the operation

For cost reasons, the biocyclic vegan audit ideally takes place in combination with the inspection according to the EU (or other national) organic regulation. To keep the time required by the inspector as short as possible, it is strongly recommended to have all documents relevant to an EU (or other national) organic inspection ready for the audit. As a rule, the inspection bodies provide the farm with a list of all documents necessary for the audit. It is helpful to keep the packaging of the inputs used and to present it to the inspector. This is particularly important if a substance is not (yet) included in the Green List (see p. 10). In addition to the agricultural or horticultural operation itself, the operation audit also includes processing facilities belonging to the operation or processing facilities of third parties in which raw materials of the operation are processed or packaged under contract.

Evaluation of the inspection report and delivery of the certificate

Immediately after completing the audit, you will receive the inspection report summary, which must be signed by yourself. This summary indicates all possible non-compliances with the Biocyclic Vegan Standard (non-conformities). The farm manager is given the opportunity to comment on the auditor's notes within ten days of the inspection date or to provide information and plans for eliminating the deficiencies found. Within 14 days, the auditor must forward the inspection report to BVL.

BVL will evaluate the inspection report promptly after receipt. This may lead to queries to the inspector or the operation. If non-compliance is found that does not allow a clear decision on certification, BVL contacts the Standard Commission of the Adolf Hoops Society (see p. 50). If there are no non-conformities of sanction level D that would lead to the loss of the operation's certifiability, BVL will issue the biocyclic vegan operation certificate but possibly subject to certain conditions.

Once the annual invoice issued by BVL Biocyclic Vegan Label Ltd (see p. 51) has been fully paid, BVL will hand over the biocyclic vegan certificate to the operation. With this, the label use agreement enters into force or is extended in its validity for the respective duration of the certificate.

2.7 PROCESSING

Where a company processes its own products or outsources their processing (juice presses, oil and grain mills, vinification units, etc.), the processing facilities must also undergo an inspection.

2.8 COMBINATION WITH OTHER ORGANIC STANDARDS

The Biocyclic Vegan Standard can be combined with other organic standards without any problems, provided that agricultural animal husbandry or the use of fertilisers and other animal derived inputs is not mandatory, as is the case with the Demeter standards.

The Biocyclic Vegan Standard can also function as a standalone standard in countries outside the EU and only requires additional EU organic certification in the case that the organic-vegan certified products are sold in EU countries.

2.9 EXTERNAL COMMUNICATION

In order to disseminate biocyclic vegan agriculture and to make the label visible to the public, the operation is obliged to label its products accordingly. In addition, importance should be attached to mentioning and making visible biocyclic vegan agriculture in the external communication of the operation.

Mandatory labelling of biocyclic vegan products

As a biocyclic vegan producer, you are obliged to label all goods produced according to the Biocyclic Vegan Standard accordingly and to always use the Biocyclic Vegan Quality Seal. This applies to both the documents accompanying the goods and the labelling of the pre-packaged end product. The aim is to make biocyclic vegan agriculture known as a future-oriented, circular, animal-ethical, climate-positive and resource-saving form of agriculture through the consistent use of the Biocyclic Vegan Quality Seal and to establish it at all levels of the value chain.

The design of product labels must always be agreed with BVL (see p. 51 for contact details). The draft label must be submitted to BVL before going to print. If changes need to be made, BVL will contact the applicant. If the quality label is used correctly and in accordance with the style guide, BVL will issue a label use permit for each label submitted.

General external communication

In addition, the operation should also draw attention to biocyclic vegan agriculture in its external communication to inform its customers about the unique product quality. For a list of possible measures and further information on the support you can receive from Biocyclic Vegan International, please see p. 50.

3. Fertilisation

3.1 THE BIOCYCLIC VEGAN CONCEPT OF CIRCULARITY

To produce natural products from healthy cycles, an approach is required that leads from healthy soil to healthy plants and healthy humans. Biocyclic vegan agriculture means not only the non-use of animal excrements or all kinds of animal body parts for fertilisation but also the closing of living cycles of materials and energy, which is expressed by the term “biocyclic” (from the Greek bios = life and kyklos = cycle).

A humus content that is as high as possible not only ensures the balance of nutrients available to plants but also reduces risks such as nutrient leaching, erosion, and impoverishment of soil life in dry periods through its increased water retention capacity (see also p. 31).

Contrary to widespread assumptions, the integration of animal husbandry does not play a role in humus formation. On the contrary: The deviation of biomass via the animal stomach is associated with considerable nutrient losses. Instead, humus build-up and the increase in soil fertility strongly depend on how much biomass surplus can be produced in the biocyclic vegan operation. This is mainly determined by the proportion of catch crops and small-grain legumes in the crop rotation. However, the question arises as to how these green crops’ grown biomass can be used in biocyclic vegan operations.

Recycling of organic matter and its refinement is considered a central measure in biocyclic vegan cultivation. In this context, the achievement and maintenance of a high humus content is based on the regular supply of organic matter to the soil through the cultivation of legumes (see pp. 20-22), mulching (see pp. 22-23), and the use of thoroughly decomposed compost, Phytoponic Compost Substrate or Biocyclic Humus Soil (see pp. 17-20).

The closing of cycles does not necessarily have to take place within the farm itself but can be achieved on four different levels:

1. On-farm composting, e. g. through composting, mulching, or other forms of use of harvest residues, green cuttings (e. g. from grassland no longer used for animal husbandry, companion or green manure plants, e. g. with cut & carry methods);

2. Locally, e. g. through composting of organic by-products of food or energy production, e. g. fruit pomace, sugar beet pulp, packing house waste, washing and cleaning residues from the processing of herbs and vegetables, digestate from exclusively plant-operated biogas plants, shredded material from municipal park, road and landscape areas (provided it is not contaminated with heavy metals), sawdust and wood chips from the forestry industry;

3. Regionally, e. g. by using ready-to-use composts from other regions with a biomass surplus, purchasing raw materials for on-farm composting from more remote sources as under item 2;

4. Globally, e. g. by using processed biomass from aquatic or marine ecosystems of primary rock flour or other minerals which are found in large deposits but only at certain locations.

3.2 USE OF QUALITY COMPOST

While the closing of material cycles on the internal farm level can be achieved with the help of various methods of preparation and incorporation, depending on the type and amount of plant biomass available, composting is indispensable for processing biomass of local and regional origin. Whether a farm composts itself or uses compost produced externally depends on the circumstances of the farm and the local situation but also on the relevant legal requirements.

Production

To be able to produce compost of the highest possible quality level, e. g. RAL V (RAL = Deutsches Institut für Gütesicherung und Kennzeichnung e. V. [German Institute for Quality Assurance and Labelling e. V.]) according to the German Federal Compost Quality Association; cf. BGK e. V. 2022), there are specific prerequisites that must be met. These prerequisites include:

There should be available an area corresponding to approx. 25-30 % of the total area required for composting, which can be sealed so that it is leak-proof.

A compost turner and a suitable traction machine with super creep gear should be available as machinery.

Measuring instruments must be used to determine the temperature curve, the CO_2 content, and the moisture.

To be able to control the humidity balance during the decomposition process, compost protection fleeces and an irrigation system are required.

The person responsible for composting must have sufficient knowledge and should preferably be certified in Phytoponic Composting (according to the Lübke-Hildebrandt method; cf. Hildebrandt, 2022).

The aim of aerobic, open-row composting, which is particularly suitable for biocyclic vegan cultivation, is to optimise the decomposition process while avoiding as far as possi-

ble losses due to respiration and leaching in the initial rotting stages. This can only be achieved by creating optimal development conditions for the microbial decomposition processes, which includes, for example, avoiding compost heaps or rows that are too high to improve their aeration. In this context, it is of central importance that only in the presence of oxygen does the breakdown of organic matter lead to restorative products of decomposition that contribute to the health of soil ecosystems.

Monitoring

In addition to a training programme on Phytoponic Composting, work is currently underway on a smartphone application that will enable all operators of composting plants, whether on-farm or on an industrial level, who want to work according to the Phytoponic Composting method to track online the parameters that are crucial for optimised compost preparation and to be able to participate as part of the International Biocyclic Humus Soil Initiative in the terra plena Project with a contractually regulated monitoring and distribution system. The process, as well as the product, can be certified by BVL with respect to their suitability for biocyclic vegan cultivation.

Spreading

At the end of the purely plant-based composting process, there is Phytoponic Compost Substrate (PCS), a nutrient- and crumb-stabilised quality compost that is already so root-friendly that it can be used directly in agriculture and horticulture. When spreading compost, maximum quantity restrictions must be observed in each case according to the applicable legal requirements. For example, the German Fertiliser Ordinance correlates the maximum amount of compost to be applied per hectare with the nitrogen content. It limits the amount of total nitrogen administered via compost to 170 kg per hectare per year, irrespective of the degree of maturity of the compost or, in the case of a single compost fertilisation within three years, to a maximum of 510 kg per hectare on average (cf. Lintzen, 2020). Using PCS as a substrate for direct planting, which has gained different characteristics from “normal” compost, will allow the producer to overcome possible restrictions set by legislation.

3.3 REFINING PHYTOPONIC COMPOST SUBSTRATE INTO BIOCYCLIC HUMUS SOIL

Preparing quality plant-based Phytoponic Compost Substrate is only the first step in producing Biocyclic Humus Soil (cf. BcVSt, A 3).

The difference between compost and Biocyclic Humus Soil

When thoroughly decomposed, preferably even crumb- and nutrient-stabilised compost is spread on the field or vegetable patch, the soil life of the area is generally revitalised immediately. Compost is therefore rightly referred to as a soil conditioner, which is due to the rapid increase in microbial activity and the proliferation of soil organisms–some settled in the compost and some in the soil—that find a rich supply of food and ideal survival conditions in the more or less degraded organic components of the compost.

Owing to this combination of factors, there is often almost complete decomposition of the organic matter that has been supplied. The growth dynamics of the soil organisms can even be favoured to such an extent that not only the organic matter contained in the compost but also the components present in the soil are metabolised. It must also be considered that any mechanical intervention in the soil, such as tilling, cultivating, or ploughing, stimulates the soil life to intensify its activity, which can lead to an increase in the microbial decomposition rate. The carbon contained in the organic matter and released by microbial growth becomes a component in the development of fungi, bacteria, and other soil organisms on the one hand, and on the other hand, is exhaled and, in this way, is released back into the atmosphere. Therefore, the application of compost does not in itself mean that carbon will remain in the soil on a long-term basis in the form of permanent humus. For this reason, there is justified criticism of the view that the systematic application of compost can contribute to a permanent binding of atmospheric carbon in the soil and thus to mitigating global warming and climate change. As a rule, the carbon administered with green manure, compost, and other methods is lost from the soil after one or two vegetation periods, and the desired humus build-up does not occur (cf. Kögel-Knabner et al., 2008).

The situation is different with Biocyclic Humus Soil, a form of permanent humus that has been largely ignored until now. The latest scientific findings from soil biology and plant nutrition confirm the knowledge gained since 2005 by the “Biocyclic Park” project group led by Dr. agr. Johannes Eisenbach and Lydia Eisenbach in Kalamata (Greece) that plant-based quality compost ready to be cultivated (“Phytoponic Compost Substrate”) can be refined into a nutrient- and carbon-stabilised soil substitute with the help of a targeted post-maturation treatment involving mixed culture and permaculture systems. In this process, the original compost is gradually transformed under the influence of permanent planting through mixed cultivation in such a way that completely new properties are developed. The material is no longer then referred to as compost but as “Biocyclic Humus Soil”, a new category of cultivation substrate as a result of permanent plant and microbial growth on biomass-derived raw material.

To determine whether the material produced can be described as Biocyclic Humus Soil, the following parameters and measurement results are used:

1. a nutrient content unusually high for compost (e. g. 2.5-3 % N)
2. a very low electrical conductivity of less than 600 µS/cm
3. the total absence of water-soluble nutrients
4. a very narrow C/N ratio (less than 10)
5. a high cation exchange capacity of over 80 meq/100 g
6. a high density with a specific gravity of over 820 g/l
7. a high water holding capacity of over 80 %
8. a measurable fertilising effect even on seedlings (over 110 %)
9. the absence of odour
10. a perfectly clear press pot filtrate

3. FERTILISATION

The plants growing on Biocyclic Humus Soil show an exceptionally lush growth, with a yield potential up to three times higher than what can be achieved with chemical-synthetic fertilisers (cf. Eisenbach et al., 2018 and Eisenbach et al., 2019). Despite the observed gigantism of the plants, vegetable crops, for example, do not tend to become woody. Striking features include good taste, a higher-than-average fruit set, and a root system that is up to four times larger compared to plants grown in ordinary soil. Another characteristic is a proven higher resistance to fungal diseases. Furthermore, when seeds are sown directly into Biocyclic Humus Soil, an acceleration of the germination phase can be observed.

Biocyclic Humus Soil can be used for growing young plants, for vegetable production in greenhouses or outdoors, for planting new bushes and trees, for reforestation or for fertilising existing crops. Due to the complete absence of water-soluble nutrients, over-fertilisation is excluded. For the same reason, Biocyclic Humus Soil does not present any risk to groundwater, as has to be taken into account with conventional compost (cf. Siedt et al., 2021). Therefore, Biocyclic Humus Soil can be applied at any rate. There is no recommendation regarding a maximum quantity per hectare. Best growth results are achieved when the plant roots are in direct contact with the material, which is the case, for example, with unmixed spreading in the plant row or when the original compost windrows are cultivated in the form of a mound bed.

From the refining material to the supply of Biocyclic Humus Soil

However, the large-scale production of Biocyclic Humus Soil by commercial composting plants has economic limits, as the refinement phase from Phytoponic Compost Substrate to Biocyclic Humus Soil can take up to five years.

Here, the newly established terra plena Fund has developed appropriate financing models that will make it possible to outsource the refinement phase and make the material available to certified biocyclic vegan farms for refinement. As a matter of fact, the optimised production of quality compost up to the stage of Phytoponic Compost Substrate places increased demands on the production and measuring technology, which cannot be met in every agricultural operation. Therefore, it is often advisable for these steps to take place on a professional composting plant. The refinement of the Phytoponic Compost Substrate into Biocyclic Humus Soil, by contrast, can take place without great technical effort at the individual farm level. A concept for decentralised but nevertheless coordinated processing of large quantities of Phytoponic Compost Substrate into Biocyclic Humus Soil on farms in combination with biocyclic vegan cultivation programmes is currently in preparation. Biocyclic Vegan International will be happy to provide advice to interested farmers.

Providing this service in combination with contractual biocyclic vegan cultivation opens up new, additional sources of income for the participating farms.

With the production of Biocyclic Humus Soil, it is now possible for the first time not only to imitate the plant-induced soil formation processes found in natural ecosystems but also to potentiate them with the help of the concentrated nutrient supply in the course of the phytoponic composting process described above, and thus to make them directly useful to humans for agriculture.

It should be noted here that—beginning with the RAL V maturity level according to the German Federal Compost Quality Association—the production of Biocyclic Humus Soil is a productive agricultural process in which high-quality vegetables can be cultivated on the basis of a multi-stage biocyclic vegan refinement process within the framework of biocyclic vegan agriculture.

3.4 LEGUMES IN CROP ROTATION

Legumes belong to the papilionaceous plant family. They are characterised in particular by the fact that they enter into a symbiotic relationship at their roots with so-called nodule bacteria (rhizobia), which have the ability to take free atmospheric nitrogen into the soil. Through the symbiotic N-binding of the rhizobia, a considerable amount of inorganic nitrogen reaches the soil and the plant. They thus have an extremely positive effect on the yield formation of the subsequent crops.

The fixation performance of legumes depends on many factors, such as soil type, climate, water balance, rhizobia density, nutrient stocks in the soil, and pH value. Strongly varying nitrogen residues must be taken into account when determining fertiliser requirements. Furthermore, the crops should be checked from time to time. Regular sampling with a spade shows the course and mass of the roots and the presence and activity of nodules.

Besides nitrogen assimilation, legumes also have strong soil-improving properties. The thick tap roots of many legume species reach deeper soil layers, bring nutrients up from there and loosen the soil. Legumes are good preceding crops because—with their close C/N ratio in the crop residues—they help build up humus and leave behind a well-structured soil. They also have phytosanitary effects: In cereal crop rotations, for example, they can successfully suppress fungal diseases. Heavily weedy or compacted areas can be rehabilitated through perennial legume cultivation.

Before re-sowing a legume species, it is recommended to observe four to five-year cultivation breaks or to alternate between the species in order to avoid an increase in pathogens. If the cultivation breaks are not fully observed, a decline in N-fixing capacity must be expected, in addition to increased disease and pest pressure.

Small-grain legumes

The clover-like legumes (also known as “fodder legumes”) such as red, white or crimson clover, sainfoin and lucerne are important components of crop rotation in biocyclic vegan agriculture, especially when mixed with grasses. Due to their capacity to enormously improve soil fertility, they should be included in any cultivation plan. Special mention should be made here of lucerne, whose tap roots can reach up to 6 m deep and which, due to its ability to reach water from deeper layers, can better withstand potentially more frequent periods of drought.

In principle, arable land that was used for fodder production before the conversion to biocyclic vegan agriculture is to be used for the production of organic fertiliser or for food production for human consumption. For this purpose, the Biocyclic Vegan Standard provides for a transitional period

of five years. During the transition period, the proportion of the area used for fodder production may not exceed 40 % of the total farm area (cf. BcVSt, B 3.6.2).

Instead of feeding the emerged crop to livestock after harvest, farm managers in biocyclic vegan agriculture find other ways to efficiently return the clover- or lucerne-grass mixtures or catch crops (fresh or as silage) to the farm cycle, such as through the cut & carry process or the production of Biocyclic Humus Soil (see pp. 18-20).

Small-grain legumes can also be established as undersown crops (e. g. in cereals). In this way, it is possible to promote pollination, increase diversity, and, last but not least, strengthen the resilience of the crops.

The pelleting of clover or lucerne (with or without grass) is currently being increasingly researched and may, in future, represent an interesting possibility of preserving nutrients to be able to apply them as needed, e. g. in high-yielding greenhouse crops (see p. 25).

Grain legumes

Legumes such as peas, lentils, lupins, and soybeans are characterised by their high protein content and represent a high-quality food product, especially for vegetarian and vegan diets.

Grain legumes are usually grown as the fourth or fifth rotational element before cereals. Due to their poor weed suppression faculty and slow youth development, it is important to cultivate grain legumes on a field with as little weed potential and couch grass development as possible. If cereals were the previous crop, a catch crop positively affects weed suppression (see p. 24). Careful soil cultivation and weed control should also be applied.

Grain legumes can also be grown in association: peas as undersowing with oats, rye or barley as cover crops are proven combinations.

An interesting possibility to produce fertiliser on the farm is to grind pulses such as field beans or soybeans. The prerequisite is the possibility of processing them in a grinding mill (see p. 26).

3.5 TRANSFER MULCH (CUT & CARRY)

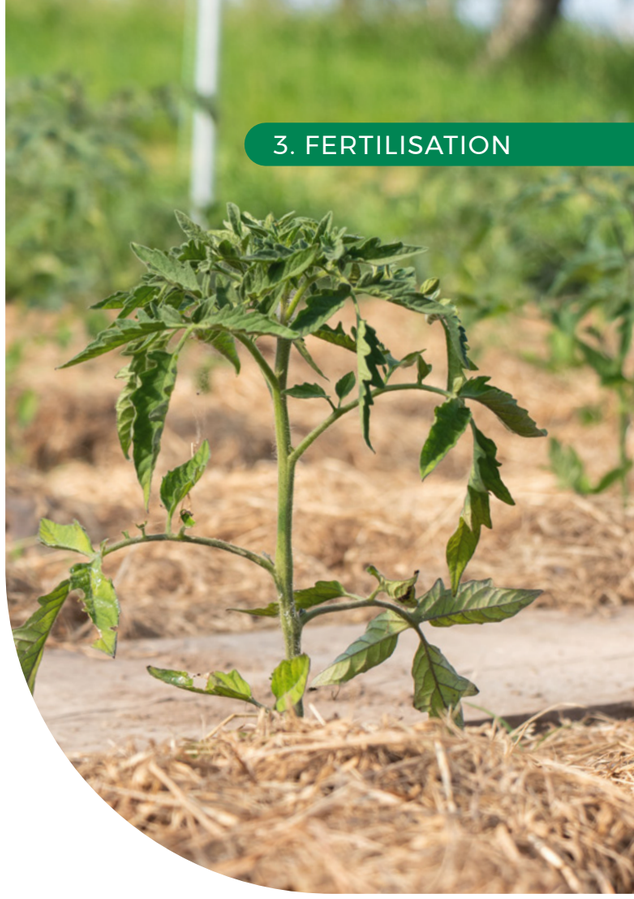
The so-called “cut & carry” method, also known as transfer mulch, offers a possibility for biocyclic vegan farms to efficiently use forage legumes, straw or grass cuttings, as well as catch crop mixtures. With this method, the plants are mown on a so-called donor field and then spread on a so-called receiver field. This can be done with fresh, chopped-up plants as well as with ensiled material. The plant-based fertiliser is then either worked flat into the soil with the tiller or remains on the surface as a mulch layer about 8 cm thick. Clover or lucerne grass is particularly suitable for the cut & carry method in order to apply high nitrogen loads (cf. Casper et al., 2019).

A mulch layer serves primarily to suppress weeds, while shallow incorporation accelerates mineralisation. Both variants reduce erosion, have a positive effect on the activity of soil life as well as the water-holding capacity of the soil, and they stimulate humus formation. There are also positive effects for the donor field, such as improved nitrogen fixation performance through the removal of the material.

When cutting, care should be taken to ensure that the cut material is not yet at seed maturity so as not to cause additional weed pressure on the recipient area. Furthermore, a close C/N ratio should be aimed for to achieve a good fertilising effect. In the case of clover and lucerne grass, there will then be about 50 to 100 kg of nitrogen, 20 kg of phosphorus and 100 kg of potassium in the plant mass for each hectare and cut. It should be noted, however, that P and K are withdrawn from the donor area and merely transferred to the recipient area, while the nitrogen can be considered an apparent gain. In this context, the provisions of applicable national fertiliser regulations regarding nitrogen ceilings must be taken into account. The size ratio of the donor and recipient area should range from 1:1 to 2:1, depending on the desired fertilising effect.

It is also possible to cut intercrops, apply additional material such as clover grass, and plant young seedlings in the mulch layer through special technology.

During rotting, various metabolic processes occur in which gaseous nitrogen losses can occur. These mainly depend on the C/N content of the initial substrate and the rotting process. In vegetable cultivation, it should be noted that nitrous oxide emissions can have a harmful effect on young plants.



3.6 GREEN MANURING AND CATCH CROPS

To meet the ideal of year-round soil cover and the gradual increase of humus content in biocyclic vegan agriculture, green manures (subsequent incorporation into the soil) or catch crops (use of the grown biomass) should be cultivated between the main crops (cf. BcVSt, B 2.3 and 2.4).

Advantages

Green manures and catch crops protect the soil:

→ from direct effects of the weather such as heavy rain (protection against silting and water erosion), solar radiation (protection against overheating and drying out), wind (protection against wind erosion, reduction of evaporation (from the soil surface) and at certain times of the year also against evapotranspiration (evaporation from the soil and the plants)) and

→ from nutrient losses (through leaching and gaseous losses).

They also protect groundwater from nitrate leaching and near-surface waters from eutrophication due to erosion.

At the same time, soil fertility is increased by:

→ Nutrient fixation (nitrogen fixation on legume roots),

→ Nutrient release (e. g. phosphorus through root exudation),

→ Improvement of soil structure (living structure, increase in humus content, crumb formation, formation of macropores),

→ Increase of water holding capacity and infiltration (by increasing humus content, crumb formation, worm and earthworm burrows, and protection against silting),

→ Increase of the cation exchange capacity (by increasing the humus content), and

→ Inhibition of soil-borne pests and diseases (e. g. nematodes, wireworms, sclerotia, Rhizoctonia and Fusarium) and disease cycles by changing the plant family and cultivating disease-suppressing species (biofumigation).

Green manures and catch crops suppress the emergence of weeds (through shading) and regulate root weeds in the case of cutting measures. Furthermore, they form a habitat for insects and can serve as a food source for nectar- and pollen-collecting insects (cf. BcVSt, B 2.5.2.7), earthworms and other soil animals as well as soil microorganisms and increase biodiversity (cf. BcVSt, B 2.2).

Mixture and timing

However, after seeding, catch crops can also cause a problem for the subsequent crops or serve as a bridge for diseases. Therefore, care should be taken to ensure timely cutting or ploughing and a suitable selection of catch crops.

If possible, catch crops before grain legumes should not contain legumes. Furthermore, a mixture of several species should always be cultivated, and, especially in the case of legumes, care should be taken to alternate species and families to counteract clover fatigue.

Intercropping after early crops such as early potatoes, (winter) cereals, winter vegetables, or early vegetable sets is very suitable. For later crops, the choice of catch crops is more limited. Winter-hardy legumes such as winter peas, winter vetch and green rye can be sown up to the beginning of November, depending on the location. By undersowing, rapid growth can be achieved after harvesting the main crop.

Depending on the subsequent crop and the climatic conditions, winter catch crops can be either freeze-off or winter-hardy catch crops. With freeze-off catch crops, there is no need to fear water loss for the following crop; in recent years, e. g. in Germany, however, freezing-off was not always assured. In the case of winter-hardy catch crops, the time of ploughing determines whether water is removed from the soil (late ploughing) or whether the soil is protected from drying out due to greening (evaporation protection) in the case of early ploughing.

Tillage

The best way to plough up winter-hardy catch crops is to plough them flat over the whole area with a rotary plough, a tine cultivator, a light cultivator, a rotary cultivator or a geo planer. More gentle on the soil is ploughing with a cutter or knife roller and direct sowing. However, the latter requires some experience.

In order to avoid nitrate leaching or nitrous oxide emissions after the turning of leguminous catch crops, they should be turned as late as possible but as early as necessary, e. g. in order to be able to establish a false seed bed before sowing the main crop and to allow enough time for the decomposition of the organic matter. Fresh organic matter can inhibit germination and attract seed flies. The latter can lead to higher seedling failures (e. g. soybean, maize, pumpkin), especially in unfavourable conditions.

Intercrops with sufficient biomass can be brought to surface rotting (green manuring with a shallow cultivator or mulcher) or cut before ploughing. The cuttings can be used as transfer mulch (cut & carry) (see p. 22-23), compost/Biocyclic Humus Soil (see p. 18-20) or biogas substrate (see p. 25).

3. FERTILISATION

3.7 BIOGAS SUBSTRATE

Fermentation residues from biogas plants can also be used for fertilisation as long as all substrate components are purely plant-based. This requirement excludes fermentation residues that either contain animal components (e. g. liquid manure and slaughterhouse waste) or those from bio-waste from private households, as it cannot be ensured that the substrate does not contain any components of animal origin. Since commercial biogas plants are usually operated in conjunction with livestock farms, it is advisable for biocyclic vegan farms to have their own plant for the production of biogas (substrate).

The digestate, which is advantageous for soil improvement due to its partially high content of organic matter, can be applied directly, used in composted form or refined into Biocyclic Humus Soil. Since the nitrogen in liquid fermentation residues primarily exists in the form of ammonium, care must be taken to minimise gaseous losses through the type of application (cf. DLG e. V., 2017, pp. 14 f.). When producing biogas substrate from grassland cuttings on one's farm, care must be taken to ensure that management is in line with nature conservation. This includes, for example, the preservation of biodiversity as well as the protection of ground-nesting birds and roe deer fawns (cf. BcVSt, B 3.6.1). Digestate is usually very rich in nutrients, as only the hydrocarbon compounds are extracted during biogas production, but not other nutrients. However, in order to be able to make a reliable statement about the nutrient content of the fertiliser, it requires laboratory tests (cf. DLG e. V., 2017, p. 6).

Here, the values depend on several factors, such as the substrate used and the type of fermentation product processing method. Liquid fermentation products from clover grass or grass biomass, for example, have medium nitrogen and ammonium contents, while those from grains and extraction meal have high N and ammonium contents (cf. Möller & Schultheiß, 2014, pp. 300 ff.). Solid fermentation products contain a high proportion of stable organic matter, which can be used for soil improvement and humus formation.

Information on handling and fertilising with fermentation residues as well as the regulations to be observed can be found in:

BSI PAS 110: Producing Quality Anaerobic Digestate | WRAP
https://wrap.org.uk/resources/guide/bsi-pas-110-producing-quality-anaerobic-digestate

Anaerobic Digestion Strategy and Action Plan
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69400/anaerobic-digestion-strat-action-plan.pdf

3.8 PLANT-BASED COMMERCIAL FERTILISERS

In addition to the above-mentioned on-farm fertiliser variants, purchased mineral and organic commercial fertilisers of plant-based origin may also be used in biocyclic vegan agriculture, particularly to supply high-yielding crops with sufficient nitrogen and other nutrients.

Pelletised commercial fertilisers from small-grain legumes

Scientists at the University of Applied Sciences (Hochschule für Technik und Wirtschaft, HTW) in Dresden, Germany, have developed a nitrogen fertiliser from red and white clover pure seeds, which is very suitable for organic vegetable production due to its optimal C/N ratio. For the clover pellets, the clover is dried, chopped and pelletised directly after cutting, which takes place every fortnight. Currently, this pellet fertiliser is mainly used in the hobby garden sector since it ranks in the upper price segment. However, the pellets can also be used by greenhouse businesses. The use of pelletised clover or lucerne grass is still mostly associated with long transport routes and the related friability losses. However, pelleting offers the possibility of stable storage and use according to demand. Such pellets can be produced either in a stationary drying plant or by a mobile pelleting plant directly from the field.

The KleeLuzPlus pilot network has compiled an overview of pelleting plants in Germany:
www.demonet-kleeluzplus.de/255755/index.php

In the UK, the Perennial Green Manure Project at Bangor University (Clo Ward) has recently developed a similar procedure:
www.dyfibiosphere.wales/perennial-green-manures

Grain legume meals

Crushed grains from field beans or other legumes can be produced and used as on-farm fertilisers. The prerequisite is the possibility of grinding in a meal plant. The degree of grinding must be neither too coarse nor too fine (dust) for optimal mineralisation. The grist is worked into the surface during the chopping or harrowing process. Field bean meal contains about 4.5 % pure N, which is available to the plants at a medium to slow rate. At about 12 € per kg of nitrogen, on-farm field bean meal is quite expensive but guaranteed residue-free and of high preceding crop value.

The cultivation site is a decisive factor when selecting the legume species and variety. For example, field beans are more suitable for heavy and calcareous soils, while yellow lupins prefer light soils, and soybeans need warmth.

Solid residues from food processing

The Green List (see p. 10) allows fermentation products based on plant residues from the food processing industry (composts from fermented cereals, grape pomace, citrus peel, olive pomace, plant extracts, etc.). Residues such as pulp, pomace or stillage from the processing of maize, sugar beet, potatoes or cereals, as well as granulated commercial fertilisers containing the above, may also be used. Furthermore, residues from citric acid production, available in pelletised form, can be used as fertilisers.

Vinasse as liquid fertiliser

Fermented molasses from sugar beet and sugar cane processing is known as vinasse. It is an inexpensive liquid fertiliser whose effect is comparable to mineral N fertilisation. It is characterised by a strong N-direct effect, which is why its use is suitable for high-yielding crops such as tomatoes and cucumbers. Residual sugar components of the vinasse strongly stimulate soil life. A part of the low-molecular nitrogen contained is taken up directly by the plant; most of the rest is transferred to the soil with precipitation and mineralised. Even in the second year, an after-effect is often still measurable.

Nitrogen (N): 5 %
Phosphorus (P_2O_5): 0.4 %
Potassium (K_2O): 5.5 %
(Biofa AG 2015)

Vinasse is also characterised by high sodium and chlorine concentrations, which in the long term can lead to salinisation in greenhouses and structural problems in the soil. It may also contain pesticide residues.

In arable farming, vinasse can be applied to residual straw stubble, which leads to increased decomposition after the incorporation of the crop residues in autumn. Alternatively, it can be sprayed in spring using nozzle technology. It can also be used as a direct soil application in orchards and vineyards.

Fertilisers containing mainly rapidly available nitrogen components may only be used if certain prerequisites are met. In all measures to secure and improve plant nutrition, conditions must be created through the activation of soil life, which imitate or effectively favour the mechanisms for nutrient uptake provided by nature. This restriction is intended to stimulate and strengthen the plant's natural immune system, which can be reduced or even paralysed by the supply of "easily digestible" water-soluble nutrients (such as nitrogen compounds below the molecular level of ammonia).

Purchased fertilisers of mineral origin

Included in the Green List (see p. 10) or in Annex A are rock meals and minerals, provided they have only been processed mechanically but not chemically (primary rock meal, patent potash, calcium carbonate, etc.).

4. Plant Protection and Plant Health

The aim of biocyclic vegan agriculture is land management with the lowest possible amount of external inputs and a high degree of resilience. The self-healing potential of an ecosystem used for agricultural purposes is activated by ensuring the most ideal, nature-like growing conditions possible (cf. BcVSt, B 2.2). This is achieved through the broad promotion of biodiversity and the selection of varieties adapted to the location and resistant to disease.

4.1 PROMOTION OF BIODIVERSITY

In biocyclic vegan agriculture, promoting biodiversity to create a stable ecological balance between harmful and beneficial organisms is a very high priority. Measures that directly or indirectly help maintain and strengthen biodiversity also positively impact the conditions in which a crop grows, which in turn influences cultivation measures: Diverse systems produce healthier plants, are more resilient and counteract diseases and imbalanced pest infestations.

Biocyclic vegan growers implement measures for preventive plant protection and the promotion of plant health on three levels:

Activation of soil life

According to the central statement, "From healthy soil to healthy plants and healthy people", soil fertility is the basis for a sustainable and prosperous economy. All cultivation measures, therefore, aim to create conditions that promote biodiversity in the soil and the activation of soil life. This favours the health and growth of crops. A healthy, resilient plant is able to respond adequately to most stress factors.

The biocyclic vegan operation must add organic matter to the soil at regular intervals to compensate for the loss of humus caused by the cultivation and use for food purposes of the crops grown. Organic matter must be added in such abundance and in the appropriate form that the humus content will constantly increase (see pp. 18-20).

Increasing biodiversity above the soil

Not only in but also above the soil, high biodiversity should be aimed for and built up through measures such as mixed cropping systems in horticulture, high crop diversity, intercropping and a broad crop rotation in arable farming. Further possibilities are the sowing of (perennial) flower strips, the establishment of agroforestry systems, catch crops (see pp. 23-24), and undersown crops. With the help of these

measures, populations of pollinating insects and natural antagonists of pests are systematically established, and the natural self-healing powers of cropland are stimulated.

The inclusion of wild and medicinal herbs also plays an essential role in biocyclic vegan agriculture, as they ensure more diversity, provide food for pollinators and also enrich the food chain by positively influencing the health of the plants and, thus, the quality of the end product through a variety of physiologically active substances. The regular use of (if possible) freshly cut wild and medicinal herbs for mulch or other forms of compost preparation should be aimed for (cf. BcVSt, B 2.2.2).

Promotion of biotopes in marginal areas

Zones should be created within the operation and along its boundaries that additionally serve as ecological compensation areas, especially if the land of the biocyclic vegan farm is surrounded by many conventionally farmed areas with a low level of biodiversity.

Depending on the situation on-site and the possibilities of the operation, the following measures can be taken:

→ Planting of bushes or hedges or other natural barriers,

→ Creation of biotopes (e. g. wetland biotopes, fallow areas, cairns, reforestation zones) within a plot,

→ Installation of nesting aids or planting of trees for birds (they provide population control of insects in particular crops and perennial field crops), and

→ Protection and promotion of wild flora in permanently uncultivated areas.

The Biocyclic Operation Index (BOI, see p. 12) determines the measures your farm has taken to increase biodiversity or buffer external influences. If the BOI reaches or exceeds a score of 6, the farm fulfils the criterion of being an ecological compensation area with regard to the anthropogenic or natural environmental conditions in which the cultivated land is embedded, and the creation of an artificial ecological compensation area can be dispensed with (cf. BcVSt, B 2.2.1). If the BOI is below 6, you can discuss further measures to promote biodiversity and protect your plots with your biocyclic vegan farming consultant.

4.2 SEED SELECTION

In biocyclic vegan agriculture, wherever available in terms of variety and quantity, seed and planting material should be used which has been produced in accordance with the Biocyclic Vegan Standard or another IFOAM-compliant organic standard. If biocyclic vegan or other organic seed and planting material of the required variety or its equivalent is unavailable in sufficient quantities and qualities, seed and planting material from farms undergoing conversion may be used. If this is not available either, conventional material may be used on condition that it has not been treated with post-harvest pesticides prohibited under this standard. Each of these exceptions requires the approval of the inspection body or the competent authority.

The varieties used in biocyclic vegan farming systems shall be selected for their adaptability to local soil and climatic conditions and their resistance to diseases and pests.

4. PLANT PROTECTION AND PLANT HEALTH

4.3 TARGETED MEASURES FOR PLANT PROTECTION

The occurrence of phytopathological phenomena in the form of diseases or heavy insect infestation primarily indicates the need to check the infested plants' growth conditions and correct them if necessary because measures are then needed to improve the balance and stability of the overall system.

All additives listed in the Green List (see p. 10) should only be used if imbalances occur that negatively influence the nutrient supply or the natural defence behaviour of the plants against decomposing organisms and parasites. Therefore, in case of need, it is necessary to discuss in detail with the advisor not only the corrective measure to be taken but also the factors that make this measure necessary.

In cases where severe yield losses are to be expected and the establishment of populations of "beneficial insects" has not been successful two months after the measure, other measures for crop protection may be taken after prior consultation (cf. BcVSt, B 2.2.4).

Use of beneficial insects

From the perspective of the short-term restoration of a balance between the insect populations responsible for the occurrence of damage and their antagonists, the release of so-called "beneficial insects" can be approved at the infestation stage, e. g. in vegetable cultivation (see pp. 35-36).

Targeted use of preparations and auxiliary substances

To prevent or treat deficiency symptoms, fungal, viral and bacterial diseases or insect infestations, the farm should primarily use homemade preparations. Compost teas, plant decoctions and preparations from medicinal and wild herbs play a vital role.

To support the natural ripening process, the operation can apply certain nutrients in liquid form directly to the leaves, depending on the crop's stage of development, the climatic conditions and the weather. Compost tea, produced in-house if possible, is of particular importance for plant health and the prevention of fungal diseases. The administration of algae preparations also has important functions in supporting growth and ripening. The use of these preparations also helps to close the nutrient cycle to a considerable extent, as large quantities of excess nutrients are released from agriculture via rivers and the atmosphere into the seas, which leads to increased algal growth. Preparations based on lactic acid, besides the direct supply of a multitude of flavour-determining micronutrients, have a proven fungus-inhibiting effect due to their low pH value and are therefore also part of the targeted, plant protection-oriented nutrient supply in biocyclic vegan agriculture.

Only in the case that the preventive and holistic measures taken have been unable to prevent the emergence of a critical situation (disease) for the crop and home-made preparations are not available or have failed to achieve a satisfactory effect may the use of certain plant treatment products, as listed in the Green List or Annex A (see p. 10), be permitted.

Selective insect traps and insecticides

Selective insect traps with a low impact on the crop ecosystem can be used in acute cases. Excluded, however, are those insecticides (including natural ones) that are not sufficiently selective on the plant-damaging parasite population and thus affect the natural balance in the medium term by reducing biodiversity. This applies to plant-based insecticides such as pyrethrum or rotenone extracts and to coloured insect traps. Preference should be given to repellent preparations and passive protection measures with a small radius of action and a well-targeted effect.

5. How to Manage Soil as a Natural Habitat

The soil ecosystem is not only the basis for production; the soil also fulfils a variety of other functions, like being a carbon sink and a habitat for countless vital organisms. Healthy plants can only grow from healthy soil; for this reason, the goal is always to have an intact soil life and a good crumb structure. Therefore, all cultivation measures aim to promote natural soil fertility and increase the humus content.

5.1 HUMUS BUILD-UP

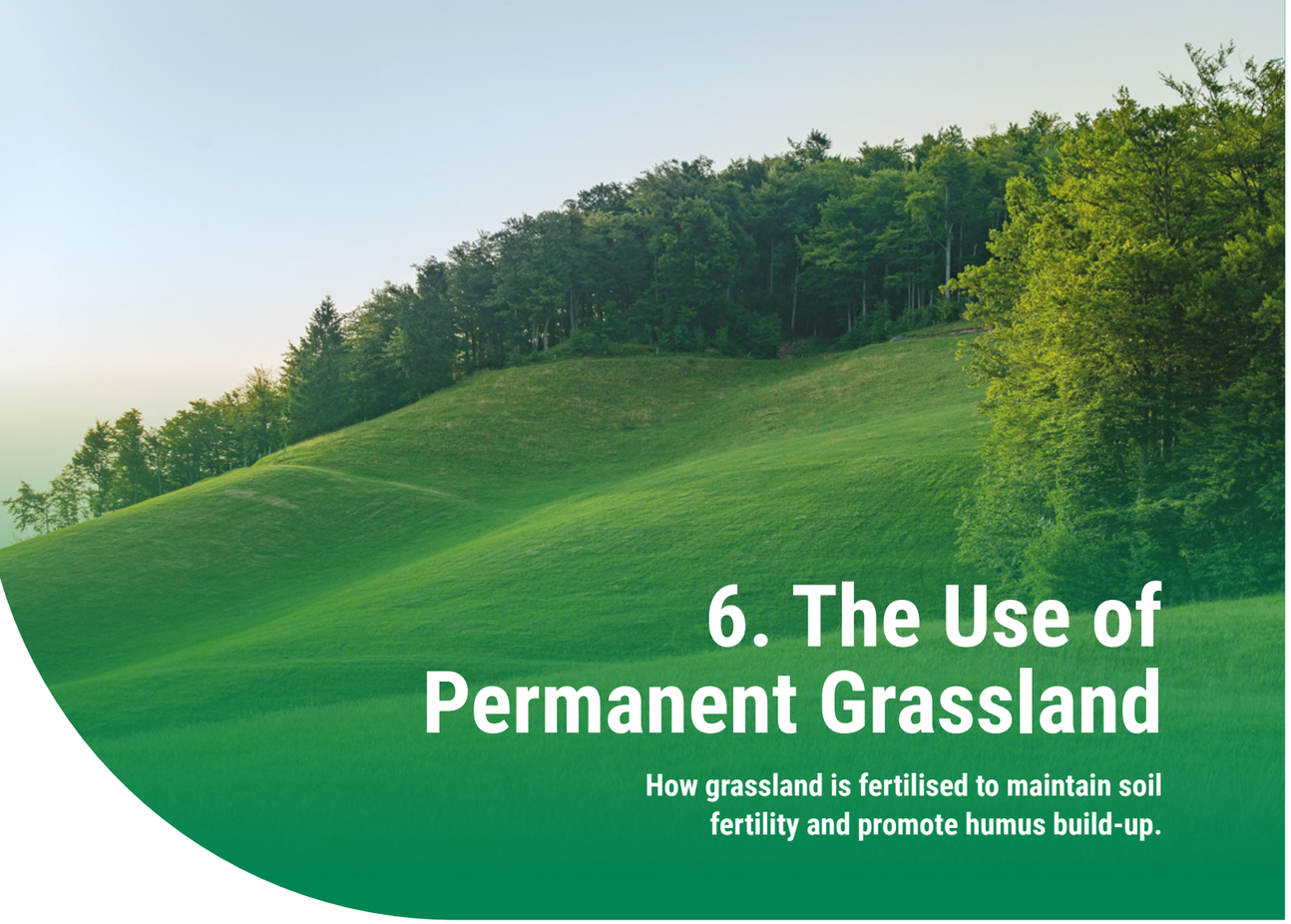
A humus-rich soil improves nutrient availability by increasing the cation exchange capacity, binding nutrients in the organic matter, and retaining nutrients in aggregates. In addition, a maximum humus content reduces the risk of leaching, erosion and silting due to its increased water infiltration and retention capacity (coarse pores). The microorganisms in the soil contribute to the formation of stable aggregates through living structures, which reduces penetration resistance and improves the possibility of root development. Considering that with many crops, a large part of the organic matter is permanently removed from

the field, the loss of natural soil fertility must be stopped (cf. BcVSt, B 2.4). Achieving and maintaining a high humus content is essentially based on the regular supply of organic matter through the cultivation of legumes (see pp. 20-22), mulching (see pp. 22-23), surface composting and the use of thoroughly decomposed compost, Phytoponic Compost Substrate or Biocyclic Humus Soil (see pp. 17-20). In this context, soil tests, the humus balance of the various crops and the farm fertilisation plan in accordance with national fertiliser regulations have to be taken into account.

5.2 PROTECTION AGAINST EROSION

The operation shall take concrete and appropriate measures to prevent erosion and minimise topsoil losses. Such measures include, among other things, minimal, aerating soil cultivation and slope-free ploughing (contour ploughing), as well as the most permanent and diverse soil cover possible, such as is also practised in regenerative agriculture. This has a beneficial effect on the build-up of humus and the protection of microorganisms from unfavourable weather conditions while at the same time improving the physical properties of the soil. The topsoil is protected from direct sunlight, wind and excess water.

A sensible crop rotation, undersow or catch crops (see pp. 20-24), help to achieve this goal.



6. The Use of Permanent Grassland

How grassland is fertilised to maintain soil fertility and promote humus build-up.

Permanent grassland is important in biocyclic vegan agriculture and should be preserved at all costs (cf. BcVSt, B 3.6). These areas, especially rough pastures, are valuable ecotopes for many animal and plant species. In addition, considerable amounts of carbon are stored under permanent grassland. When using grassland, care should be taken to preserve the humus and to ensure that management is in line with nature conservation (e. g. mowing following nature conservation parameters, biodiversity conservation, protection of ground-nesting birds and roe deer fawns, cf. BcVSt, B 3.6.1).

There are numerous ways of dealing with permanent grassland. Frequently, they require permission from competent authorities. This chapter refers to extensively and intensively managed permanent grassland. The use of former arable forage land is discussed in detail in Chapter 3.

6.1 MOWING

Concerning the promotion of biodiversity, the entire meadow should not be mown at one time, and the edges should only be cut every second time. In this way, wild animals can be given a place to retreat and be continuously provided with food in the form of pollen and nectar. Bar mowers with double blades are recommended as they are less dangerous for animals and improve regrowth thanks to a cleaner cut. If possible, the mowing time should be chosen so that, in addition to the vegetative increase stimulated by the cut, regenerative reproduction by seeding is also possible within specific periods, which counteracts the danger of species impoverishment of the site. Biodiversity can be further promoted by sowing additional herbs.

Fertiliser production

Pastures, meadows, permanent grassland or other areas used for the cultivation of fodder plants, which due to climatic, site-related or other reasons, were used by or for farm animals, are considered biomass production sites in biocyclic vegan agriculture. According to the cut & carry principle, meadows can be mown, and (given a simple and short-term use) the material can be spread directly as transfer mulch in arable crops (see pp. 22-23). The biomass can also be used for biogas production (see p. 25) or to produce compost (see pp. 17-18) or Biocyclic Humus Soil (see pp. 18-20).

In the sense of an inter-farm "humus cooperation", grassland sites can also supply off-farm organic matter to other biocyclic vegan operations that may have an undersupply of on-farm organic matter. This can be done with raw input materials or by providing ready-to-use soil conditioners, compost or Biocyclic Humus Soil.

Use of biomass for energy production

In addition to using the grass clippings as fertiliser, they can also be used in biogas plants for energy production (Hartmann et al., 2011). The clippings of intensively managed grassland are particularly suitable for this purpose. Preferably, the biomass should be processed on the farm or in a regional network to increase the farm's added value. The finished end product (energy, biogas substrate, etc.) can be used on the farm or by other biocyclic vegan operations.

Use as agroforestry systems

Permanent grassland can be upgraded economically and ecologically by establishing agroforestry systems, which can be used to produce fruit, timber or firewood. A particular form of agroforestry system are orchards.

Meadow orchards are among the most species-rich habitats in Europe and are, therefore, of great ecological benefit. In addition to regionally adapted fruit trees, nut and sweet chestnut trees may also be suitable. However, species-rich rough pastures are not an option for new orchard plantations, as this would result in the loss of important habitats for rare species. They should only be used in ways that do not endanger their preservation. Due to their high ecological value, many governments financially support the planting of new orchards and their maintenance (Hochstamm Deutschland e. V., 2022). Information on this can be obtained from the local nature conservation authority.

Agroforestry systems can be used on two levels: firstly, by harvesting the fruit on the high trunk or using the wood, and secondly, by mowing the grass and using it for cut & carry or biogas production (see pp. 22-23 and 25).

Dual use with agri-photovoltaic systems

Energy can also be generated on grassland with the help of agri-photovoltaic systems (BMWK, 2022). In this case, a certain height and sufficient spacing must be ensured so that cultivation is possible next to and below the individual solar modules and the plants are supplied with enough light. In addition to electricity generation, the area can also be used to produce fertiliser or biomass for energy generation (see Chapter 3).

6.2 RENATURATION OF MOORLANDS

Re-wetting grassland, formerly moorland or wet meadow, is incredibly beneficial to nature conservation. These landscapes are valuable habitats for animal and plant species that have been pushed back in recent decades. Moreover, peatlands, in particular, are enormous carbon sinks and, therefore, essential instruments against global warming and for conserving natural resources, also in Central Europe. As water-retaining areas and pollutant sinks, they are of particular importance for the water balance.

Wet meadows and grassland, which is to be restored to wet meadows, can be mown, and the cut grass can be used for energy production from biogas (see p. 25). For peatlands, plants such as reeds, cattail grass and sedge species are suitable, which grow in so-called paludiculture and can be used for energy production from biomass or as ecological insulation materials (BLE, 2022). Nature conservation organisations and governments financially support the renaturation of wet meadows and moors. A combination with agri-photovoltaic systems can also be envisaged at specific locations.

6.3 FARM SANCTUARIES

According to the principles of biocyclic vegan agriculture, animal husbandry in the traditional sense is not permitted in biocyclic vegan operations. However, animals can still live on biocyclic vegan operations, albeit under different conditions and with different objectives than on livestock farms.

Even though their farms are certified according to the Biocyclic Vegan Standard, many farmers would like to keep some of their animals or even take in additional rescued animals without exploiting them economically and slaughtering them. Existing grassland on farms can be used by letting the animals graze and/or cultivating it for fodder production. This may be of particular interest for embankments and for mountain pastures that cannot be mown.

The commercial keeping of animals and the use of animal manure are, in principle, prohibited under the Biocyclic Vegan Standard (cf. BcVSt, B 2.4.6). However, rescued animals, which are not kept for commercial purposes and are not slaughtered, can be given a fair life adapted to their needs and respecting their dignity. In Germany, for instance, there already are around 100 farm sanctuaries, which primarily provide a home to rescued former farm animals and frequently finance their upkeep through adoption schemes.

The number of rescued former farm animals kept on biocyclic vegan operations may be, at most, 0.2 livestock units per hectare (cf. BcVSt, B 2.4.6.2). The excrement of these animals may only be used for fertilising purposes after being appropriately converted into compost. The mixed animal-plant-based compost may only be applied under permanent crops, and the areas designated for this purpose must be clearly identified for inspection purposes (cf. BcVSt, B 2.4.6.3).

Further information and support for the conversion of your animal husbandry are offered by the associations “Stockfree Farming” (United Kingdom), and TransFARMation (Switzerland/Germany).

Stockfree Farming
Phone: +44 7747 602 533
Email: Rebecca@stockfreefarming.org
Web: www.stockfreefarming.org

TransFARMation –
Beratung bei der Umstellung von Höfen
Güetlistrasse 45
8132 Hinteregg
Switzerland
Phone: +41 76 517 41 17
Email: sarah@hof-narr.ch
Web: www.transfarmation.org

7. Farm Types and Examples

In the following, the special features of different production types such as “protected vegetable production“, “open field vegetable production, and arable farming“, “fruit production“, “wine production“, and „mushroom production“, as well as “on-farm processing“ are explained, according to the requirements of the Biocyclic Vegan Standard.

7.1 PROTECTED VEGETABLE PRODUCTION

According to the Biocyclic Vegan Standard, protected vegetable production requires the farm to change its previous cultivation procedures completely. Just as the processes in biocyclic vegan agriculture are different, the differences also become visually noticeable when entering a biocyclic vegan greenhouse. Also, regarding taste, biocyclic vegan vegetables stand out from other organic vegetables. Protected vegetable cultivation was Adolf Hoops’ primary field of activity (cf. BcVSt, B 3.2).

Fertilisation

Biocyclic Humus Soil plays a unique role in greenhouse operations (cf. BcVSt, B 3.2.2). It serves as a substrate, fertiliser and holistic soil additive. Biocyclic Humus Soil can thus replace all conventional substrates and soil optimisers such as peat and growing soil. Especially in potentially contaminated soils of former conventionally managed greenhouses, humus soil can act as a replacement substrate for the topsoil. Plant roots should develop directly in bare humus soil where applicable and economically practicable. The humus soil can be covered by soil, plant-based mulch material or plastic film.

If sufficient quantities of Biocyclic Humus Soil are unavailable to the farm, fully mature compost from purely plant-based source material can be used instead of humus soil. The substrate must then, in any case, be mixed with soil or worked into the soil, and further fertilisation measures are required. Only in the case of Phytoponic Compost Substrate (see pp. 18-19) a mixture with other materials is not recommended. If the operation has access to Phytoponic Compost Substrate and is in the position to cultivate vegetables on it while keeping it in the form of windrows in combination with a perennial mixed culture program, the plot where this type of horticultural production takes place can participate in the International Biocyclic Humus Soil Initiative as a refinement site being a partner of the terra plena project (www.terra-plena.com/en).

Highly soluble nutrient fertilisers (exclusively potassium) should be kept to a minimum. All purchased inputs must be listed in the Green List (see p. 10).

Plant protection

The biocyclic vegan greenhouse ideally reflects the diversity of nature by taking measures that build up and strengthen the self-healing and self-balancing mechanisms. In this sense, monocultures may not be grown in biocyclic vegan greenhouses, which are not included in the assessment of the Biocyclic Operation Index. A minimum of four different plant species should be found simultaneously, whereby the other plant species, in addition to the main crop, do not necessarily have to be commercially exploitable. This not only favours the establishment of beneficial insect populations in the greenhouse but also promotes symbiontic processes in the root zone, positively affecting the nitrogen uptake of the main crop and humus build-up. When selecting plant communities, care should be taken to ensure mutually compatible and, if possible, mutually beneficial combinations. Similar requirements for watering and humidity also play a role. Furthermore, it is possible to achieve a high diversity of crops in a small area, e. g. in bio-intensive vegetable production with 80 cm wide beds, thereby building up a resilient system.

The long-term establishment of so-called beneficial insect populations is also to be supported by open access to the broader environment of the greenhouse. If a crop is threatened in yield or quality by the increased occurrence of a pathogenic organism, and if the presence of natural antagonists does not restrict this, it is permissible to release cultivated beneficial insects purchased on a one-off basis. Should this release not result in the permanent establishment of the beneficial organisms, the measure may be repeated up to two times, provided that the total number of releases is at most three within two years (cf. BcVSt, B 3.2.4.2).

PlantAge eG

Frankfurt (Oder), Germany
Profile

Area: 30 ha
Crops: approx. 50 different vegetables, outdoor and greenhouse crops, herbs, fruit
Soil type: sandy loam
Fertilisation: green manure, compost, crop rotation, malt seed pellets

Certified biocyclic vegan since 2021
Web: www.plantage.farm

“We farm biocyclic vegan because we want to show that animal suffering-free farming is possible.”
– Judith Henn, cooperative board member

7.2 OUTDOOR VEGETABLE AND ARABLE FARMING

All arable farming approaches of a biocyclic vegan farm aim at constantly increasing the soil’s humus content. The farm must compensate for nutrient losses caused by the cultivation and harvesting of crops in the soil through various measures.

(Green) manuring and mulch

As in other types of cultivation, regular sowing of legumes ensures the build-up of organic soil matter and an adequate supply of nitrogen to the plants. Therefore, farms should cultivate legumes exclusively used for green manure at least once in a three-year crop rotation (cf. BcVSt, B 3.1.1.1). To optimise the effect, the legumes are incorporated into the soil during flowering or, at the latest, before the beginning of the fruit set.

The application of substrate compost is possible if it has a maturity grade of V or higher. Irrespective of this, it is recommended to use Biocyclic Humus Soil in larger quantities if possible. Soils benefit from this by being supplied with non-water-soluble micro- and macronutrients and a variety of other growth-promoting substances (cf. BcVSt, B 3.1.1.2). This prevents the typical phenomena of over-fertilisation and leaching.

Biocyclic vegan operations know that soil life is most active in areas not exposed to daylight. Therefore, intercrops and undersown crops, for instance, ensure a permanent cover of the upper topsoil, protecting the soil life and providing a source of nutrients (cf. BcVSt, B 3.1.1.3). Thus, before or during the growth phase of the main crop, the fields are covered whenever open soil is visible. On biocyclic vegan operations, mulch made from plant material is preferably used in addition to permanent green cover. If there is insufficient mulch, other materials can be used temporarily to cover the soil.

7. FARM TYPES AND EXAMPLES

Extended crop rotation and mixed cropping

For arable farms, it is advisable to maintain the most extensive crop rotation possible. Within this rotation, a legume is cultivated at least once every three years, taking over the function of a fallow (cf. BcVSt, B 3.1.2.1). Crops should be grown as much as possible in mixed cropping or combinations. In biocyclic vegan agriculture, even large areas of arable land are turned into species-rich biotopes. This is favoured, among other things, by the creation of strips (cf. BcVSt, B 3.1.2.2). In this way, different mutually supporting crops with similar cultivation requirements increase biodiversity whilst not significantly impeding mechanised practices.

In vegetable production, the use of mixed cropping is of particular importance. It should be practised considering the mutual influences of different species on each other for plant health. The correct composition of various species in mixed cultivation on the same field or in direct contact with each other (e. g. in rows or patches) must be developed as part of the farm planning.

Besides furthering biodiversity and reducing the risk of epidemic spread of plant diseases and pathogens, mixed cropping also has a yield-increasing effect by:

→ stimulating the exchange of nutrients in the root zone of the soil (e. g. through mycorrhiza),

→ protecting against the effects of weather (wind, sun, rain),

→ creating habitats for so-called beneficial insects,

→ protecting crops by releasing odours and fragrances that act as repellents against pests; and

→ in creating genetic diversity within a crop, reducing the likelihood (either through mixed cropping or variety combinations) that pathogenic agents can develop on a host plant and spread from there.

Undersowing

Undersowing reduces weed pressure, increases biodiversity, enhances crop rotation, increases yields and improves plant health. Furthermore, it is a measure to minimise the amount of uncovered soil and thus reduce the risk of erosion (see p. 31).

Northwood Farm

Sturminster Newton, Dorset, UK
Profile

Area: 134 ha
Crops: wheat and oat with plans to grow spelt, rye and pulses
Soil type: Kimmeridge clay
Fertilisation: green manure, crop rotation and green listed sources of P, K and S.
Technical equipment: usual agricultural technology for an arable farm

Certified biocyclic vegan since 2022
Web: www.biocyclic-vegan.org/partners/processors-and-traders/northwood-farm/

"I farm biocyclic vegan because I want to demonstrate to the consumer, it's possible to farm organically without the farming of livestock and their derivatives, leading to a post-lethal form of agriculture."
– Laurence Candy, owner and farm manager

7.3 FRUIT GROWING

As in all other production branches, monocultures are prohibited in biocyclic vegan fruit growing. The orchard must be structured by at least one wide alley per four rows of trees, which serves to cultivate other crops, such as legumes or herbs, that can be used as mulch material for the tree rows (cf. BcVSt, B 3.4.1.4). The width of this alley depends on the machinery used by the operation, suitable for cultivating a companion crop.

There are some considerations in the case of a complete re-orientation of the orchard management. In converting from conventional to organic and especially to biocyclic vegan agriculture, stand losses and other challenges might occur. To prevent these, it should be considered whether it is an option to start from scratch, selecting robust, adapted and well-marketable varieties (cf. BcVSt, B 3.4.1.1). Seedlings are to be obtained exclusively from organically certified propagation companies.

(Green) manuring

The growth and health of a young tree are mainly determined by the nutrient supply in the first three years after planting. For this reason, Biocyclic Humus Soil should be applied to each planting hole, if possible, so the root system can start developing entirely in humus soil. For a two-year-old fruit tree, a minimum quantity of 40 litres of humus soil is recommended (cf. BcVSt, B 3.4.1.2).

To increase the humus content of the topsoil, it is advisable to cultivate legumes as green manure. It should be ensured that there is a permanent soil cover with plant-based mulch material. During the first four years after planting, sowing and incorporation of legumes should occur at least twice (cf. BcVSt, B 3.4.1.3).

Selective insect control/bird damage

The precise observation of the population development of possible insect pests through suitable traps at selected locations within the permanent crops is part of the farm practice. In biocyclic vegan fruit production, only selective glue traps without pheromones are allowed to be used, which are not harmful to beneficial insects or bees (cf. BcVSt, B 3.4.2). In justified exceptional cases, the application of insecticides permitted in organic cultivation according to the Green List (see p. 10) is allowed under certain conditions.

To promote bird biodiversity on the land, at least three trees of other species and heights should be planted per hectare (cf. BcVSt, B 3.4.1.4).

If there is a risk of significant bird damage, the operation may use deterrent or passive preventive measures such as tree nets (cf. BcVSt, B 3.4.3). Mechanical bird scaring and banging devices are permitted, whereas traps (e. g. bird glue traps) are prohibited.

Biolandhof Clemens Hund

Meckenbeuren, Germany
Profile

Area: 18 ha
Crops: apple trees, plums, vines, nut trees and bushes
Soil type: loamy sand
Fertilisation: plant-based compost, vegan organic commercial fertilisers, basic fertiliser made from potato residues, vinasse, algal lime
Technical equipment: hydraulic soil cultivator, disc plough, power harrow, plough, roundabout tiller, mower

Certified biocyclic vegan since 2017
Web: www.biohof-hund.de

"I farm biocyclic vegan because I think it's sensible, and I don't want to be involved in animal suffering."
– Clemens Hund, owner and farm manager

7.4 WINE GROWING

Local, well-adapted varieties and the right choice of location are the essential parameters of productive biocyclic vegan viticulture, be it for the production of table grapes, wine or sultanas.

(Green) manuring

The growth and health of the vines are mainly determined by the nutrient supply in the first two years after planting (cf. BcVSt, B 3.5.1.2). It is advisable to use Biocyclic Humus Soil in each planting hole so that the root system can develop

fully in it right from the start. This ensures that root and stem growth is given the best conditions before the plant comes into contact with the subsoil.

In addition to the initial nutrient supply through humus soil, the humus content in the topsoil can be increased through increased mulching or legume cultivation. In the first three years after planting, legumes should be sown in between the vine rows and incorporated as green manure at least once (cf. BcVSt, B 3.5.1.3). A permanent ground cover with living plant cover or plant-based mulch material is obligatory in the inter-row space, too (cf. BcVSt, B 3.5.4).

There are several reasons why the above principle cannot always be complied with (cf. BcVSt, B 3.5.4):

→ In arid or semi-arid regions, it may be necessary to move the topsoil through careful soil tillage to disturb the capillary action in the soil and thus reduce the evaporation of soil moisture. During the winter period, the natural development of plant growth should not be controlled by cutting, mulching or tillage.

→ In regions with low temperatures at harvest time, especially in vineyards sufficiently exposed to sunlight at an angle close to 90° in the middle of the day, covering the inter-row space with flat stones can have a positive effect by increasing the temperature. In such cases, the growth of weeds in spring is to be favoured.

→ In areas with a high risk of erosion, the rows' alignment should tightly match the contour of the land. Between the rows, the soil must have permanent vegetation, which should not compete with the vines.

Regarding crop development, the biocyclic vegan operations should regularly supply the vine plants with nutrients and natural, plant-based growth promoters, e. g. made from algae. In this process, spraying techniques that produce micro-droplets are to be preferred. As grape leaves interact intensively with the atmosphere and quickly absorb moisture and nutrients through their stomata, deficiency symptoms can be compensated for by foliar fertilisation techniques (cf. BcVSt, B 3.5.3).

If irrigation is necessary, it should never drip directly onto the trunk. Preferably, drip irrigation is installed underground to allow easy soil cultivation and to minimise evaporation losses.

Plant protection

To increase biodiversity, at least one tree should be planted per 0.4 ha of vineyard area (cf. BcVSt, B 3.5.2). At each end of a row of vines, a flowering plant should be planted that develops a lower or similar height as the vines, such as bushes and roses.

The young vines should be purchased from a certified organic propagator (cf. BcVSt, B 3.5.1.1). The choice of location according to the cultivation area's microclimatic conditions is also relevant to avoid weather- and climate-related diseases.

"All of our wines have been vegan for over a decade, and this certification gives our customers confidence that no animal inputs are used in our vineyard and in our wines. Biocyclic vegan certification recognises our extra sustainable efforts and care that are beyond organic, vegan-ic, and we embrace their principles for the good of the environment, animals and people."
– Bruce Ewert, founder and owner

L'Acadie Vineyards

Gaspereau, Canada
Profile

Area: 13 ha, 4.5 ha vineyard
Crops: wine grapes (L'Acadie blanc, Leon Millot, Chardonnay, Sauvignon Blanc, Pinot Noir)
Soil type: well-drained gravel-rich sandy loam – an ancient seabed with shale, slate, schist, sandstone
Fertilisation: composted grape pomace, composted grape pomace teas, sugar beet extracts, kelp extracts, potash
Technical equipment: Clemens in-row mechanical grape hoe, large orifice air-blast sprayer, aerated compost tea brew system, PTO-driven mower/mulcher, narrow row disc harrow

Certified biocyclic vegan since 2021
Web: www.lacadievineyards.ca/blog/Why-we-are-Biocyclic-Vegan

7.5 MUSHROOM CULTIVATION

A guideline section on biocyclic vegan mushroom cultivation is currently being developed.

The main focus will be on the production of mushroom spawn and substrate, in which no components of animal origin may be used. The treatment with preparations that contain animal ingredients will also be prohibited. In addition, the wood for wood substrates is to come from sustainable sources. As far as possible, the discarded substrate should be composted and used as a fertiliser on biocyclic vegan areas.

7.6 ON-FARM PROCESSING

For the refinement of biocyclic vegan products, on-farm processing can be appropriate. In this context, some aspects must be taken into consideration.

Separation of product flows

If a biocyclic vegan operation processes biocyclic vegan products, it must guarantee the complete traceability of the processing and transport chain. It must be ensured during this process that separate flows of goods exist if, in addition to biocyclic vegan products, traditionally organic or non-organic products (e. g. from partner farms) are processed. If non-organic products of the same kind are located in the same processing or storage site, the inspection body must be informed of this. Thereby, it should be guaranteed that the contact or exchange of biocyclic vegan with non-organic products is excluded along the entire processing chain.

Ingredients

The use of ingredients from biocyclic vegan or traditional organic production and the simultaneous use of non-organic ingredients is prohibited within the framework of a biocyclic vegan certification.

If, however, an ingredient is not available in sufficient quantities in a biocyclic vegan or organic quality, the operation may use raw materials from non-organic production, provided that these are not genetically modified, do not contain nanomaterials, a regional shortage of raw materials has been officially recognised, and this is explicitly mentioned in the list of ingredients (see pp. 46-47, cf. BcVSt, B 4.1.2.1). In this case, using the Biocyclic Vegan Quality Seal is not allowed.

“We operate our farm according to biocyclic vegan principles because this approach allows us to act responsibly and with respect for life and nature.”

– Nikodemus Gottschaller and Beate Quathamer-Gottschaller, owners and farm managers

Biohof Gottschaller

Rotthalmünster, Germany

Profile

Area: 40 ha
Crops: clover grass, oil pumpkin, spelt, rye
Soil type: loamy, sandy soil
Fertilisation: clover grass (cut & carry), old bread as liquid compost, elemental sulphur
On-farm processing: pumpkin seeds to pumpkin seed oil via an external oil mill in Austria

Certified biocyclic vegan since 2021
Web: www.gottschallerbrot.de

8. Certification Costs

In the following chapter, we want to make the costs associated with certification according to the Biocyclic Vegan Standard as transparent as possible. Fixed costs arise for the membership fee charged by the national biocyclic vegan country organisation (if applicable), for the system contribution and the issuing of the certificate. Variable costs are to be considered for the biocyclic vegan audit and specific marketing activities.

8.1 COUNTRY ORGANISATION MEMBERSHIP FEE

Membership in a biocyclic vegan country organisation (see pp. 52-53) is obligatory. The membership fee is set by this organisation. Special rules apply in countries where a national organisation does not yet exist. In return, the country organisation (or Biocyclic Vegan International) supports the promotion of the Biocyclic Vegan Quality Seal and offers, among other things, training, advisory services, and the assessment (free of charge) of the Biocyclic Operation Index (BOI) (see p. 12).

8.2 INSPECTION COSTS

The individual costs for biocyclic vegan audits depend on several factors. To save costs, it makes sense to have the EU organic inspection (or other legally compulsory inspections), and the biocyclic vegan audit carried out by the same inspection body on the same day (see pp. 13-14). Similar to how the inspection body determines the costs for EU organic certification, the calculation of additional costs for biocyclic vegan certification is also subject to the discretion of the inspection bodies. Once your operation has joined the the international biocyclic vegan network, your inspection body will provide a cost estimate for your farm audit according to the Biocyclic Vegan Standard, which you must then confirm and forward to BVL Biocyclic Vegan Label Ltd (see pp. 44-45). BVL will then integrate this amount into their total invoice, which includes the inspection cost and the system contribution (see 8.3) combined.

Biocyclic Vegan System Contribution

(annual cost overview without membership fees and inspection costs)

CATEGORY	CERTIFICATION COST (1)	LABEL-USAGE FEE (2)	SYSTEM CONTRIBUTION (1+2)
Agriculture			
under 100 ha	100,00 €	150,00 €	250,00 €
over 100 ha	260,00 €	300,00 €	560,00 €
Special cultures, horticulture, viticulture			
under 10 ha	130,00 €	150,00 €	280,00 €
over 10 ha	300,00 €	300,00 €	600,00 €
Producer groups			
from 2 to 30 members	100,00 €	75,00 €	175,00 €
from 31 members	100,00 €	50,00 €	150,00 €
On-farm processing[1]			
per operation to be certified	80,00 €	100,00 €	180,00 €
per additional processing unit	80,00 €	100,00 €	180,00 €

1) Agricultural operations that carry out simple processing on their farm or contract other service providers (processing plants). For processing and trading companies, different conditions and fee rates apply.

8.3 BIOCYCLIC VEGAN SYSTEM CONTRIBUTION

An annual system contribution is levied by BVL Biocyclic Vegan Label Ltd on behalf of the Adolf Hoops Society (see p. 51) based on a corresponding label use agreement (see p. 13). The system contribution consists of two parts:

Certification costs

The costs for evaluating the inspection report and issuing the certificate (certification) are calculated on a flat-rate basis. The amount depends on the size and type of farm (e. g. arable farming, perennial crops, vegetable growing) or the value of the processed raw material from biocyclic vegan agriculture.

Label usage fee

The label usage fee to be paid for the use of the Biocyclic Vegan Quality Seal is also calculated on a flat-rate basis, similar to the certification costs.

In addition to covering administrative costs for the management and development of the Biocyclic Vegan Quality Seal, the purpose of the label usage fee is primarily to support the activities of Biocyclic Vegan International to provide public visibility for the label and implement the biocyclic vegan principles in all sectors of society. A detailed cost breakdown according to the different categories can be found in the overview of annual fees on the opposite page.

After your signature of the framework agreement and before the inspection, 50 % of the system contribution and control costs (as invoiced by the inspection body) are due. The remaining 50 % of the amount is to be paid after the certificate has been issued but before it is received.

Cost calculation example for an annual contribution:

Arable farm with 70 ha

Membership country organisation (e. g. in Germany)	100 €
Costs of farm audit by inspection body (annually)	400 €
Flat-rate certification cost	100 €
Flat-rate label-usage fee	150 €
Total =	750 €

8.4 MARKETING COSTS

In addition to the public relations work of Biocyclic Vegan International, marketing by the operation itself is an essential instrument for making biocyclic vegan agriculture visible to the outside world and establishing a sustainable demand for this specific product quality.

The compulsory labelling of biocyclic vegan products and the associated visualisation of the Biocyclic Vegan Quality Seal entail variable marketing costs. Costs may also arise for printing advertising material on biocyclic vegan agriculture (flyers, factsheets, product tags, posters, etc.), the scope of which depends on the individual case.

9. Marketing

In the following chapter, you will find information on labelling and the principal marketing channels for biocyclic vegan raw materials and processed products.

Pesto	Organic Pesto Made with ingredients from organic and biocyclic vegan agriculture	Organic Pesto Made with ingredients from biocyclic vegan and organic agriculture	Organic Pesto Made with ingredients from biocyclic vegan agriculture	Biocyclic Vegan Pesto	
Ingredients: olive oil, basil* * from biocyclic vegan agriculture (certified by BVL)	Made with ingredients from organic and biocyclic vegan agriculture DE-ÖKO-000 Deutsche Landwirtschaft · Certified by BVL	Made with ingredients from biocyclic vegan and organic agriculture Certified by BVL · DE-ÖKO-000 Deutsche Landwirtschaft	Made with ingredients from biocyclic vegan agriculture Certified by BVL · DE-ÖKO-000 Deutsche Landwirtschaft	Certified by BVL · DE-ÖKO-000 Deutsche Landwirtschaft	Declaration Area e. g. Reverse Side
Ingredient (*) from biocyclic vegan agriculture	**Made with ingredients from organic and biocyclic vegan agriculture**	**Made with ingredients from biocyclic vegan and organic agriculture**	**Made with ingredients from biocyclic vegan agriculture**	**Product designation "from biocyclic vegan agriculture"**	Front Side
The share of biocyclic vegan ingredients is **less than 70 %** (sum of biocyclic vegan + other organic standards).	The share of biocyclic vegan ingredients is **less than 70 %;** the rest, up to at least 95 %, consists of organic ingredients from other organic standards, whereby the share of biocyclic vegan ingredients is **lower** than that of other organic standards.	The share of biocyclic vegan ingredients is **less than 70 %;** the rest, up to at least 95 %, consists of organic ingredients from other organic standards, whereby the share of biocyclic vegan ingredients is **higher** than that of other organic standards.	The share of biocyclic vegan ingredients is **at least 70 %;** the rest, up to at least 95 %, consists of organic ingredients from other organic standards.	The share of biocyclic vegan ingredients is **at least 95 %.**	Requirement
Mention of biocyclic vegan agriculture only in the list of ingredients The quality seal is not used.	Mention of biocyclic vegan agriculture under the product name Use of the quality seal only in the official declaration area, in the immediate vicinity behind the EU organic label, if applicable	Mention of biocyclic vegan agriculture under the product name Use of the quality seal only in the official declaration area, in the immediate vicinity before the EU organic label, if applicable	Mention of biocyclic vegan agriculture under the product name Use of the quality seal both near the product name and in the official declaration area before the EU organic label, if applicable	Mention of biocyclic vegan agriculture as an integral part of the product name Use of the quality seal in direct connection with the product name as well as in the official declaration area before the EU organic label	Implementation
Biocyclic Vegan Standard BcVSt (1.05) B 4.2.4.c	**Biocyclic Vegan Standard BcVSt (1.05) B 4.2.4.b-III**	**Biocyclic Vegan Standard BcVSt (1.05) B 4.2.4.b-II**	**Biocyclic Vegan Standard BcVSt (1.05) B 4.2.4.b-I**	**Biocyclic Vegan Standard BcVSt (1.05) B 4.2.4.a**	

→ **All processed products must consist of 100 % vegan ingredients.**

Produced in preparation for biocyclic vegan certification

9.1 QUALITY SEAL AND LABELLING

Use of the quality seal

Goods produced under the Biocyclic Vegan Standard must be labelled with the Biocyclic Vegan Quality Seal as specified in the label use agreement with BVL (see p. 13). This applies to the documents accompanying the goods and the packaged end products (cf. BcVSt, B 4.2). The use of the quality seal must be in accordance with the BVL style guide. For products featuring the Biocyclic Vegan Quality Seal, drafts of these labels or packaging must therefore be submitted to BVL for approval before going to print (see p. 15).

Labelling of products in conversion

Products from operations under conversion to biocyclic vegan agriculture can be marked with the grey version of the quality seal "Produced in preparation for biocyclic vegan certification" from the time of compliance with the Biocyclic Vegan Standard (cf. BcVSt, B 4.2.7).

Labelling of processed products

Companies processing biocyclic vegan raw materials in their products can have the latter certified and labelled with the quality seal.

Depending on the quantities of biocyclic vegan ingredients used, a processing company has different possibilities for labelling, as illustrated in the following table.

Accordingly, the product may only be labelled "biocyclic vegan" if the share of biocyclic vegan ingredients in the final product is at least 95 %.

If less than 95 % but more than 70 % of the ingredients come from biocyclic vegan production, the product designation "produced with ingredients from biocyclic vegan agriculture" may be used. The remaining ingredients must then be organic ingredients from other organic standards.

If less than 70 % of the ingredients are from biocyclic vegan agriculture, the product may be labelled "produced with ingredients from biocyclic vegan and organic agriculture". It should be noted that the ingredients from biocyclic vegan and organic agriculture together must be 70 %, and the biocyclic vegan share must be higher than that of other organic standards. If, on the other hand, the proportion of organic ingredients is higher, the label "produced with ingredients from organic and biocyclic vegan agriculture" may be used on the product.

Suppose the sum of biocyclic vegan ingredients and ingredients of other organic standards is less than 70 %. In that case, the list of ingredients may state that the corresponding component is "from biocyclic vegan agriculture". In this case, however, the quality seal cannot be displayed.

9.2 DISTRIBUTION

Processing

The downstream processing of agricultural or horticultural production is an important stage in the value chain. To further develop biocyclic vegan agriculture and make it visible, it is of key importance that the relevant products are processed and reach the trade as certified processed products. The readiness of processing companies to source biocyclic vegan raw materials is becoming increasingly apparent.

For establishing value chains, there needs to be a connection between the production and processing sectors. In this respect, Biocyclic Vegan International supports the networking activities between the various stakeholders.

For agricultural or horticultural operations, it is also possible to join forces to have their raw materials processed by the same contractor. In such a case, the corresponding processing plant must be inspected during the inspection of the agricultural operation, or it must apply for its own certification. If a facility processes biocyclic vegan raw materials, it must ensure the complete traceability of the processing and transport chains.

Trade

The member organisations of Biocyclic Vegan International also actively seek to build up contacts with the trade to facilitate the introduction of biocyclic vegan products to the market and to establish value chains in the long term. The spectrum of trade partners ranges from conventional and organic food retailers to wholesalers. There are also biocyclic vegan online shops that sell exclusively biocyclic vegan products. A list of such potential trading partners can be found on the websites of Biocyclic Vegan International and its member organisations.

When cooperating with producers, the trading sector attaches particular importance to seamless communication and reliability. Smooth processes in product procurement and coordinated quantities are the main prerequisites for good, long-term cooperation.

Direct marketing

In addition to distribution via traders, farms can also sell their products directly to consumers, e. g. by using their own farm shop, online store, or farmers' markets.

There is also the possibility of adopting an approach of community-supported agriculture (CSA) and growing products independently of the market through an agreement with a consumer association. Here, several private households bear the costs of an agricultural or horticultural operation in return for which they receive their harvest. A farm can also join other cooperative networks. In such cases, the company's commitment to communicating the unique cultivation principle and the advantages of biocyclic vegan agriculture to the public is very important (see p. 15).

9.3 MARKETING

PR activities of Biocyclic Vegan International

The respective country organisation supports its producers with measures to enhance the visibility of biocyclic vegan agriculture.

It is with pleasure that we present you our large variety of information material tailored to different target groups. The brochure "Who-is-Who?" introduces Biocyclic Vegan International and illustrates the broad diversity of production, processing, and trading companies and organisations supporting the cause of biocyclic vegan agriculture. Our flyers explain the features and advantages of biocyclic vegan agriculture to consumers and can be used by yourself in direct marketing, for example.

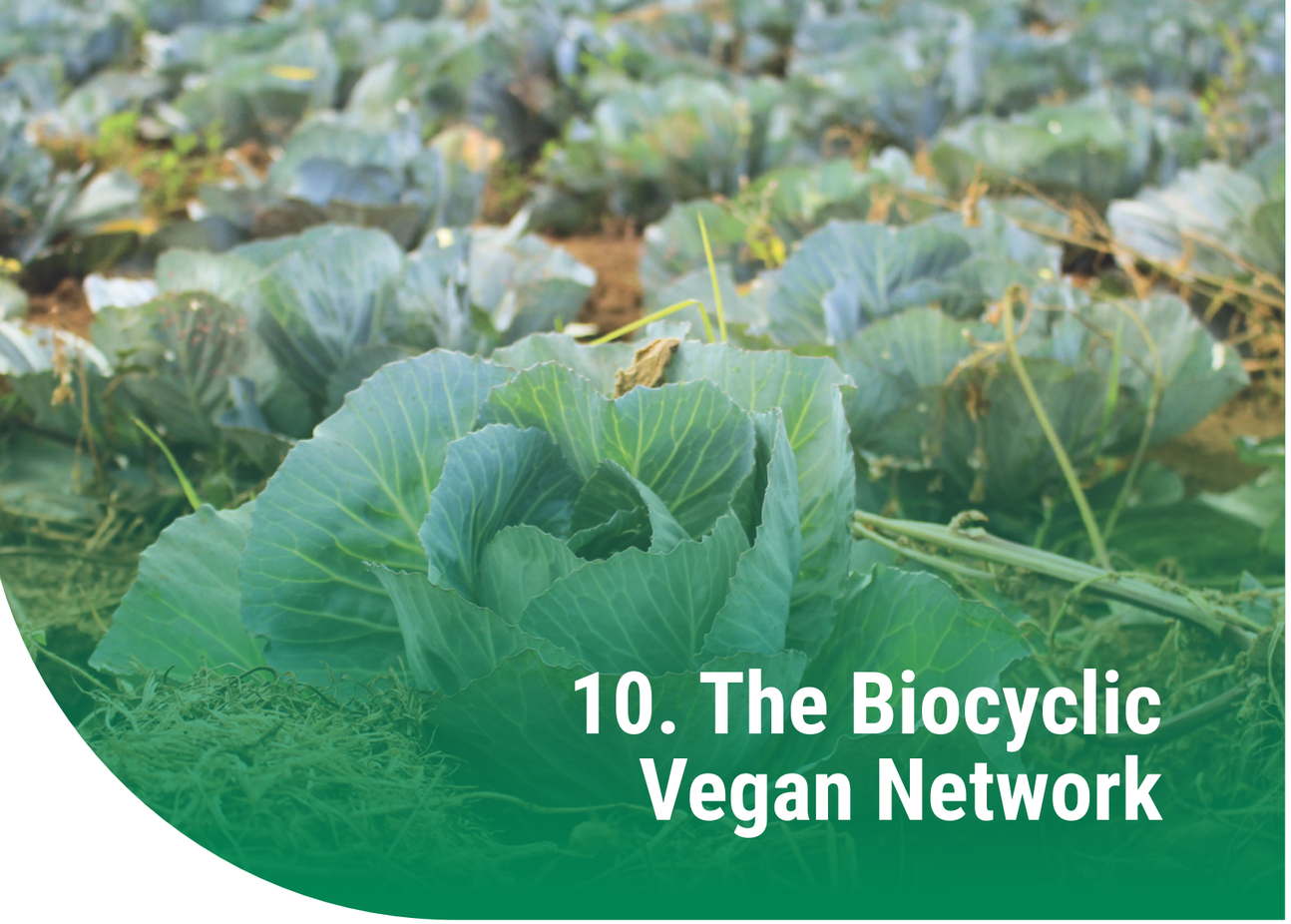
A constantly growing list of partners can be found on our website. We would be pleased to include you there as well. Biocyclic Vegan International or the respective country organisation will usually issue a press release when operations are certified.

Via the social media channels Instagram and Facebook, we keep you up to date on the latest developments of our member and partner operations and their products.

Company marketing

We recommend that you focus on broad visibility and education at the farm level: Information about biocyclic vegan agriculture can be disseminated via your website and social media channels, as well as in the form of handouts, to give your customers direct access to this information. Other measures to raise awareness of the unique product quality include, for example, stickers for individual goods, veggie boxes and processed products, and the design of product packaging on which the Biocyclic Vegan Quality Seal is attractively placed.

We will gladly receive your enquiry if we can advise you on other topics (see p. 50).



10. The Biocyclic Vegan Network

10.1 BIOCYCLIC VEGAN INTERNATIONAL – THE ADOLF HOOPS SOCIETY

The Adolf Hoops Society (Adolf-Hoops-Gesellschaft mbH) is the publisher of the Biocyclic Vegan Standard and the owner of the Biocyclic Vegan Quality Seal. It is a non-profit organisation based in Berlin, Germany, which promotes the worldwide dissemination of the biocyclic idea, according to Adolf Hoops and Dr. agr. Johannes Eisenbach, in the context of biocyclic-vegan agriculture.

The Adolf Hoops Society is significantly involved in further developing the Biocyclic Vegan Standard through the standard commission responsible for this, which comprises renowned experts from different areas such as ecology, agriculture, science, animal rights, certification, ethics and consumer advocacy. In addition, the Adolf Hoops Society is the central body of Biocyclic Vegan International, a broad network of associations, companies and organisations, as well as private individuals from civil society who are committed to promoting biocyclic vegan agriculture in the various countries. The Adolf Hoops Society was founded in 2019 by Dr. agr. Johannes Eisenbach, Arne Hoops and Axel Anders who also preside over it as managing partners.

Biocyclic Vegan INTERNATIONAL

Contact:
Adolf-Hoops-Gesellschaft mbH
Biocyclic Vegan International

Philipp-Franck-Weg 21
14109 Berlin
Germany

Email: ahg@biocyclic-vegan.org
Web: www.biocyclic-vegan.org

Instagram: @biocyclicveganinternational
Facebook: @biocyclicveganinternational

10.2 BVL – BIOCYCLIC VEGAN LABEL LTD

BVL Biocyclic Vegan Label Ltd is the official label and certification body for biocyclic vegan agriculture. As a subsidiary of the Adolf Hoops Society, it is entrusted with the legal administration of the Biocyclic Vegan Quality Seal, the supervision of the inspection and certification process, and the awarding of the certificate. Its tasks include concluding the framework agreements that entitle access to the biocyclic vegan control and certification system and monitoring the correct use of the label under the label style guide. Further, it collects the inspection fees and the biocyclic vegan system contribution from production and processing units certified according to the Biocyclic Vegan Standard.

Contact:
BVL Biocyclic Vegan Label Ltd
Raphael Santi 58
Nefeli Court 11 / App. 202
6052 Larnaca
Cyprus

Phone: +357 24 66 16 14
Mobile: +30 6932 669921

Email: administration@biocyclic-network.net
Web: www.biocyclic-vegan.org

10.3 BNS – BIOCYCLIC NETWORK SERVICES LTD

BNS Biocyclic Network Services Ltd is the system organisation responsible for implementing the Biocyclic Vegan Standard in the inspection, advisory and cultivation practice of biocyclic vegan agriculture. On behalf of the non-profit-oriented Adolf Hoops Society, BNS trains BVL-approved inspectors and accredited control bodies in the principles of biocyclic vegan agriculture and the use of the biocyclic vegan audit tool.

BNS is also the permanent secretariat of the Biocyclic Vegan Standard Commission and is responsible for the implementation of its decisions. Furthermore, BNS coordinates the area of cultivation advice and trains advisors, especially about the pre-certification assessment of the Biocyclic Operation Index (BOI).

Another field of work of BNS is the registration in cooperation with FiBL of all inputs approved for biocyclic vegan agriculture in the Green List (see p. 10). BNS provides organisational support for biocyclic vegan projects, companies, associations and producers worldwide and represents all those producers and processors in whose countries there are not yet any independent associations recognised by the Adolf Hoops Society when dealing with Biocyclic Vegan International, IFOAM and other organisations.

Contact:
BNS Biocyclic Network Services Ltd
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Email: administration@biocyclic-network.net
Web: www.biocyclic-vegan.org

10.4 COUNTRY ORGANISATIONS

In addition to the aforementioned system organisations, there are biocyclic vegan network organisations in various countries that represent biocyclic vegan agriculture locally.

United Kingdom

Stockfree Farming

Stockfree Farming (SF) is a Scottish-based, grassroots group established to inspire and support farmers in transitioning to animal-free agriculture. Whether through shifting to growing crops for human consumption, farming carbon capture through planting trees and restoring ecosystems, or by diversifying into a non-traditional agricultural enterprise, SF presents the rationale, case examples, and connections to support. SF advises farmers in the UK interested in adopting the Biocyclic Vegan Standard and helps them to prepare for certification.

Stockfree Farming
Aberdeenshire
Scotland
United Kingdom

Phone: +44 7747 602 533
Email: Rebecca@stockfreefarming.org
Web: www.stockfreefarming.org

Germany

Förderkreis Biozyklisch-Veganer Anbau e. V.

The German Association for the Promotion of Biocyclic Vegan Agriculture (Förderkreis Biozyklisch-Veganer Anbau e. V.) is a broad association of highly dedicated private individuals, companies and institutions from agriculture, processing industry, trade and science as well as organisations that support animal rights and a vegan lifestyle. As a charity organisation, it advises growers in German-speaking countries on the conversion to biocyclic vegan farming and raises public awareness of the benefits of this form of cultivation. In addition, it participates in research projects on humus-upbuild and long-term increase of soil fertility through the use of purely plant-based Biocyclic Humus Soil. This is supported by various working groups.

Förderkreis Biozyklisch-Veganer Anbau e. V.
Karl-Marx-Platz 24
12043 Berlin
Germany

Phone: +49 173 360 87 89
Email: foerderkreis@biozyklisch-vegan.org
Web: www.biozyklisch-vegan.org

The Netherlands & Belgium (Flanders)

Biocyclische-Veganlandbouw

The Network for the Promotion of Biocyclic Vegan Agriculture in the Netherlands and Flanders (Biocyclische-Veganlandbouw) is supported by Plenty Food Netherlands Foundation, and it aims to raise awareness of biocyclic vegan agriculture in the Netherlands and Flanders. It also seeks to promote the Biocyclic Vegan Quality Seal on the market to guarantee consumers a permanent availability of biocyclic vegan products while providing them with total transparency from farm to fork.

Netwerk ter bevordering van Biocyclische-Veganlandbouw in Nederland & Vlaanderen
Oesterbank 12
3162VJ Rhoon
The Netherlands

Phone: +31 6229 30702
Email: joep@bio-vegan.nl or biovegan@plentyfood.nl
Web: www.biocyclische-veganlandbouw.org

Greece & Cyprus

Panhellenic Biocyclic Vegan Network

The Panhellenic Biocyclic Vegan Network is an association of organic farmers in Greece and Cyprus cultivating according to the Biocyclic Vegan Standard. The predominantly small-scale organic family farms are supervised annually by specially trained agricultural engineers. Biocyclic Park in Kalamata (Greece) provides the inputs approved for biocyclic vegan cultivation, above all, pure vegetable compost based on olive pomace and Biocyclic Humus Soil, which directly contributes to improving soil life and the internal vitality of the plants. The network members are represented by BNS Biocyclic Network Services Ltd in the organic growers association “Naturland” and are certified according to the Naturland Standard in addition to the biocyclic vegan certification.

Panhellenic Biocyclic Vegan Network
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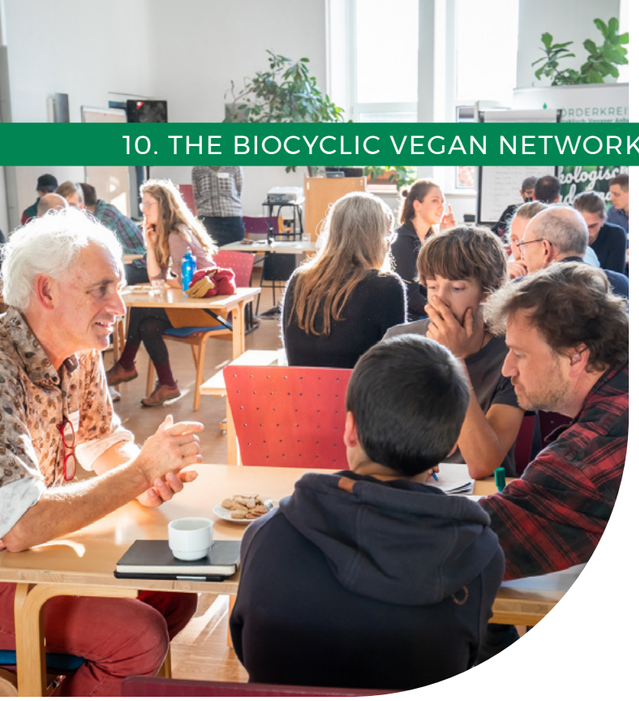
6052 Larnaca
Cyprus

Phone: +357 24 66 16 14
Mobile: +30 69 32 66 99 21
Email: support@biocyclic-network.net
Web: www.biocyclic-network.net



10.5 BECOMING PART OF THE NETWORK

With the progressive establishment and spread of biocyclic vegan farming, an important signal is being sent to politics and society: transforming the food and agriculture sector is possible!

We invite you to become part of the international network for biocyclic vegan farming. You can help us to publicly display the diversity of biocyclic vegan farms by having your operation certified. Talk to your colleagues about this climate-sensitive approach to farming and the possibility of contributing to tomorrow's sustainable soil and food culture through purely plant-based cycles of organic matter.

You can also support Biocyclic Vegan International and its partner organisations in their main fields of activity:

Agricultural Production: Providing training and advice to growers and agricultural operations and accompanying them along the conversion and certification procedure

Food Processing and Trading Industry: Networking and developing partnerships with the food processing and trading industry to help create market opportunities for biocyclic vegan products and accompanying them along the certification procedure

Consumers: Informing consumers about the cause of biocyclic vegan agriculture and the availability of certified products on the market

Politics: Informing political stakeholders about the benefits of biocyclic vegan agriculture and elaborating demands to politics on legal framework conditions supportive to biocyclic vegan agriculture

Research: Initiating research projects on biocyclic vegan agriculture and Biocyclic Humus Soil and connecting interested students, doctoral candidates or other scientists to discuss relevant issues related to biocyclic vegan agriculture

Fundraising: Identifying possible funding sources to ensure stable financing of the organisation and preparing grant applications to eligible foundations and other institutions

Public Relations: Presenting biocyclic vegan agriculture in the press and on social media, developing information and educational materials as well as maintaining and further developing the organisation's website, giving lectures, workshops, webinars, etc. on biocyclic vegan agriculture, participating in conventions, congresses and other events in agricultural and food policy and also exhibiting at organic and vegan trade fairs and consumer exhibitions

If you are interested, don't hesitate to contact us.

Pioneering work is not an individual achievement but is based on a broad collaborative foundation.

We look forward to exploring the different ways of working together.

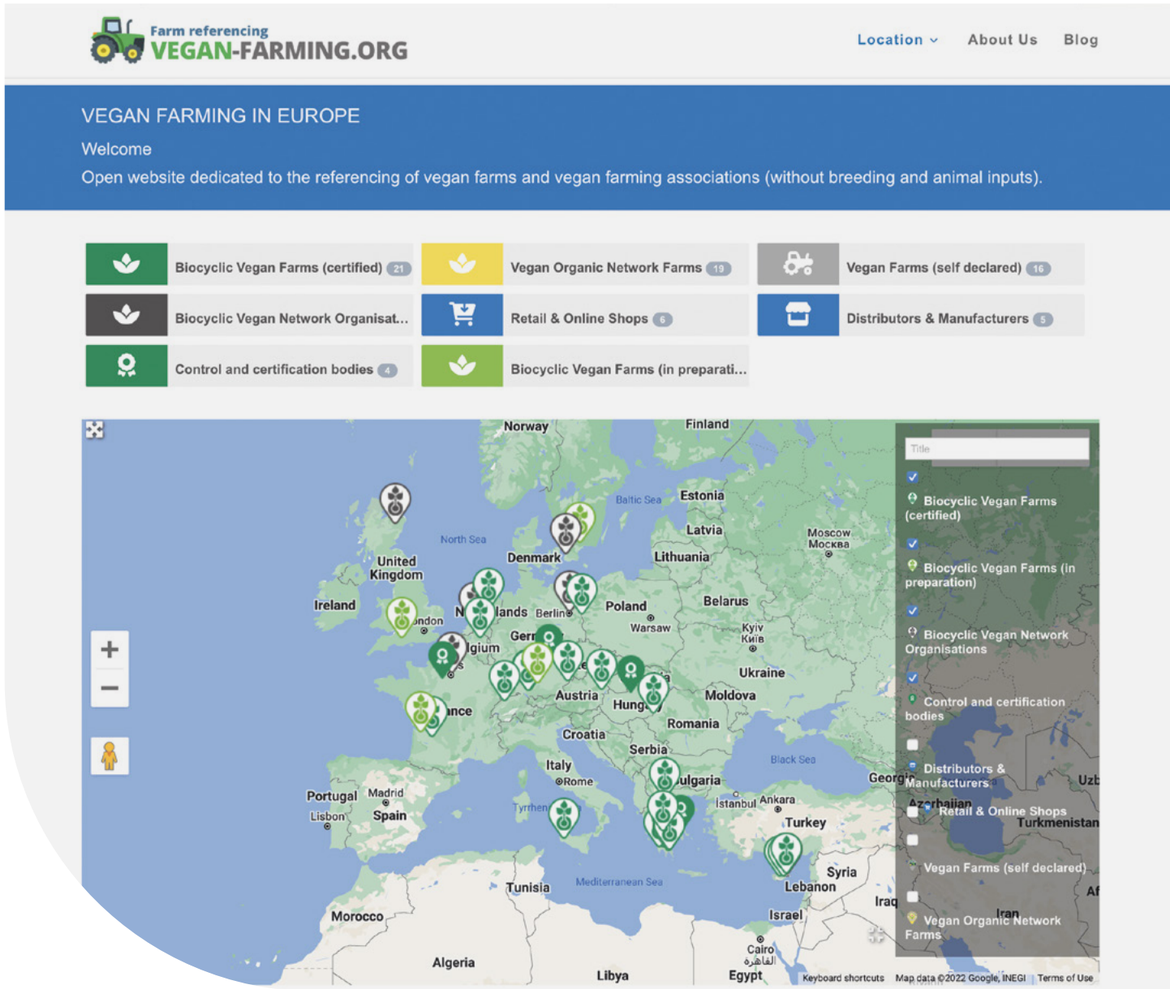
10.6 BIOCYCLIC VEGAN OPERATIONS

Interactive map with member operations of Biocyclic Vegan International and other vegan organic farms in Europe:
www.vegan-farming.org

Up-to-date listing of all biocyclic vegan operations worldwide:
www.biocyclic-vegan.org/partners/producers

On this map, biocyclic vegan operations and network partners are indicated by a symbol with the Biocyclic Vegan Quality Seal.

Should you decide to become certified, your operation will also be featured on our website (list of partners) and included in the map.



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An up-to-date literature list on biocyclic vegan farming can be found on the website of Biocyclic Vegan International:
www.biocyclic-vegan.org/Background/#Literature

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Version: 10/2023
Design: claudiamachnik.de

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This project was funded by the German Federal Environmental Agency and the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection. The funding was provided by a resolution of the German Bundestag.

The responsibility for the content of this publication lies with the authors.

Bundesministerium für Umwelt, Naturschutz, nukleare Sicherheit und Verbraucherschutz

Umwelt Bundesamt

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