Demeter Labelling, Production and Processing Standard

March 2022

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1 Introduction

This standard for the use of Demeter, Biodynamic® and other related trademarks sets out the criteria and framework within which products are certified with these trademarks. In each instance in the standard in which the word, stylised word, logo or trademark ‘Demeter’ appears, biodynamic is implied. They provide a legal basis, equally binding on all contracted parties, to assure the quality and integrity of Demeter and biodynamic products.

This document sets out the principles that inform the standards, and the standards themselves. It also outlines the processes by which these standards are developed and implemented by Demeter International and Demeter UK.

All products that carry the Demeter and Biodynamic trademarks must be produced and processed according to this standard and are inspected and certified by the responsible authority in the respective countries. In the UK and Ireland, this is Demeter UK and BDA Certification.

Fundamental to all Demeter activity and products is the recognition that as humans we rely on the generosity of the natural world and the collaboration of human activity with this to nourish, care and clothe human beings. This standard articulates how that can be done in a way that supports and works collaboratively with both the natural world and human beings.

2 General principles

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2.1 Principles of production

In life processes many diverse forces, which do not originate solely from material interactions, work together. All agricultural measures rely on activating processes which enhance and enliven these natural connections.

The biodynamic method has largely to do with the forming of living interactions and cannot be defined in the way the production methods for an inanimate article can be. Work done by human beings in caring for the fertility of the soil, the plants, the seeds and propagating material, and the animals, in harmony with local conditions, can develop the farm or garden into a living organism. The huge diversity of the natural world means that agricultural practices that are suitable in one place may be completely inappropriate in another. The inclinations and capabilities of the farmer need to be taken into account for the various farm organisational possibilities which meet these standards. The correct timing of those measures which affect living processes plays an important role. To this belongs in particular also the conscientious and regular use of the biodynamic preparations, and the consideration of cosmic rhythms in plant production and animal husbandry.

Biodynamic work requires that one is strongly connected with the essential nature of the biodynamic method, its principles and aims. To this end it is necessary to live into the natural processes using observation, thinking and perception. An ever-deepening understanding of the connections in nature, based on knowledge, can be gained by constant striving. Cooperative work in the various advisory associations, public events, magazines and books are all important sources of aid and support.

The specific body of knowledge which is the basis for biodynamic agriculture, insofar as it extends beyond practical and scientific experience, is derived from Rudolf Steiner's "Agricultural Course" of 1924, and the spiritual context of anthroposophy within which this course was held.

The aim is always to practise agriculture in such a manner that structuring the farm as an integrated unit results in productivity and health, and that those inputs needed for production are generated out of the farm itself. If one however wants to use these standards in such a way as is often the case with laws, that the only concern is with adherence to formalities, or loopholes are sought for economic advantage, one should practise agriculture in some other fashion. It is the task of the respective organisations, with their representatives and the advisory services, to prevent such developments from occurring.

In the end it is important that each grower is increasingly able to act responsibly toward these standards from his/her own knowledge. Each individual can thank the greater biodynamic activity for a part of his/her existence and success, and each local act, even when unseen, contributes to the wider community. Therefore, everyone should at all times act in such a way that the trust of the consumer in the biodynamic method and in Demeter products is confirmed and justified.

Agriculture is the expression of an active formative meeting between mankind and the natural world. The form of the landscape is determined by the needs of people living together in a particular culture. The products, which this agriculture yields, must speak to the being of mankind in order to

be able to truly nourish. The keeping of cattle, with the resulting manure production, has been and still is the basis for arable production. Animal husbandry requires feed production, cattle in particular needing roughage, which is an important factor to consider when designing the crop rotation. Plant production is determined by the needs of both man and animal, and requires a conscientious approach to soil husbandry. Locally appropriate management acknowledges the needs of plant and soil, animal and human.

All the measures used on a biodynamically managed enterprise must be evaluated according to holistic principles. In a living totality, it is of real importance not only to balance out the material requirements of the system, but also as Rudolf Steiner explicitly indicated in the Agriculture Course, to balance the depletion of life forces. Conscientious attention to detail in the production, storage and usage of the preparations is of huge importance in this regard.

Spiritual scientific knowledge indicates that components of mineral, plant and animal origin can be metamorphosed by the effects of cosmic/earthly influences during the course of the year, into preparations imbued with forces. When used in the soil, on plants and manures, these preparations contribute to enlivening the earth, stimulating yield and quality in plants, and health, vitality and production of animals on the biodynamic farm.

The preparations should be made on the farm, or in co-operation with other farms, if possible. The plants and animal sheaths for their production should come from the farm, or if possible from another biodynamically managed enterprise. The experience and knowledge gained to date from observation and experimentation is to be used in their production and usage.

The full effect can only be expected when all the preparations (compost, and spray preparations) are used in manures and for plant care throughout the year using appropriate methods and times.

These standards indicate intentions for animal husbandry, giving mostly only the minimum requirements.

Domesticated animals, as ensouled beings, are particularly dependent on our care. Daily management should be carried out in such a way that the animal receives all due care, as well as provision for carrying out its innate behavioural traits. Imbalances at either the physical or soul level need to be recognised in time and carefully rectified. Continuous observant care of the animals is a prerequisite.

Animal husbandry, with the accompanying fodder production is an important part of the agricultural enterprise. With respect to the development of the enterprise, the farm organism cannot do without livestock. This applies to the ruminant in particular. The fodder plants and the well-balanced manure that comes into being because of cattle, contribute considerably through the enlivening of the soil, to the long term flourishing of a farm. The harmonious co-operation of humankind with the three kingdoms of nature can lead to a living, ensouled farm organism.

"You must know, for instance, that the cosmic influences that come to expression in a plant, come from the interior of the earth and are led upwards. Thus, if a plant especially rich in these cosmic influences is eaten by an animal, the manure that the animal's digestion system provides as a result of consuming such fodder, will be just the right thing for the soil where that plant grows."

- Rudolf Steiner

Experience shows that animals which are born and reared on a farm, which cares for their feed and husbandry needs in a loving way, have good health and fertility with a high lifetime production. Therefore, every effort must be made to organise optimal living conditions for the animals in each given situation, and to bring animals into the farm only from other equally well run enterprises.

The horns of ruminants have significance for the development of life forces. They provide an opposing balance of forces to the intensive digestion and absorption processes. They are a part of the total being of the cow. In comparison to other animal types, cattle manure has a particularly stimulating effect on soil fertility. The horns also have a large significance as a sheath in the production of the biodynamic preparations.

2.2 Principles of processing

Demeter products are grown and processed according to the Production and Processing Standards for the use of Demeter, Biodynamic® and related trademarks and inspected and certified by the responsible authority in the respective countries. In the UK and Ireland, this is Demeter UK and BDA Certification.

2.2.1 Aim

Demeter products contribute to the nutrition, care and clothing of humanity. Therefore, the human being stands at the centre of, and provides the yardstick for, whatever actions one may take.

The aim of processing to make Demeter products is the maintenance and, if possible, the enhancement of those qualities originating in the biodynamic method.

Demeter food provides the basis not only for bodily nutrition but also for the soul and spiritual life. This wider view of the effects of food means that the needs of humanity should also be considered on this level.

2.2.2 Basis

The basis of Demeter product quality is the spiritual science of Rudolf Steiner (1861-1925). The ideas and methods of biodynamic agriculture stem from it, as do the tenets of anthroposophical nutrition. Included with the normal quantitative considerations, there is the added qualitative dimension of life, soul and spirit.

2.2.3 Processing

During processing the quality of Demeter products should be maintained and enhanced. Processing is a further refining of the biodynamic qualities of the raw materials.

The processing methods affect the product quality. The aim therefore is to choose methods appropriate to the product and to the overall needs of mankind.

Additives and processing aids should be largely dispensed with. Some are no longer required as high quality biodynamically produced raw materials are used. Others can be replaced through the use of appropriate technologies, or by craftsmanship.

2.2.4 Assessment of Demeter food

Both the ingredients and the processing method affect the quality of food. For this reason, the assessment of Demeter food is carried out using analytical, microbiological, and sensory tests, as well as methods to depict the life forces (i.e. pictorial methods).

2.2.5 Description of the product

An authentic product is one whose composition and life history is transparent for all traders and consumers to see. A clear declaration is the first step.

2.3 Principles of ecological responsibility

The production, processing and trade of Demeter products should be carried out in a manner which recognises that we are both responsible for and dependent on the healthy functioning ecosystems which are the foundation of all life on earth.

Biodynamic farming and processing have the potential to make practical contributions to help resolve the severe multiple crises that are affecting the living world, including climate change, soil degradation, pollution and biodiversity loss. In order to do this, Demeter licensees should take into account their responsibility for local and global ecological systems and the well-being of future generations, when reflecting on their enterprises and making decisions about their activities.

At a practical level, this requires an appraisal of the use of resources at each step of the Demeter supply chain, with particular attention to the use of fossil fuels and non-renewable resources.

2.4 Principles of social responsibility

Social responsibility is one of the fundamental principles of the Demeter standards, including respect for and observance of human rights. The requirements of the International Labour Organisation (ILO), which are enshrined in the legal framework of many countries, are valid for all people and govern all human resource relationships. This is also true in all Demeter certified enterprises, therefore everyone working in these organisations must receive equal opportunities independent of their ethnic background, creed and gender.

The management of these enterprises is responsible for guaranteeing the health and security of all people working for the organisation and ensuring that no one is endangered through their work. All co-workers have the possibility to avail themselves of their rights. They have the right to congregate, participate in collective bargaining and make representation to management without discrimination. Demeter enterprises have to eliminate social inequity including lack of social rights,

forced or inappropriate child labour, below standard working conditions and/or wages, and to provide occupational safety, and healthy working environments. The enterprise must inform workers of their rights.

As part of the annual inspection and certification process all licensees shall make a self-declaration confirming that these guidelines have been met.

2.5 Standards – general

2.5.1 Scope

The Demeter Standard applies to the production and processing of products from plant and animal origin, distributed and marketed under Demeter, Biodynamic® and related trademarks or other indications of the biodynamic method (the product categories are detailed in the standard that follows). They are approved by delegates of the Members' Assembly of the Biodynamic Federation Demeter International and ratified by the International Biodynamic Association (IBDA), owner of the Demeter trademark. The standards become valid through publication by the Biodynamic Federation and are the basis for Demeter and Biodynamic® certification worldwide.

The first version of these standards was ratified by the Members' Assembly of Demeter International e.V. on June 25th, 1999 in Sabaudia, Italy. The current version was passed by the delegates of the Members´ Assembly of Demeter International e.V. in 2021 and ratified by the International Biodynamic Association.

The International Demeter Biodynamic Standard provide a minimum framework for all national Demeter standards in each respective country organisation and are therefore compulsory for each licensee in every member country in their most current version. National standards may be stricter in some details or may be formulated in a more far reaching way. Regulations that are less strict than the international standard are not allowed.

These standards are complemented by the Quality Management Manual of the Biodynamic Federation, and the Standing Orders of the Biodynamic Federation.

Overriding legal requirements for these standards are:

- All national and international legal regulations regarding production, processing labelling of food, agricultural raw materials, plant protection, breeding, trading and fodder.
- In particular, all relevant legislations for organic agriculture and processing.
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- Should any national or international law or guidance on processing, production, distribution, storing or labelling contradict these standards, the national or international law must take precedence.

In the UK and Ireland, Demeter UK are publishing this standard in March 2022, and it includes the most recent changes that were approved by Biodynamic Federation Demeter International Members' Assembly in June 2021.

2.5.2 Standards Committee

Biodynamic Federation Demeter International - The responsibility for interpreting and developing this international standard lies with the Standards Committee of the Biodynamic Federation, elected every three years by the Members´ Assembly.

Demeter UK – Demeter UK also has a Standards Committee which is responsible for interpreting and developing this standard in the UK and Ireland. For more details on the role and composition of the Demeter UK Standards Committee, please see our Quality Manual.

2.5.3 Structure and System

The Demeter Standard is comprised of a general section which applies to **all licensees**, members and certifying organisations; as well as specialised sections for specific types of enterprises (production and processing); and even more specific standards which apply to single product categories.

As a whole, these standards work as a **positive list**. If something is not mentioned, it must be assumed it is not allowed without specific written permission from Demeter UK.

2.5.4 Changes to the Standards

Fundamentally, the requirements detailed in the general and specific standards are not unalterable. If it becomes sensible or necessary to seek amendments, either internationally or specific to a given country, a written application, including justification, should be made to the Members' Assembly of Demeter International, through Demeter UK

A detailed description concerning the procedure and time restrictions should be communicated by the coordinator of the Standards Committee to all eligible applicants at least 16 weeks before the Members´ Assembly.

The Members' Assembly decides on standards changes through an absolute majority.

For further details, please refer to § 4 (4) of the statutes of Demeter International and § 5 "Standard amendments procedure" of the standing orders of the Standards Committee.

Every Demeter licensee is encouraged to take part in the development of the standards through consultations, working groups and Demeter UK.

2.5.5 Application and approval for new product groups

The current standard includes all product categories as they have been developed internationally. National certifiers are entitled to develop new standards for categories not mentioned in section 8 by making an application to the Board and Standards Committee, who will then consider the new standard in light of the current trademark and technical compliance with the existing standards.

These standards should be referred to as "Country standard for the certification of Demeter …..".

As soon as a second member country identifies the need for a similar standard, Demeter International is obliged to develop an international Demeter standard to be submitted for a vote at the next Members´ Assembly.

For further details, please refer to the Standing Orders of the Standards Committee.

2.5.6 Implementation of changes

Member countries will implement any changes to the standards by the 1st of July in the year following their approval at the Members' Assembly. If a rationale is presented the implementation deadline may be extended by six months.

When changes are made to the labelling requirements, existing labels may be used for a maximum of three years, or if necessary the certifying organisation can extend the timeline of implementation when presented with adequate justification.

For further details, please refer to the Biodynamic Federation Demeter International Directions and Quality Manual.

2.6 Certification - general

According to the statutes of Demeter International, full membership requires a functional certifying scheme for biodynamic agriculture. More details can be found in the Demeter International Directions.

In most countries Demeter certification guarantees a private standard, so state accreditation or state approved accreditation is not a requirement. Demeter UK and BDA Certification are approved to certify to organic standards through our accreditation with UKAS and to Demeter Standards through accreditation with Demeter International. This means that we hold to the following common accreditation principles:

- Transparency
- Impartiality
- Equality of treatment
- Independence from financial influences

For further details concerning the requirements of inspection and certification processes and procedures please see the Quality Manual of Demeter UK or contact Demeter International.

2.6.1 Organisations entitled to certify

Member countries of Demeter International are authorised to certify to Demeter standards within their own country. In the case of Demeter UK, we are also authorised to certify to Demeter within Ireland. Guest Members and licensees in other countries are certified by the International Certification Office of Demeter International. For more details on the International Certification Office, please see section 9 of the Demeter International Statutes. For a current list of member

countries and guest members, please see the Demeter International website: http://www.demeter.net/demeter-international/members-guest-members.

2.6.2 Accreditation Council

The responsibility for ensuring compliance of member countries with the Demeter International Standards and Demeter International Directions lies with the Accreditation Council which is elected by the Members' Assembly. In order to do this the Accreditation Council carries out an internal evaluation and accreditation programme.

2.6.3 Quality assurance

It is the responsibility of every licensee to guarantee the quality of Demeter products by using optimal operational methods and well thought out measures and processes. Often the regulations governing food demand a management system to ensure internal controls in the business (e.g. Quality management, HACCP).

It is recommended that regular staff training be used to instill good production practice, and support motivation for biodynamic products and their specific characteristics.

2.6.4 Types of certificates and product approval

A Demeter certificate is valid for a specific scope and time. Demeter UK usually issue certificates that run for the calendar year (exceptions may be made to this when needed.) Demeter UK provides the following kinds of certificate:

- Production certificate with schedules – which details the land, crops and animals that are certified.
- Processing certificate with certified product list – which details the activities that are certified and the approved products. The details of approved products are specified in the schedule to the certificate.
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- Demeter products in the UK and Ireland are approved by Demeter UK. This approval process is based on clearly documented procedures which consider the quality and composition of the ingredients, the methods of processing and how the product will be labelled. Only after this approval process does a product have the right to use the Demeter trademark.

Each Demeter product is approved either through a Multiple Ingredient Product Specification (MIPS) or a Single Ingredient Product Specification (SIPS) which must contain the following information:

- Recipes, ingredients and additives
- Processes
- Processing aids
- Label

2.6.5 Documentation, separation, storage, and product flow

Every Demeter licensee must organise their business so that Demeter quality and integrity is always assured and documented, so that the **history** of each Demeter product (from production through to the final product) is **transparent**.

At all stages of production and processing there must be protocols in place to ensure that contamination of Demeter products is actively excluded (this includes cleaning products and protocols, separate production runs for Demeter products and other strategies to actively avoid mixing and substitution with uncertified materials). If a business produces conventional and/or organic products as well as Demeter products, the detailed separation protocol (usually that the Demeter production run precedes any others) must be approved by Demeter UK.

Separate storage areas and **clear labelling** are required for **all** raw materials, technical aids, partially processed and fully processed products.

All staff involved in Demeter production must be made aware of the above, and each organisation must appoint a quality manager who is responsible for ensuring that these protocols are followed.

2.6.6 Derogations

The requirements for Demeter production and processing are set out in this standard. It is possible to request a **derogation** from these standards only in well-justified and documented cases.

A request for a derogation should be made **in writing** to Demeter UK. If it is clear in the standards that this derogation can be granted at a country level, then Demeter UK can approve the request. If it is not clear, then Demeter UK will forward the request to the Standards Committee who will consider the request and either grant or deny the derogation.

Under certain circumstances it is also possible for **Demeter UK** to request a country-wide derogation. For more details, please refer to the Directions of Demeter International.

2.6.7 Sanctions

Every Demeter licensee is responsible for guaranteeing that their production methods and products meet the Demeter International and the Demeter standards of their country (if a member organisation). The certification body (whether member country or International) provides a systematic, objective and consistent process to ensure that all licensees are meeting these standards.

In cases in which standards are not met, Demeter UK has policies and procedures in place to resolve the situation. Demeter UK makes clear to the licensee what corrective action should be taken, and in what time frame, in the **certified inspection report**. The licensee is obliged to take corrective measures within the specified time frame.

If a licensee disagrees with the decisions taken by the certifying body the procedure for questioning or complaining is detailed in the Quality Manual of Demeter UK and BDA Certification.

If a severe non-compliance occurs at the Demeter level, the Accrediation Council of Demeter International must be notified.

2.6.8 Distribution Strategy

Some countries have distribution strategies in place. If Demeter products are sold into these markets, the sellers are responsible for ensuring that the distribution strategy of the country is respected. The countries with a distribution strategy in place are: Austria, France, Germany, Italy, Netherlands and Switzerland.

2.7 Residues

This section refers to **residues** including herbicides, pesticides, fungicides or other farm inputs which are not in line with the basic requirements of organic and biodynamic farming.

General environmental contaminants, which can endanger the marketability of products irrespective of their organic status, are not included in the following.

- If any raw material loses its **organic** status due to exceeding the permitted maximum residue levels of an agent, or proven targeted use of non-approved substances, it automatically loses its **Demeter** certification also.
- Due to the lack of comprehensive legal maximum permitted values for residues relevant only to organic farming, Demeter certifiers treat residue findings according to the so-called **BNN orientation value** (Bundesverband Naturkost Naturwaren).
- Analysis results with a value higher than 0.01 mg/kg, based on the unprocessed starting product and taking into account the measurement uncertainty and the dispersion range usual for the substance, **trigger a search for possible causes**.
- If investigations by the respective certifying organisation show that the material was undoubtedly not made intentionally but as a result of **unavoidable measures** such as contaminated sites, drift or storage contamination, Demeter UK may release the product concerned **even if** the orientation value is exceeded.
- The above does not apply if **more than two substances** per product or raw material exceed the orientation value.
- The licensee concerned **must report** any materials exceeding the orientation value to Demeter UK. If he knowingly fails to do so, and the residue findings are discovered at a later stage it is not possible to refer to the treatment as an orientation value.
- Demeter UK **must report** any exceeded orientation values and the corresponding certification decision to the Accreditation Council of Demeter International.
- Please see **chapter 11** in the **Quality Manual** of BDA Certification and Demeter UK for possible outcomes to an investigation.
- The above only applies if other legal provisions do not prescribe stricter rules.

2.7.1 Spray drift

All producers are obliged to prevent spray drift onto Demeter certified land to the best of their ability. The actual risk of drift can vary greatly depending on the type of farm, region, location and crop.

Demeter UK is entitled to **request a risk analysis** for individual companies, regions or even the entire certification territory as part of the inspection. The content and scope of the should be defined by Demeter UK, who is also entitled to request a corresponding action plan on the basis of this analysis.

The action plan will be agreed by the certifier and may contain the following elements, and measures going beyond them:

- A written agreement with conventional neighbours.
- An appropriate buffer zone between certified crops and conventional neighbouring fields. Produce from this zone may not be marketed as Demeter. Documentation is required concerning where it is used/sold.
- Harvested produce from any affected field must be tested for residues before sale. Analyses are to be carried out in an accredited laboratory. The costs are to be covered by the operator.
- Physical barriers such as hedges.

Summary of Section 3

- The current international standard is the baseline standard for all national Demeter standards. National standards in member country organisations may be stricter in some details or may be formulated in a more far reaching way but cannot be less strict.
- National certification schemes must follow the principles of impartiality, equality of treatment, transparency and independence from financial influences.
- Compliance with this standard for food and raw materials of agricultural origin in general requires organic certification as a pre-requisite. This organic certification must be to legally defined requirements, for example EU regulation on organic agriculture and processing, the USA's National Organic Program (NOP), Japan Agricultural Standard (JAS) or equivalent.
- Product groups which are not covered by organic regulations, for example cosmetics and textiles, may require additional certification or at least organic certification for the raw materials of agricultural origin.
- Changes to these standards must be approved by Demeter International Members Assembly by an absolute majority.
- The current standard is accompanied by the Statutes of Demeter International and the Directions for the implementation of a certification program within the organisations of Demeter International.
- In well-justified and documented cases derogations to this standard can be approved according to the procedures outlined above. Derogations to a national standard (but not the international standard) can be approved by the national certification body. Derogations to the international standard can be approved by the Standards Committee and the Members´ Assembly.

3 Fundamental Requirements

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3.1 Composition and quality of Demeter products

3.1.1 Quality of raw material – general definition

The following sections describe the required quality and composition of raw materials for Demeter production and processing. This includes seeds, animals, fodder, ingredients, processing aids and additives.

These standards also regulate the processing of Demeter products. Processing methods both allowed and prohibited are detailed in section 4.2, allowed processing aids and additives are detailed in 4.3. Only methods, aids and additives that are expressly listed are allowed.

Please refer to section 5 of this standard on labelling for the minimum requirements of labelled Demeter products and fodder.

3.1.2 Origin of raw material

Processed Demeter products can fundamentally only include agricultural products (including animal products) which originate from certified biodynamic farms (with a Demeter contract) which have been processed with Demeter approved aids and additives.

If Demeter quality raw materials are not available, the following priorities must be applied:

- Priority will be given to materials that are inspected and certified by recognised organic certification bodies to organic regulations such as the EU regulations on organic farming (834/2007 and 889/2008), the National Organic Program (USA), Japan Agricultural Standards (JAS) or equivalent.
- Uncertified conventional products may only be used if they are authorised for use in the organic regulations as detailed above. These materials may not be used in excess of the maximum content of non-organic ingredients as detailed in the labelling standards. (In addition, sea fish may only be used if certified by the Marine Stewardship Council.)

Please refer to section 4 of this standard on labelling for additional requirements of labelling when raw materials, additives and aids are included that are not of Demeter quality.

3.1.3 Availability of Demeter raw material

When raw materials are available in Demeter quality they must be used.

The definition of 'available' is decided by Demeter UK and will consider the following criteria:

- Production – whether there is known Demeter production of the raw material
- Distance – whether transport is proportional to the amount needed
- Quality – other quality parameters, like microbiological stability or product technical specifications
- Price – whether the price of the Demeter raw material is acceptable in proportion to the organic alternative (the certifying body must also take the proportion of the ingredient in the recipe into account).

Please refer to section 4 of this standard on labelling for additional requirements of labelling when raw materials, additives and aids are included that are not of Demeter quality.

3.1.4 Inclusion of organic partially processed products

If partially processed organic products are used as ingredients, they must only contain allowed ingredients and additives as defined by these standards.

They must also meet recognised organic standards including allowed ingredients and conventional ingredients.

3.1.5 Calculation of the ingredients in Demeter products

The percentage of all Demeter, biodynamic and organic ingredients in any labelled retail product or wholesale ingredient is calculated by weight or fluid volume. Salt, water and mined minerals are excluded though the quality of each must be considered in relation to the potential for contamination of the product with prohibited materials.

Time of calculation
The proportions of Demeter ingredients should be calculated at the **final stage** of combination.
If the production process is a multistage process, it is at the final stage that the calculation should be made. If the last stage of processing involves both liquids and solids, please refer to calculation of ingredients below.

Calculation by weight:
The total net weight of combined Demeter/biodynamic and organic ingredients at time of combination (excluding salt, minerals and water) divided by the total weight of all combined ingredients (excluding salt, minerals and water)

Calculation by volume:
Fluid volume of all Demeter/biodynamic and organic ingredients (excluding water, salt and minerals) divided by the volume of the finished product (excluding water, salt and minerals).

Calculation if both solid and liquid ingredients are used:
To be based on weight (i.e. combined weight of both solid and liquid Demeter/biodynamic and organic ingredients (excluding water, salt and minerals) divided by combined weight of all ingredients (excluding water, salt and minerals).

Calculation of water

Natural substances which contain water are taken into account with the following percentages (by weight):

- Vegetable juices with no added water:100 %
- Concentrated vegetable juices: the concentrate itself counts as the ingredient. Any water used for dilution is not included in the calculation.
- Aqueous extracts: only the plant portion of the extract is taken into account.
- Hydrolates are counted as water in the final calculation, with the fragrance contained in them due to steam distillation being included with the other essential oils.
- Hydro-alcoholic extracts: the plant and alcohol portions are taken into account.

Please note that all ingredients included in Demeter products which will carry the Demeter/ biodynamic trademarks must be labelled with the exact percentages of organic and Demeter ingredients. For further details, please refer to the labelling standard.

3.2 Processing methods

This standard cannot include or anticipate every possible method for processing food, therefore the following list is not exhaustive. If a processing method is not included in the list, please contact your certification body for clarification before producing new products.

3.2.1 Approved methods (please note restrictions)

- All **physical treatments** and methods like washing, cleaning, sieving, filtering (please note restrictions on filtration material), mechanical chopping, mixing, pressing, blanching, decanting, steaming.
- **Extractions** with or without solvents. Permitted solvents are CO2, water, oils and alcohol as well as Demeter ingredients like honey, sugar and vinegar. Please note the restrictions on aroma extracts (3.3).
- **Centrifuging** not for the production of beer and whey separation)
- **Cool storage**, controlled humidity and atmosphere storage, including CO2 and N2 as cooling agents.
- **Freeze drying** is only allowed for certain applications and only with a derogation issued by the Demeter UK.
- **Spray drying**. Dried milk powder from goats may be labelled as a Demeter product. Dried milk products from cows (e.g. whole milk powder, skim milk powder, buttermilk powder, whey powder) is permitted only as an ingredient in processed products.
- **Heat treatments** may be used when required for microbial stability and shelf life. Sterilisation and pasteurisation for specific product groups and within the usual boundaries are permitted. High temperature short time (HTST) methods should be used for sterilisation where at all possible.
- **Autoclaving** is permitted (please note restrictions for milk and dairy products)
- **Freezing** (please note restrictions for bread and bakery products and vegetables) is permitted. The freezing process should take place as quickly as possible, using rapid-freeze methods.
- **Ethylene** for the ripening of bananas.
- **Extrusion techniques**:

    - Shaping Extrusion is allowed – defined as any kind of gentle, cold pressing of substances through a form which shapes the substance (with upper limits of 75° C and 90 bar) – please see modifying extrusion below which is not allowed.
    - Extrusion for the production of puffed cereals must not be labelled with the trademarks, but can follow the guidelines for ingredient labelling (please refer to 5.9 of the Labelling Standards).
- **Smoking**, where the wood is burnt either directly in the smoking chamber or outside of it in a suitable facility. Cold and warm smoking processes (< 70°C) are permitted. Permitted smoking agents are:
    - Suitable native wood types (as wood, shavings or sawdust, for example beech, oak and plane trees).
    - Pine cones
    - Herbs
    - Other plants such as juniper, heather, branches, conifer cones and spices
- Bacteria may also be removed by **bactofuging**, but the material that has been separated out may no longer be used.
- **UV-radiation** can be used only to disinfect water or air for processing, or for the detection of moulds.

3.2.2 Prohibited methods

- **High frequency drying**, **chemical moisture extraction** (apart from salt) and **direct drying** by burning fossil fuels.
- Baking **in high frequency infra-red ovens**.
- Baking in **foil**.
- Processing components and baking trays with **polytetrafluoroethylene (PTFE)** coatings which are subject to heavy abrasive stress or which are exposed to temperatures over 250º C. Demeter UK may ask for a specific assessment of the equipment.
- **High pressure liquid pasteurisation or high-pressure processing** (HPP), also called cold pasteurisation or non-thermal pasteurisation.
- **Laser branding** for fresh fruit and vegetables is not permitted.
- **Chemical preservation** such as surface treatment or fumigation with chemical preservatives.
- **Methyl bromide** to disinfect herbs and spices.
- Any use of **genetically modified organisms** – this includes the products of genetically modified organisms as well as the organisms themselves. Any aid or additive which might come from genetically modified organisms (enzymes, starter cultures, mould, yeast etc.) can only be used with written confirmation that this is not the case.
- The use of varieties generated by **cell fusion technology** (cytoplasm or protoplasm). If organic ingredients are used, materials from cell fusion technology must be excluded. This must be documented by a declaration from the organic source. Until a maximum contamination limit is determined, Demeter International requires contamination to be less than 3%.
- **Irradiation with ionising radiation or x-rays** of Demeter food or ingredients for Demeter products is prohibited (a derogation may be granted by the certifying organisation for foreign body detection using x-rays).
- **Carbonic acid** pressure treatment for beverages.
- The use of **modified starch** produced using **chemicals** or **enzymes.**
- **‘Liquid’ smoke**.
- **Modifying extrusion** – in which both the physical shape and the qualities of the original material are changed (includes any extrusion above either 75° C or 90 bar).

- **Fumigation** of Demeter products to prevent sprouting, or for pest control, and fumigated ingredients (except for CO2 or N2 as above).
- **Man-made nanoparticles** - Particles less than 100 nanometres in size must be excluded from farm inputs, ingredients, aids and additives as far as practicable. Demeter International does not permit the use of nanoparticles in biodynamic agriculture or Demeter products as a precaution due to the uncertainty of their impact on the environment, human and animal health. However due to the pervasiveness of these materials, the lack of labelling requirements and the difficulty of analysis it is also recognised that it may not always be possible to guarantee their absolute exclusion.
- The use of plant seeds **treated with low-energy electrons** is prohibited if alternatives are available.
- **Microencapsulation** in general.

3.3 Aids and additives

Product groups with their abbreviations

Abbreviation	Product group		Abbreviation	Product group
BB	Bread and Bakery		**FV**	Fruits and Vegetables
MI	Milk and Milk Products		**Oil**	Fats and Oils
S	Sweetening agents, chocolate and ice-cream		**IMF**	Infant Milk Formula
MS	Meat and Sausage		**HS**	Herbs and spices
W	Wine		**G**	Grain products, pasta, and tofu
A	Alcohol		**B**	Beer
FHS	Food and health supplements		**CFW**	Cider, fruit wines and vinegar
SCN	Soy products, cereal and nut drinks		**All**	All product groups under the precondition that no other restrictions like general law on aids and additives exist.

Table of approved or restricted processing aids and additives for Demeter products

Additive/processing aid	E-No.	Product group*	Restrictions/notes
Calcium carbonate $CaCO_3$	E170	All	As free flowing agent for salt
		W	Acidity regulation

Additive/processing aid	E-No.	Product group*	Restrictions/notes
		MI	Only for sour milk cheese
		HS	As free flowing agent for herbs and spices
		A	
Magnesium carbonate $MgCO_3$	E504	All but FHS	As free flowing agent for salt
		FHS	Releasing agent
Carbon Dioxide CO_2	E290	All	As inert gas/processing aid for all product groups.
			CO2 as an ingredient in the production of non-alcoholic beverages.
Nitrogen N_2	E941	All	As inert gas/processing aid for all product groups.
Argon Ar	E938	All	As inert gas/processing aid for all product groups.
Ozone O_3			Limited to treatment of cool store atmospheres; not to be used on products.
Lecithin	E322	S, OIL	At least organic
		FHS	In at least organic status, only from sunflowers, only for capsules and hulls
		SCN	For nut drinks
Citric acid $C_6H_8O_7$	E330	OIL	only for removal of mucilage
		S	Clarification (hydrolysis of starch)
		A	
Sodium citrate $Na_3C_6H_5O_7$	E331	MS	Only for scalded sausage if it is not possible to process the meat warm.
Calcium citrate $Ca_3(C_6H_5O_7)_2$	E333	FV	
		MS	Only for scalded sausage if it is not possible to process the meat warm.
Tartaric acid $C_4H_6O_6$	E334	W	Acidity regulation, processing aid
		FV	
Potassium bitartrate $KC_4H_5O_6$	E336	W	Tartar stabilisation
Agar-Agar	E406	FV, S, G	Only for spreads based on fruit, and sweet milk products e.g. ice-cream
		MI	Only for puddings
Carob bean Gum	E410	All	
Guar gum	E412	All	
Gum arabic	E414	S, FHS	
Pectin	E440i	BB, MI, FV, FHS	

Additive/processing aid	E-No.	Product group*	Restrictions/notes
Tartaric acid baking powder $KHCO_3$/ $NaHCO_3$/ $C_4H_6O_6$ $KC_4H_5O_6$/$NaC_4H_5O_6$	E500/ E501/ E334/ E335/ E336	BB	(Sodium or Potassium bicarbonate, with Tartaric acid, sodium or potassium tartrate in any combination); Grain starch is the only permitted carrier.
Sodium bicarbonate $NaHCO_3$	E500	S	
		SCN	
Potassium bicarbonate $KHCO_3$	E501	W	Acidity regulation
		FV	Processing aid for the drying of grapes for sultanas
Potassium carbonate K_2CO_3	E501	BB	For gingerbread only
			Cocoa production
Sodium carbonate Na_2CO_3	E500	B	Softening water for brewing
		S	Sugar production
Calcium sulphate $CaSO_4$	E516	SCN	Tofu production
		B	Brewing gypsum
Magnesium Chloride	E511	SCN	Tofu production
Sodium hydroxide (lye) NaOH	E524	BB	Lye bakery products only – 4% solution
		S	Sugar production
		G	To adjust the pH in the production of starch
Lime water/Calcium hydroxide $Ca(OH)_2$	E526	S	Sugar production
Calcium Chloride $CaCl_2$	E509	MI	Only for cheese production
Carbonic acid H_2CO_3		S	To precipitate out excess calcium
Sulphur SO_2	E220	W	Pure SO_2, as gas or in solution, potassium bisulphite, potassium metabisulfite, please note quantitative restrictions according to type of wine
Salt		All	Sea salt, rock salt or refined salt without the addition of iodine or fluorine. Permitted free flowing agent: Calcium carbonate and Magnesium Carbonate.
Gelatin (at least of organic quality)		BB	Only for bakery products containing yoghurt, cottage cheese or cream.
		FV	For clarification (cosmetic reasons) of fruit and vegetable juices.

Additive/processing aid	E-No.	Product group*	Restrictions/notes
		All categories except wine	As ingredient, listed on label
'Native' Starch, pre-gelatinised starch		All	At least organic quality
Smoke		MI MS	From native, untreated wood e.g. Juniper, conifer, also spices.
Aroma extracts		All	Pure etheric oils or pure extracts identical with the parent material and made using permitted extracting agents.
Bees wax Carnauba wax Vegetable oil		BB	Non-stick agents
Rennet		MI	Also chemically preserved
Bees wax Natural hard paraffin wax Micro-crystalline Wax Plastic films		MI	As a coating only on cheese, uncoloured and without fungicide treatments (also without additives such as short chain polyolefin, polyisobutylen, butyl or cyclic rubber)
Plant waxes		FHS	Adhesive and bonding agent
Lactic acid $C_3H_6O_3$		MS	Only for preparation of natural casings
		FV	
		MI	As an acidifier for the production of mozarella
Starter cultures		All	No genetically engineered cultures (documentation required), not chemically preserved.
Ethylene C_2H_4		FV	Only for ripening bananas
Alum $KAl(SO_4)_2 \cdot 12H_2O$.		FV	For organic banana production to stop latex flow from the cut surface of the banana hands
Enzymes		FV	Enzymes can be used for pressing and clarification of juices.
		S	Grain starch invert sugar production: Xylose (Glucose) Isomerase
		SCN	In the production of cereal beverages, enzymes may be used to degum and saccharify the starch.
		A	Enzymes can be used for the production of alcohol.
		All enzymes (including additives and carriers) used must comply with the following requirements: - GMO-free - Free from preservatives (a derogation can be approved, based on non-availability declaration by 3 suppliers). - Glycerine may be added to the enzymes, but must be produced from sustainable sources.	

Additive/processing aid	E-No.	Product group*	Restrictions/notes
Yeast		BB, W, A, B, CFW	GMO free
Oil		S	To prevent foaming
		FV	As non-stick agents for dried fruit and vegetables
Filtration materials		All	Asbestos free, Chlorine free
Diatomaceous earth		All	For use in pest control. As an additive or as a processing aid in all product groups, both the non-activated and the activated types can be used. Tests for residues of arsenic must be carried out and the levels must comply with the legal requirements for food.
Perlite	E599	All	
Bentonite		All	
Activated carbon (carbon filter)		All	
Plant proteins (e.g. pea protein)		FV	For cosmetic reasons, clarification and fining, written permission of the certifying body is needed
		W	Pea, potato or wheat protein as fining agent
Tannic acid		S	Natural origin
		A	
Organic ester sucrose		S	Organic quality
Sulphuric acid		S	pH control in sugar production
Inulin and other oligosaccharides		S	In organic quality only for ice-cream

3.4 Water used in processing

3.4.1 Definition

This section covers the requirements for the treatment of water used in processing and in agriculture. This applies to water used for post-harvest treatment, cleaning, pre-treatment or transport of raw materials or unprocessed final agricultural products. The following measures do not apply to water used in any form for the final processing of products, especially if water is part of the recipe.

3.4.2 Permitted

In principle, water for processing should be of drinking water quality in which case it needs no additional treatment. If there is a shortage of drinking water, the following measures are permitted to treat water which is not drinking water quality:

- All treatments with **natural acids** like lemon juice concentrate, vinegar or lactic acid.
- If a certain degree of acidity of the process water cannot be achieved (or is required) or the microbiological load needs reducing, treatment **with citric acid, malic acid and acetic acid**.
- The use of **chlorinated drinking water** as process water is permitted in regions where drinking water is chlorinated as standard. **Additional chlorination is prohibited**.
- **UV-Radiation** for reprocessing water is permitted.
- Closed systems are preferred, for recycling in closed systems ozone treatment or the use of copper ions are allowed.

All the above measures must be used only in a way that counteracts the negative effects of polluted water. **Use in the sense of an additional preservative effect, prophylactic measure or to extend the product shelf life is prohibited**.

Summary of Section 3

- Fundamentally any raw material, ingredients, fodder, animals, seeds, plants, farm inputs, aids and additives for processing and production must originate from Demeter and biodynamic certified enterprises.
- If products are not available from Demeter or biodynamic origin, clear priorities must be applied to sourcing ingredients as detailed in this standard.
- Availability of Demeter raw material, ingredients, fodder, animals, seeds, plants, farm inputs, etc. is decided by the certifying body according to the criteria as defined in this standard.
- The final stage of processing is the point at which proportions of ingredients must be determined.
- The current standard works as a positive list. Some processing methods, ingredients, aids and additives are expressly prohibited, but the prohibitive list should not be considered exhaustive.
- If clarification is needed, please contact Demeter UK.

4 Labelling standards

March 2022

4.1 Introduction

This labelling standard applies to the various **biodynamic trademarks world-wide**: the new Demeter trademark logo, stylised form of the word Demeter, and the Demeter “flower”. As defined in trademark law, **every use** of the word **Demeter**, and/or one or more of the registered Demeter trademarks in any form, is seen as use of the trademark. **In addition**, the use of the word **biodynamic** or the implication in the public domain that products are biodynamic or Demeter is considered to be use of the trademark.

The ownership of the various biodynamic trademarks world-wide currently lies with individual national owners. The aim is to transfer ownership to a common international body.

The owner of a registered trademark is legally required to protect that trademark from misuse but can entrust other organisations with this task via a license agreement. Therefore, **the Demeter trademark can only be used by enterprises or businesses which have a valid contract and license with the relevant Demeter organisation**.

4.2 Other legal frameworks

All labels that use the biodynamic trademarks must also meet **all national requirements** regarding labelling of food and agricultural products; all current regulations for labelling of organic agricultural products (e.g. EU organic regulation, NOP, etc.); and any other regulations chosen by Demeter UK as a basis for certification.

Each business must accept responsibility for complying with all legal requirements as indicated above. These legal constraints are not overruled by, contained or interpreted in these standards.

4.3 Trademark use

The biodynamic trademarks as detailed in 5.1 can only be used to label ingredients, materials and products that meet these standards, by an organisation that has Demeter certification and a valid contract (including license agreement) with an authorised organisation.

This includes the use of every form of the Demeter trademark, Biodynamic© or the word and term Demeter in product labelling, marketing material or general information (e.g. price lists or documentation of goods).

In addition, every Demeter product must clearly identify the licensee or contract holder on the label.

References to the ‘biodynamic quality’ or ‘biodynamic agriculture’ on products and marketing material are only possible in combination with Demeter certification and Demeter labelling (trademark or ingredient labelling).

Better and clearer recognition of Demeter products (by consumers in particular) can be achieved if products from the various producers are consistently labelled with the Demeter trademark according to this standard.

The use of the word Demeter within a business name or logo is only possible with written permission from Demeter UK.

- Agricultural enterprises can use the word ‘Demeter’ in combinations with the farm name (e.g. ‘Springfield Demeter Farm’).
- Processing units in combination with an agricultural holding, such as farm bakeries or wineries, are considered as processing units, and would still need permission from Demeter UK for the use of Demeter in the business name (e.g. ‘Springfield Demeter Bakery’).

A protective distance must be maintained to separate the Demeter trademark logo from other texts and logos. Minimal distances, proportions and regulations for very small labels are described in the design manual. The overlapping of the trademark with other graphic elements must be avoided.

The following text may be used on labelling and packaging to put Demeter in context:

“***Demeter*** is the trademark for food from certified biodynamic production”,

or

“***Demeter*** is the trademark for food from biodynamic production”.

For further information concerning the calculation of ingredients and their qualities from agricultural and non-agricultural origin, product approval and availability of Demeter raw material, please refer to 2.6. Certification and 3.1. Composition and quality of Demeter products.

4.4 The Demeter and Biodynamic trademarks

4.4.1 The Demeter trademark logo

The majority of the certified products worldwide are produced with the Demeter trademark logo. In most of the certifying organisations it is the only Demeter and Biodynamic trademark in use. The proportions and colours of the logo, may not be altered. Further instructions are defined in the BFDI Labelling Manual and under chapter 4.6. and following.

Table: Trademark logo

Trademark logo


4.4.2 The flower trademark

Some certifying organisations use exclusively or in addition to the Demeter trademark logo, the so-called flower trademark. The flower trademark may be restricted to certain product categories. Please contact Demeter UK if you wish to use the flower trademark.

Table: variations of the flower trademark

The flower trademark	The flower trademark in combination with ® (Demeter US only)	The flower trademark in combination with certified Biodynamic (Demeter US only)	The flower trademark in combination with certified Biodynamic (Demeter US only)
			

The flower logo may not be altered in any way (proportion, colours, elements).

4.5 Labelling of Demeter Products

Please note that the following apply to all use of the Demeter and biodynamic trademarks.

- **Single ingredient products** can be labelled with the trademarks only if they consist of 100% Demeter ingredients, the 90% and 66% rules do not apply. Single ingredient products consist of only one raw material, such as packaged flour or pulses. Products consisting of one raw material, but different varieties, such as blended coffee or cuvée are not considered as single ingredient products.

- **Single ingredient products in conversion to Demeter with full organic status** can be labelled with the trademark but additional reference must be made to 'in conversion to Demeter' as a footnote appropriately placed on the label. Alternatively, the trademark logo

with the text addition "In conversion" (compare to table below and chapter 4.5.3.) can be used. In cases of product labelling of single ingredient products, where placement of a footnote is not possible (e.g. stickers on fruits and vegetables), the use of the trademark with the text addition "in conversion" is mandatory.

- If **single ingredient products and ingredients are in conversion to Demeter and are also in conversion to organic**, the trademark **cannot** be used, but a reference may be made to 'in conversion to Demeter' in a footnote appropriately placed on the label.
- Products with **multiple ingredients** can only be labelled with the trademarks if **at least 90%** of the ingredients are Demeter certified and **all available Demeter ingredients** are used (please see section 3.1. for the definition of availability and the additional requirements for ingredients that are not Demeter certified).
- Products with **multiple ingredients containing 66-90%** Demeter certified ingredients may be labelled with the trademark logo **only if an exemption** is given by Demeter UK (EXP 5: Chapter 7.18.). For application details please refer to the statutes or standards of the respective certifying organisation.
- Products **containing 10-66%** Demeter certified ingredients **cannot be labelled with the trademark** logo, but ingredient labelling with the word 'Demeter' or "Biodynamic" in the sense of labelling in the list of ingredients (see also certification status of ingredients in the ingredients´ list) is allowed.
- In all products with less than 100 % Demeter certified ingredients, the certification status of every ingredient must be clearly indicated in the ingredient list, either
    - by using asterisk labelling (*Demeter or *biodynamic, **organic, ***non-organic)
    - or in the course of the text hyphenated (Demeter - milk, Demeter – flour, organic-milk, organic-flour)
- If a product contains an ingredient with mixed levels of certification (Demeter and organic), that ingredient can only be indicated as organic.
- Sea fish and sea food caught according to the requirements of the Marine Stewardship Council (MSC), may be used as ingredients in Demeter products. The finished product must contain a minimum of 70% Demeter certified ingredients. For products with a lower Demeter share the general rules for ingredient labelling may be applied.

Table: % Demeter certified ingredients overview

Demeter amount	Labelling	Ingredients´ list
100%	demeter	Single ingredient products do not require an ingredient list and therefore ingredient labelling is not required.
90-100%	demeter	Ingredients must be clearly identified as to % and certification status.
66-90%	demeter	Trademark may only be used with a derogation given by Demeter UK. Ingredients must be clearly identified as to % and certification status.
10-66%	~~demeter~~	No use of the trademark is allowed, however individual Demeter certified ingredients may be labelled as Demeter in the ingredients list.
100%	demeter IN CONVERSION	Single ingredient products in conversion with full organic status, as an alternative to labelling with a footnote.
90-100%	demeter IN CONVERSION	For mixed products. Ingredients must be clearly identified as to percentage and certification status.
66-90%	demeter IN CONVERSION	For mixed products. Trademark may only be used with an exemption granted by Demeter UK. Ingredients must be clearly identified as to percentage and certification status.

For further information about requirements for conversion status and general certification status of organic and Demeter raw material please refer to Sections 2.6 and 3.1. Please note that all recipes and labels must be approved before use by Demeter UK.

4.6 Placement

The Demeter trademark logo must be used as a co-brand (the Demeter trademark logo is used in conjunction with the trademark of the enterprise bringing the product onto the market). The following must be observed:

- The Demeter trademark logo must be placed in the **upper third** of the front packaging, preferably centred along the upper edge.
- The size should be between **20mm and 50mm wide** (Demeter UK may approve use outside of these limits).
- The Demeter trademark logo must always be clearly recognisable.
- The licensee must be clearly identified on the packaging, this must include the name and address.
- The Demeter trademark logo may also be used on a **collar label** for bottled products as long as the Demeter logo is prominent relative to other information on the collar.
- If there is any unclarity, Demeter UK may approve placement of the logo.
-

Around the Demeter trademark logo, a protective distance must be maintained from texts and logos. Minimal distances, proportions and regulations for very small labels are described in the design manual. The overlapping of the trademark with other graphical elements must always be prevented. Further instructions about how to treat the logo are defined in the Biodynamic Federation's Labelling Manual.

4.6.1 Form and colour scheme

The following is only a general overview of the use of the Demeter trademark on outer packaging and advertising material. Detailed guidance may be found in the Design Manual and in the Labelling Guidance from Demeter UK.

The form and proportions of the trademark logo must not be changed.

If the trademark logo is not clearly differentiated from the background, a graphic solution must be found to guarantee an appropriate contrast. For more guidance, please see the Biodynamic Federation's Design Manual.

If the trademark logo is used on round labels, the trademark may not be adjusted to the curve. The distance between the upper end of the trademark logo and the curved edge of the label has to be a distance the size of the letter "d" of the trademark.

If the label or packaging for a Demeter product is printed in more than one colour, the following colour scheme is to be adhered to:

Table: Colour scheme for the normal use of the Demeter trademark logo

Trademark logo	Colour	Description
	Trademark stylised word: white	White (transparent on a pale background)

	Background field: orange	**Colour Space/Version**	**Colour Code**
		CMYK coated	0/65/100/0
		CMYK uncoated	0/57/100/0
		Pantone coated	158C
		Pantone uncoated	144U
		RAL	2011
		RGB	239-112-025
		HEX	#ef7019
	Accenting line: green	**Colour Space/Version**	**Colour Code**
		CMYK coated	100/0/70/30
		CMYK uncoated	100/0/80/23
		Pantone coated	336C
		Pantone uncoated	3288U
		RAL	6016
		RGB	000-120-087
		HEX	#007857

Monochrome printing

If a single colour is used, use of the trademark logo is allowed in that colour with the approval of Demeter UK.

If trademark logo is not clearly differentiated from the background, then the edges of the logo must be identified with an additional line.

Coloured label with monochrome Demeter logo

If for design reasons the Demeter logo on the front cannot be used in the original colours according to the Table above, it can be used in monochrome gold, silver or black and white (including in grey scale). The decision lies with Demeter UK. However, the Demeter logo in the original colours must also be used on the back label of the product, in order to achieve high recognition value among consumers. The position of the secondary placement on the back can be freely chosen. The minimum size of 2 cm still applies.

4.7 Text additions to the trademark

Text additions to the trademark logo are **not permitted,** with the exception of official marketing claims in connection with international marketing campaigns approved by the Biodynamic Federation.

The use of the trademark without reference to a product, by organisations or single persons not involved in certification (for example national or international advisory or training organisations) is not governed by this labelling section. The use of the trademark shall be regulated by trademark contracts between those parties and the respective trademark owner.

Example marketing campaign	Example use outside of the scope of certification
	

4.8 Labelling of products from specific products groups

4.8.1 Labelling of alcoholic spirits

Alcoholic spirits can be labelled with the Demeter trademarks in the same way as Demeter wine (see below).

4.8.2 Labelling of Demeter and Biodynamic wine

If wine is made from Demeter certified grapes, and meets this standard for the processing of wine, it may be labelled with the Demeter trademark logo as indicated above. In addition, the logo may be placed anywhere on the front, back or collar and may appear in gold, silver or black and white (if preferred to the original colour scheme).

If Demeter certified grapes are processed to wine using the EU organic wine standards or to standards recognised as equivalent (but not to the processing section of this standard) they may be labelled as ‘Wine made from Demeter Grapes’ or ‘Wine made from biodynamic Grapes’ under the following conditions:

- The trademarks must not be used and there must be no implication that the wine is Demeter certified.
- The mention of Demeter and/or biodynamic is restricted to the back label only, using the wording ‘Wine made from Demeter Grapes’ or ‘Wine made from biodynamic Grapes’ in the same type face and font as the rest of the text. Other references to the biodynamic method

of grape production are permitted only on the back label in the same type face and font as the rest of the text.

4.8.3 Labelling of other products with alcoholic ingredients

Demeter products with alcoholic ingredients (whether Demeter or organic) in which the alcoholic ingredient is not part of name of the product **require additional labelling**. Labelling as part of the ingredients list is **not** sufficient. This is especially true for products which are not normally associated with alcoholic ingredients like sweets or bakery products.

4.8.4 Labelling of other products from bees

The labels and labelling of packaging of products from Demeter bee management using the Demeter trademark logo must meet the general requirements of the labelling standard.

In addition, the following text or similar wording must be included on labels: “The deciding factor in Demeter bee management is the way that the bees are cared for. Since bees have a large area over which they forage it is not possible to expect them primarily to work land which has been managed to Demeter standards”.

4.8.5 Labelling of cannabis products

Labelling of cannabis products under the Demeter trademark is possible **with restrictions**:

- Products for recreational use cannot be labelled with the trademarks.
- Products for medicinal use with an THC content higher than 0,5 % cannot be labelled with the trademarks.
- Products with a CBD content within the respective legal requirements and a THC content below 0,5 % can be labelled with the trademarks.

The labelling option refers to both the labelling of the raw material in the form of dried blossoms and processed products such as cosmetics and oils, provided that the processing Standard - general part and the respective product section - is complied with.

Accompanying legal norms such as certifiability under organic law or labelling of medical products with organic claims may vary worldwide and may further restrict the use of the trademarks. The respective national certification organisation is responsible for taking these legal norms into account in the certification process.

4.9 Labelling of Demeter Textiles

The labelling of textiles from Demeter wool and other fibres, which have been processed according to both the general and specific (section 8.16) sections of this standard, can be labelled with the Demeter trademark logo.

Indicating the use of Demeter raw materials must comply with the relevant section of the labelling standard.

4.10 Labelling of layer hen products

The labels and labelling of products from Demeter layer hen management using the Demeter trademark logo together with a description like “the brothers of the layer hens have been reared” or similar formulations is only allowed if the brothers of the layer hens have been reared on a Demeter enterprise.

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Summary of Section 4

- These standards apply to the biodynamic trademarks world-wide, including the Demeter trademark, the stylised word Demeter and the Demeter flower. It also includes the use of the word Demeter and the use of the word biodynamic in product and ingredient labelling as well as marketing material and related information (e.g. price lists, documentation of goods).
- Use of the trademark requires a license agreement and certification contract with the relevant certification organisation.
- Every product must have clear identification of the licensee, including a name and address.
- There are clear guidelines for the size, proportion, colour and placement of the trademarks. These vary for certain product groups.
- Consumer information on all packaging must be clear and comprehensible including the quality and proportions of all Demeter ingredients.

5 Pest control and cleaning of storage and production facilities

March 2022

5.1 Introduction

Both pest control and the use of cleaning agents in processing equipment and production units are largely or completely unregulated by most country organic control bodies. For this reason, unlike other areas of this standard, there is no basis for Demeter certification as a given. A directive that can meet both the legitimate concerns of food hygiene and safety, as well as the many areas of use and product groups, while minimising the impact on life and the environment, is currently beyond the limits of what is feasible under this standard and its subsequent inspection.

For this reason, the following is only an exclusion of the most invasive methods and means in each area. The operational optimisation of cleaning and disposal management as well as pest control from an ecological point of view with minimised effects on Demeter products and the environment is the central responsibility of every Demeter licensee.

5.2 Scope

This standard applies not only to processors, but it applies to indoor and outdoor storage areas in processing, trade and production, as well as production facilities and facilities in processors and agricultural processing such as cheese processing and milking parlours.

5.3 Preventative measures

Both in pest control, and in the use of detergents, prophylactic measures and good industrial hygiene must always take priority, in order to prevent the emergence of pests and pathogenic microorganisms. Prevention and management of pests and pathogens should be dealt with using in-house management systems and should be under continuing development. Structural requirements, hygiene of the production method, and personal hygiene of the employees require constant attention and training.

HACCPs should address both of these areas and should specify responsible and trained staff. Wherever possible, HACCPs should be designed to rely on several complementary but low hurdles rather than a few invasive ones.

5.4 Pest control

5.4.1 Treatment protocol

Many processors outsource pest control to professional companies. These companies must keep a log-book of their activities and findings, which must be available at each inspection. The licensee must have a contract with the pest control company confirming that the company will comply with this standard.

If pest control is not outsourced, all measures using pest control agents must be protocolled by the licensee (date, material, dosage, location of bait stations, training on their use).

5.4.2 Permitted measures – storage rooms

The following measures may be used in storage rooms without product contact:

- Traps (catch-alls, traps with bait, traps with anti-coagulant poison baits for rodents, UV-traps, traps with alcohol, sticky papers, inert atmospheres)
- Natural oils with a repelling effect (eg citrus, linseed, animal oils)
- Ultrasound generators
- Electric barriers, for example against rodents
- Parasitic or predator insects (eg lariophagus)
- Diatomaceous earth
- Pyrethrum without piperonylbutoxide (PBO). Demeter UK can issue a derogation if PBO is present in materials legally required to be used.
- Bacillus thuringiensis

5.4.3 Approved measures – raw materials

The following measures may be used both in store rooms and in direct contact with raw materials and products:

- Washing with water or steam
- Sieving or beating
- Aspiration
- Compressed air - disinfestation
- Thermal measures (Cooling, blast freezing, heat)
- Inert gas treatment e.g. with nitrogen or carbon dioxide.

5.4.4 Other measures

If the pest control measures described above are not sufficient and the use of other chemical or biotechnical means such as toxic plant extracts, neurotoxins or hormone compounds is required, this can only be done in empty rooms and only under the conditions listed below.

Permission must be requested in advance from Demeter UK, and the justification must include at least:

- Advice and substantiation by a professional in pest control.
- Description and specification of the means and materials to be used.
- Description of the measures to avoid contamination of products on return to the room.
- Measures to improve prevention, in order to avoid the same situation occurring again.

5.5 Cleaning agents

5.5.1 Products authorised for cleaning and disinfection of buildings, equipment, and tools

The use of cleaning agents cannot be adequately reflected in control and certification due to the different fields of application, the numerous product groups and the priority of product safety. A comprehensive positive list is not possible under this standard.

In addition to the use of cleaning agents with the lowest possible environmental effects in production, application and processing, responsible handling of cleaning agents used in the company must be observed.

The most meaningful use possible can only be described in a detailed management system taking into account the specific circumstances and risks of each operation. Measures should be adapted to the respective risk. When hazardous substances need to be used in sensitive areas, the focus must be on protecting the user, proper disposal of the effluents, and avoiding product contamination.

Please note that there are some further requirements specific to wine making, which are listed in the section for the processing of wine.

5.5.2 Recommended cleaning agents

- Potassium and sodium soap
- Milk of lime
- Lime
- Quicklime
- Sodium hypochlorite (e.g. as liquid bleach)
- Caustic soda
- Ionised water
- Caustic potash
- Hydrogen peroxide
- Natural essences of plants
- Citric, peracetic, formic, lactic, oxalic and acetic acids
- Alcohol
- Nitric acid (dairy equipment)
- Phosphoric acid (dairy equipment)
- Sodium carbonate

- Ozone
- Sulphur

5.5.3 Permitted cleaning agents

In principle, all cleaning products are authorised, with the exception of those listed below in 5.5.4, unless excluded by other statutory regulations. Cleaning substances must not be detectable in the product. Product contamination, even with approved agents, may lead to decertification of the product by Demeter UK.

5.5.4 Prohibited cleaning agents

Agents with the following active ingredients are **prohibited**:

- QAC (quaternary ammonium cations)
- Active chlorine (Demeter UK may grant a derogation for meat processors)
- Complexing agent EDTA and its salts
- Formaldehyde

6 Production

March 2022

"To fertilise means to enliven the soil". This dictum leads us towards a method of fertility building that has its origins in the connections between the life spheres of plant and animal. In any fertility programme, the appropriate use of the biodynamic preparations is of prime importance.

6.1 Arable and Plant Production

6.1.1 Scope

This section covers the production of **all agricultural crops and plants**, including perennial and ornamental plants.

New crops or production techniques which are not detailed in this section, and which are not usual practice on organically managed enterprises, may only be trialled with the permission of Demeter UK (APP 3: see Appendix 7).

6.1.2 Seed and propagation material

General principles – seed and propagation material

Seed and propagation material must originate from biodynamic agriculture, or from organic agriculture, if a biodynamic source is unavailable.

- **Hybrids** of cereals (with the exception of maize, *Zea mays*) are not permitted for the production of feed and food.

The use of seed, propagation and plant material from genetically modified sources (GMO) or from new plant breeding techniques (NPBT's) is **prohibited**.

Material from all of the following are prohibited:

- Protoplasm and cytoplasm fusion techniques
- Oligonucleotide directed mutagenesis (ODM)
- Zinc finger nuclease technology types I to III (ZFN-I, ZFN-II, ZFN-III)
- CRISPR/Cas
- Meganucleases
- Cisgenesis

- Grafting on a transgene rootstock
- Agro-infiltration
- RNA-dependent DNA methylation (RdDM)
- Reverse Breeding
- Synthetic Genomics
- The use of plant seeds treated with **low-energy electrons** is **prohibited** if alternative treatment according to this standard is available.

This list includes **all NPBTs** considered by IFOAM EU as techniques of genetic modification leading to GMOs according to the existing EU legal definition.

It is not always easy to tell if seed or plants have been produced using any of these techniques. Please refer to our 'CMS Positive' list for a list of varieties known to be free from cytoplasm fusion techniques.

Seed, seed potatoes, propagation material for vegetables, perennial crops and tree crops

Seeds, vegetative propagating material, perennial transplants and annual transplants must be sourced in biodynamic quality, or organic quality if biodynamic is not available.

'Vegetative propagating material' includes seed potatoes, onion sets and all types of tubers, sets, corms, rhizomes, scions and rootstock (before grafting), rhubarb crowns, asparagus crowns and strawberry runners (before potting up).

'Perennial transplants' includes fruit trees, fruit bushes, ornamental plants, perennial herbs, hedging plants, and strawberry plants.

If biodynamic or organic seeds or vegetative propagating materials are not available, you can request permission from us to use non-organic seed or vegetative propagating material. (APP 1, see Appendix 7)

- You must request a derogation in advance of purchase, sowing or planting.
- Seeds and vegetative propagating material must not be **treated with synthetic chemicals**, including in storage.

If organic perennial transplants are not available, you can request permission from us to use non-organic perennial transplants. (APP 1, see Appendix 7)

- You must request a derogation in advance of purchase or planting.
- Non-organic perennial transplants must also go through a three year conversion period. 12 months after planting crops can be sold as in-conversion, and three years after planting crops can be sold as Demeter.
- Transplants must not be treated with synthetic chemicals after harvest.

It is not possible to use non-organic annual transplants.

6.1.3 Fertility inputs - general

One of the main objectives of biodynamic agriculture is to bring the soil to life. This includes maintaining and increasing the natural fertility of the soil through appropriate cultivation, animal

husbandry and fertilisation measures. The aim of fertilisation is primarily to build up humus and thereby create soil fertility from which plant life is nourished, not to fertilise the plant directly. The farm's home produced fertilisers, manure and compost are of utmost importance in biodynamic agriculture.

The storage capacity of all manures must be adequate, so that nutrient losses are minimised and an uncontrolled entry into the direct environment near the storage is prevented.

The basis of fertilisation for all farm types is compost and manure, prepared with the compost preparations. On extensive pastoral farms the respective certifying organisation can approve a fertiliser regime that does not include use of compost if the compost preparations reach all the land through an alternative process every year (eg via cow pat preparation). For details please see chapter 6.2. Biodynamic Preparations.

Under these standards, there are different requirements/limits for use of fertilisers on different types of farm enterprises. We define different types of farm:

- Market gardens/horticulture,
- Perennials/orcharding
- Arable farming incl. field vegetables
-

And we define different types of fertility inputs:

- Home produced farmyard manures - including garden compost, farmyard manure, slurry, liquid fertilisers made from plants etc
- Imported farmyard manures – same as above, but brought in from other farms, which may be biodynamic, organic or non-organic
- Recycled commercial composts – including composted municipal green waste, and substrate from anaerobic digesters
- Commercial fertilisers – includes a wide range of both organic and mineral fertilisers such as pelleted poultry manure, fish meal, blood and bone
-
- The level and type of fertility inputs must be adapted to the site and climatic conditions.

6.1.3.1 Fertility inputs for different types of farms

When considering nutrient supply adapted to the location and type of farm, the balance between nutrient demand and nutrient supply is decisive.

On all types of farm it is acceptable to bring in fertility from outside, if the needs of the farm cannot be met from home produced composts and manures. **The full list of permitted manures, composts and fertilisers can be found in Appendix 4.**

In all cases, forced growth must be avoided.

When calculating a nitrogen balance:

- Nitrogen input through green manure is not taken into account in a nitrogen balance.
- Nitrogen from all other forms of fertility inputs must be included
- A margin of error of 5% can be assumed
- The kg N/ha/year is generally calculated on the basis of the total area of the farm

When calculating a phosphorous balance:

- In order to save unnecessary work, we will only check phosphorus input from commercial organic fertilisers used on the holding (figures for total phosphorus input limits are given as a rough guide)
- The kg P/ha/year is calculated on the basis of the total farm area (arable/livestock) and total area under orchard, vineyard or veg rotation (for orchards, vineyards and market gardens)

Fertility inputs for arable and livestock farming

The total amount of nitrogen and phosphorus applied from all types of fertilisers used may not exceed the amount that would be produced by those animals which the farm could support from its own fodder production, which is equivalent to:

- Maximum nitrogen input from all sources combined 112 kg N/ha/year
- Maximum nitrogen input from commercial fertilisers 40 kg/N/ha/year, based on the total area of the farm. The amount of nitrogen from commercial organic fertilisers must be lower than the amount of nitrogen from all other sources combined
- Maximum phosphorous input from all sources combined approx. 43 kg P/ha/year
- Maximum phosphorus input from commercial fertilisers is 20kg P/ha/year

Fertility inputs for market gardens (holdings must be under 40ha to qualify as 'market gardens')

- Maximum nitrogen input from all sources combined is 170 kg N/ha/year
- If nitrogen input is over 112kg N/ha/year, we may require to see a detailed nitrogen balance for the holding
- Maximum nitrogen input from commercial fertilisers is 80 kg N/ha/year based on the vegetable cropping rotation of the farm. The amount of nitrogen from commercial organic fertilisers must be lower than the amount of nitrogen from all other sources
- Maximum phosphorus input from commercial fertilisers is 40kg P/ha/year

Fertility inputs for orchards (and other perennial systems, excluding vineyards)

- Maximum nitrogen input from all sources combined is 96 kg N/ha/year
- Maximum nitrogen input from commercial fertilisers is 40 kg N/ha/y based on the total area of orchard. The amount of nitrogen from commercial organic fertilisers must be lower than the amount of nitrogen from all other sources combined.
- Maximum phosphorus input from commercial fertilisers is 20kg P/ha/year

Fertility inputs for vineyards

- Nitrogen and phosphorus input for vineyards are calculated as an average over three years.
- Maximum nitrogen input from all sources combined for 50kg N/ha/year, calculated as an average over three years.
- Maximum nitrogen input from commercial fertilisers is 40 kg N/ha/y based on the total area of vineyard. The amount of nitrogen from commercial organic fertilisers must be lower than the amount of nitrogen from all other sources combined.
- Maximum phosphorus input from commercial fertilisers is 20kg P/ha/year
-

Table: Maximum amount of manures and fertilisers - Overview

Farm type	Maximum total nitrogen /ha/year	Max. amount of nitrogen and phosphorus* applied via commercial organic fertilisers	Notes
Arable and livestock farming	112 kg	40 kg N/ha/y and 20 kg P/ha/y as an average over the farm	Please check Appendix 4 for permitted manures, composts and fertility inputs, and bear in mind other restrictions. The amount of nitrogen from commercial organic fertilisers must be lower than the amount of farmyard manure, imported farmyard manure, green manure and recycled manure.
Market gardens, including glasshouses operating as part of a market garden	170 kg	80 kg N/ha/y and 40 kg P/ha/y as an average on the area of the vegetable rotation	
Orchards and other perennials	96 kg	40 kg N/ha/y and 20 kg P/ha/y as an average on the orchard area	
Viticulture	150 kg N/ha/3 years	40 kg N/ha/y and 20 kg P/ha/y as an average on the vineyard area	As above, plus for viticulture all requirements are calculated as an average over three years.
Glasshouse (standalone, specialise enterprise)	No limit	80 kg N/ha/y and 40 kg P/ha/y	Please refer also to chapter 6.1.5.6. Production under glass and plastic.
*The amount of phosphorus can be higher if soil analysis demonstrates a deficiency.			

6.1.3.2 Brought in fertility inputs

Allowed: Rock dusts (including those containing phosphate) can be used. Plant materials for composting, and finished compost made from bark, leaves, wood shavings etc. that come from community areas may be used if a residue test (eg PAS 100) proves that they are acceptably clean.

Prohibited: Synthetic nitrogen sources, Chile saltpeter, water soluble phosphatic fertilisers, potassium salts with a chloride content of greater than 3%, and sewage sludge.

Allowed manures and fertilisers are listed in **Appendix 4**.

In addition:

Animal manure from animals kept in **intensive** animal husbandry systems is **prohibited**. In this context “intensive” is defined as animals that do not have regular, reliable and effective access to the outdoors (e.g. hens kept in barns etc.); are raised in systems that use no floor litter; or are subject to unethical practices (e.g. beak clipping of hens, tooth cutting of piglets etc.).

Animal manure from animals fed **genetically modified fodder** is **prohibited**.

Appropriate systems must be put in place to prevent the contamination of certified land by any of the following:

- residues of veterinary treatments.
- feed additives such as antibiotics.
- natural feed contaminants (e.g. mercury in fish meal).
- other residues such as herbicides in the litter.

6.1.4 Plant care and protection

Any material used as a plant protection product must be listed in Appendix 5, which is a positive list of allowed plant protection products.

New materials and methods may be trialled only with the agreement of the Demeter International Standards Committee **and** Demeter UK (APP 3, see Appendix 7).

If commercial preparations are bought in, care must be taken that they are free from constituents prohibited in this standard and are not produced by transgenic methods.

Any usage of a material not permitted by these standards may lead to decertification of the farm, or at a minimum the treated crops and areas.

6.1.5 Crop rotation – plant production

The crop rotation for all farm types on a specific field shall be diversified, adapted to the local conditions, and include green manure crops whenever possible. Alternating species of annual or biennial plant families are required and the rotation shall contain **at least 20%** soil building plants, preferably legumes.

Green manures
Building and maintaining soil health and organic matter must be given particular attention in horticultural production. **One third of the crop rotation should be green manure**, especially in larger scale vegetable growing operations. ‘Green manures’ includes cover crops grown for just a few weeks or months, through to temporary leys that could be in the ground for several years, and may be grazed by livestock. Green manures may be nitrogen fixing, such as clover or field beans, or grown primarily for soil cover and organic matter, such as phacelia, buckwheat, mustard and grazing rye. Green manures are incorporated back in to the soil either through cultivation or surface mulching. In some situations or systems green manures may be partly or entirely replaced by intensive composting, mulching, or other practices that successfully build and maintain soil health.

For crop rotations in specialised greenhouses see chapter 6.1.6.5.

6.1.6 Market gardens and field vegetables

Any enterprise over the size of **40 hectares cannot** be considered a market garden.

The soil may not be kept free of vegetation all year. Mulching is allowed.

6.1.6.1 Fertility inputs – specific points for market gardens

Please see section 6.1.3.1 for limits on fertility inputs

Importing farmyard manure on market gardens without livestock

Market gardens without livestock of their own **must bring in farmyard manure** from other holdings equivalent to at least **10kg N/ha/yr**. In practice this looks like approximately 2-3 tonnes of FYM per hectare, or 2-3kg FYM per 10m^2.

If this is not possible or practical, then an equivalent quantity of nitrogen must be provided by other plant or animal composts. All compost material must meet the requirements of both section 6.2 and Appendix 4.

Potting compost

Potting mixes should be produced from **a mixture of on-farm** materials if possible. When making up your own potting composts, at least 25% of the materials must have been composted using the compost preparations.

- Commercial potting mixes maybe used, if the following requirements are met:
-
    - All commercial potting mixes must be approved for organic farming
    - The commercial potting mix must contain at least 25% prepared compost. This can be added at the farm if it is not part of the original mix.
    - In order to encourage the use of peat free potting mixes, the requirement for 25% prepared compost does not apply to peat free potting compost. However, the preparations must be applied after sowing or planting.
    - The maximum amount of peat allowed in potting mixes is 70%.
    - Potting mixes and growing substrates may be **steam sterilised**. After sterilisation, the biodynamic compost preparations or liquid compost extracts are to be promptly used to guide the **microbial recolonisation** of the soil.

Any other use of commercial potting mixes requires the agreement of Demeter UK.

Other points on fertility inputs

Fertilisers, crop rotation and growing techniques should minimise **nitrogen leaching** to the ground water and/or the enrichment of **nitrates** in vegetables.

Peat is only allowed as a constituent for propagation beds and potting mixes. The proportion of peat should be minimised, and may not exceed 70%. The use of synthetic soil improving agents is **prohibited**. All fertilisers must meet the requirements of this standard (see Appendix 4).

Plant materials for composting, and finished compost made from bark, leaves, wood shavings etc. that comes from community areas may be used if a residue test proves that they are acceptably clean.

6.1.6.2 Cultivation techniques

Soil-less growing techniques (hydroponics, thin soil layer etc.), crops grown on inert substrates (e.g. scoria), and container crops are **prohibited**.

Production of sprouts and shoots is permitted – see 6.1.6.6 below

Chicory roots should be forced in soil. If water techniques are used, the water must have no additives that are prohibited in this standard. Water-forced chicory must be declared as such.

6.1.6.3 Plant care and protection

The regulations in section 7.1.4. - Plant care and plant protection - apply.

Production **under cloth** or **film** especially plastic which covers the soil, must be **kept to a minimum**. If they are used, then perforated materials suitable for reuse should be given preference.

6.1.6.4 Weed control

Crop rotation, how the soil is worked and crop husbandry are the primary means for weed control.

Mechanical measures should be given preference over thermal techniques. Steaming of the soil in the field is **not permitted**. The soil may not be kept free of vegetation through the whole year.

Mulching

Mulching with organic raw material from agricultural origin, from the farm, or bought in, is allowed. This includes, for example, use of straw, woodchip, leaf mulch, wool, and similar. Mulch materials should ideally be biodynamic or organic certified, but conventional materials can be used.

Manufactured mulching materials made exclusively from fully biodegradeable natural materials such as jute, hemp, paper and wool are permitted.

Mulching materials made from, or including, plastics (mineral oil plastics and/or plant based plastics) cannot be used except:

- where there is a high weed burden
- or where the intention is to cut very high evaporation rates for water conservation purposes.

Even in these circumstances, plastic mulches can only be used:

- after horn manure has been applied to the soil
- *and* if the material is reusable for at least five years, or can be recycled locally, or if it is fully biodegradable.
- biodegradable plastics will not be permitted from 2027 onwards.

6.1.6.5 Production under glass and plastic

Energy use for heating crops under glass or plastic should be kept to a minimum. Energy saving techniques, such as the use of special heating systems (e.g. ground or vegetation heating) must be introduced to the enterprise wherever possible. **Heating** of greenhouses based on **fossil fuels** is **not permitted**, with the exception of **frost protection**, where heating is required to keep the temperature inside greenhouses not below 5º C). Existing licensees can be granted a derogation to use fossil fuels to heat greenhouses only until 2027. For new licensees this applies immediately.

Enrichment with CO_2 is prohibited.

Assimilation lighting is only allowed for seedlings, herbs, plants for propagation, and ornamentals.

Rain water recovery from glass houses over 50m^2 is mandatory.

In **glasshouses**, shallow soil steam sterilisation/heat treatment is prohibited. A derogation can only be granted by Demeter UK in case of emergencies (APP 1B: see Appendix 7). After sterilisation, the biodynamic compost preparations, liquid compost extracts, horn manure preparation or cow pat pit preparation are to be promptly used to guide the microbial recolonisation of the soil. **The first harvest after sterilisation cannot be marketed as Demeter.**

The area under glass or plastic must be integrated into the **biodiversity** of the farm.

If an organisation wants to be certified for specialised production under glass or plastic (not as part of a larger farm organism), please contact Demeter UK for more details.

6.1.6.6 Sprouts and shoots

The production of sprouts and shoots **must** use seeds, roots and rhizomes, which are Demeter certified. Material of conventional origin is **prohibited**.

The water used in the production of sprouts and shoots must be of drinking quality. Any substrates or carriers must meet the requirements of this standard. If there is any uncertainty, the Demeter International Standards Committee will clarify.

6.1.7 Perennial crops (fruit and vine production)

Soil may not be kept free of vegetation or natural cover throughout the year. The year of planting may be an exception to this regulation if necessary (APP 2: see Appendix 7).

Mulching materials may be used as detailed in 6.1.6.4 above.

Manures and soil husbandry

Please see section 6.1.3.1 for limits on fertility inputs

Support stakes

In temperate climates, no tropical or sub-tropical woods can be used as support stakes for environmental reasons. Tropical grasses, such as bamboo and tonkin, may be used.

6.1.8 Mushrooms

6.1.8.1 Origin of spores

Spawn must originate from **Demeter, organic or wild sources**.

6.1.8.2 Origin of growing substrate

When spawn is produced on a Demeter farm the **substrate** must be **Demeter** certified, derived from biodynamic farming or approved for use in biodynamic farming (such as mineral products).

Straw harvested in the second year of conversion may be used in the substrate.

In the case of **imported wood** e.g. oak logs (for shitake), chippings or sawdust, no insecticidal treatments must have occurred since original felling.

Peat as a covering material is permitted in mushroom cultures. Other permitted inputs are listed in the appendices.

6.1.8.3 Biodynamic methods

Compost preparations **must** be applied to the substrate prior to inoculation.

If substrate is sterilised, the compost preparations must be applied **after** sterilisation and **before** inoculation.

Mushrooms growing on sterilised wood substrate **must** have the compost preparations inserted in the sawdust during aging and **prior** to the heat treatment if they are not used after it.

Horn manure (500) preparation must be applied at least once during the crop cycle after inoculation. **Horn silica** (501) preparation must be applied at least once per crop cycle.

6.1.8.4 Illumination

Mushroom species that are dependent on light, (e.g. shiitake), are to be grown with natural light. A derogation may be given by Demeter UK if insulated growing sheds are required in local conditions.

6.1.8.5 Health

Prevention is the primary focus for maintaining the health of the crop (for example through hygiene, climate control, mechanical pest repellents and the biodynamic preparations).

Salt may be used to control fungal diseases. Other products for plant pest and disease control are listed in Appendix 5.

6.1.8.6 Cleaning and disinfection of growing sheds and substrate

For cleaning mushroom growing rooms / sheds, **physical procedures** must be used, together with water or steam.

Permitted detergents, disinfectants, sterilants and other sanitisers are listed in Section 6.6. of this standard. They must be DDAC/BAC free.

Equipment may be sterilised with **70% alcohol** or with agents based on peracetic acid.

The use of **formaldehyde** is **prohibited**.

After cleaning, surfaces must be rinsed with **potable water**. This is not required **only** in circumstances in which the mushroom substrate is introduced after complete biodegradation of the cleaning / sterilising agent.

A derogation may be granted by Demeter UK in reasonable and justifiable cases. This derogation should be requested **prior** to the operation being carrying out.

6.1.8.7 Recycling of spent mushroom compost

There must be a plan for the routine recycling of **all** spent mushroom compost. Licensees are encouraged to find biodynamic enterprises which can benefit from this material.

6.1.9 Biodiversity and environment

Biodiversity reserve

- Biodynamic enterprises must show a commitment to the maintenance of farm biodiversity, so **10% of the total farm area** should be devoted to **biodiversity reserve** (made up of the elements listed below). If the biodiversity reserve on the farm and in areas directly adjacent to it does not reach 10%, a **biodiversity plan** that documents how this will be achieved, with a clear time frame, must be **approved** by Demeter UK.
-
- This plan should include development of the elements listed below and may include other cultural elements such as the maintenance of rare or endangered breeds of plants and animals, provision of habitat for birds or insects, use of biodynamic plant and animal breeding, etc.

Areas counting as biodiversity reserve:

- Lightly grazed fields that allow for some vegetation to flower and go to seed.
- Forested fields (agro-forestry).
- Undisturbed forest.
- Headlands.
- Land seeded to annual/ perennial plants that are allowed to go through flowering, that are insect pollinated and which are not the main agricultural crop (with the exception of green manure or pasture).
- Fallow land as part of the rotation or otherwise.
- Undisturbed grasslands (Not mown for the whole year).
- Fence lines (the width of undisturbed land).
- Native trees, single trees appropriate to the location (100 m^2 per tree) and tree-lined avenues.
- Tree groves as part of hedges, fields and stream banks.
- Water courses, ponds, wetlands, riparian areas.

- Ruderal areas, (e.g. landslips), stone windrows and heaps.
- Dry stone walls.
- Unsealed natural paths and tracks.
- Other biodiversity reserve contributions, including husbandry of rare or endangered plant and animal species.
- Other elements as approved in the biodiversity plan.

6.1.9.1 Clearing of virgin rainforest

The **clearance** of **virgin rainforest** for agricultural use is **prohibited**. Other high value conservation areas must also be protected, and may only be cleared after a derogation has been approved by the respective certifying organisation (APP 4: see Appendix 7).

6.1.9.2 Irrigation water

Irrigation water **must not** be contaminated with pesticide residues, disease-causing bacteria or parasites, or contaminate the end product in any way. If there is any uncertainty, water quality tests must be carried out. Irrigation must be carried out carefully so that it does not lead to soil degradation (e.g. salination, erosion). All ground and river water abstraction must have the required official approval.

The use of fossil water is permitted **only** when a plan detailing the impact of the use is approved by Demeter UK.

6.2 Biodynamic Preparations (see also Appendix 8)

Spray Preparations (horn manure – 500 and horn silica - 501)

The spray preparations **must** be applied to **all productive areas** of the farm each year. This requirement does not apply to unused or other permanently non-productive areas.

An effective **method of stirring** the preparations, or a contract with a stirring and spraying service, must be present on the enterprise, and inspected as part of the annual inspection. Spray preparations must be applied with clean equipment.

The spray preparations should be used in a way which is appropriate to the crop type:

- **Horn manure** or prepared cow horn manure (500P) must be spread at least once per year, at a rate of at least 50 gr/ha, preferably at the start of the vegetative phase, or after harvest of the certified crop.

- **Horn silica** is to be sprayed as the plant stage of development dictates, however at least once a year, at a rate of at least 2.5 g/ha.

- A derogation can be granted for reduced preparations usage on areas that cannot be driven on, (such as salt marsh or very steep slopes), providing they are not intensively managed, or mown. This derogation can be considered by Demeter UK when the licensee produces a **preparation management plan** describing planned preparation usage (details should

include: areas incompletely or not covered and with what frequency; stirring and spraying machinery available on the farm; proposed improvements to coverage in the future, etc.)

- Demeter UK may grant a derogation to the requirement to spray horn silica every year for unmowed pasture for ruminants under the following conditions:
- All unmowed pasture must be sprayed with horn silica once every three years.
- Two thirds of fodder producing areas must be sprayed with horn silica every year.
- Derogations for recued spraying have time limits, but may be renewed (APP 4A: see Appendix 7).

Compost Preparations (502-507)

All manures and composted materials (farmyard manure, compost etc.) must be treated with the **compost preparations.**

For farms that do not have their own compost or composted farm yard manure (e.g. extensive pastoral farms) it is a requirement to spread a composite preparation (such as cowpat prep, barrel compost, prepared 500 etc.) as a substitute on those areas which receive no composted manure over the course of the year.

6.3 Animal Husbandry

6.3.1 Scope

This section specifies the requirements for **all livestock kept on a Demeter enterprise,** except those kept as 'pet livestock' or for home consumption only (see section 7.3.9. below)**.** Pet livestock or animals for home consumption can be removed from certification without endangering the certification of the farm as a whole, but cannot be marketed with the Demeter trademark.

6.3.2 Requirements to have livestock

All Demeter certified agricultural enterprises must have livestock.

However, market gardens and enterprises with only perennial crops may request a derogation to be exempted from this requirement, if manures, compost, green manures and biodynamic preparations are used intensively.

6.3.3 Stocking rate

The stocking rate for a biodynamic enterprise should be guided by the **amount of fodder** that the enterprise can produce, and **balanced** by the need to **maintain and develop soil fertility**.

The calculation of the stocking rate is always based on the total area under production.

The **maximum stocking rate** may not exceed 1.4 manure units/ha, if feed is brought in.
It is possible to meet the minimum stocking rate through a 'co-operation' with another farm (see below).

Table: Minimum stocking rates

Farm type	0 – 10 ha	10 – 20 ha	20 – 40 ha	> 40 ha
Arable, pasture, and livestock farming	Stocking rate must not be less than 0.1 livestock units/ha.			Stocking rate must not be less than 0.2 livestock units/ha.
Orchards, vineyards and other perennials	No minimum stocking rate			
Market gardens and horticulture	No minimum stocking rate	Stocking rate must not be less than 0.1 livestock units/ha. from 2032 onwards.**	Stocking rate must not be less than 0.1 livestock units/ha. from 2027 onwards.	Stocking rate must not be less than 0.2 livestock units/ha.*

** This regulation applies to currently certified farms from the 2024 certification campaign onwards. For conversion farms from the national implementation of this standard.*

*** This regulation applies to currently certified farms from the 2032 certification campaign onwards. For farms in conversion from the certification campaign 2027 onwards*

6.3.4 Co-operation between farms

It is possible to organise a formal **'co-operation' with another Demeter farm** where one farm grows fodder for another farm, in exchange for the manure from their livestock. Where such a co-operation exists, the two holdings can be considered as a single unit, especially for the purposes of calculating stocking rates, and the proportion of home grown feed in feed rations.

In cases where no biodynamic farm is sufficiently close by**, a co-operation can be organised between the certified biodynamic farm and an organic farm**. In this case, there must be a legal contract, which must be lodged with Demeter UK.

Before a formal co-operation with an organic farm is recognised, the following conditions must be fulfilled:

- The co-operating partner farm must feed the animals with 100% organic fodder
- The co-operating partner farm must be converted entirely to organic production
- A derogation must be in place from Demeter UK (APP 5A: see Appendix 7)

- Farmyard manure has to be treated with the compost preparations, preferably on the farm where it originates
- The equivalent manure for the complete area may not exceed 1.4 mu/ha year.

Fodder produced on an organic farm in such a co-operation arrangement can be considered as part of the home grown and Demeter feed ration only if all the following requirements are met:

- The fodder is a perennial crop grown over a minimum three year period
- The spray preparations are applied annually to the land used for fodder production
- Application of the preparations must start one year before the fodder is harvested, and must continue through the crop rotation, even in years when the land is not used for fodder production
- The preparations must be applied by the farm that will be using the fodder
- Any other crops produced by the co-operating organic farm cannot be sold as Demeter.

6.3.5 Breeding, identification and origin of animals

Breeding

It is highly recommended to **keep male sires on the farm** and is recognised that artificial insemination does not take into account or replace the effect of having male animals in the herd or flock. Artificial insemination is permitted, but discouraged.

Reproduction must **not be induced by hormone treatment** or similar substances.

Producing animals with other forms of **artificial reproduction**, including cloning, embryo transfer, genetic manipulation and sperm separation or any other use of biotechnology is **prohibited**.

Appropriate breeds shall be chosen. This should include taking into account the capacity of the breed to adapt to local circumstances, their vitality and resistance to disease. Preference should be given to indigenous breeds.

Species of ruminants polled by **genetic engineering** are **prohibited** in the production of produce Demeter milk, meat and fibre. Historic, land race and heritage breeds of **naturally polled ruminants** are **permitted for the production of meat only**.
Genetically hornless breeds in any form, including for use in displacement crossing, in the production of Demeter **milk** is **prohibited**. Please contact Demeter UK for a derogation as needed.

Identification and recordkeeping

All farm-bred and brought in large livestock must be **unequivocally** and **permanently identified** with an earmark. For poultry and other small livestock **group identification** is sufficient.

All animals must be accompanied by a passport and/or other paperwork that makes it possible to **trace** animals back to the **original farm** and **parents**.

Stock management records must be kept, including veterinary treatment, to allow traceability from birth to sale.

Origin of animals brought in to the farm and conversion

Livestock for fattening
If you need to bring in livestock for fattening, you must try to source biodynamic animals with Demeter status. If this is not possible, you must source organic certified livestock. It is not possible to convert a non-organic animal in to Demeter meat (except in the case of day old chicks). Please see specific sections and the table below for details on conversion from organic to Demeter for different animals and products.

Livestock for breeding
If you need to bring in livestock for breeding, or as replacements, you must try to source biodynamic animals with Demeter status. If this is not possible, you must try to source organic certified livestock. However, where there is no suitable biodynamic or organic stock available, you can request a derogation to bring in non-organic livestock in limited situations detailed below.

You must request the derogation in advance of purchasing the livestock. These derogations have to be approved by Defra (or DAFM in Ireland), so you should allow at least a couple of weeks for them to be processed.

When you are setting up a new herd or flock, you can request permission to bring in non-organic piglets, calves, kids or lambs.

- Calves must be less than six months old;
- Lambs and kids must be less than 60 days old;
- Piglets must weigh less than 35 kg.

When you are renewing or expanding a herd or flock, you can request permission to bring in non-organic adult female stock. These must be nulliparous (animals that have not yet given birth). The number of adult female animals you can bring in is subject to the following restrictions per year:

- Up to a maximum of 10 % of adult bovine livestock
- Up to a maximum of 20 % of the adult porcine, ovine or caprine livestock
- For holdings with less than 10 bovine animals, or with less than five porcine, ovine or caprine animals, any renewal as mentioned above shall be limited to a maximum of one animal per year.

In the following special cases, the brought-in non-organic livestock percentages referred to above may be increased up to 40%:

- When a major extension to the farm is undertaken;
- When a breed is changed;
- When a new livestock specialisation is initiated;
- When breeds are in danger of being lost to farming as defined by the Rare Breeds Survival Trust, in which case animals of those breeds must not necessarily be nulliparous.

When you need a new male sire (e.g. bull, boar) for breeding purposes, you can bring in a non-organic animal if there are no suitable organic animals available. In this case, a derogation can be granted by your inspector at the time of the inspection.

You must not bring in disbudded or dehorned cattle. Brought in pigs must come from systems that use floor litter. You must not bring in pigs that are tail docked or immunocastrated.

If you need to bring in day old chicks as layers or table birds, you can request a derogation to use non-organic day olds (up to three days old). These birds can convert to full organic status. Non-organic hatching eggs are treated the same as non-organic day old birds. In-egg sexing is prohibited. For table birds, slow growing breeds are preferable

If you need to bring in pullets for egg production, you can request a derogation to use 'part-organic' pullets up to 18 weeks old. These are birds that have been raised according to the organic feed and vet requirements, but not necessarily on an organic certified holding. This provision is currently due to expire on 31 December 2021.

Brought in non-organic animals can never have full organic or Demeter status, but can be recorded as 'converted breeding stock', and their milk, wool and future offspring can have full organic and Demeter status. See below for conversion times.

Organic to Demeter conversion

Animals brought on to the holding with full organic status can have full Demeter status, after the following conversion times:

- Beef cattle - managed to Demeter standards for two thirds of their lives.
- Breeding cattle - managed to Demeter standards for 12 months
- Sheep and goats for meat – managed to Demeter standards for six months.
- Pigs for fattening – managed to Demeter standards for half of their lives.
- Meat poultry – managed to Demeter standards for half of their lives.
- Milk – immediately Demeter
- Wool – managed to Demeter standards for 12 months
- Eggs – immediately Demeter, but only from pullets under 18 weeks

Non-organic to Demeter conversion

Non-organic livestock brought on to the holding can never have full organic or Demeter status, but they can be recorded as 'converted breeding stock' and their products and future offspring can have full Demeter status. The only exception is non-organic day old chicks, which can attain full Demeter status if managed to the Demeter standards for their entire lives.

Conversion periods for products from non-organic livestock to achieve full Demeter status

- Milk – managed to Demeter standards for 6 months
- Wool – managed to Demeter standards for 12 months
- Eggs – immediately laying starts, but only if the birds were bought in as day olds
- Poultry meat – only if the birds were brought in as day old chicks, and only where they have been managed to the Demeter standards from the day they arrived on the holding

Summary of Section 6.3.5.3

Animal and Product	Status on arrival	Fed and managed to this standard	Status of the product
Cattle			
Livestock and meat (breeding cattle)	Organic	At least 12 months	Demeter

Livestock and meat (fattening cattle)	Organic	At least 2/3 of their lives	Demeter
Livestock	Conventional		'Converted breeding stock'
Milk	Organic	Immediately	Demeter
Milk	Conventional	At least 6 months	Demeter

Sheep and goats

Livestock and meat	Organic	At least 6 months	Demeter
Livestock	Conventional		'Converted breeding stock'
Milk	Organic	Immediately	Demeter
Milk	Conventional	At least 6 months	Demeter
Wool	Organic or Conventional	At least 12 months	Demeter

Pigs

Livestock and meat	Organic	At least ½ of their life	Demeter
Livestock	Conventional		'Converted breeding stock'

Poultry

Meat	Organic	At least ½ of life	Demeter
Meat	Conventional day old chicks	From arrival to slaughter	Demeter
Eggs	Organic pullets under18 weeks	As soon as laying begins	Demeter
Eggs	Conventional day-old chicks	As soon as laying begins	Demeter

6.3.6 Feeding of animals

Fodder produced on the farm should be the starting point for feeding animals that are part of a biodynamic enterprise and each biodynamic farm should strive for **self-sufficiency** in terms of on-farm fodder production. Please see the table below for an overview of different species.

- At a minimum at least **50% of annual DM** (dry matter) (60% annual DM for ruminants, Equidae and Camelidae) **feed requirements** must be produced **on-farm**.

If farms do need to buy in animal feed, it should be from Demeter certified sources. Only if Demeter certified sources are documented as unavailable (see section 4.1.3) should organic feed be bought in.

Table: overview of feed for different species

Species	Min Demeter in the annual ration*	Max organic share in the annual ration**	Minimum on farm***	Is approval possible for less Demeter feed?
Ruminants, Equidae and Camelidae	70%	30%	60%	No****
Pigs	70%	30%	50%	Yes, can only be reduced to 50%
Poultry	70%	30%	50%	Yes, can only be reduced to 50%

* May contain 'in conversion to Demeter' feed, if the feed is already organic. If used, can only make up 20%, so 50% is fully Demeter certified.
** May contain 'in conversion to organic' feed.
*** Can be an average calculated for all animals on the farm, as long as it is in line with national organic law.
**** Except in emergency cases with approval of Demeter UK (APP 24: see Appendix 7)

Conventional fodder may **only** be bought in in case of **emergency** with the prior approval from Defra (APP 24: Appendix 7).

Records must be kept of **every purchase** of feed, feed-preparations, feed additives, feed processing aids (including silage-making aids), mineral and/or vitamin mixtures. Documentation must also be kept for all purchases of GM free status. If not in Demeter status, then records of unavailability should also be kept.

Documentation of the **origin, status, amount and use** must be kept for **all feed** brought in.

All of the following are **prohibited** for inclusion in feed for Demeter animals:

- By-products of industrial extraction
- Animal products (except milk, milk products, whey and eggs)
- Antibiotics
- Sulphonamide drugs
- Coccidiostats
- Hormones
- Synthetic compounds from organic chemistry
- Pharmaceuticals
- Isolated amino acids
- Growth promoters
- Production enhancers (feed antibiotics and enhancers)
- Synthetic chemical feed additives (except vitamins)

6.3.6.1 Feeding ruminants and horses

All cattle (including suckler cows, bulls, young stock, breeding replacements, dairy cattle and suckling calves) must have access to pasture during the summer half of the year. Cows must have freedom of movement during calving.

Dairy ruminants, Equidae and Camelidae

Fodder must contain as high a content of roughage as possible.

- Roughage must make up at least 75% annual DM.
- The majority of **summer feed** must be green material, preferably grazed from pasture.
- As much as possible of **winter feed** should be hay (cows should get a minimum of 3 kg/day, smaller ruminants should get correspondingly less). If local conditions do not allow the production of good hay, a derogation may be given by the certifying organisation to feed silage of grass instead (clover, cut after the start of flowering) (APP14A: see Appendix 7).
- Fodder may not be based only on **silage** over the course of the whole year.

Ruminants and horses for meat

Fodder must contain as high a content of roughage as possible.

- **Roughage** must make up **at least 75% annual DM in all seasons** (e.g. hay, silage or feed straw).
- The majority of fodder can be **silage**, but **summer feeding** must contain one third fresh green material.

Calves, lambs, kids and foals

All young mammals shall be fed on **natural milk**, preferably maternal milk.

- **Calves** and **foals** should be fed milk for a minimum of **90 days**.
- **Lambs** and **kids** should be fed milk for a minimum of **45 days**.

Natural milk is defined as fresh whole milk, dried whole milk or skimmed milk and must be organically certified. As much as possible this should be produced by the farm itself.

Where maternal milk is not available, organic colostrum may be fed (N.B. Cow's colostrum may contain antibodies which are damaging to lambs or kids and therefore should be tested before being fed).

Artificial teat feeding should be prioritised over bucket feeding. Care should be taken during the pre-rumination phase to ensure effective digestion. Care should be taken to ensure that the milk is fed at the correct temperature.

Farms without their own dairy production which must **buy in milk** for young stock should do so from **organic certified** sources. (Alternatively weaned animals may be purchased from certified organic or Demeter sources.)

- Fattening on milk without the addition of roughage is prohibited.

Milk replacers

Milk replacers can be certified as organic; however, these cannot be used as a substitute for natural milk for the **minimum time periods** as outlined above. When calves, kids or lambs are fed **milk replacer** (even certified organic milk replacer) for **more than 72 hours**, these animals lose their

organic and Demeter status. They can only reconvert as breeding stock. Please see section 7.3.5.3.

6.3.6.2 Feeding of pigs

Piglets must be fed on **milk**, preferably maternal milk for at least 40 days. Please note that the requirements for ruminant animals as outlined in 7.3.6.1 also apply.

For adult pigs the general principles of feeding as specified in 7.3.6 apply.

In addition, pigs must be offered a **daily** ration of **roughage** or high moisture feeds (for example greens or beets).

6.3.6.3 Feeding of poultry

The general principles of feeding as specified in 7.3.6 apply.

In addition:

- At least **5% of feed** must be provided in the litter or in the open air run so that poultry forage for food.
- **20%** of fodder must be **whole grains**.
- All poultry must be provided with **grit**.
- Poultry must be able to drink from **open water sources**.
- **Geese** need access to green **pasture** during the growing season and at least 35% of their feed (DM) as fresh pasture.
- **Turkeys** need access to **pasture** during the growing season.

6.3.6.4 In conversion and organic feed and grazing

In addition to the requirements set out in the general part of this section (7.1.6), the following also apply:

- Fodder which is grown on a farm in the first year of conversion to Demeter may make up **100% of the ration**.
- If a farm adds new land after the rest of the farm has converted, the fodder produced on the farm from the new land which is in the **first year of conversion to Demeter** can make up to **20%** of the **annual** requirements for roughage consuming animals or **10%** of the **annual** requirements for other animals.
- Fodder grown on farm which is in the **second year of conversion to Demeter and organic** may be included in the farm's own fodder ration **without any limits**. When fodder in the second year of conversion to Demeter and organic is **brought on** to the farm it can form a **maximum of 30%** of the ration.
- Fodder grown on the farm which is in the **second year of conversion to Demeter and is already organic** can be included in the farm's own fodder ration **without any limits**. If it is **brought on** to the farm from outside it can form a **maximum of 50%** of the ration, at least 50% must be fully Demeter certified.
- In all cases the effect on the status of the end product should be taken into account.

6.3.6.5 Nomadic livestock, grazing uncultivated areas and common grazing land

Nomadic livestock

If Demeter animals meet the requirements as set out in section 7.3.6.1 above, the balance of feed may come from:

- **extensively managed areas** (including nature reserves) which have had no use of synthetic fertilisers or plant protection chemicals.
- **uncultivated areas** where the preparations cannot be applied due to inaccessibility (for example steep slopes, see APP 4A: Appendix 7).

Animals reared in this way may only be marketed using the Demeter trademark six months after weaning, at the earliest, providing they have been fed and managed to this standard during this period. A grazing diary must be kept to document sources of feed.

Common grazing land

Animals from Demeter enterprises may be kept on **common grazing land** if the pasture has not been managed conventionally for at least three years and if the other conventional animals on the common land are from **extensive** conventional management. No conventional fodder supplements may be fed.

- Milk may be certified Demeter when the animals return to Demeter compliant feeding.
- Meat may be certified Demeter when the animals are kept for at least half of their lifetime according to this standard.

Common land can only be used with an approved **derogation** from Demeter UK (APP 16: see Appendix 7).

6.3.6.6 Guest animals

Guest livestock of conventional origin which do not belong to the certified farm, can be kept on Demeter pastures for grazing for a maximum of 120 days per **year under the following conditions**:

- A **derogation** must be sought from Demeter UK (APP 15: see Appendix 7).
- A **written agreement** between the owner of the animals and the farm must be in place.
- All animals must be clearly **identifiable** by ear tags or similar identification.
- Guest livestock must be **kept separate** from the certified livestock on the holding.
- Guest livestock must be **kept to this standard** in terms of feeding, housing and management.
-

Guest livestock of certified organic origin which do not belong to the certified farm, can be kept on Demeter pastures for grazing or in Demeter livestock housing, **under the following conditions**:

- A **derogation** must be sought from Demeter UK (APP 15: see Appendix 7).
- A **written agreement** between the owner of the animals and the farm must be in place.
- All animals must be clearly **identifiable** by ear tags or similar identification.
- Guest livestock must be **kept separate** from the certified livestock on the holding.

- Guest livestock must be **kept to this standard** in terms of feeding, housing and management.
- Guest livestock must be **included** in the calculation of the **stocking rate** of the farm.

6.3.7 Management

Biodynamic management systems should allow animals to express natural behaviour and allow freedom of movement. Animals should have contact with their natural surroundings (sun, rain, earth under foot etc.) whenever possible. Therefore, care must be taken to provide good housing in which animals can stand and lie down unhindered, have a dry resting place, sufficient light and protection from wind. They also need access to pasture or at a minimum access to open air.

Limited derogations from housing and outside access requirements may be granted by Demeter UK for the following:

- Insufficient access to pasture.
- Housing is too small.
- Water fowl without access to stream, lake or pond.
- Poultry housing which does not meet this standard.
- An open air run for poultry which is not covered with grass.
- Shelter plantings or artificial shelter not available in the exercise area
- (APP 8: see Appendix7)

Changes to housing required by this standard (e.g. access to pasture, bays for rearing groups of calves, rebuilding of fully slatted floors etc.) should be completed inside the **maximum five-year conversion period**. If this conversion period needs to be extended, there must be a justified need and approval from the certifying organisation (APP 7: see Appendix 7).

- Small farms must also respect the innate needs of their animals. This means providing access to pasture and exercise as frequently as possible, ideally daily in summer and a minimum of twice a week in winter. Tethering must be restricted to a minimum.

6.3.7.1 Cattle management

Pasture

All categories of cattle (Suckler cow, bulls, young stock and breeding replacement, dairy cattle and suckling calves) are to have **access to pasture** during the summer half-year. Where this is not possible, access to the open air must be available all year round.

Housing

Housing must meet the following requirements:

- There must be sufficient space provided and the herd must be managed to allow the expression of **social behaviour**.
- Animals must be able to **feed** in an **unhindered** way; this means that there should be as many feeding stations as there are animals in the stable. If feeding is ad lib, there may be fewer, but still animals should be able to feed freely.

- There must be as many **sleeping stalls** in the stable as there are animals and the sleeping stalls must have **appropriate bedding**.
- **Fully slatted** floors (more than 50%) are **prohibited** and the slatted area may not be calculated as resting-place.
- **Cow trainers** are **prohibited**.

Dehorning

Dehorning of animals and **dehorned animals** are **not permitted** on the farm. In well-justified cases, a derogation may be approved by Demeter UK but must be **reviewed annually** (APP 11: see Appendix 7).

Calving

Cows should have freedom of movement at **calving**. As stables are renovated, a calving bay must be included in the renovations.

Calves should have contact with one another as soon as possible and should be reared in groups from the second week, if there are suitable numbers of the same age calves. Boxes for calves are permitted only in the first week.

Calves may **only be castrated** to improve health, welfare or hygiene of the animals, and only with an approved derogation from Demeter UK (APP 11: see Appendix 7). The operation must be carried out at the **most appropriate age** by **competent personnel** and any **suffering** of the animals must be reduced to a **minimum**.

6.3.7.2 Management of sheep, goats and horses

All of the requirements specified in **7.3.7.1 also apply to sheep, goats and horses**.

In addition, operations such as castration and tail docking **must not** be carried out **systematically** in biodynamic farming. These operations **may only** be carried out to improve the health, welfare or hygiene of the animals, and only with an approved derogation from Demeter UK (APP 11: see Appendix 7). The operation must be carried out at the **most appropriate age** by **competent personnel** and any **suffering** of the animals must be reduced to a **minimum**.

6.3.7.3 Management of pigs

Management of pigs must be based on a free range outdoor system. Pigs can be housed seasonally where weather or soil conditions make this necessary. Sows, gilts and piglets should be kept in suitable social groups wherever possible.

Housing for pigs

Where pigs are housed, the housing must meet the following requirements:

- **sleeping stalls** must be spread with straw or other organic litter
- **access to an** open air run, where rooting is possible, must be available at all times (this can be provided through use of a substrate)
- slatted floors are **prohibited**
- **sows may be contained for farrowing** but only for the shortest time possible (maximum of 14 days)
- **cages** and confining pens with narrow slatted floors are prohibited

Operations and mutilations on pigs

- **Tooth cutting** or other preventative tooth filing, tail docking, and ear docking are prohibited
- **Nose rings** or **hog rings**, which prevent the pigs from rooting, are prohibited**.**
- **Castration** may only be carried out to improve the health, welfare or meat quality of piglets, and only with an approved derogation from Demeter UK (APP 11: see Appendix 7). The operation must be carried out at the most appropriate age by competent personnel and any suffering of the animals must be reduced to a minimum**.**

6.3.7.4 Management of poultry – general

The requirements set out in this section apply to all poultry.

For enterprises that have more than 100 laying hens, 100 table birds or 20 larger birds (ducks, geese or turkeys) there are additional requirements as specified in section 7.3.7.5.

Poultry management must be based on an outdoor free-range system. Caged systems are prohibited. All poultry species require management that allows their natural behaviour.

General management of poultry

- Two roosters should be kept for every 100 hens to improve and maintain good **social structure** in a flock.
- Any and all mutilations of poultry, including beak cutting, beak trimming, wing clipping, and castration are **prohibited**.
- The keeping of capons is **prohibited**
- The minimum slaughter age for all kinds of poultry is given in Appendix 8.
-

Housing poultry

- Housing must be appropriate to the species, with adequate daylight, low dust exposure, and comfortable temperatures and humidity levels.
- For species that normally **perch**, perches or elevated resting places appropriate to the species must be provided.
- Nest boxes must be provided for egg laying.
- There must be sufficient daylight inside the housing, especially where the birds, scratch, eat and drink.
- Daylight can be extended with artificial light to a **maximum of 16 hours** per day, using lamps without a stroboscopic effect.
- For ducks and geese a simple shelter is sufficient
- **Layer hens** can be housed at a maximum rate of **4.4 birds/m^2** or 16kg live weight/m^2, and in mobile housing a maximum of **5 birds/m^2** or 18kg live weight/m^2
- **Broilers** can be housed at a maximum rate of **10 birds/m^2** or 21kg live weight/m^2 in fixed housing, and in mobile housing at **16 birds/m^2** or 30kg live weight /m^2
-
- Pasture and outdoor requirements for poultry
-
- **Access to pasture** is required for all poultry species. If this is not possible for **young birds**, a covered **open-air run** is sufficient.
- Sufficient opportunities for sand-bathing and sun bathing must be provided
- **Waterfowl must have an** adequate water supply
    - ducks need water for swimming
    - geese need water for plunging their heads and necks.

6.3.7.5 Management of poultry – larger flocks

This section sets out the additional requirements for enterprises that have a total number of more than 100 laying hens, 100 table birds, 20 turkeys, geese or ducks.

Breeding and **hatching** must be included in the certification process.

Housing may contain the following maximum number of birds:

- Layer hens, parent animals – 3000 (preferably in flocks of 1000 or fewer)
- Young layer hens or parent animals – 9600 (in flocks of no more than 4800 each)
- Cockerels – 2500
- Ducks - 1000
- Geese – 1000
- Turkeys – 1000
- Guinea fowl – 1000
- Quail for laying – 10 x 200
- Quail for fattening – 10 x 500

Derogations may be approved by the certifying organisation for existing buildings. All new facilities must comply with this standard (APP 12: see Appendix 7).

Other housing requirements

There is provision for use of a system based on an **inner housing area with a 'veranda' area**. For more information on this, please contact Demeter UK.

The width of the **pop-holes** between the house and the outdoors must be a minimum of 1 m per 150 layer hens, 250 young layer hens and 500 kg live weight of poultry for fattening. The height of the pop-holes must be high enough that animals can walk through upright.

Raised slatted floors must have pits for the manure. There must not be more than three slatted floors one upon the other. At least one third of the accessible housed area must be covered with litter.

Pasture requirements

The pasture or open air run area must meet the natural requirements of the respective poultry species.

Chickens – layers and broilers

- At least 40% of the area must be evenly covered with perennial crops to provide protection, for example with bushes and trees. Annual crops or artificial protection can be used until permanent crop cover reaches 40% of the area. Mobile houses are exempted from this requirement.
- Minimum area per bird – at least 4 m^2 per animal
- Pasture must not be more than 150 m away from the housing.
- Young layer hens and their brothers need access to pasture (1m^2 per animal).

Ducks

- Minimum area per bird – at least 5 m^2 per animal.
- Pasture must not be more than 80 m away from the housing.
-
- **Geese**
- Minimum area per bird – at least 15 m^2 per animal and 4 m^2/kg live weight.
-
- **Turkeys**
- Minimum area per bird – at least 10 m^2 per animal.
- Pasture must not be more than 150 m away from the housing.

6.3.8 Animal health

Animal health should primarily be assured by observant animal husbandry, breed selection, breeding and feeding, as well as management appropriate to the livestock species.

If despite these prophylactic measures, health problems do occur, **treatment must be given immediately**. If the treatment is under direction of a vet, and is precisely documented, the remedy chosen may deviate from these guidelines in order to find the best solution, taking into account animal health, management of resistance and environmental aspects.

Routine and/or **prophylactic** treatment with materials that are not termed natural remedies (e.g. synthetic allopathic medicines, antibiotics, anthelmintics) is **prohibited** unless legally required.

An exception to this is the use of permitted **anthelmintics** (see below) in those cases where parasitism is endemic in the local area.

Every treatment must be recorded in detail, whatever the treatment, whether it is given to an individual animal, or to the herd as a whole. Records must be kept, including the following, for **each** treated animal:

- Treatment including medicine used
- Method
- Date
- Withholding time

These records must be made available on request.

When use of veterinary allopathic remedies is required, then **twice** the **legal withholding period**, or at least **48 hours** if there is no waiting period mentioned, must be observed. (Except in the case of a negative bacteria inhibiting test following the use of antibiotics.)

Limited treatments

- Animals with a productive life of **less than one year** are limited to **one** course of treatment with allopathic remedies.
- Animals with a productive life **longer than one year** are limited to **three** courses of treatment with allopathic remedies per year.

If any animal receives **more** than the permitted number of treatments, or is treated with a non-permitted material, it **loses Demeter status**.

Remedies containing **organophosphates** and **hormone treatments** to synchronise oestrus, to increase the growth rate or to increase production of animals are **prohibited**.

6.3.8.1 Use of remedies for large and small ruminants, horses, deer, sows and camelids

Antibiotics: The aim is to be largely free of antibiotics, with use only in serious emergencies. Antibiotics of critical importance for human medicine may only be used as a last resort.

- Individual animals may receive a maximum of three courses of treatment per year.
- Antibiotics may not be used prophylactically and only under the direction of a vet.
- In cases of persistent herd problems, it is highly recommended to consult with a professional in order to improve herd strength through the breeding programme.

Ecto-parasites: Individual animals may receive only **one** application per year of **Ivermectin/Doramectin** for the treatment or prevention of **miasis** and **scabies**. Whole herd treatment is permitted only with other remedies for ecto-parasites.

Pyrethroids, as local applications only (no whole animal dipping), are permitted for ticks, horn flies, dermatobia etc. Other solutions must be integrated into control measures. **Spinosad** for lice and/or miasis control in sheep/goats is permitted.

Internal parasites - Anthelmintics may only be given in conjunction with a diagnosed presence of parasites, and an appropriate clean-pasture grazing regime. Whole herd treatment is permitted but the use of ivermectins and doramectins are generally excluded as remedies for internal parasites with the exception of liver fluke and oestrus ovis if there are no alternative materials available. Oral administration is preferred; pour-on or injectable administration is permitted only as a last resort under the direction of a vet.

6.3.8.1 Additional requirements for poultry, fattening pigs, rabbits and other small animals

All the requirements specified in section 7.1.8.1 also apply for poultry, fattening pigs, rabbits and other small animals, unless they are not exclusively mentioned for a specific species. In case of an outbreak of disease in poultry, small animals and fattening pigs, the **whole flock** may be treated.

Fattening pigs and rabbits are only allowed **one** application per year of ivermectin or doramectins for the treatment of scabies.

6.3.9 Pet livestock

Horses and other livestock kept as pets, working animals, therapeutic animals or purely for home consumption (‘pets’) may be kept on the Demeter holding. Such ‘pets’ cannot be the sole or main activity on the holding.

The following conditions also apply:

- Pet livestock must be recorded in the annual questionnaire, and are subject to inspection.

- Pet livestock must be included in the calculation of the stocking rate. Keeping of pets must not compromise the quality of soils, sward etc. on the holding
- As far as possible pets should be kept according to the standards. Feed should preferably be Demeter/organic, and must be GM free.
- Pet livestock must be included in the animal health plan. Avermectin wormers should be avoided as far as possible. If treatment with avermectins is necessary, for 48 hours after treatment all manure from treated animals should be carefully collected and composted
- Pet livestock must be easily identifiable and must be recorded on the certificate as non-organic. Neither they nor their products can be sold as organic or Demeter.
- Pet livestock cannot be of the same species as certified livestock kept on the holding
- Pet livestock can be of conventional origin if no suitable source of organic or Demeter stock are available

Equines cannot be certified as organic, even if kept to the standards

6.3.10 Bee products

The production and certification conditions for honey and hive products are regulated in Standards for Beekeeping and Hive Products for the use of Demeter, Biodynamic® and related Trademarks.

6.3.11 Transport and slaughter of stock

One should be conscious of the fact that the death of a living being with a soul precedes all meat processing. Ethical and moral viewpoints require that the animal in question be handled, during transport and slaughter, such that it doesn't suffer fear and stress.

Animal slaughter will not be covered in detail in these standards. The endeavours of the individuals involved, who must act with insight, and the principles mentioned above, stand in their place. The following are minimal requirements:

- **Transport distances** should be **minimised** by slaughtering animals locally.
- The use of **electrical goads** is **prohibited**, as is the use of sedatives or other chemical or synthetic materials, before, during or after transport.
- **Waiting times** at the slaughterhouse should be **minimised**.
- If waiting is required, **sufficient** covered **space, water and food** must be available.
- Animals must be **quickly** and **effectively stunned**. After stunning they must be allowed to bleed completely.

Regulations that are in place for religious slaughter should be allowed for that consumer group providing the above mentioned standards are respected (with the exception of stunning).

6.3.12 Conversion of a farm

6.3.12.1 Conversion plan

The conversion of a farm to a biodynamic farm should begin by **defining the developmental aims** of the enterprise. This can then inform the development of a **conversion plan** (in collaboration with advisors) which contains details of the farm and how they can be managed to biodynamic aims and standards. This conversion plan should detail the following:

- A **precise farm map** with field descriptions.
- **Soils** – including the condition and any use of materials prohibited by these standards.
- **Crops** – current and planned, including planned crop rotation.
- **Animals** – both current (including status) and intended.
- **Fertility management**.
- Measures to **minimise the effects** of environmental contamination (e.g. spray drift from conventional farming, industry, or roads carrying heavy traffic)

The conversion plan should detail how the developmental aims of the enterprise can be practically implemented in order to develop a biodynamic farm organism.

6.3.12.2 Conversion of the entire farm

The farm should be converted in its entirety, in one step to a biodynamic farm.
The **farm manager may not** manage a Demeter farm and a conventional farm simultaneously.

In justified circumstances the conversion period for certain areas or enterprises may be **prolonged** under the following circumstances:

- Prolonged certification periods up to five years from the first year of conversion are **only** possible for **perennials and ornamental plants**.
- The perennials and ornamental plants that are not yet Demeter certified must be managed to **organic** standards.
- If a comprehensive separation protocol is in place, Demeter UK may allow **parallel production** for perennials and ornamental plants within the five years.
- **Precise documentation** is needed at every stage of the process.
- **Animal husbandry** can be managed conventionally up to three years within the conversion period, but only if this part of the animal husbandry is **subsequently abandoned** and is no longer acceptable to rebuild the barn or build up a standard compliant on-farm fodder share.
- **Animal husbandry** can be managed **organic** up to **five years** during the conversion period, if essential constructional measures (barn/stables) are the reason the difficulties in meeting this standard.
- The **entire enterprise** must reach **Demeter certification no more than five years** after conversion is begun.

Prolonged conversion, parallel production in perennials and non-organic husbandry in conversion need a derogation from Demeter UK (APP 21: See Appendix 7).

6.3.12.3 Conversion of new agricultural areas

The conversion of newly added land, due to expansion of cultivation differs in some respects from the conversion phase of new farms.

In contrast to the restriction for parallel production under 7.3.12.2. in the total farm conversion, the parallel cultivation of **organic**, **Demeter *in conversion*** and **Demeter** is permitted for fodder and perennials. A clear separation protocol concerning **harvest** and **storage** is required.

The provisions under 7.3.12.4. concerning the conversion periods depending on the crop and the preliminary cultivation of the newly acquired land apply.

Production of the same species of annual crop on areas with different levels of certification leads to a lower status for the whole crop.

6.3.12.4 Certification in conversion periods

In general, the following time frames and periods represent the normal case of conversion periods. Demeter UK may prolong the conversion period at any time.

The conversion period begins when the whole enterprise is managed according to this standard. The **use of the trademark** between the start and end of conversion is as follows:

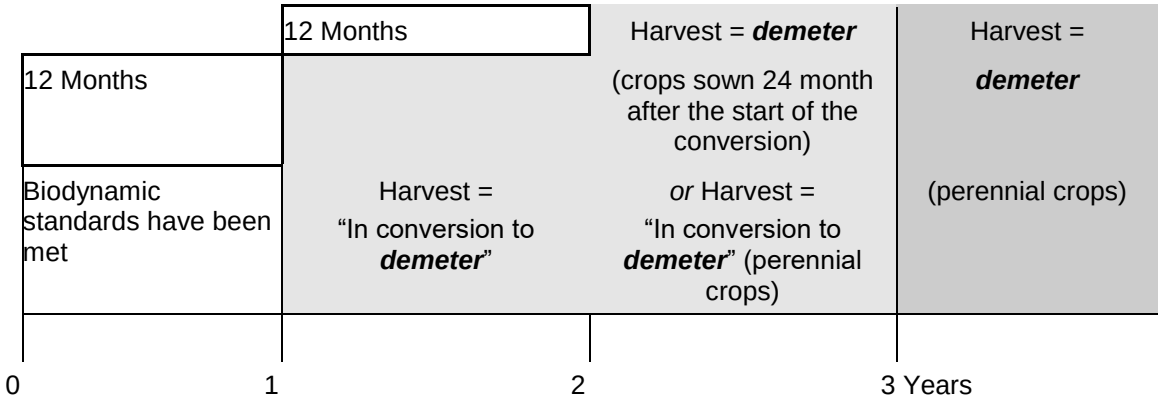
- During the first year of conversion **no reference** can be made to organic or biodynamic production.
- Crops sown after **12 months** of certification, may be marketed as 'in conversion to ***Demeter'*** with the approval of the certification body.
- Crops sown after **24 months** of certification or harvested after 36 months (perennial crops) may be marketed as '***Demeter'*** with the approval of the certification body.
- For animal products, certification corresponds to the certification status of the fodder. See the tables listed below.
- Under certain circumstances (intensive conventional management of an enterprise or part of an enterprise), this timeline can be extended, and the certification body may require a 'zero year' preceding the timing above.

The **usual** time for areas of land, or crops to be in conversion can be seen in **table 1**. If the land had been previously farmed intensively using conventional methods, conversion may take longer.

In favourable cases the conversion period can be **shortened** (see tables 2 and 3 below).

Table 1: Normal conversion, prior conventional farming

	Full certification	⇒
12 Months		



At point 0 conversion begins.

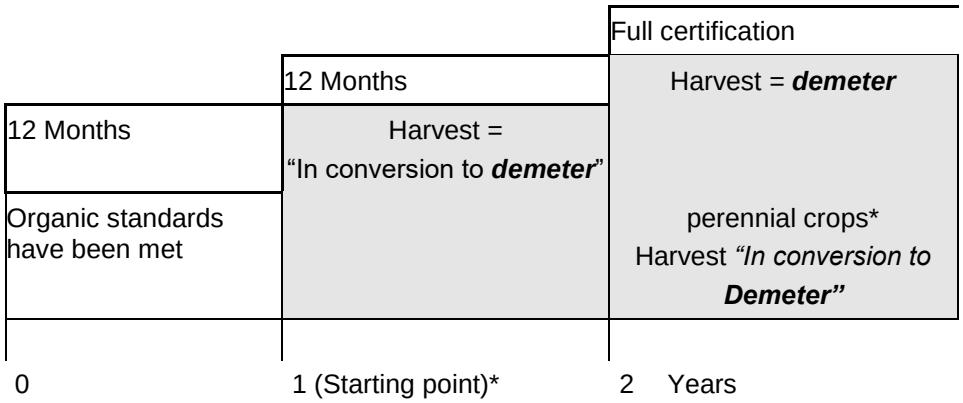
At 1: time is 12 Months after conversion begins - **products harvested** from this time on can carry the certification "In conversion to ***demeter"***

At 2: time is 24 Months after conversion begins - **products sown** 24 months after the start of conversion can be marketed as "***demeter***" once certification is granted. Perennial crops harvested from this time on can carry the certification "In conversion to ***demeter***".

At 3: time is 36 Months after conversion begins; **products harvested from perennial crops** can be marketed as "***demeter***".

- Under certain circumstances these timelines can be shortened (see following tables):
- If an enterprise or major part thereof has been managed extensively or certified organic for a minimum of one year, products in the first 12 months of certification can be labelled "In conversion to *demeter*". For crops sown after 12 months or harvested after 24 months, full Demeter certification is possible.
- Partial conversion and conversion of additional land must meet the requirements as outlined above and require precise documentation.
-

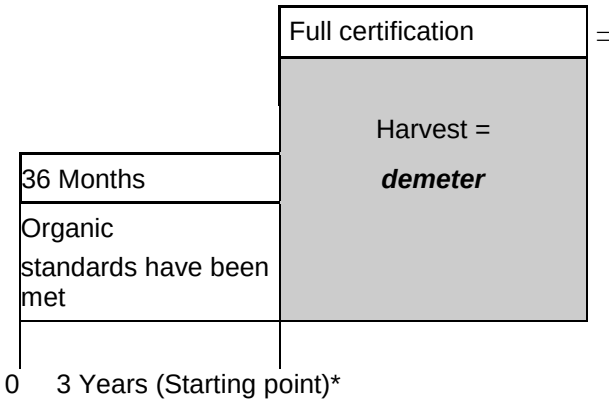
Table 2: Semi fast conversion, prior organic farming for a minimum of one year



- If an enterprise or major part thereof is certified organic for a minimum of three years prior to Demeter conversion, full Demeter certification can be granted for the first harvest provided that all provisions of these standards have been implemented.

-

Table 3: Fast conversion, prior organic farming for a minimum of three years



6.4 Biodynamic plant breeding

This section of the standard was developed by the Association of Biodynamic Plant Breeders (ABDP).

They set a standardised approach for biodynamic plant breeders and certification organisations so that there is a common understanding of the labelling 'from biodynamic plant breeding'. For details on labelling, please see the labelling section of this standard.

6.4.1 Requirements for breeding new varieties

The following are requirements for breeding new varieties:

- Breeding must take place on **Demeter** certified fields.
- Or if breeding takes place on certified **organic** fields, the **biodynamic preparations** must be applied (at least one application of horn silica and horn manure as well as biodynamic compost or cow pat pit preparation). This must be agreed with the organic farm and documented (for instance in a crop management contract).
- The farm where the breeding takes place and the documentation of all breeding activities must be **accessible** and **available** for inspection at all times.

New varieties may stem from (the following are **permitted**):

- Intentional cross-pollination
- Incidental cross-pollination
- Natural mutations and subsequent selection
- Hybrids or double haploid may be used as **parent lines** only for development of new varieties

A **minimum** of **four years of selective breeding in biodynamic conditions** as outlined above are essential.

A new variety must meet the necessary degree of differentiation from other varieties of the same species (according to relevant seed and plant breeding or patenting regulations). Only after a new variety has been **registered** with the **relevant patent office** can it be recognised as a new variety and sold.

In the case of a closed system in which no sales are involved, the certifying organisation may issue an official recognition of the new variety as a 'Biodynamically bred plant variety', if documentation is submitted that the variety meets the necessary degree of differentiation, but the variety is not patented.

The following methods are **prohibited** as part of the breeding process:

- All methods prohibited by IFOAM standards.
- Hybrid breeding, regardless of production methods (after the original parent line).
- Double haploid or polyploid genetics (after the original parent line).
- Cytoplasm or protoplasm fusion.

6.4.2 Requirements for conservation breeding

Conservation breeding must take place under biodynamic conditions as outlined above.

6.4.3 Documentation requirements

Documentation should be available that makes it possible to track the variety from the original parent seed, through the crop rotation over the course of multiple generations.

The following are required:

- Parent lines must be traceable using invoices or other supporting documents. Documentation of original deliveries of seed is required (this may be in the form of a delivery note or shipping invoice and should detail the supplier, quantity, any treatments and genetic modification analysis).
- It must be possible to trace the variety through the cropping plan and crop rotation as it is developed through multiple generations.
- The cropping plan must document which fields are used for growing and developing the variety.
- Sales must be documented including invoices which state the name of the variety, quantity, batch, treatment and recipient.

6.4.4 Traceability

The development history of the variety must include the following:

- Variety, cultivar, variety denomination, name of breeder, date, breeding aims.

- Source of genetic (parent) material for breeding (including whether it is the result of cross-breeding), description, supplier, first cultivation date.
- Location, cultivation of each generation.
- Selection methods – mass selection (positive or negative); how many individuals chosen from how many total; pedigree method versus bulk-population method.
- Selection criteria – identify criteria, did the criteria change over time, was testing used to support selection, any additional trials, specific requirements.
- Date of registration of the patent.
- Propagation process to produce seed for sale and distribution.
- Current description of variety – typical characteristics, recommended cultivation methods, other practical guidelines, results of any analyses.

6.5 Aquaculture

6.5.1 Scope

Demeter aquaculture standards cover production of a wide variety of species, especially cyprinidae (carp family) and salmonidae (salmon and trout species) as well as predators feeding on live natural feed such as catfish, pike, pikeperch, perch etc. Freshwater crayfish, mussels and plants (providing fodder in the ponds) are included.

6.5.2 Management

A management plan must be in place which includes monitoring, strategies to meet these standards, and staff training.

6.5.3 Breeding

Native species and those adapted to the regional natural ecosystem have to be used to stock the ponds. Other species require approval of the respective organisation. Fish of all age classes shall come from Biodynamic aquaculture itself. Only if documented as unavailable may brood stock from certified organic hatcheries be brought in.

The brood stock must spawn naturally, without the use of hormones or regulated photoperiods. Genetically modified stock, mono sex populations, triploid or sterile populations and cloned animals, eggs or brood stock are not permitted.

Stock from conventional sources are excluded.

6.5.4 Conversion

A written conversion plan detailing the history of the unit and any changes needed in the course of the conversion period, including extra environmental loading must be supplied. Each of the sections of this standard needs to be addressed in the plan.

The conversion period for the operational area is **12 months**. Conversion of brought in fish of organic origin requires farming to these standards for at least **one third** of their life span to reach table market size e.g. 12 months for salmonid fish (e.g. trout) and 24 months for cyprinid fish (e.g. carp).

Once a production site has become established it is expected that indigenous broodstock will be bred on-site or in cooperation with a neighbouring certified farm and that importation will only be necessary under exceptional circumstances.

6.5.5 Environment

The pond system is to be integrated into and enhance adjacent terrestrial and wetland environments and support their wildlife status. Area management agreements are to be pursued with neighbouring farmers and landowners whenever possible. Operators must show awareness of any connected water bodies as well as local designated conservation areas.

The layout of the pond system must not interfere with the flow of natural streams. Ponds must be constructed in natural earth and constructed in a way, that water flow can be regulated and that risk of fish escape to adjacent natural bodies of water is minimised. Concrete or plastic ponds, or those lined using butyl rubber are not permitted for long-term use – they may only be used for rearing and acclimatisation to feed to a maximum of six months or for other short-term handling or transit purposes. Concrete may only be used in the areas surrounding a water inflow or outflow, for spillways and to improve bank stability where access is regularly required. It is also permitted as part of the installation of Flow form circulation systems.

Site security must be addressed, as failure to do so will leave the operation more liable to environmental risks such as contamination or even vandalism. Safety and welfare of fish stocks is a prime consideration.

Fishponds are to be integrated into the landscape as far as possible, offering existing plant and animal species an enhanced habitat. Special respect shall be given to conservation of the water-land border. Significant parts of the shoreline are to be designated as zones of low activity. For instance, wetland and marshy areas may constitute pond margins while any surrounding grass or shrubby areas must remain uncut for most of the year.

6.5.6 Water quality

An adequate supply of good quality water from surface flow or local springs must be delivered to the operation at all times. Flow or circulation within a pond system must be gravity driven. Flowforms may be installed to maintain water movement, to enliven the water and provide slow rates of oxygenation. Pumping water for oxygenation or other artificial oxygenation methods is not permitted. The input or inflow water and the water leaving the system must be tested and fall within permitted water quality levels as determined by the local authorities.

A Water monitoring plan must include parameters of prime importance for well-being of freshwater fish and environmental accountability.

An initial assessment of environmental loading arising from the operation's effluent is always to be made (input-output calculation). Drained water shall not negatively influence existing water quality of natural water bodies.

National law gives guidelines for critical parameters of draining water but more than that the management of biodynamic ponds has to maintain the naturally occurring grade of water quality.

6.5.7 Integration of the pond system

The fish production area must be enclosed as far as possible within a Biodynamic certified enterprise. As part of normal Biodynamic practice, the preparations will be consistently applied to the surrounding area at the most appropriate times of the year. Demeter aquaculture, which is not integrated in Demeter agriculture has to take special care on creating a Biodynamic environment using the Biodynamic preparations.

6.5.8 Health and welfare

Management appropriate to the fish species and its life stage, ensuring good welfare and environmental conditions, supervision of the stock and hygiene are the baseline for a healthy and fit stock. This involves accurate routine observation of the stock. Ponds regularly cleaned out greatly contribute to disease avoidance.

Care must be taken to identify the first symptoms of ill health before the condition spreads to larger numbers of fish. If necessary, an aquaculture expert or a fish vet is to be consulted. As salmonids are sensitive to stress which can lead to fungal infections, regular spraying of the water surface with horn silica (501) must be carried out as a preventative measure.

Natural herbal treatments and homeopathic remedies must be fully explored in accordance with national laws. Allowable treatment agents include lime and salt. Use of calcium chloride and potassium permanganate is not permitted. If allopathic remedies are required they require vet supervision and the stated withdrawal periods from sale are to be doubled.

Washing with potable water must follow the use of any agents for cleaning and disinfection.

6.5.9 Processing

Processing in this context refers to killing, cleaning and presentation of the fish for market. It may also involve a 'process' such as smoking or making other fish products.

To slaughter fish they must be stunned by striking on the head and then must be killed by heart- or gill-cut before being gutted. Use of electrical devices or carbon dioxide is not permitted

Refrigeration is a priority for the period between slaughter and marketing.

All fish processors require inspection and Demeter certification.

6.5.10 Salmonid pond farming

6.5.10.1 Breeding

In case of salmonids the brood stock-fish may be stripped by hand and the eggs hatched and fed up to fingerling stage – to a maximum to 1/3 of their lifespan - in a controlled environment.

The raising of fry need not require the heating of water.

6.5.10.2 Water quality

Parameters of prime importance for freshwater salmonid systems include the following: For trout in particular, dissolved oxygen must be at least 6mg/l or 70%, BOD must exceed 4mg/l, NH4-N must exceed 0.6mg/l and dissolved phosphate must exceed 100 micrograms per litre. Of prime importance in relation to the above is that all waste water and slurry from pond-cleaning operations must be pumped out into a bounded soak-away area.

6.5.10.3 Feed

Salmonids may be given feed which as closely as possible resembles its natural feed, i.e. the protein to energy ratio in the diet. Feed must be suitable for the fish type and its developmental stage.

Commercial feeds must be produced from cutoffs from either certified organic fish or from wild fish from marine resources certified as sustainable by a body such as the Marine Stewardship Council.

Any feed ingredients from agricultural production including supplements must be Demeter certified or if unavailable of certified organic origin. Shrimp shell may be used providing it is a by-product of wild caught shrimp or organic shellfish processing. Yeast is prohibited as a supplement. Vitamin and mineral supplements can be used providing they are of natural origin. Natural binders and Tocopherol-rich extract (antioxidant) may be used. Supplements intended to provide colouring are prohibited.

6.5.10.4 Health and Welfare

Sudden changes in environmental conditions or careless handling causes stress which quickly reflects in a weakening of the fish’s defence system. Protection must be afforded from predators e.g. birds such as herons, while similar-sized stock must be kept together to minimise aggression and injury. The whole body of the fish must be supported when handling and special care needs to be taken when stripping eggs from broodstock. Dead fish must be promptly removed to avoid contamination, while any diseased but curable stock must be kept in an isolation pond.

Shade or turbidity may be required according to species, especially for youngstock. Special attention should be paid to this if tanks or ponds are to be located in dry land situations away from natural cover.

Stocking density for salmonid species must not exceed 15 kg standing stock of fish per cubic metre of water. Records of stocking density and given amount of feed shall be documented for all ponds and the records made available at the annual inspection.

6.5.10.5 Harvesting

Salmonids must be starved before slaughter but this period must not exceed 7 days, including the time taken to transport them to a Demeter certified processing plant and the holding time at those premises. The amount of stress which fish experience throughout this period must be kept to the minimum. Crowding to enable harvest must not exceed 2 hours.

For the transit of live fish, and prior to slaughter, the temperature must be reduced to slow down metabolism and quieten the fish. The rate at which temperature is reduced should not exceed 4 degrees C per hour. Good oxygenation is essential.

6.5.11 Carp pond farming

6.5.11.1 Cultivation

The Biodynamic pond system is carried out in natural earth ponds. To support fertility and sanitation of the pond, the mud has to be treated by draining (aeration) and the occasional spreading of quick lime for disinfection and demineralisation.

6.5.11.2 Water quality

Water quality has to support healthy fish stock and therefore it must be checked regularly. Addition of slaked lime (Ca(OH)2) or limestone is permitted.

6.5.11.3 Pond structure

Ponds have to be integrated into the landscape and must provide an ecosystem for fauna and flora especially those dependant on the water-land border. Conservation / natural zones and reed areas are valuable for endangered fauna and flora. For this reason, maintenance in the majority of these areas is carried out not before the autumn season so as to protect these species. If urgent repair/management work is necessary, this must not be carried out on more than 1/3 of the border zones at any one time.

6.5.11.4 Biodynamic preparations

Biodynamic preparations must be applied not only on water bodies but also on neighbouring areas at least once per year. Organic manure, brought in to fertilize the pond water, has to be prepared with the Biodynamic compost preparations.

6.5.11.5 Manuring

Manuring helps control and enrich the development of the natural feed chain (mainly benthic & plankton-biomass) and thus supports the natural feed production of the pond. Acceptable substances are Biodynamic manure, hay, straw, matured or composted dung, offals from organic seed cleaning and other organic matter from certified organic agriculture.

6.5.11.6 Stocking

The population of a pond should mimic natural ecosystem conditions and thus a minimum of two omnivore and one carnivore species must be stocked. Intensive stocking and additional feeding of protein is not permitted.

Stocking number of all species is limited to the natural productivity of the pond as the basis. The natural yield is given by pond born feed production, oxygen supply, water temperature during the year and water supply. To give a basis for calculation for a pond system managed with supplemental feeding the stocking number of fish per hectare water surface is limited to a maximum of 3500 one year old carp (max 100 g) and 800 two year old carp (max 750 g) and 500 for each following year-class. As polyculture stocking is desired, the stocked numbers of further species may only replace not extend the fish numbers/weight of fish listed above.

If fish cannot reproduce themselves naturally in the climate of the production unit, they cannot be sold under the Demeter trademark.

6.5.11.7 Feeding

The feeding of carp and other cyprinid species shall be the natural feed supply of the pond biota, mainly plankton.

Only if additional supplementary feed is unavailable in Demeter quality are certified organic fodder types such as legume seed, oil seed cake and similar materials permitted. The maximum amount that may be fed is limited to two kilograms of supplement for each kilogram of harvested fish. 70% shall be grain.

Animal proteins or animal fats are not permitted as fodder.

6.5.11.8 Reproduction

Reproduction is based on natural spawning. For this reason, a spawning substrate must be provided. Reproduction and breeding conditions may be controlled in an artificial environment that mimics natural conditions and which is managed according to species needs and welfare requirements. Initial feeding in controlled conditions with live feed is permitted only up to eight weeks.

6.5.11.9 Transport of live fish

Fish are killed and processed preferably on the farm. If transportation of live fish is necessary the water must be cool and fresh and the containers isolated. Oxygen levels should be maintained according to the individual needs of the species. Feeding must have been stopped prior to transport.

Appendix 1 Calculation of the stocking rate

Manure units determine the stocking rate; the following table is provided to assist in the calculations of those units. One manure unit corresponds to 80 kg N and 70 kg P_2O_5. One livestock unit (e.g. a cow with a nominal live weight of 500 kg) excretes 0.7 manure units in a year.

Animal type	Livestock Unit/Animal
Breeding bulls	1.2
Cows	1.0
Cattle over 2 years old	1.0
Cattle 1-2 years old	0.7
Calves	0.3
Sheep and goats up to 1 year old	0.02
Sheep and goats over 1 year old	0.1
Horses under 3 years old, ponies and small breeds	0.7
Horses, 3 years and older	1.1
Pigs for meat production (20-50 kg)	0.06
Pigs for meat production (over 50 kg)	0.16
Breeding boars	0.3
Breeding sows (including piglets up to 20 kg)	0.55
Breeding sows without piglets	0.3
Piglets	0.02
Laying hens (without replacement stock)	0.0071
Pullets	0.0036
Table birds (chickens, cockerels for meat)	0.0036
Ducks for meat	0.005
Turkeys for meat	0.0071
Geese for meat	0.0036

Adjustments should be made according to breed and other factors (size, growth rate etc.)

The manure unit calculation should be based on the average number of animals stocked on the farm during the year.

Appendix 2 Allowed brought in feeds

The aim for each biodynamic farm is that it can provide enough fodder for all its animals. If this is not possible, then fodder from the farm should still provide the majority of feed for animals and care must be taken when fodder is brought in, applying the following priorities in the following order:

1. From Demeter certified enterprises when available
2. From Organic certified enterprises
3. From extensively managed areas (including nature reserves), which have had no use of synthetic fertilisers or plant protection chemicals

Please note **fodder** from **conventional agriculture** is **prohibited**.

In every case, the fodder must also meet the following requirements:

- Up to 50% DM of the fodder in an average ration may come from areas not yet fully certified (in conversion to Demeter).
- Up to 20% DM of the fodder in an average ration may come from organic areas.
- In conversion fodder and organic fodder taken together cannot exceed 50% of the daily intake.
- For pigs and poultry only the certifying organisation may approve the bringing in of up to 50% of organic feed if Demeter is not available and if the unavailability is documented (for criteria please see 4.1.3).

Every feed that is brought in to the farm must be **documented** and **declared** so that it is possible to assess whether this standard has been met.

a) Ruminant diets:

- Basic staple feeds like hay, straw, silage, maize and beets
- Grain, bran, husks etc.
- Pulses
- Hay made from foliage
- Herbs
- Molasses
- Grassland and arable products not mentioned elsewhere
- Fodder mixes containing the above mentioned ingredients
- Fruit and vegetables
- Milk, milk products and by-products of milk processing
-

b) Pigs – in addition to all listed in **a** above**:**

- Plant oils of natural origin (providing there are no residue concerns)
- Eggs
-

c) Poultry – in addition to all listed in **a** and **b** above**:**

- Milled, dried herbage
- Paprika powder

d) Emergencies only (and only with a derogation) -

The following conventionally produced, staple feeds may be brought in only in emergencies (e.g. unforeseeable occurrences such as natural catastrophes, damage due to fire etc.).

This can only be done when a **derogation** has been granted by the certifying organisation (App 24, see Appendix 7) and there must be documentation available to demonstrate that the fodder is **free from GMO**.

- Staple fodder such as hay, grass silage, as far as possible from enterprises of low production intensity
- Grain and by-products from grain processing and milling
- Legumes (no extraction cake)
- Oil seeds, oil press cake or expeller cake
- Fodder beet

Appendix 3 Processing of feed, extenders and additives

Processing methods for feed:

- All processing methods permitted for food according to this standard are also permitted for feed.
- Extrusion of soy beans is also allowed.

The following are allowed:

- Stock salt
- Calcified seaweed, feed lime, lime from seashells
- Seaweed
- Mixtures of minerals and vitamin preparations (= Premix: no individual amino acids, preferably of natural origin)
- Rock flour, Cod-liver oil (for non-herbivores only), carob
- Plant oils, bran, brewer's yeast, molasses as a carrier in mineral concentrates or as an aid to reduce dust, or as an aid in pressing (max. 2% of the production ration)
- For beekeeping: sugar (refer to Standards for Beekeeping and Hive Products for the use of Demeter, Biodynamic® and related Trademarks for the allowable limits).

Premixes must not **contain** or be **produced** with the use of **genetically modified organisms**, documentation of this must be available.

The following are allowed as aids in the **silage** making process:

- Feed grade sugar
- Grain meals from grain produced to these standards
- Lactic acid promotion agents
- Whey
- Molasses, salt, wet and dry cuttings

To ensure the quality of fodder in years with bad weather conditions:

- Organic acids (GMO-free)

Appendix 4 Permitted/Restricted Fertilisers and Soil Conditioners

Introduction

A biodynamic enterprise should aim for self-sufficiency in its manures and fertilisers. Bringing in fertilisers as listed below should only be done in order to meet the demands of production and soil health. Care should be taken in selecting materials so that the quality of Demeter products is not decreased and biodynamic preparations should be used whenever possible.

All brought in materials should be documented and declared. In some cases, the results of a residue test or PAS100 certification will be required (e.g. for compost from green material). Any fertilisers which are not listed here may only be used on a trial basis with the agreement of Demeter UK.

Table: Fertilisers and Soil Conditioners overview

Description	Additional requirements
1. Fertilisers and Soil Conditioners brought in from certified demeter or organic sources.	
Permitted	
▪ Compost. ▪ Stable manure, semi-liquid manures from animals (even after biogas extraction). ▪ Liquid manures from plants. ▪ Organic wastes (harvest residues etc.). ▪ Straw. ▪ Spent mushroom compost ▪ Residues from biogas extraction, only if the substrates are listed in this section and are from demeter or organic sources.	Please note that the use of inputs follows the general principles of availability (please see 3.1.3). Every input from Demeter farms can be used. Inputs from certified organic farms can be used as long as 3.1.2 and 3.1.3 have been applied (origin of raw materials and availability).
Prohibited	
In general this standard is designed as a positive list, if something is not specifically allowed, it is prohibited. If you need clarity, please contact Demeter UK.	
2. Fertilisers and Soil Conditioners brought in from non-certified sources or sources outside the scope of certification.	
Permitted	
Farmyard manure from extensive livestock or nomadic livestock	Extensive is defined as livestock less than 2.5 livestock units/ha and permanent daily access to outdo areas. The manure should be prepared

	(using the preparations) at the place of origin or on the farm itself.
Straw and other plant material	Please note that 3.1.2 and 3.1.3 still apply – the origin of raw material and availability.
Extracts and preparations fom plants	
Fish	Composted or fermented with the preparations. Testing for heavy metals may be required.
Seaweed products	To be used sparingly for reasons of resource depletion
Water soluble seaweed extracts	
Vegetable carbon	
Eggshells	
Fresh wood products and wood ash from untreated wood	Sawdust, bark and wood chips as long as they are not contaminated with fungicides and insecticides
Peat	▪ without synthetic additives ▪ for growing seedlings, ▪ in as far as no alternatives are available; ▪ to be used sparingly for reasons of resource depletion
Bruised castor seeds	
Composted municipal green waste	Acceptable residue levels – demonstrated by a test or PAS100 certificate
Microbial or plant-based compost activators	
Soil inoculates	

1. From Demeter or organic certified sources:

- Compost.
- Stable manure, semi-liquid manures from animals (even after biogas extraction).
- Liquid manures from plants.
- Organic wastes (harvest residues etc.).
- Straw.

2. From non-certified sources or sources outside of the scope of organic regulations:

- Manures - as far as possible prepared at the place of origin (liquid or semi-liquid manures of conventional origin are prohibited).

- Straw and other plant materials.
- Processing by-products (fertilisers made from pure horn, bone meal or meat-bone meal, dried blood, where possible from organic or biodynamic certified stock*, hair and feather, and other similar products) - as an addition to farmyard manure that is composted with the preparations.
- Fish - composted or fermented with the preparations. (Testing for heavy metals may be required.) Factory fishmeal or fish wastes from fish farming are prohibited.
- Fresh wood products: sawdust, bark, and wood wastes (as long as they are not contaminated with fungicides and insecticides) and wood ash from untreated wood
- Fermented molasses*.
- Bruised castor seeds.
- Seaweed products.
- Peat without synthetic additives for growing seedlings, only when alternatives are not available.

  (Seaweed products and peat should be used sparingly to avoid resource depletion.)

3. Natural mineral origin:

- Rock dusts (composition must be known).
- Pulverised clays (e.g. bentonite).
- Calcium chloride ($CaCl_2$; against bitter pip in apples).
- Lime fertiliser - slow release types should be used (dolomite, calcium carbonate, seashells, calcified seaweed - only from dead marine deposits or fossil forms on land). Fast release: **quicklime*** is permitted for disinfection purposes only.

4. Only if the results of soil testing, tissue/leaf analysis or other deficiencies are documented may the following materials be used:

- Natural phosphate rock, low in heavy metals.
- Ground basic slag.
- Potassium salts, Potassium magnesium sulphate and potassium sulphate (with a maximum chloride content of 3%), only minerals from natural sources (only physical separation of the salts is allowed).
- Magnesium sulphate.
- Sulphur.
- Trace elements.

5. Miscellaneous:

- Water soluble seaweed extracts.

- Extracts and preparations from plants.
- Microbial or plant based compost activators.
- Humic and fulvic acids.
- Soil inoculates (e.g. alga extract, grain ferments, N-fixing bacteria, Mycorrhiza, Rhizobia bacteria).
- Seed aids (e.g. rock flour, naturally occurring polymers).
- Fertiliser additives (e.g. calcium carbonate, zeolite).

6. Substrates, soils, pots and technical aids

- Degradable pots.
- Degradable binding material.
- Substrate for pressed pots (according to this standard).
- Cultivation substrate (according to this standard).
- Substrate additives (vermiculite, lava rock, perlite).

*) In as far as it meets the requirements of Annex I EC regulation 834/2007 and 889/2008 or in the case of bone meal or meat-bone meal fulfils the requirements of the EC Regulation 1069/2009 for Category 3.

Appendix 5 Allowed materials and methods for plant care and protection

The materials listed below may only be used in cases of documented need and only when biodynamic measures (such as the use of peppers or the frequent use of horn silica) are not sufficient to address the difficulties.

Some of the materials listed below (such as microfine sulphur or pyrethrum) have the potential to endanger predator insect populations and therefore should be used with care.

New materials and methods may be used under trial conditions but only with the agreement of the Demeter International Standards Committee.

If commercial products are used, care must be taken that they are free from constituents prohibited in this standard and are not produced by transgenic methods.

1. Biological agents and technologies

- Natural control agents for plant pests (predator populations of mites, parasitic wasps etc.).
- Sterilised male insects.
- Insect traps (coloured boards, sticky traps and attractants).
- Pheromones (in traps and dispensers).
- Mechanical repellents (such as traps, slug and snail fences).
- Repellents (non-synthetic agents to deter pests) – application is only allowed on the part of plants that is not for human or animal consumption.
- Insect lime
-

2. Materials to promote plant health, adhesion aids

Preparations that promote plant disease resistance, and inhibit pest and diseases e.g.:

- Plant preparations (Stinging nettle liquid manure, equisetum tea, wormwood tea etc.), propolis, milk and milk products, homeopathic preparations.
- Sodium, potassium or aluminium silicate (includes water glass and quartz sand).
- Chitosan
- Additives: Adhesion aids, wetting aids, emulsifiers, oil
- Additional products approved by the Demeter International Standards Committee
-

3. Agents for use against fungal attack

- Sulphur – wettable sulphur and flowers of sulphur.
- Sodium or potassium silicate.
- Potassium bicarbonate*
- Sodium bicarbonate*
- Tea Tree Oil (Melaleuca alternifolia)
- Microorganisms/bacterial preparations
-

4. Agents for pest control

- Microorganisms, viral, fungal and bacterial preparations (e.g. Bacillus thuringiensis, Granulose virus, spinosad) with the approval of the certifying organisation.
- Natural pyrethrum extracts and powder are allowed under the following circumstances:
- They do not include synthetic pyrethrums.

- Not for **mushroom** production.
- As **pest control** in storage only if **no chemical synergists** are included.
- In agricultural production if **no chemical synergists** are included and with a **derogation** from Demeter UK (APP 7A, Appendix 7).
- Quassia tea.
- Vegetable oil emulsions (without synthetic chemical insecticides) – for all crops.
- Mineral oil emulsions (without synthetic chemical insecticides) may be used if effective plant oils are not available - only for perennial crops and only before flowering (plants that flower all year are exempt).
- Potassium soaps (soft soap)*, fatty acids.
- Gelatine* hydrolysed proteins.
- Iron (III) orthophosphate (Molluscicide)*.
- Azadirachtin (Neem - insecticide)*.
- Anti-coagulant rodenticide is permitted for use in stables or other housing (only in bait-boxes or similar equivalent so that predators are not jeopardised).
- Rock flour*, coffee*.
- Agents for use in stables and on animals: Diatomaceous earth, sticky fly-tapes, etheric oils.
-

5. Allowed aids on specialised crops, perennial crops and ornamental plants

- Diatomaceous earth*.
- Calcium hydroxide.
- Copper may be used if the need is demonstrated, so that the average amount used over **5 years** does not exceed **3 kg/ha/year**, preferably with a maximum of 500g/ha/spray. Demeter UK may grant a derogation for the use of an average amount up to 4 kg/ha/year – this is restricted to grapes and hops only (APP 25: see Appendix 7).
- Sulphur preparations such as Hepar Sulphuris* and lime sulphur (fungicide, insecticide, acaricide)*.
- Ethylene for flower induction in pineapples.

* In as far as it meets the requirements of Annex II, EC regulation 834/2007 and 889/2008.

Appendix 6 Approval of derogations (APP)

The following derogations are foreseen in the Demeter International Standard, and can be approved by the national organisation. All approved derogations are to be listed and reported annually to the AC.

App No.	Description	Section
1	Bringing in seeds of untreated, conventional origin or propagation material of conventional origin	**6.1.2.2.**
1A	Bringing in manure from animals fed GMO fodder	**6.1.3.2.**
1B	Heat treatment of glasshouse soils	**6.1.5.5.**
1C	Sterilisation of growing substrate for mushrooms, growing substrate and potting mixes	**6.1.7.6**
2	Soil kept free of vegetation for perennial crops	**6.1.6.**

3	New crops and production methods (e.g. new fertilisers, plant protection and plant care agents)	**6.1.1./6.1.4./Appendices 4 and 5**
3A	Commerical potting mix not fulfilling the requirements	**6.1.6.1**
4	Clearing of high value conservation areas	**6.1.9.1.**
4A	No preparations used on steep and inaccessible land	**6.2., 6.3.6.6.**
4B	Lower horn silica spraying frequency on unmowed pasture	**6.2**
5	No animals carried by the enterprise (ruminants or equidae)	**6.3.2.**
5A	Cooperation between farms	**6.3.4.**
6	Tying up of livestock	**6.3.7.**
7	Use of Spinosad in pest control	**Appendix 5**
7A	Use of pyrethrum in agricultural production	**Appendix 5**
8	Requirements governing housing	**6.3.5.**
9	Lack of open air runs for cattle (not possible in the UK)	**6.3.7.1.**
10	Lack of open air runs for fattening pigs	**7.3.7.3.**
11	Dehorning, disbudding, tail docking and castration of livestock	**6.3.7.1 – 7.3.7.3**
12	Poultry housing existing prior to June 2013	**6.3.7.5.**
13	Limit on imported organic feeds	**6.3.6.**
14	Brought in feeds	**6.3.6.**
14a	Silage fed to dairy ruminants	**6.3.6.1.1**
15	Guest animals	**6.3.6.6.**
16	Community Pasture	**6.3.6.5.**
17	Conventional feed for poultry	**6.3.6., 6.3.6.3.**
18	Brought in stock	**6.3.5.3.1.**
19	Bringing in piglets of conventional origin	**6.3.5.3.1.**
20	Bringing in meat cockerels of conventional origin	**6.3.5.3.1.**
21	Progressive conversion of farm areas	**3.6**
22	The same variety on certified and conventional areas of the enterprise (parallel production): only for perennials	**3.6**
23	Longer conversion time (more than five years)	**3.6**
24	Bringing in conventional fodder in cases of need	**6.3.6**.
25	To use an average amount of up to 3 kg/ha/year of copper over 5 years	**Appendix 5**

An application for a derogation that is not foreseen must comply with the “Procedure to gain a country derogation”.

Appendix 7 Minimum age at slaughter for poultry

species	Minimum age (days)
Chickens	81
Peking ducks	49
female Muscovy ducks	70
male Muscovy ducks	84
Mallard ducks	92
Guinea fowl	94
Turkeys and roasting Geese	140

Appendix 8 Biodynamic preparations

Quality assurance for the production of the biodynamic preparations

This appendix gives guidelines for the production and use of the biodynamic preparations. The appendix acts as **guidance** and **recommendations** for good practice. The use of the biodynamic preparations is essential to biodynamic practice and are **required** for Demeter certification as specified in Section 7.4.

General principles

The biodynamic compost and spray preparations (=“preparations”) are made out of natural and organic substances and are used in minute doses to support the self-regulation of biological systems with the following aims: enhancing soil life, increasing plant resilience and quality, and improving animal health. In addition, the preparations aim to support the integration and connection of the elements in the farm’s whole biological cycle.

The production of preparations ideally takes place on the farm, and as many materials as possible should be sourced from the farm itself.

The biodynamic preparations work with living biological processes and with the aid of natural rhythms (e.g. winter soil rest and summer soil life). The method of production involves taking certain plant materials (e.g. camomile flowers, grated oak bark and dandelion flowers), cow manure or ground quartz, placing them in selected animal organs and fermenting them in the soil for certain period of time, usually half a year.

Produced in this unique way, the preparations develop a subtle strength, the effect of which can be compared to that of homeopathic remedies.

The animal organs have been chosen with their former function in mind. Their role in the preparations is to concentrate the constructive and formative forces in combination with plant material to make the substance of the preparations.

Materials required for making the biodynamic preparations

The following materials are used in the production of the biodynamic preparations and the estimated quantities of organ material required per acre.			
Preparation	Material	Animal Organ	Quantity/year
Field Sprays:			
Horn manure	Cow manure	Cow horn	1 Horn / ha (*1)
Horn silica	Quartz meal	Cow horn	1 Horn / 25 ha
Compost Preparations:			
Camomile	Flowers	Intestine (2*)	30 cm / 100 ha
Oak Bark	Bark	Skull (3*)	1 skull / 300 ha
Dandelion	Flowers	Peritoneum (4*)	30 x 30 cm / 100 ha
Not affected by Regulation (EC) 1774/2002:			
Yarrow	Flowers	Stag's bladder (5*)	1 bladder / 250 ha
Stinging nettle	whole plant	none	
Valerian	Flower extract	none	
Notes: **(1*): use up to 5 times** **(2*): Bovine intestine, from BSE free countries** **(3*): Skull (only bone) from cows (< 1 year old), pigs or horses** **(4*): Bovine peritoneum** **(5*): Stag's Bladder (not originated from North America)**			

Application rates

- Horn manure (or prepared horn manure 500P) should be applied at the start of the vegetative phase or after the harvest of the crop at the rate of 50-300 g/ha.
- Horn silica should be sprayed as plant development dictates at the rate of 2.5-5g/ha.
- Compost preparations - 1-2 cm^3 each per 10 m^3 of compost or deep litter manure/slurry

For full details on the application and use of the biodynamic preparations see section 6.2.

Origin and treatment of animal material

Animal materials for the preparations should be sourced from fully certified Demeter or organic animals, originating from the farm wherever possible. Organs may be use either fresh or dried they should not be treated with disinfectants.

All animal organs (except stag's bladder and horns) should be of food quality standard (category 3 qualified for food according to Regulation (EC) 1774/2002). After the production of the preparation is complete, any remaining residues should be disposed of according to regulatory requirements.

Currently bovine intestines can only be used from BSE free countries.

For the oak bark preparation, the skull should be prepared by leaving it in a closed container full of sawdust. This allows microbial maceration to take place, cleaning the skull of any fleshy remains. As with all animal materials, once the preparation production is complete, the skull should be disposed of properly.

During the production process, the preparations should be protected from unintentional disturbance (e.g. by wild animals) (through the use of unglazed pots, careful fencing etc.).

Risk assessment

The application of the biodynamic preparations presents no additional risk, because

- the organ material used is of food standard quality (skull, bovine intestine, peritoneum) or permitted fertiliser (horn).
- Remaining material is removed and disposed of when production is complete.
- Biological stabilisation and the neutralisation of pathogens takes place during the half-year fermentation period.
- The amounts used of prepared substance applied are extremely small (very few grams per acre),
- The compost preparations are applied to the manure and compost and not directly on the plants.

Considering the extremely small quantities used and the natural micro-biological breakdown processes involved, the production and application of these preparations is virtually risk free.

Recommended literature:

Raupp, J. & U. J. König (1996): Biodynamic preparations cause opposite yield effects depending upon yield levels. Biol. Agric. & Hort. 13, 175-188

Wistinghausen, C.v.; Scheibe, W.; Wistinghausen, E.v.; König, U.J. (2000): The Biodynamic Spray and Compost Preparations Production Methods. Booklet, Vol. 1, Stroud; 1st Ed.

Wistinghausen, C.v.; Scheibe, W.; Heilmann, H.; Wistinghausen, E.v.; König, U.J. (2003): The Biodynamic Spray and Compost Preparations Directions for Use. Booklet, Vol. 2, Stroud; 1st Ed.

The use of the biodynamic preparations are permitted under article 12 (1) c) of EC regulation 834/2007.

7 Product Standards for Demeter product categories

February 2020

7.1 Packaging

7.1.1 Scope

The present standards apply to packaging of products that are introduced into the supply chain with the aim of retail trade in particular consumer packaging. Production-related packaging, secondary packaging (grouping, display) and tertiary packaging (transport) are not within the scope of this standard. However they should also be taken into account as far as possible.

Please note this is the general packaging section, product specific sections may define further restrictions.

7.1.2 General principles

This section is currently being developed. If you already use packaging that is not listed here, or if you would like to use unlisted packaging, please contact Demeter UK.

Packaging of Demeter products should be as environmentally friend as possible, at a minimum this means:

- Packaging should be minimised, any packaging which suggests the impression of a larger volume should not be used.
- Wherever possible reusable or at least recyclable materials should be used.
- Packing small units inside an overall larger package should be avoided.

7.1.3 Explicitly prohibited

- **Nanomaterials** in packaging or coatings of packaging is prohibited. At present, the legal provisions regarding the labelling of nanomaterials are insufficient. If you have any concerns, please contact your manufacturer or request a declaration that packaging is free of nanomaterials. (Nanoscale particles can be found in packaging, for example, in products with special antibacterial coatings, special properties with regard to the migration of gases and surfaces with special adhesion properties.)
- Packaging materials must not contain **mould protection agents**.
- Coatings, dyes or inks that contain **phthalates** if they will be in direct contact with foodstuffs are not permitted.
- **Polyvinyl chloride** (PVC) and **chlorinated** packaging in general is not permitted.
- Packaging material must not be made from materials or substances that contain, have been derived from, or manufactured using, **genetically modified organisms** or **genetically engineered enzymes**. This applies in particular to bio-based plastics produced from genetically modified renewable raw materials.
- Synthetic coatings for cheese if they contain **fungicides** are not permitted.

7.1.4 Approved and approved with restrictions

Abr.	Product group / standard section	Abr.	Product group / standard section
BB	Bread and bakery (cakes and pastries)	FV	Fruits and vegetables
MI	Milk and dairy products	Oil	Cooking oils and fats
S	Sugar, Sweetening agents, confectionary, ice-cream and chocolate	IMF	Infant milk formula
MS	Meat and meat products	HS	Herbs and spices
COS	Cosmetic and personal care products	G	Grain, soy products, cereal products and pasta
W	Wine and sparkling wine	B	Beer
A	Alcoholic spirits and alcohol for further processing	CFW	Cider, fruit wines and vinegar
SCN	Soy products, cereal and nut drinks		

Packaging	Product group	Comments / restriction	
Paper			
Paper	All	Bleached paper or cardboard must be totally chlorine free (TCF) or elemental chlorine free (ECF). Recycled paper must be process chlorine free (PCF); from recycled paper and cardboard packaging, mineral oil compounds can migrate from the printing inks of the raw material into the product. Especially with products containing fat and oil and products with a long shelf life, you should consult your supplier regarding avoidance and possible barriers. This applies to all paper packaging.	
Waxed paper	All		
PE-coated paper	All		
Cardboard/Carton/Pressboard	All		
Carton packaging/PE	All	Coated with polyethylene on one or both sides	
Pergamin / parchment paper	All		
Aluminium			
Aluminium Foil	All (exc.wine)	If technically unavoidable (for clarity please contact Demeter UK)	
Aluminium composite (with cardboard, PE)	FV, MI, SCN	For fresh milk and beverages, fluid products	
Aluminium tubes	FV, Oil	Only for mustard, horseradish, mayonnaise	
Mineral oil based plastics			
Polyethylene (PE)	All (exc.wine)	each individually and in combination	Please notice possible restrictions in product standards
Polypropylene (PP)	All (exc.wine)		
Polyamide (PA)	FV, G, MS		
Polyacrylic	G	Please notice possible restrictions in product standards	
Polystyrol/Polystyrene (PS)	MI	Only K3-Beakers in combination with cardboard sleeves	
Polyethylene Terephthalate (PET)	FW; MI	Only for beverages, only within the framework of returnable systems	
	MS; MI, G	Only for thermoforming sheets	
Cellulose hydrate / cellophane	S, G	Individually, in combination or as coating	

Packaging	Product group	Comments / restriction
Bio-based plastics / technical biopolymers		
Polyethylene (PE)	All	In the overall view, bio-based plastics generally offer no environmentally relevant advantages. In any case the material must not contain genetically modified renewable raw materials or are made from them
Cellulose acetate (CA)	All (exc.wine)	
Compostable or biodegradable primary packaging		
Starch plastics (starch blends, polymer raw material, polyvinyl alcohol/PVAL, thermoplastic starch)	All (exc.wine)	If conforms with the European standard for compostable packaging (EN13432). In any case the material must not contain genetically modified renewable raw materials or are made from them.
Polylactic acid (PLA)		
Cellulose products		
Polyhydroxy fatty acids (PHF)		
Other materials		
Earthenware	All	
Sheet metal and tinplate	All (exc.wine)	welded and not soldered
Glass	All	

7.2 Fruit and vegetables

March 2022

7.2.1 Scope

This section applies to the processing of fruits and vegetables including mushrooms, potatoes and potato products. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Aids, additives, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for fruit and vegetables are detailed in this section.

7.2.2 Fruit

7.2.2.1 Permitted processes – fruit

- Preliminary wash with tap water, final wash with pure drinking water.
- Mechanical chopping or homogenisation.
- Heat treatments (such as **pasteurisation**, **sterilisation** and **autoclaving**) as required to achieve microbial stability and as needed for shelf life – the most gentle process should be used. (If you are unsure, please consult your certifying organisation.)
- Production of **fruit juice concentrates** from fruit juices or unrefined juice extracts without additional sweetening.
- Production of nectar from stone fruit and pip fruit (as well as wild fruits and berries, if wild fruits and berries are included, they must be treated as an organic ingredient).
- The production of fruit syrups.
- **Aseptic filling** is possible and desirable. Steaming should be achieved using multistage downdraught and/or thin film evaporator, if possible under vacuum, e.g. in a vacuum steamer.

7.2.2.2 Prohibited processes – fruit

- Juice reconstituted from **concentrates**.
- Sweetening of **paste** and **plum**.

7.2.2.3 Permitted additives and aids - fruit

- **Sweetening of fruit preserves** - the bottling liquid may be prepared using food grade honey, whole cane sugar or raw sugar. For nutritional reasons these additives should be used in the lowest concentrations possible.
- Pulp from **sour fruits** may be sweetened with honey or sugar.
- All treatments of fruit with **natural acids** like lemon juice concentrate or lactic acid
- Fruit spreads may use **Pectin** (E 440a, non- amidated), **Agar-agar** (E 406; without phosphates or calcium sulphate, not preserved with sulphur dioxide) and **Carob bean gum** (E 410).
- Native **starch** and pre-gelatinised starch as an ingredient.
- **Enzymes** must meet the requirements listed in table 4.3.
- **Plant oils and fats** (non-hydrogenated) as non-stick agents for dried fruit.
- **Alum** to stop latex flow from the cut surface of the banana bunches.
- **Ethylene** can be used for the ripening of bananas.
- **Diatomaceous earth**, **bentonite** and **gelatine** for fining, clarifying and filtering of fruit juices.
- **Plant proteins** (e.g. pea protein) for cosmetic reasons, clarification and fining is permitted (**needs written permission from Demeter UK**).
- The addition of **saccharose** in dried form, or as syrup is not permitted.

7.2.3 Vegetables (including potatoes and mushrooms)

7.2.3.1 Permitted processes – vegetables

- Preliminary wash with tap water, final wash with drinking water.
- Mechanical peeling methods are allowed for those vegetables whose skin is not suitable for eating.
- Heat treatments (such as **pasteurisation**, **sterilisation** and **autoclaving**) as required to achieve microbial stability and as needed for shelf life – the most gentle process should be used. (If you are unsure, please consult your certifying organisation.)
- **Aseptic filling** is possible and desirable. Steaming should be achieved using multistage downdraught and/or thin film evaporator, if possible under vacuum, e.g. in a vacuum steamer.

7.2.3.2 Prohibited processes – vegetables

- Freezing vegetables **with added liquids.**

7.2.3.3 Permitted additives and aids – vegetables

- All treatments of vegetables with **natural acids** like lemon juice concentrate, vinegar or lactic acid.
- **Diatomaceous earth** is permitted.
- **Tomato paste** is produced from pulp by water reduction using heat – fresh pulp may be added to adjust dry matter content.
- For vegetables preserved with lactic acid, **starter cultures** and the addition of sugar up to 1% is allowed.

7.2.4 Packaging – fruits and vegetables

The general rules apply, in addition:

Packaging of fresh fruit and vegetables in **mineral oil based** or **bio-plastics** are **prohibited**, this also applies to packaging which **contains** these substances. Biodegradable plastic can be used as a transition, but will be excluded in the near future.

7.3 Bread, cakes and pastries

March 2022

7.3.1 Scope

This section applies to the processing of bread, cakes and pastries. For details applying to cereals and cereal products, please see section 7.4. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Aids, additives, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for bread, cakes and pastries are detailed in this section.

7.3.2 General principles – Bread, cakes and pastries

Demeter Bread and bakery products, whether wrapped or loose, must be accompanied by a list of ingredients and additives (including any baking improvers and any additives they contain) which is available to all customers, retailers and distributors.

7.3.3 Processes – bread, cakes and pastries

7.3.3.1 Permitted processes

- The baker can decide whether to bake freshly milled flour, or flour that has been stored for some time.
- For reasons of working technique the prolonging or interrupting of the rising process in the production by cooling or freezing is allowed. It should be specified in the recipe (MIPS form).
- When acquiring a new baking oven, gas fired is preferable to electrical or oil fired, from an environmental point of view.
- Baking tins and trays made of **steel**, **stainless steel**, or **glass** may be used.
- **Coated tins** and **trays** must be pre-treated according to product specifications. Even small imperfections in a treated surface mean that such **coated steels may no longer be used**.
- **Baking paper** and **baking foil** may only be used to prevent sticking of small bakery items (e.g. salt pretzel, buns, biscuits etc.).

7.3.3.2 Prohibited processes

- **Baking in foil**.
- Single use **baking forms** made of aluminium.
- Baking in **high frequency infra-red ovens**.
- Finished bread and bakery products may not be **frozen and defrosted** before sale.

7.3.4 Ingredients, additives and aids – bread, cakes and pastries

7.3.4.1 Permitted ingredients, additives and aids

- Each country should decide whether **baking improvers** are needed and which may be used, based on the quality of the cereals available. All baking improvers used in Demeter baked products require approval by Demeter UK (confirmation that they meet this standard).
- **Conventional** baking improvers may only contain ingredients and additives listed in this section.
- **Fruit juices**, **malt** and **soya flour** as well as **acerola powder** are permitted as baking improvers in the production of all bakery items.
- **Wheat gluten** may be used as baking improver, but only for bakery products containing wheat and only for small bakery items like baguette, rusks and toast.
- Permitted chemical **raising agents** are: **sodium or potassium bicarbonate**, with or without **tartaric acid**, **sodium** or **potassium tartrate** (E 334/335/336 and E 500/501) in any combination. Grain starch is the only permitted carrier.
- **Raising agents from micro-organisms** may be used: baking ferments, sourdough and yeast.

- Sourdough - culturing acid may be used as a starter only in the first stage for sourdough, the aim is to develop a multi-stage process without the use of yeast.
- Yeast – priority should be given to using organic yeasts, if this is not possible then yeast raised on organic substrates and only as a last resort should conventional yeast be used.

- **Lecithin** as an additive for chocolate coating is permitted.
- Approved setting agents are **agar-agar** (E406) and **non-amidated pectin** (E 440a).
- **Gelatine** may be used only for setting yoghurt, cottage cheese and cream.
- **Peanut and palm oils** at least in organic quality are permitted only for deep-frying.
- A four per cent solution of **sodium hydroxide**, E 524, is allowed in the production of Pretzel and other similar bakery products.
- **Flavourings** for use in cakes and pastries are limited to pure essential oils or pure extracts identical with the parent material.
- Suitable **non-stick agents** are flour (from grains), plant oils and fats, butter and other animal fats. Wood flour, magnesium oxide and non-stick emulsions are not permitted. Wax is only allowed until a suitable replacement material is found.

7.3.4.2 Prohibited ingredients, additives and aids

- As a blanket rule **dried milk** products may not be used.

7.4 Grain, cereal products and pasta

March 2022

7.4.1 Scope

This section applies to the processing of grains, milled grain, and grain flakes, including pseudocereals such as buckwheat, quinoa and amaranth. It also applies to products made from the above, e.g. malted grains, breakfast cereals (muesli), baking mixtures, dry mixtures with substantial grain percentage (rissoles, patties, risotto), coffee substitutes from grain, “native” starch and pre-gelatinised starch.

For details applying to bread, cakes and pastry, please see section 7.3.

This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK. Aids, additives, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard.

Extrusion techniques are defined as:

- “shaping extrusion” - any kind of gentle, cold pressing of substances through a die to shape the substance.
- “modifying extrusion” – shaping by means of high pressure and or high temperature, whereby not only the physical shape of the product is influenced, but also the specifications and qualities of the original material.

As these technologies can often not be clearly separated in accordance to the processed material, an upper limit of 75 °C and 90 bar for shaping extrusion is defined.

7.4.2 Processes – grain, cereal products and pasta

7.4.2.1 Permitted processes

- **Cereal mills** made with **natural** or **artificial stones**, or **steel rollers** may be used. When buying a mill, stone mills are preferable.
- **Parboiling of Demeter rice**.
- Shaping extrusion.

7.4.2.2 Prohibited processes

- **Hammer mills** are prohibited for milling of grain due to the possibility of raised temperatures which negatively affect quality, however if the mill is hammer-based and an effective cooling system is in place to guard against this, hammer mills may be used.
- The production of **modified starch** using chemicals or enzymes.
- Modifying extrusion.

7.4.3 Ingredients, additives and aids – grain, cereal products and pasta

7.4.3.1 Permitted ingredients, additives and aids

- For **filled products** (pasta for example) the filling must meet the specific section of these standards (e.g. for fruits and vegetables or meat and meat products).
- **Ready to use baking mixtures may contain the following cultures of micro-organisms**: sourdough, dried sourdough granules, yeast, and yeast products. Preference should be given to cultures raised on organic substrate.
- **Ready to use baking mixtures** may contain the following **chemical raising agents**: **sodium** or **potassium bicarbonate**, with or without **tartaric acid**, **sodium** or **potassium tartrate** (E 334/335/336 and E 500/501) in any combination. Grain starch is the only permitted carrier.
- **Flavours** must be from certified organic production at a minimum.
- Permitted **processing aids** are nitrogen (N_2), carbon dioxide (CO_2) and all other aids without special restriction to product groups according to the general requirements detailed in section 4.3.
- **Sodium hydroxide** (NaOH) is permitted to adjust pH in the production of starch.

7.5 Herbs and Spices

March 2022

7.5.1 Scope

This section applies to the processing of herbs and spices. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Aids, additives, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for herbs and spices are detailed in this section.

7.5.2 General principles and allowed processes – herbs and spices

Throughout the processing of herbs and spices, impeccable cleanliness is of paramount importance from start to finish. At harvest, herbs and spices should be free from obvious disease, dead tissue, damage and decay. Herbs and spices should not come into contact with the soil during harvest to avoid microbial contamination. If washing is necessary, drinking water (without any additives) must be used and removed as completely as possible before further processing.

Drying should be done as gently as possible in order to maintain maximum quality and should be carried out using the optimum conditions (including temperature) for each particular product. The use of solar energy and energy saving processes is expressly advocated.

Chopping of herbs and spices is always accompanied by a loss of etheric oils, therefore whenever possible, herbs and spices should be marketed either whole or coarsely chopped.

The usual milling and slicing machinery and methods may be used for size reduction. If dust is produced in the process, then this must be extracted, with the air being purified before release.

7.5.2.1 Allowed processes

- **Direct drying by sunlight** in the field or on the ground as a way of reducing the harvest time by wilting the swathe is permitted **only** for fruit and medicinal seeds (e.g. caraway, fennel, etc.)
- **Artificial drying processes** on conveyor belts or shelves, using vacuum, freeze drying, or condensation methods
- **Deep freezing** and **drying with electrolytes** (chemical water extraction) is allowed, but the only permitted electrolyte is salt.
- **Pickling** in plant oils or vinegar of Demeter quality or certified organic quality
- **Disinfection methods** - the use of dry or moist heat. Disinfection using super-heated steam, in cases in which this is technically possible, is preferable to other heat treatment methods. Generally, treatments using a high temperature for a short time are the most effective (e.g. 105-115°C for 2-5 minutes).

7.5.3 Ingredients, additives and aids – herbs and spices

7.5.3.1 Permitted ingredients, additives and aids

- Calcium carbonate (E 170) as a releasing agent
- Carbon dioxide and Nitrogen for sterilisation and cold grinding

7.6 Meat and meat products

March 2022

7.6.1 Scope

This section applies to the processing of meat and meat products. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Aids, additives, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for meat and meat products are detailed in this section.

7.6.2 General principles – meat and meat products

The slaughtering of animals requires particular attention. Please see 6.3.10.

7.6.3 Processes – meat and meat products

7.6.3.1 Permitted processes

- **Immersion substances** as per the general requirements.
- **Dry curing** and **brine bath curing**, with the brine bath containing any type of salt mentioned in 3.3., may be with or without spices.
- Cooling down in steps and rapid cooling using cold air.
- To prevent clotting, if the blood cannot be processed directly, it can be hit with metal rods.
- Cold and warm smoking (< 70°C) is permitted. Wood may be burnt either directly in the smoking chamber or outside the smoking chamber in a suitable facility. Individual sausage types determine the exact method required.
- Full preservation.
- Full preservation in **cans** with **lacquered** internal and external surfaces. **White metal** cans may be used, but the use of **glass** is preferred. The cans may be welded but only without solder.
-

7.6.3.2 Prohibited processes

- The use of **tenderising materials**, or of electrical treatments to tenderise the meat.
- Containers made of plastic, aluminium, or plastic-aluminium laminates.
- Welded cans with **solder.**
- Carcasses may not be sprayed with **brine solution** or **food-grade acid.**
- Production of **pressed meat** using off-cuts of meat.

7.6.4 Ingredients, additives and aids – meat and meat products

7.6.4.1 Permitted ingredients, aids and additives

- **Permitted smoking agents** are suitable native wood types (such as wood, shavings or sawdust, preferably from beech, oak and plane trees, pine cones, herbs and other types of plants such as juniper, heather, branches, conifer cones and spices)
- **Natural casings** and intestines may be treated with **lactic acid** or vinegar and cooking salt.
- **Artificial casings** - if they are declared on the label
- **Citrates** are **only** permitted in the production of scalded sausage if it is not possible to process the meat warm.
- **Aspic powder** in organic quality
- **Starter cultures** are for use in sausages to be eaten raw
- **Mould cultures** not from genetically modified micro-organisms

7.6.4.2 Prohibited ingredients, aids and additives

- **Flavour enhancers including extracts of spices, extracts of meat and yeast.**
- For herbs and spices used as ingredients, **irradiation** and/or **methyl bromide** must not have been used to disinfect. The processor must obtain **written confirmation** that these have not been used.
- The use of **nitrite salts**, **E 252 saltpetre**, **E 300 ascorbic acid**, **E 575** (Glucono-delta-lactone : GdL) or **food-grade acid** in the production of salt cured meat.
- The use of **milk protein**, **dried milk products** and other cutting aids.
- **Citrates** in general, dried **blood plasma**, blood plasma, or **blood serum.**

7.7 Milk and dairy products

March 2022

7.7.1 Scope

This section applies to the processing of milk and dairy products. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Additives, aids, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for milk, cooking milk and dairy products are detailed in this section. Specific requirements for infant milk formula are detailed in section 7.8. Specific requirements for ice cream, sorbets and frozen yoghurt production are detailed in Section 7.10.

7.7.2 General principles – milk and dairy products

Demeter milk must be transported either in specific milk trucks or tanks devoted solely to Demeter milk. Transport is also possible in Demeter labelled cans, or may be delivered directly from the farm to the dairy. Please also see section 2.6.6 separation of goods.

Demeter milk should be kept whole and fresh in order to maintain its quality all the way to the consumer.

7.7.3 Processes – milk and milk products

7.7.3.1 Permitted processes

- The legally permitted **pasteurisation methods**, to a maximum temperature of **80° C**, may be used to pasteurise milk. After treatment the milk must have a positive peroxidase index. The same applies in principle to all processed milk products.
- Milk labelled Demeter may only have a maximum **homogenisation degree** of **30%** (measured with an homogenisation pipette, according to the NIZO method).
- Full fat milk labelled **"non-homogenised"**, may only have a maximum **homogenisation degree** of **10%.**
- **Fresh and curd cheese** may be produced with the addition of starter cultures, calcium chloride and rennet. The utilisation of whey proteins using methods such as **thermo-curd methods** and **ultrafine filtration** are permitted.
- **Sour milk cheese** may only be manufactured from sour milk curd cheese.
- **Yoghurt** may be partially homogenized by means of a centrifuge. The following options are allowed in order to increase **dry matter**:
  - Addition of powdered milk
  - Evaporating under vacuum
  - Evaporating in a downdraft, multi-stage evaporator
  - Ultrafiltration

- Reverse osmosis
- **Uncoloured beeswax, natural hard paraffin wax** and **microcrystalline waxes** can be used as coatings for hard, semi-hard and sliceable cheeses (either individually or mixed with each other). Natural hard paraffin wax and microcrystalline wax may contain no other additives such as polyethylene, short chain polyolefine, polyisobutylene, butyl or cyclic rubber.
- **Plastic film** is provisionally permitted for covering the outer layer of semi-hard or sliceable cheese, as long as it is free **from potassium sorbate, calcium sorbate and natamycin**. (This is permitted only until a suitable replacement material or method is found).
- The production of **dried milk products** from Demeter milk and milk products is permitted (e.g. whole milk powder, skim milk powder, buttermilk powder, whey powder).
- Milk powder from **horses** and **goats** may be marketed as Demeter products.
- Milk powder from **cow's milk**, is permitted **only as an ingredient** in processed products.
- Bacteria may also be removed by **bactofuging**, but the material that has been separated out may no longer be used.
-

7.7.3.2 Prohibited processes

- Heat processes such as **sterilisation UHT (Ultra high temperature) or ESL (extended shelf life) treatments.**
- **Homogenisation degree** over **30%** for Demeter labelled milk, or **10%** for Demeter non-homogenised milk.
- For **sour milk products** (yoghurt, kefir and buttermilk) homogenisation by means of an homogeniser.
- **Centrifugal whey separation** methods.
- **Aluminium vats** for storage or processing.
- **Indirectly acidified** butter, made according to the NIZO method (The other common methods of butter manufacture are allowed).

7.7.4 Ingredients, additives and aids – milk and milk products

7.7.4.1 Permitted ingredients, additives and aids

- **Starter cultures** (also direct starters) may be used. Culturing (and multiplication) must take place in Demeter milk. The use of cultures that have not been grown on milk (e.g. moulds) may be used for specific recipes.
- **Rennet** of calves, microbial rennet, rennet-pepsin mixtures (calf rennet), acid starters and plant extracts (Artichokes, Ladies' bedstraw – Gallium verum) may be used to curdle milk. Rennet should contain no preservatives.
- **Calcium carbonate** ($CaCO_3$).
- **Calcium chloride** ($CaCl_2$ - E 509) as processing-aid in all cheese production.
- **Starch** and **agar agar** as thickening agents.
- Salt brine can be re-boiled and enriched with salt accordingly.

7.7.4.2 Prohibited ingredients, additives and aids

- Sterilisation with **sodium hypochlorite**, **hydrogen peroxide** etc.
- Milk may not be **curdled** with **pure acid**.
- Sodium bicarbonate.
- Colouring butter or other milk products with **beta-carotene** or **lactoflavine.**

- Surface treatment with **potassium sorbate**, **calcium sorbate**, or **natamycin.**

7.8 Infant milk formula

March 2022

7.8.1 Scope

This section applies to the processing of infant milk formula. It applies to infant formula and follow-on formula that is produced from cows' or goats' milk. Only products for children up to the age of 12 months are allowed to be marketed with the Demeter trademark, or as biodynamic.

This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Additives, aids, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for infant milk formula are detailed in this section.

Products based on **soybeans** or **soybean milk** are excluded.

7.8.2 General principles – infant milk formula

Breastfeeding goes beyond providing nutrition to an infant. It provides an opportunity for the continuity of the relationship between mother and child that began during pregnancy and can become an intimate relationship that nourishes not only the body but also the soul. Therefore, Demeter infant milk is not intended as a substitute for breastmilk, but can support and supplement in cases in which breastfeeding is limited or impossible.

During breastfeeding, it is essential that both mother and child have a diet based on biodynamic food.

The processing and the composition of infant milk formula is subjected to strict legal regulations, including but not limited to: hygiene, ingredients and content of macro and micronutrients.

If ingredients and micronutrient ingredients are added due to scientific reasons and not legal reasons (see below), the need must be documented with the recommendation of an advisory body commissioned by the Biodynamic Federation's Standards Committee and Demeter UK. These recommendations must be approved by the Member's Assembly of Demeter International.

7.8.2.1 Processes – infant milk formula

- All processing stages will be optimised to provide the best quality and most nourishing food.
- **Spray drying** is permitted as is **homogenisation** of the total mass that is being processed.

7.8.3 Ingredients, additives and aids – infant milk formula

- Permitted ingredients are milk and milk components, whey powder and milk fat and vegetable oils.

- **Lactose**, **starch** and **malto-dextrin** are also allowed as ingredients.
- **Added ingredients and micro nutrients** (vitamins, minerals, amino acids, fatty acids, choline, inositol and levocarnitine) can **only** be included if the legally prescribed proportions cannot be achieved with Demeter ingredients alone.
- **Isolated nucleotides, hydrolysed proteins** and **taurine** are specifically excluded from all Demeter infant milk formulas.

7.9 Cooking oils and fats

March 2022

7.9.1 Scope

This section applies to the processing of cold pressed oils (including virgin and extra virgin) both as a finished product and as oil for further processing (both as an ingredient and as a processing medium for example for frying oil or a releasing agent). This section also applies to the production of animal fats and margarine. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Please take into account any additional legislative regulation concerning the production of oil, especially concerning different categories of cold pressed oils.

Additives, aids, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for cooking oils and fats are detailed in this section.

7.9.2 Processes – cooking oils and fats

7.9.2.1 Permitted processes

- **Filtration, decanting** and **centrifuging.**
- **Deodorising** (steaming) is to be declared on all packing units for consumers and processors.
- **Cold pressed oils – general** - maximum extraction temperatures for individual oils are defined by broader legal requirements for the production of cold pressed oils and are specific to the source of the oil. Some examples are listed below, but lower extraction temperatures are recommended whenever possible.
    - Olive oil - 27°C
    - Saffron and pumpkin seed - 50°C
    - Sunflower, maize, soy, sesame and hazelnut - 60°C
- **Cold pressed oils - roasting the seeds** before pressing in the processing of pumpkin seed oil, sesame oil and nut oils is permitted. These products have to be additionally labelled as “cold pressed oil from roasted seed”.
- **Oil for processing** - usual mechanical processes for cleaning and preparing the raw materials (including conditioning, drying with heat and **vacuum drying**).
- **Oil for processing - removal of mucilage** and **neutralising/buffering** of pH (only once either before or after fractionation).
- **Oil for processing - bleaching/colour removal** and **thermal fractionation** (decrystallisation/dry fractionation).
- **Oil for processing - steaming/deodorising** (once, with a maximum temperature of **230 °C**).
- **Margarine - emulsification, pasteurisation and crystallization.**

7.9.2.2 Prohibited processes

- **Cold pressed oils - conditioning/pre-warming** of the raw material.

- **Cold pressed oils - extraction** using organic chemistry solvents.
- **Cold pressed oils - mucilage removal** using mineral or organic acids.
- **Cold pressed oils** - treatment with **active charcoal**, the **removal of acid**, **bleaching** and **chemical modification** (Hydrogenation, ester modification).
- **Cold pressed oils** – for **palm oil** which will be sold as raw, mucilage removal using acids and removal of acid.
- **Oils for processing** - **extraction** with organic solvents and chemical modification (Hydrogenation, Ester modification).

7.9.3 Ingredients, additives and aids – cooking oils and fats

7.9.3.1 Permitted ingredients, additives and aids

- **Filtering** - only **Asbestos free** filter material such as paper or cloth.
- Filtering and clearing - **diatomaceous earth** can be used.
- Oil for processing purposes only – for filtering and clearing - Bentonite (Fullers earth) and activated carbon.
- **Nitrogen** (N_2) as an aid.
- **Margarine** — if lecithin is used it must be at least certified organic.

7.9.3.2 Prohibited ingredients, additives and aids

- **Margarine** – the use of **hardened (hydrogenated) fat** and **flavours**

7.10 Sugar, sweetening agents, confectionary, ice cream and chocolate

March 2022

7.10.1 Scope

This section applies to the processing and manufacture of plant syrups (e.g. from maple, sugar beet, palm, coconut etc.), plant juice concentrates and plant extracts, sweetening agents from grains/starch, malt extract, whole sugar (dried and milled sugar juice), raw cane sugar, cane sugar, beet sugar, ice-cream, sorbets and frozen yoghurt, chocolate and other confectionery.

This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Additives, aids, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements are detailed in this section.

7.10.2 Processes – sugar, sweetening agents, confectionary, ice cream and chocolate

7.10.2.1 Permitted processes

- **Sugar syrup** may be evaporated under pressure as long as the temperature is low enough to prevent caramelisation.
- There are no other specific restrictions on the production of sugar, sweetening agents, ice cream, chocolate and confectionary beyond the general requirements of this standard.

7.10.3 Ingredients, aids and additives – sugar, sweetening agents, confectionary, ice cream and chocolate

7.10.3.1 Permitted ingredients, additives and aids - sugar and sweetening agents

- **Enzymes** meeting the general requirements.
- **Lime water** to remove unwanted materials.
- **To prevent foaming - carbonic acid** to precipitate out excess calcium (as calcium carbonate) and oil.
- **Sodium carbonate, calcium** and **sodium hydroxide.**
- **Sulphuric acid** as an aid for pH control.
- **Citric acid** as an aid for clarification are permitted **only** for the production of sugar.
- **Tannic acid** from natural sources.
- Organic **sucrose esters.**

7.10.3.2 Permitted ingredients, additives and aids - ice cream, confectionary and chocolate

- Ice cream - thickening agents - **carob bean gum, pectin, guar gum** and **agar agar.**
- **Ice cream processing - inulin** and other oligosaccharides of organic origin.
- **Chocolate and confectionary emulsifier – lecithin** of organic origin.
- **Chocolate and confectionary - Gum Arabic.**

7.10.3.3 Prohibited ingredients, additives and aids – ice cream, confectionary and chocolate

- **Colourings.**

7.11 Beer

March 2022

7.11.1 Scope

This section applies to the production of beer. This standard functions as a positive list, therefore all methods, aids and additives which are not mentioned are prohibited. If you are unsure or need clarification, please contact Demeter UK.

Additives, aids, filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for beer are detailed in this section.

7.11.2 General principles - beer

Demeter beer must be produced using the “traditional art of brewing”, based on natural processes and materials that result from natural processes (rather than synthetic processes). For example, acid regulation by lactic acid bacteria is appropriate, simple addition of acid is not.

Water used for the brewing process and for all other purposes must be drawn from ground water reserves containing the lowest levels of pollutants. At a minimum water must be of drinking quality with nitrate content of less than 25 mg/l. Simple steps to upgrade water quality (as would be allowed for natural mineral water intended for human consumption) is allowed, as is the removal of iron and manganese by aeration. Elevated lime levels may be reduced with the addition of sodium carbonate.

The removal of alcohol from beer has not yet been included in these standards.

7.11.2.1 Packaging

Beer is to be packed exclusively in **glass** bottles, or **kegs/barrels** of **stainless steel** or **wood**. Single use cans are prohibited.

- Bottle labels must be printed using inks containing no, or only low levels of, **heavy metals**. Covering bottles with **silver paper** is prohibited. Bottle tops must not contain **PVC**. Cork cap seals may not be treated with **formaldehyde.**

When buying in new **beer crates**, they should be made of environmentally friendly materials (low-density polyethylene) with a low heavy metal content.

Environmentally friendly cleaning materials and methods should be used. Cleaning using alkalis and acids is allowed. If needed, hydrogen peroxide (H_2O_2) or peracetic acid can be used.

7.11.3 Processes - beer

7.11.3.1 Permitted processes

- **Nathan Process** (fermentation and aging of beer in the same conical tank).

- Beer residue as a **natural acidifier.**
- Specialist **light beers** should be produced with yeast types that naturally produce less alcohol.
- In case of **secondary fermentation** in the bottle, sugar addition is permitted, if the **maximum addition** does not exceed the following:
    - 2.5g/l beer
    - 7.5g/l beer (top fermented beer)
    - 10g/l beer (top fermented champagne beers)
- A heated chamber with a maximum of 25°C is permitted for **secondary fermentation** in the bottle **only** if the minimum outside temperature is below 10°C.
- Beers with elevated residual sugar content may be **pasteurised.**
- **Unstrained beer** may be flash heated with subsequent rapid re-cooling.
- Only **indirect** heat may be used for **drying** to reduce the danger of amine development.
-

7.11.3.2 Prohibited processes

- Procedures to **artificially accelerate** the speed of the wort boiling process, in particular the use of **silicic acid preparations** to hasten the **isomerisation of the hops** constituents
- **Accelerated fermentation** - pressure, agitation or heating in storage.
- The disinfection of bottles with **sulphites**.
- **Hot filling** of the bottles and **disinfection filtration** to kill micro-organisms are not allowed, as they diminish taste and act as preservatives.

7.11.4 Ingredients, additives and aids - beer

7.11.4.1 Permitted ingredients, additives and aids

- **Ingredients** are limited to hops, malt, brewing water and Demeter brewing cereals. Demeter fruit, herbs and spices may also be added. Fruit should be cleaned in potable water and crushed fruit should be pressed in a gentle manner.
- **Hops** - unprocessed natural hop flowers should be given preference, type 90 pelletised hops may be used.
- **Organic yeast** may be brought in or obtained from organic breweries. Only **live, fresh yeast** with no additives may be used. The yeast should be bred and multiplied in the brewery itself on wort which is made up of exclusively Demeter raw materials. If this is impossible then organic raw materials may be used.
- **Lactic acid bacteria** may be used for lactic fermentation to produce Demeter speciality beers.
- **Filter materials** made from textiles (e.g. cotton wool) or membranes (without PVC, PVPP, asbestos and bentonite).
- **CO_2** may be used solely to temper the barrels.
- **N_2** for filling.
- **Diatomaceous earth** and **brewing gypsum.**
- **Sodium carbonate** for softening water.
- Silicon dioxide (silica) is permitted as a processing aid for the production of gluten-free beer.

7.11.4.2 Prohibited ingredients, additives and aids

- **Water treatment** with any of the following processes: filtration with active charcoal, ion exchange, sterilisation of dirty water in particular with UV radiation, ozone, hypochlorite, chlorine dioxide.
- **Type 45 pelletised** hops and hop extracts.
- Food grade additives, **aromas**, **minerals**, **trace elements**, and **vitamins.**
- Use of **beer colourings to alter colour.**
- **Clarification aids**, in particular wood shavings, organic chipping impregnated with pitch and aluminium foil.
- **Malt** treated with **sulphur**.
- The **correction of visual** or **taste shortcomings**, e.g. the removal of off tastes by flushing with **carbonic acid** and using **active charcoal filters.**
- Use of materials to lengthen shelf life, such as **silicic acid preparations**, PVPP bentonite etc.

7.12 Wine and sparkling wine

March 2022

7.12.1 Scope

The present standard covers the production of wine and sparkling wines. For other alcoholic beverages like fruit wine, cider, beer and alcoholic spirits please refer to the respective sections.

7.12.2 General aids, additives, filtering material and processing methods

Aids and additives as well as filtering material, enzymes and processing methods are regulated in the general part of this standard (please see 4.2 and 4.3). Special requirements for wine are listed in the following section of the standard.

7.12.3 General principles - wine

Ideally Demeter/biodynamic wine helps the development of nature and man, speaking to the senses and speaking to the mind. Demeter/biodynamic wine growing is not a means to an end. Its purpose is to enrich the world and to celebrate the beauty of landscape and life.

The aims and objectives are derived from the lectures given in the year 1924 by Rudolf Steiner and which are published and known as "The Agricultural Course". These lectures refer among other subjects to the cosmos (the heavens) as creating life forces in man, animals and plants and refer to the ways to make these life forces productive in agriculture and horticulture, including growing grapes. It needs the human being in the role of an artist to develop soil, fertility and plant in such a way that fruits of vital quality become available.

Demeter/biodynamic wine is made from biodynamically raised grapes. These grapes are the product of an extended Goethean view of nature that sees nature as an integrated body in which material, form, warmth and rhythm all play a part. Out of this concept, the biodynamic method with its preparations, working in cooperation with the rhythms of the cosmos, specialized plant breeding etc. has grown. The aim is to move the vineyard more and more towards an individuality in its own right using these methods. The grapes produced by such a vineyard should be a true, unique, authentic expression of this individuality.

As the growth and ripening of fruit is dependent on the respectful combination of cosmic and material forces, the development of man is also dependent on a respectful interaction with nature and on appreciative communion between individuals. It is a sign of biodynamic quality development to foster these interactions. The character of individual Demeter/biodynamic wines will vary according to who and what has contributed to its emergence.

In making reference to artistically determined processes it is obvious that the application of the rules and conditions described in these guidelines cannot by themselves ensure the inclusion of life forces in

produce. Section three of these standards in particular ensures that the rules and conditions described will avoid degradation of life forces as much as is presently possible.

Research in biodynamic production and in wine processing continues on a permanent basis. Therefore, these standards will be subject to continuous improvement. Practitioners in fact are required to research in the areas of soil, plant and social development. They are required likewise to continually research ways to improve the processing of wine. In section three, the column listing aims indicates potential improvements to the processing method. These are to be used as a guideline defining directions for development.

Biodynamic/Demeter wine is offered to a discerning public. Customers are offered maximum transparency about the origin and the handling of Demeter/biodynamic wine including the use of additives or agents, even if they will only be temporarily in contact with the final product. Nothing shall conceal the true nature or the factual properties of the produce.

The quality of Demeter/biodynamic wine expresses itself as preserved vitality. This can be measured conventionally through the presence or absence of ingredients, and through other assessment techniques such as crystallisation and the study of formative forces

The grapes and the producing farm must be certified. Certification must be through a certifier which itself is authorised by a Demeter Organisation. This Demeter Organisation itself needs to be recognised by the international community of Demeter producers and processors, in other words be a member of Demeter International, an association incorporated in Darmstadt, Germany.

The work carried out in the wine cellar is a rounding off of the processes underlying grape production in the vineyard. As little technology is employed as possible and the fewest aids and additives used in all stages of the process. Aids and additives currently permitted should be reduced or phased out as processing techniques improve. The procedures should respect and be in harmony with the surroundings, the location, and the people involved in production. The primary aim is to at least maintain the quality present in the biodynamic fruit. (For that reason harvesting the grapes by hand is preferred in order to guarantee the highest possible raw material quality for processing.)

All processing steps and methodologies used to process both the grapes as well as the ensuing products are to follow the following principles:

- The product shall be of high quality, digestible, and appeal to the senses.
- Sulphur dioxide use must be kept to a minimum.
- Processes that require large inputs of energy or raw materials are to be avoided.
- Aids and additives that raise environmental or health questions, from the point of view either of their origin, their use or their disposal, are to be avoided.
- Physical methods are preferable to chemical methods.
- All processing by-products, be they organic residues or waste water, are to be dealt with so that negative effects on the environment are minimised.

7.12.4 Ingredients, aids and additives – wine

The standards are defined in terms of a positive list of processes, ingredients, additives and aids. All other methods and materials not mentioned in this standard are **excluded** from the production of Demeter wine.

7.12.4.1 Permitted under certain conditions

- **Addition of sugar or grape juice concentrate** to increase the alcohol content by a maximum of **1.5% by volume** is permitted.
- For **sparkling wine,** the addition of sugar or grape juice concentrate for **tirage** is permitted at a **maximum** increase of alcohol through secondary fermentation of **1.5%.**
- For the processing of liqueur d'expedition (sparkling wine) the additional of sugar or concentrated grape juice up to 50 g/l and of liqueur up to 6 cl/l is permitted.
- **Indigenous yeast** and **pied de cuve**. Brought in neutral yeast is permitted only for **justified stuck fermentation** (5 brix – sugar 50g/litre – or less) or for **secondary fermentation** of sparkling wines. For **stuck fermentation**, **brought in yeast** must be **certified organic**. For **secondary fermentation** of **sparkling wines**, the yeast must not have been grown on **petrochemical substrate or sulphite waste liquor.**
- Only Demeter/organic **yeast hulls** are permitted, other yeast nutrients need approval by Demeter UK.
- **Tartar stabilisation** - only by **cold stabilisation**, only **natural tartrate** from Demeter or organic wine production are permitted, **potassium bitartrate** is permitted as well.
- For acidity regulation, **Potassium bicarbonate** ($KHCO_3$), **Calcium carbonate** ($CaCO_3$) and **Tartaric acid** (E334) are permitted. Addition limited to 1.5 grams/litre.
- **Lactic acid bacteria** as biological acid reduction are permitted.
- Preservation with **Sulphur** up to certain levels is possible. Following forms are authorised:
    - Pure SO_2, as a gas or in solution
    - -Potassium bisulphite
    - -Potassium metabisulphite
- **Effervescent tablets** are **not permitted**.
-
-
-

Residual sugar	SO_2 total [mg/l] at bottling	
	White, Sparkling, Rose	Red
<5g/l residual sugar	140	100
>5g/l residual sugar	180	140
Sweet wines with Botrytis	360	
Sweet wines without Botrytis	250	

-
- Permitted **fining agents** are, egg white, milk and milk products, Casein, and Pea, potato or wheat protein.
- Inorganic permitted fining agents are **Bentonite, activated charcoal, aeration, oxygen** including Micro Ox (Micro-ox allowed to prevent reduction in the **early phase** only).
- Permitted inorganic and organic **filtering materials** are **cellulose**, **textiles** (chlorine free), **polypropylene**, **diatomaceous earth**, **perlite and ceramic tubes**.
- Permitted **bottling aids** are CO_2 and N_2.
- Only **oak wooden barrels** are permitted for **oaking** wines.
- Natural **pine resin** with no other aids or additives may be used in the production of traditional Greek **Retsina** wine.

In order to emphasis the strict prohibition of some common processes and materials, the following are **prohibited**:

- The use of genetically modified micro – organisms
- Potassium hexacyanoferrate
- Ascorbic acid, sorbic acid
- PVPP (Polyvinylpolypyrrolidone)
- Diammonium phosphate
- Isinglass (Sturgeon swim bladder), blood and gelatine

7.12.5 Product specific processing methods - wine

- Pumps that develop high shear or centrifugal forces e.g. centrifugal pumps are **not permitted** in new installations or when replacing machinery.
- Heating of the red wine mash to a **maximum** of **35° C** is allowed. Use of heating and cooling to steer fermentation is permitted.
- **Pasteurisation** is prohibited.
- Concentration of the **entire must** is not allowed. **Alcohol reduction** by technical methods is prohibited. Addition of water to the mash/must is permitted
- **Centrifuging** is permitted.
- **Cross flow** (tangential) **filtration** may only be used based on a derogation granted by Demeter UK. This exemption (EXP 17: Chapter 7.19.) can only be used once per batch and only if the pore size is not less than 0.2 micrometres and the pressure used is below 2 bar. Furthermore, only for specific types of wines:
  - Wines without the addition of SO_2 in general
  - Natural sparkling wines (ancestral method / “petillant naturel”)
  - Sweet wines
  - Wines that develop lactic spoilage (e.g. white wine with languid fermentation)
  - Red wines with an organoleptic deviation (*Brettanomyces*)

7.12.6 Packaging and cleaning - wine

- **Tanks** of concrete, wooden barrels, porcelain, steel tanks, stoneware, clay amphora are permitted. The treatment of all these containers with tartaric acid is allowed. **Plastic** vessels are **restricted to transfer**, and must not be used for storage.
- Permitted **bottling materials** are glass and other non-porous material made of clay such as stoneware or porcelain without internal coatings.
- Permitted **closures** are glass, cork, screw top, crown corks, plastic closures.
- Permitted **tamperproof seals** are Nirosta, plastic or tin capsules, poly cap, sealing lacquer or wax.
- **Cleaning** and disinfection of premises and equipment is being made exclusively by water, steam, sulphur, soft soap, caustic soda, ozone, peracetic acid, acetic acid, hydrogen peroxide, citric acid followed by flushing with potable water.

7.13 Cider, fruit wines and vinegar

March 2022

7.13.1 Scope

This section applies to the production of cider, fruit wines and vinegar made of fruit, vegetables, and cereals. For other alcoholic beverages like wine, beer or spirits please see the other specific sections of this standard.

Aids and additives as well as filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for cider, fruit wines and vinegar are detailed in this section.

7.13.2 General principles – cider, fruit wines and vinegar

The fruit should be cleaned in potable water, crushed and pressed in a gentle manner. Fermentation must occur in stainless steel tanks, wooden or polyethylene barrels to produce the fruit wines.

Regular and thorough cleaning is required and is the best method for prolonged shelf life. Bottling equipment should be sterilised with hot water and pressure rather than chemicals. Permitted cleaning materials used are as listed in section 6.6, their use must be **documented**. Rinsing with potable water is required following the use of **any** cleaning materials.

7.13.3 Processes – cider, fruit wines and vinegar

7.13.3.1 Permitted processes and packaging

- **Traditional** and **rapid** vinegar processes
- **Glass bottles** and **barrels** (wood, ceramic materials, stainless steel) for packaging
-

7.13.3.2 Prohibited processes and packaging

- **Centrifuging**.
- Procedures to **artificially reduce** the alcohol content.
- Procedures to **correct taste.**
- Using **colouring** to visually improve products.
- Containers made from **plastic** or **aluminium.**
- Bottle tops with **PVC.**
- Determination of the filled level using **radiation.**
- Production of **vinegar essences.**
- **Synthetic vinegar** production.

7.13.4 Ingredients, additives and aids – cider, fruit wines and vinegar

7.13.4.1 Permitted ingredients, additives and aids

- **Alcohol** as an ingredient.
- **Fruit wines** should be made using indigenous **yeasts**. If needed then specific biodynamic, certified organic may be used. Only if specific yeasts are required and they are not available in biodynamic or organic quality, then conventional yeasts may be used, but these must be documented as GMO free.
- Vinegars may be produced using **starter cultures.**
- Demeter, or if unavailable, certified organic **sugar to a maximum of 10%** (as long as this meets all other legal definitions and frameworks).
- **Metabisulphite** (E224) and **SO_2** (E220).

7.13.4.2 Prohibited ingredients, additives and aids

- Addition of **caramel colouring** and **sulphurous acid.**
- **Potassium hexacyanoferrate** (E536).

7.14 Alcoholic spirits and alcohol for further processing

March 2022

7.14.1 Scope

This standard defines **both** the production of Demeter alcohol **used as an ingredient** in other Demeter products such as tinctures, **as well as alcoholic spirits used as beverages**. Other alcoholic beverages are defined in the relevant section of this standard.

Aids, additives, as well as filtering material, enzymes and processing methods are detailed in general in sections 3.2 and 3.3 of this standard. Specific requirements for alcoholic spirits and alcohol for further processing are detailed in this section.

7.14.2 Processes – alcoholic spirits and alcohol for further processing

- Before processing begins, all vessels and holding containers must be cleaned, and piping must be purged.
- Only indirect heat may be used for drying to reduce the danger of amine development.
- Fractional steam distillation yields ethyl alcohol of up to 96% proof. Alcoholic spirits are usually in the range of 40% – 70% proof. Distillation may occur in several steps.

7.14.3 Ingredients, additives and aids – alcoholic spirits and alcohol for further processing

7.14.3.1 Permitted ingredients, additives and aids

- **Raw materials** must be of traceable Demeter certified quality (e.g. grains, fruit juices and vegetables).
- Demeter alcohol may **only** be produced from food materials or food by-products (e.g. rotten materials, wood etc. are excluded).
- Incoming **raw materials** must be stored in containers cleaned specifically for that purpose and unambiguously labelled. A separation protocol must be in place to prevent contamination.
- **Water** must be of brewing quality.
- If **molasses** or **clear juice** is used (produced from either sugar cane or sugar beet), it must have been processed according to section 8.10 of this standard.
- **Fruit juice concentrates** must have been processed according to section 8.2 of this standard.
- **Yeast** for fermentation and fermentation aids must be documented as GMO free.
- **Yeast** may be re-used after centrifuging from the must and washing. The centrifuged yeast may contain certified organic must if recovered from certified organic production. The certified organic must may not exceed 5% of the volume of the Demeter ferment.
- Demeter alcoholic spirits for human consumption may be **flavoured** using certified Demeter ingredients.

- **Cereals** used for **malting** are to be washed with water in the steeping containers, and set to germinate in the malting or germination floors.
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7.14.3.2 Prohibited ingredients, additives and aids

- **Yeast** containing **conventional must** is excluded.
- **Malt** may not be treated with **sulphur**.
-

7.14.3.3 Approval needed

- **All** other ingredients, additives and processing aids **must be approved**, and may in any case not exceed 1% of the must by weight e.g. acidity regulators (tannic acid and lime), yeast nutrients, enzymes, citric acid.
- Any **flavours** which are not Demeter certified ingredients require the approval of Demeter UK.

7.14.4 Storage – alcoholic spirits and alcohol for further processing

- Where **intermediate distillation** products are produced these must be stored in cleaned, dedicated containers and clearly labelled.
- **96% proof ethanol**, for use as an ingredient in food must be stored in stainless steel or glass, non-food use may be stored in plastic.
- For **alcoholic spirits**, wooden barrels may be used for storage and maturation. Plastic containers are not permitted.
- For **bottling**, only glass may be used. Cork or screw top closures only may be used.

7.15 Cosmetics and personal care products

March 2022

For full details of the Demeter UK standards for cosmetics, including products such as suncreams, soaps, shampoos, toothpastes and perfumes, please contact the office.

7.16 Textiles

March 2022

7.16.1 General aids, additives, filtering material and processing methods

The general requirements of this standard as detailed in 3.2 and 3.3 apply. Specific requirements for textiles are detailed in this section.

7.16.2 General principles - textiles

The raw materials for textiles (wool, cotton, linen, silk, flax etc.) are agricultural products, therefore all the principles, methods and standards of biodynamic production apply (please see section 7 of this standard). The production of textiles differs from the production of food in that processing is always necessary. As the processing of food has the potential to degrade food quality, processing of textiles has the potential to degrade fibre quality. Textile processing can also use many chemical processes which may lead to significant environmental damage and/or contamination of the final product.

7.16.3 Processes - textiles

- The standards of the **International Natural Textiles Association** (IVN) in their latest published edition (currently version Best 5: 2012) apply. These standards have been chosen as the most suitable for the processing of Demeter textiles.
- Demeter products must always meet minimum standards for organic textile products.
- The licensee must **apply** for approval to the relevant certification organisation demonstrating that they are certified to the standards mentioned above and that the following conditions have also been met:
    - Minimum organic ingredient content - 50% of the agricultural ingredients
    - No parallel ingredients (Demeter with organic/conventional)
    - No GMO
    - No nanoparticles

7.16.4 Raw materials, additives and aids - textiles

- All **Demeter certified fibres** (wool, cotton, flax etc.) may be used in Demeter textiles, alone or in combination with one another.
- Certified fibres from properties **in conversion to Demeter** are allowed if they do **not exceed one third** of the overall content of the finished product.

- If silk or other natural fibres are not available in Demeter quality (please see section 4.1.3 for the definition of unavailable) then using **certified organic fibres** is allowed. The Demeter label may only be used if the finished product contains **66% Demeter fibres** by weight.
- **Cotton** must be handpicked. Machine harvest is only permitted when chemicals are not used.
- **Animal fibres** should be shorn or combed.

7.17 Food, health and pharmaceutical supplements

March 2022

7.17.1 Scope

This standard applies to products which supplement human nutrition or support medical treatment without being directly subject to general food law or pharmaceutical law. This includes products such as food supplements, functional food, health supplements or pharmaceutical supplements.

Please be aware that in the UK and Ireland food supplements may be certified as organic, therefore any product which is certified to this standard must first be certified as organic and meet all organic requirements under national law.

7.17.2 General aids, additives, filtering material and processing methods

The requirements for aids and additives as well as filtering material, enzymes and processing methods are articulated in the general part of this standard (please see sections 3.2 and 3.3). Specific requirements for food and health supplements as well as for functional food and pharmaceutical supplements are listed in this section of the standard.

7.17.3 Ingredients, aids and additives – food, health and pharmaceutical supplements

The **minimum requirements for Demeter food products** as defined in this standard apply (this includes status and origin of materials as well as composition and availability).

The following are **permitted** as sticking agents: guar gum, gum arabic, maltodextrin, plant waxes, native starch, gelatine and pectin.

7.17.4 Product specific processing methods – food, health and pharmaceutical supplements

The requirements for **drying** and **heating** processes are defined in the general section of this standard. Spray and drum drying is permitted. **Freeze drying** is only allowed with a derogation from Demeter UK.

Shaping extrusion as defined in the general section of this standard is **permitted**.

7.17.5 Capsules and coatings – food, health and pharmaceutical supplements

The capsule or coating material **shall not exceed 5%** of the product volume.

As basic components animal proteins, gelatine or plant polysaccharides and oils of at least organic status are **permitted**.

Maltodextrin, sunflower lecithin, guar gum, gum Arabic and native starch of at least organic status are **permitted**.

Magnesium carbonate as releasing agent is **permitted**.

Colourings are **prohibited**, the use of **colouring ingredients** in the form of vegetable powder or similar is possible.

The manufacturer needs to ensure that the material **does not contain any additives** other than those listed above. The normal procedures for product approval apply.

7.18 Soy products, cereal and nut drinks

March 2022

7.18.1 Scope

- This section covers soy products like tofu and milk, wheat gluten like seitan and cereal beverages as well as beverages from nuts and seeds. This section does not refer to soy flakes, please refer to 7.4.

7.18.2 General aids, additives, filtering material and processing methods

The requirements for aids and additives as well as filtering material, enzymes and processing methods are articulated in the general part of this standard (please see sections 3.2 and 3.3). Specific requirements for soy products, cereal and nut drinks as well as similar products are listed in this section of the standard.

Product information, labelling and advertising must not indicate that plant-based drinks are a nutritional substitute for milk.

7.18.3 Ingredients, aids and additives – soy products, cereal and nut drinks

- **Nigari** (Magnesium chloride) and **Calcium sulphate** are permitted coagulants (for setting the curd) for tofu and tofu products. Sodium bicarbonate is permitted as an aid/additive.
- Only hardwoods (as wood, shavings or sawdust) may be used for smoking soya products. Tropical hardwoods are excluded.
- In the production of cereal beverages, enzymes may be used to degum and saccharify the starch.
- Lecithin may be used if drinks from nuts are produced.

7.18.4 Product specific processing methods – soy products, cereal and nut drinks

- For the **preservation** of drinks made from cereals, soy and nuts, the maximum permitted heat process is **UHT** (ultra high temperature).
- Beverages made from cereals, soy and nuts may be **homogenised**.

8 Definitions/Glossary

February 2020

Accreditation Council (AC): The AC is responsible for ensuring that all member organisations of Demeter International carry out certification according to the standards, directions, statues and standing orders of Demeter International. In order to do this the AC develops and maintains an internal evaluation and accreditation program; for more details, please see section 3.4 and 3.5.

Additive: A substance that is not normally used as a food ingredient, but that is added with a specific purpose in processing **and** the substance remains in the final product. If the substance is removed during processing additives can be considered **aids**.

In the EU, additives can be identified by an "E" number followed by three digits. E 200 to 299 for example are reserved for preservatives (although some additives have multiple uses – E270 Lactic Acid can be used either as an antioxidant or as a preservative).

Additives **must be declared** on the label (as part of Demeter's requirement for a full declaration).

Aid: (or processing aid) A substance which is not normally used as a food ingredient, but which is deliberately added to facilitate processing. The substance **does not** remain part of the final product. Processing aids are subject to similar classifications and regulations as additives. According to general labelling regulations, aids do not need to be declared on labels, however Demeter requires that processing aids should be declared as far as possible.

Agricultural ingredient: A material, either raw or processed, originating from agriculture or aquaculture. Ingredients from wild harvest are not actually ingredients from agricultural primary production, but are usually treated in a similar way (for example in proportion calculations). In contrast, ingredients of non-agricultural origin, such as water, salt or vitamins are excluded from these calculations.

Anthroposophical view of nutrition: The anthroposophical view of nutrition aims for a holistic approach that supports the spiritual development of the individual rather than promoting a specific diet. In addition to recognising the general importance of wholefoods, anthroposophical nutrition also recognises the importance of vitality in food as well. The aim of processing in this view is to maintain vitality at a minimum and maximise vitality where possible.

Antioxidant: A substance that hinders oxidation.

Aromas (flavours/flavourings): Aromas in food are meant to add flavor to a product for human consumption. They are usually divided into synthetic or natural sources. (More categories are also possible, such as: flavouring substances, natural flavourings (aroma extracts), thermal process flavourings, smoke flavourings and other aromas).

The use of aromas and flavourings is restricted in organic products. In Demeter products, only aromas or flavourings from **natural sources** are allowed (please note there are specific category restrictions). Care should be taken when mixtures of flavourings are used and a full specification should be obtained prior to product approval.

Aroma extract: Individual or mixed natural flavourings, extracted by physical, enzymatic or microbiological processes from natural sources (for example from fruits, herbs, vegetables or yeast).

Aseptic filling: Filling under aseptic conditions to reduce or avoid thermal and therefore loss of micronutrients and aroma. (Mainly used for beverages and milk products.)

Availability: As a general principle, if Demeter is available it must be used. This requirement applies not only to raw materials and ingredients, but also to animals, seeds, propagation material, fertiliser and operating material in general. The availability of Demeter inputs is determined by the Demeter UK and relies on the criteria as specified in section 4.1.3.

Autoclaving: (also called full preservation) A method of sterilization under moist heat (in general a temperature of 121 °C or higher) and pressure. Duration of the treatment depends on the type and amount of product as well as the microbiological load of the raw materials. This method of sterilisation destroys the spores of bacteria.

Bactofuging: Centrifugal technology to reduce microbiological load of a fluid product (mainly used for milk).

Baking improvers: (also baking aids) A substance which is added to bread or pastry dough to facilitate processing and balance variable quality of raw materials. Typical baking improvers are: hydrocolloids, emulsifiers, gluten, sugar, phosphates, enzymes, ascorbic acid, acidifier, milk powder, whey powder or cysteine. These should not be confused with raising agents or flour treatment agents. Only a few baking improvers are permitted for Demeter products, every certification organisation provides a positive list.

Carrier: Substance which is physically bonded to an effective component, to raise durability, effectiveness, microbiological stability or to balance volume fluctuations. Carriers are considered as processing aids **even though** they mainly remain within the product. From a general perspective labelling is therefore not required, however from a Demeter perspective a full declaration is required wherever possible (this also applies to aids and carriers). In a Demeter context, carriers are most frequently additives and enzymes.

Centrifuging: Processing method using mass inertia, mainly used for separation of substances.

Certification: A procedure by which compliance with certain requirements is demonstrated.

Chemical preservation: (rather than physical, microbiological or irradiation) Chemical preservation can be achieved with salt (physiological dehydration), sugar, vinegar, alcohol, oil or other chemical preservative agents (for example: preservatives, antioxidants and coating agents). Compare with aids and additives.

Clarification aids: (also called fining agents) Substances which precipitate suspended and airborne particles (like proteins and polysaccharides) in fluid products to improve appearance or microbiological stability (primarily used for juices, wine and beer). Organic and inorganic aids may be used; but are removed during processing.

Colourings: Food additives from natural or synthetic sources used to colour food products. Compare also to additives. Colourings are **not permitted** in organic products and therefore are also prohibited in Demeter products. There is only one exception to this: the colouring of Easter egg shells with colourings from natural plant origins.

Colouring a product using a **raw agricultural material as an ingredient** (such as beetroot or spinach) is permitted.

Conversion: The period during which agricultural holdings become fully Demeter certified.

The length of the conversion can vary greatly and depends on initial circumstances (such as the duration of participation in an organic certification before the start of the conversion). Conversion periods may also vary within a holding depending on crops and animal species and their products. Details on

conversion recognition and products labelled "Demeter in conversion" can be found in the **general** section 3.6, the **production** section 7 and the **labelling** section 5.4.3 of this standard.

Processing enterprises do not have a comparable preparatory phase.

Demeter International: An association that works together in the spirit of international confederation with democratic principles. Its purpose is to foster international cooperation in the area of rights and obligations pertaining to the biodynamic movement, especially with regard to protection and maintenance of the biodynamic and Demeter trademarks. It supports the establishment of biodynamic associations and Demeter organisations in countries where none exist. Its basis is the biodynamic agricultural method, originally articulated by Rudolf Steiner in lectures given in Koberwitz 1924, and further developed in practice and research.

Demeter inspection: A formal visit to a Demeter (sub-)licensee to verify compliance with the Demeter standard. Specific variations may include unannounced inspections, spot checks or accompanied inspections.

Demeter International Members' Assembly: According to the statutes of Demeter International, this is the highest body of the association and may take the initiative on all affairs of the association.

Demeter product: Certified product from biodynamic agriculture which either refers to biodynamic production or bears the Demeter name or logo.

Demeter trademarks: The (approved) marks and / or word images of Demeter International. The Demeter brand mark, the related trademarks, figurative marks and related figurative marks are **owned** by the International Biodynamic Association and **administered** by Demeter International.

The trademarks are registered with the World Intellectual Property Organisation in Switzerland under number IRN / 248829 for the name Demeter and number IRN / 786315 for the logo, in the name of the Forschungsring für Biologisch-Dynamische Wirtschaftsweise e.V.

Dilution: Reduction of ingredient concentration by adding water.

Emulsifier: An active ingredient which promotes the mixing of substances (typically hydrophilic and hydrophobic).

Essential oils: Non-aqueous oil obtained from plant material.

Esterification: Process that is the reaction of an alcohol and an acid.

Derogation: Permission to deviate from the Demeter standard in practice which is granted for a specific period of time.

Extended shelf life (ESL): A group of processing methods which reduce the microbiological load and therefore extend the shelf life of milk. ESL milk has a shelf life of 20 to 40 days, somewhere between pasteurized milk (five to seven days) and ultra-heat treated (UHT) milk (three to six months).

Typical techniques for extending shelf live are: aseptic homogenisation, micro filtration, ultra-filtration, bactofugation, depth filters and/or combinations of these. Some of these processes are permitted within this standard, some are not, for more details please see section 8.7 for milk and dairy products.

Extraction: Process by which essence is extracted via maceration and further distillation processes.

Extracts: Soluble material that is dissolved from plant material using a solvent such as alcohol or water.

Extrusion: Food extrusion is a process in which ingredients are forced to flow under one or more conditions of mixing, heating and shear, through a die that forms and/or puff-dries the ingredients.

- **Shaping extrusion** is any kind of gentle, cold pressing of substances through a die to shape the substance.

- **Modifying extrusion** uses high pressure and/or high temperature which affects not only the shape of the product but also the specification and quality of the original material. The higher the temperatures and pressures that are used the greater the effect on the integrity and characteristics of the product.

Fermentation: Enzymatic processes carried out by micro-organisms.

Fining agents: See clarification aids.

Flavours/Flavourings: See aromas.

Flower trademark: The flower trademark is one of the trademarks of Demeter International (please see section 5.7). It is only used in specific countries and is sometimes restricted to certain products. As with all trademarks the use on Demeter products must comply with guidance in the **labelling section** of this standard.

Freeze drying: Technique for drying products based on the physical process of sublimation. Freeze drying is only permitted for certain product categories and with a derogation by the certifying organisation.

Freezing: Treatment of a product by reducing the temperature below the respective freezing point. May include the following:

- **Deep freezing** of food - temperatures of -18 °C or lower (national regulations may vary).
- **Shock freezing** describes several techniques such as contact freezing, blast freezing or cryogenic freezing which enable a rapid reduction of temperature below -18 °C or lower within only a few minutes.

Fruit juice concentrate: Fruit juice with physically reduced water content. As the reduction is usually achieved with thermal treatment it is usually also connected with a loss of flavor and micronutrients. The **processing of concentrates** from Demeter fruit juice and the use of concentrate as ingredient in products is **permitted**. The **reconstitution of concentrate** to fruit juice and the **enrichment with aroma/flavourings** is **prohibited**.

Full preservation: compare to autoclaving.

Genetically modified organism: Any organism whose genetic material has been altered using genetic methods or is a product of such an organism. In food and agriculture there are three main categories:

- Raw materials which are genetically modified organisms (for example plants or plant-based products).
- Raw materials and products which are produced with the aid of GMO (these need not contain GMO themselves, for example meat from animals fed with GMO).
- Raw material and products which are produced by GMOs, these may not contain GMOs, due to subsequent purification. Examples may include vitamins, enzymes or additives produced by genetically modified microorganisms like yeasts or moulds.

All of these are prohibited in organic food legislation and Demeter products.

Heat treatments: The general term ‘pasteurisation’ can be subdivided into different combinations of temperature, time and pressure:

Low temperature long time – temperatures under 65° C for up to 30 minutes.

Short term heating – temperatures between 71°C and 78°C for up to 10 minutes (for example milk for 40 seconds).

High temperature short time – temperatures between 85°C to 90 °C for only a few seconds.

Ultra high temperature (UHT) is an additional heat treatment, not for pasteurisation but for sterilisation. This can be subdivided to direct UHT (150°C for two seconds) and indirect UHT (135°C for a few seconds).

In general, the requirements for heat treatment of Demeter products take into consideration both antimicrobial necessity and food safety. Therefore, the processor should always consider these aspects whilst at the same time selecting the lowest degree of processing so that the characteristics of the raw material are maintained.

Please note that despite the considerations mentioned above, for some products (like dairy) certain temperatures and processes **are prohibited**. See individual sections for specific product categories.

Homogenisation: Homogenisation in general describes the increase of homogeneity within a system. In terms of food the equal dispersion of individual ingredients or substances is often called homogenisation. The use of homogenisation for the production of food is not limited to but is focused on the processing of milk. In the specific case of milk, the primary objective is to reduce creaming by reducing the average diameter of fat globules. This can be achieved by shear forces, plump flows and cavitation. These processes may occur inadvertently in the transport of milk from cow to final processing, therefore, it is useful to distinguish accidental homogenisation from intentional homogenisation. This standard specifies the boundaries of degrees of homogenisation for milk (see section 8.7).

Hydration: Addition of water.

Hydrolates/hydrosols: Volatile water-soluble material of plant origin that is separated as the aqueous condensate during steam distillation of an essential oil.

Hydrolysis: Decomposition of a compound through reaction with water.

Indigenous yeast: (or autochthonous yeast) Naturally occurring yeast strains that exist on the surface of raw materials. This can be contrasted with using a precise amount of pure-bred strains of yeast that have been bred with specific and predictable characteristics.

Ingredient: Every substance in a product including raw materials, semi-finished products, enzymes, aroma/flavourings and additives. This includes everything which is used for the processing of products and which remains (even in a modified form) in a final product labelled with the Demeter brand.

International Biodynamic Association (IBDA): The owner of the Demeter trademarks.

Ionising radiation: Describes every kind of radiation with enough kinetic energy to remove electrons from an atom or molecule (usually more than five eV, or a wavelength of less than 250 nm within the electromagnetic spectrum). Ionising radiation is **prohibited** in both organic and Demeter products.

Demeter products and raw materials **may not** be treated with artificial or technical electromagnetic radiation (even above a wavelength of 250 nm), although there are specific derogations for UV radiation.

Juice reconstituted from concentrate: (compare to fruit juice concentrate) Fruit juices are sometimes concentrated for transport (this is usually associated with a loss of aroma/flavor). Before the product is made available to consumers the concentrate is reconstituted with water and aromas/flavourings are added. This method is **prohibited** for Demeter juice.

Microencapsulation: A process in which tiny particles or droplets (solids, liquids or gases) are encased in at least one other substance. This offers several possibilities: the conversion of fluid into powder, reduction of reactivity with other ingredients or to design a certain period of release for a component. In food, this is mainly used for functional food, food supplements or additives/aroma. Microencapsulation is **prohibited** in Demeter products.

Mineral: Raw materials obtained from naturally occurring geological processes. This excludes materials derived from fossils.

Nano particles: Nano particles and nano materials are usually defined as particles within a range of 1 and 100 nm. This is in unallocated conditions as aggregates or agglomerates composed of at least 50% of this particle size.

A further distinction can be made between naturally occurring and synthetic nano particles.

Labelling requirements for nano particles in food is under development, for packaging this is still under discussion.

For further details concerning nano particles and their prohibition in Demeter products please refer to section 4.2.

Neutralisation: Adjustment of the pH to neutral.

Labelling standard: The section of this standard that describes the use of the trademarks on Demeter products as they are administered by Demeter International. Use may vary according to the category of product.

Organic certification: (or eco-certification) A procedure by which compliance with legal organic standards (e.g. EU Organic Regulation, UDSA NOP) is demonstrated. Certification to organic standards is a prerequisite for certification to Demeter standards.

Organic regulations: Governmental legislation which defines organic agriculture and products derived from organic agriculture. Notable examples include the EU regulation on organic agriculture and the USDA national organic program.

Organic semi-finished products: Products which are produced and sold as a mixture of ingredients for inclusion products which will be processed further. Examples include: fruit preparations for yoghurts or spice mixtures for sausages.

Even though organic semi-finished products are usually produced by organic enterprises which are not Demeter certified, if these products are used in Demeter products they must not contain aids and additives that are prohibited in this standard. If there is any unclarity the ingredients need to be verified (for example in a full specification) as part of the approval of the Demeter product.

Pasteurisation: (see also heat treatments) is defined as brief heating of food (40 seconds to a few minutes) to a temperature between 60° C and 100° C. The procedure reduces the microbiological load while simultaneously protecting nutritional value, flavor and texture. Pasteurisation reduces food spoilage and pathogenic microorganisms but pasteurised food is not considered to be absent of microorganisms altogether, especially in the case of sporulating bacteria (compare this with sterilisation). Normally pasteurised food must be stored in a cool place (5° C +/- 3°).

Preparations of spices: Mixtures of spices (including also spice aromas/flavourings) in combination with other flavor enhancing ingredients (like salt, sugar and technological needed substances). They contain at least 60% spices and **all ingredients** must meet the requirements of this standard.

Preservative: Substances which prevent the growth of micro-organisms, specifically bacteria, moulds and yeasts.

Process aid: Please see Aid above.

Product approval: Every Demeter product has to be approved by the Demeter UK before being made available to consumers. Minimal requirements for product approval are specified in the “Directions for the implementation of a certification program within the organisations of Demeter International”.

Production certificate: An official document which confirms successful participation in a certification program for agricultural enterprises. A valid Demeter production certificate confirms the status of the land of the enterprise and the raw materials of agricultural origin that are produced.

Process and product certificate: An official document which confirms successful participation in a certification program for processing enterprises. A valid Demeter process and product certificate identifies the status of Demeter products. In contrast to production certificates which always cover the status of the enterprise as a whole, process and product certificates do not necessarily relate to **all** products and processes of the enterprise.

Raising agents, chemical: Substances like ammonium bicarbonate or potassium carbonate which react with water, acid or heat producing gases (mainly carbon dioxide). Released gas is contained within bread and pastry dough, causing it to rise.

Raising agents, microbiological: Microorganisms which assist in the rising of bread and pastry dough. These primarily consist of yeasts and lactic acid bacteria which metabolise mono and polysaccharides in the dough to carbon dioxide and alcohol. Released gas is stored within the dough, causing it to rise.

Rectification: distillation or re-distillation to remove undesirable components

Sanctioning: Violations of this standard may cause sanctions to be imposed by the certification organisation, whether these violations are declared voluntarily or identified at inspection. Sanctions will vary depending on the seriousness of the violation and should be escalated as the seriousness increases. For minor or medium non-conformities there should be a progression from corrective actions to written warnings to decertification. For serious non-conformities (fraud for example) stages in the progression may be skipped.

Each certification organisation is obliged to publish a sanction catalogue to meet the certification requirements of transparency and fairness. Country organisations may be sanctioned by the Board or the AC of Demeter International for non-conformities with the Directions or the Statutes of Demeter International.

Saponification: Hydrolysis of a fat with an alkali to form a soap and glycerine.

Scarification: The process of cutting off citrus rind (for example) to extract the oil.

Soap: A cleansing and emulsifying agent that is the sodium or potassium salt of a fatty acid.

Solvent: A substance that dissolves or causes dispersion.

Spray drying: (or atomization drying) A technique for the drying of solvents, suspensions and emulsions to a powder. The products to be dried are released by an atomizer into a hot gas flow and dries in less than a few seconds into a powder (depending on the size of the particles). Spray drying is permitted for Demeter products.

Standards Committee (SC): One of four organs as described by the statutes of Demeter International. The committee presents proposed new Demeter Standards and amendments to the existing standards (together with its own recommendations), to the Members´ Assembly for approval. The committee must observe the decisions of the Members´ Assembly and work jointly with national bodies involved in setting standards. Details of the work of the SC are formulated in the Standing Orders of the SC.

Standing orders/AC: Describes the rules of cooperation and decision-making within the Accreditation Council, these are available on the internal section of the homepage of Demeter International or from the coordinator of the AC.

Standing orders/SC: Describes the rules of cooperation and decision-making within the Standards Committee, these are available on the internal section of the homepage of Demeter International or from the coordinator of the SC.

Starter cultures: Microorganisms which are used to start fermentation processes, these are selected for specific characteristics and capable of replication. Starter cultures are available as suspensions or freeze dried powder with or without carrier substances.

About a third of processed food for human consumption is produced using starter cultures, (for example: cheese, pastry, yoghurt, sausages, beer and wine). The classification of starter cultures and their compliance with this standard is often not an easy task. As there is only a small range of organic starter cultures currently available, freedom from GMOs, use of preservatives, and the compliance of carriers must be considered when determining compliance with both organic and Demeter standards. There are additional restrictions for certain product categories that are detailed in this standard (for example wine, see section 8.12)

Steam stripping: Splitting of a compound with steam (for example splitting a vegetable oil into fatty acids and glycerine).

Sterilisation: (compare with autoclaving and full preservation) Describes the use of techniques like steam sterilisation that have the objective of completely removing live microorganisms from the treated product. In contrast to other preservation methods for food, sterilisation also removes sporulating microorganisms and prions. In practice the probability of eliminating all living organisms can never approach zero. Therefore, certain probability levels like D 12 values (12 D-concept) and Z-values are used in the production of food to lower the risk of contamination to a minimum and to find the most appropriate temperature and time treatment for the product.

Sulphation: A process to yield a sulphate ester of a fatty acid.

Surfactant: A substance that reduces surface tension of a liquid, or the tension between two liquids, or a liquid and a solid.

Sweetener / Sweetening agent: Sweeteners are synthetic or natural substitutes for sugar that significantly exceed its sweetening power but have no or no significant calorific value. Sweeteners are subject to a state approval procedure, are subject to declaration and, like additives, can be identified via E numbers (E9XX).

Tinctures: a cosmetic substance or remedy in soluble form, especially in a solution of alcohol.

Transesterification: Replacement of one component of an ester with a different ester.

Ultra high temperature (UHT): Please see heat treatments.