Production and Processing

*International Standard for the use and certification of Demeter, Biodynamic and related trademarks (As of: July 2019 / 1th circulation)*
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1. Introduction

*International Standard for the use and certification of Demeter, Biodynamic and related trademarks – general section*

The Standards for the use of Demeter®, Biodynamic® and other related trademarks set out the criteria and framework within which products are certified with these trademarks. In each instance in the standards 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 vision, mission and aims that provide the inspiration for biodynamic production and processing, 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.

All products that carry the Demeter and Biodynamic trademarks are produced and processes according to these standards and are inspected and certified by the responsible authority in the respective countries.

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. These standards articulate how that can be done in a way that supports and works collaboratively with the natural world and mankind.
2. Vision, Mission, Principles and Values

*Agri-Culture for the Future*

The future of the Biodynamic Movement, inspired by people from agri-culture, processing and trade, scientists, and consumers is characterized by both internal and external openness. This movement is striving towards connecting with other movements and engaging in honest and open dialogues with the society. This is seen as essential for the further development and dissemination of the practice of Biodynamic agri-culture firmly backed by the International Biodynamic Association (IBDA), the Section for Agriculture at the Goetheanum, Demeter-International and the national Biodynamic and Demeter organisations worldwide.

In the course of this, the movement holds its source of inspiration and strength beyond the Biodynamic principles in its inner core of Rudolf Steiner’s anthroposophy; thus including the Agricultural Course and its holistic understanding of healthy personal and societal development, conveyed in education, consultation and information.

The title “Agri-Culture for the Future” with highlighting the word “Culture” emphasizes that it is not only about cultivating farming land as well as processing and trading good food, but really about the development of humans and the earth. We therewith conceived the term and concept broader than previously done, and have to further deal with the concept formation in the future. Hence, we will continuously develop our mission, vision and principles with all involved and interested parties.

It shall also be emphasized, that agri-culture is seen as an essential foundation for both personal and societal development and that it will gain in importance as it provides solutions for all burning issues of the present including the economic, cultural, social, and ecological ones.

We express our vision, mission and principles in the four dimensions of holistic sustainable development including a fifth sphere of cosmic and spiritual impacts. This shall contribute to a better structural understanding and overview but is not antithetic to the holistic fundamental view. The dimensions are integrated with each other and mutually reinforcing.
Vision - Where do we want to go?

*We want an agri-culture that...*

- ... encourages mankind to take over the responsibility for the holistic development of the earth (Ecology),
- ... impels and enables people to unfold their individual potential and develop their full consciousness (Human Development),
- ... produces wholesome and healthy food and other agri-cultural products that are of high quality and nourish body, soul and spirit (Economic Value Creation),
- ... fosters people to live and work together in dignity, mutual respect and tolerance (Social Relationship)
- ... embraces the material and spiritual world and empowers mankind to be conscious of and embed the cosmic and terrestrial forces and substances (Cosmic and Spiritual Impact).

Mission - What are we doing?

*In order to attain our vision we want to:*

**Ecology**

- Create living soil and lasting fertility.
- Create a living context within which human beings, animals and plants can thrive and develop.
- Advance the continued evolution of domestic animals and cultivated plants.
Human Development

- Find innovative social and technical solutions to the challenges we face and develop a new comprehension of nutrition and food quality with adequate methodologies to evaluate food quality.
- Enter into dialogues with those working with traditional, organic, spiritual and alternative growing methods as well as with those engaged with conventional agri-culture.
- Educate consumers and raise awareness of their responsibility.
- Enable farmers, processors and traders to practice agri-culture for the future.
- Continue developing the vision, mission and principles with all interested parties.

Economic Value Creation

- Handle resources with care during the processes of both production and consumption.
- Develop a cooperative approach throughout the production chain and create partnerships with supporting businesses and civil society groups.
- Make use of technology in a conscious and focused way to serve our objectives.
- Support producers in our movement to recognise and adapt to increasing market demands and encourage consumers to understand the importance of seasonality and regional production.

Social Relationship

- Encourage individual communities to pursue and develop agri-culture in their specific context.
- We actively campaign to create the conditions needed for sustainable and holistic development.
- Formulate guidelines and standards that include social values and develop appropriate ways of assessing them to ensure that our brand is protected and remains trustworthy.

Cosmic and Spiritual Impact

- Develop spiritual abilities and seek knowledge.

Principles - How do we work?

Ecology

- With ruminant husbandry (especially cattle with horns) diverse crop rotation, targeted cultivation controlled composting of organic manure and the usage of Biodynamic preparations we vitalize the soil and increase its fertility.
- All over the world farms adapt to the regional context to form an individual organism, which is viable by itself creating manifold ecologic, cultural and social living spaces/habitats for the future development of plants, animals and human beings.
- Through the use of Biodynamic and holistic breeding methods, we create conditions for healthy, characterful, mellow and beneficial food and we treat animals as fellow creatures and enable their inherent development.
Human Development

- We follow an inter-disciplinary, action-oriented approach to research to continuously develop and improve the Biodynamic methods, food quality and associative economic activity.

- We foster mutually enriching and open-ended dialogues based on mutual respect. We offer full transparency regarding origin, production, processing and consistency of products to strengthen self-responsibility and free choices of consumers and continuously develop “True Cost Accounting”-methods that consider all external costs of food production and make these real costs understandable.

- We provide our farmers with the knowledge and skills needed to improve the quality of their work and in the same time stay competitive, and create a corporate culture, which puts human beings, their need for individual development, their entrepreneurial behavior and innovative strength in the focus.

- The Demeter community enables contact and decision-making in the Demeter association along the value chain, from producers to consumers, with a continuous improvement of working processes and governance structure.

Economic Value Creation

- We aspire to use resources in the production and consumption in an attentive, sustainable and innovative way towards a closed-value chain economy that makes use of renewable sources and preserves the goodness as well as to unfold formative forces, wholesomeness, and savouriness of the products.

- We cooperate with ecological organisations, civil society and companies from different industries, which share our goals for a better future in a balance with regional value chains and international trade and offer them appropriate prices for their goods. In case of competition between members, they avoid indecent and adverse dealing with each other.

- All activities should be done without disproportionally harming or interfering with living organisms with the sustainable, living ecosystem as the highest value.

- We communicate transparently and provide farmers and consumers with comprehensive and transparent information about the market as well as the backgrounds of the production conditions.

Social Relationship

- We are aware of different local cultures, climate, and geographic conditions among the different member countries and are open for purposeful and transparent adaptation of best practices.

- We lobby for a pricing structure based on values that reflect the true costs of production, including the social and ecological costs and actively bring our agri-culture mission and values to the public discourse.

- We lay down conditions for a fair and respectful interaction between all members of the value chain and secure the Biodynamic method in the processing of raw goods and trade with the brand “Demeter”.


Cosmic and Spiritual Impact

- We are receptive and aware of personal spiritual abilities, vigilant and sensitive to our environment and the emotional life of those who surround us. Thereby we strive for perception and enlightenment.

Values

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3. General principles

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 the human hand 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 special 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 man.

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 (such as stirring for one hour).

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 live stock. 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 cooperation of mankind 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.

3.2. 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.

Aim

Demeter products contribute to the nutrition, care and clothing of mankind. 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 mankind should also be considered on this level.
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.

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.

Assessment of DEMETER food
Both the ingredients and the processing method affect the quality of food. For that 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).

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.

Ecological considerations
Production and processing of Demeter products and their trade should be carried out in a manner which is as environmentally as friendly as possible. Responsibility toward mankind and the environment should be in the foreground at each step.

3.3. 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 so 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.
3.4. 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 aim to eliminate social inequity including lack of social rights, forced or inappropriate child labour, below standard working conditions and/or wages, occupational safety and health issues etc.

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

3.5. Standards – general

3.5.1. Scope

The Demeter International Standards apply 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 standards that follow). They are approved by delegates of the Members’ Assembly of Demeter International and ratified by the International Biodynamic Association (IBDA), owner of the Demeter trademark rights. The standards become valid through publication by Demeter International 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 2018 and ratified by the International Biodynamic Association.

The Demeter International Standards 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 also essential elements of the following:

- international statutes of Demeter International e.V.
- the international statutes of the collective Demeter trademark
- individual license and certification contracts of the respective country organisations
■ the financial arrangements of Demeter International with the respective country organisations

They are complemented by “the Directions for the implementation of a certification program within the organisations of Demeter-International”, the ‘Standing Orders’ of the Standards Committee and the ‘Standing Orders’ of the Accreditation Council.

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.

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.

3.5.2. Standards Committee

The responsibility for interpreting and developing these standards lies with the Standards Committee of Demeter International, elected every three years by the Members’ Assembly.

3.5.3. Structure and System

The Demeter International Standards are comprised of a general section which applies to all licensees, members and certifying organisations; 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 the national certifier or Demeter International.

3.5.4. Changes to the Standard

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

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.

Each Demeter licensee is encouraged to take part in the development of the standards through working groups and regional representatives and the appropriate certifying body.
3.5.5. 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.

3.5.6. 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 Demeter International Directions.

3.6. 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. Nonetheless, national certification schemes must follow common accreditation principles including:

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

For further details concerning the requirements of inspection and certification processes and procedures please contact the national Demeter organisation or Demeter International.
3.6.1. Organisations entitled to certify

Member countries of Demeter International are authorised to certify to Demeter standards within their own country. 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.

3.6.2. 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.

3.6.3. Quality assurance

It is the responsibility of every contracted party 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 instil good production practice, and promote motivation for the Biodynamic content and its special character.

3.6.4. Types of certificates and product approval

A Demeter certificate is valid for a specific scope and time. The Demeter certification body provides the following kinds of certificate:

- Production certificate – which details the land, crops and animals that are certified.
- Processing certificate and certified product list – which details the activities that are certified and the approved products. The details of approved products can be specified in an annex or separate related document.

Demeter products are approved by the national or international certification body. 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 that is approved must have documentation of the following:

- Recipes, ingredients and additives
- Processes
- Processing aids
3.6.5. 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 the certification body.

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.

3.6.6. Exemptions

The requirements for Demeter production and processing are set out in the International Demeter Standards. It is possible to request an exemption to these standards only in well-justified and documented cases.

A request for an exemption should be made in writing to the national certification body. If it is clear in the standards that this exemption can be granted at a member country level, then the certification body can approve the request. If it is not clear, then the national organization will forward the request to the Standards Committee who will consider the request and either grant or deny the exemption.

Under certain circumstances it is also possible for a national certification body to request a country-wide exemption. For more details please refer to the Directions of Demeter International.

3.6.7. 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 Demeter 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, each certification body must have policies and procedures in place to resolve the situation. The certifying body must make clear to the licensee what corrective action should be taken and in what time frame. The licensee is obliged to take corrective measures within the specified timeline.
If a licensee disagrees with the decisions taken by the certifying body, a clear procedure must be in place for complaints and appeals.

If a severe non-compliance occurs, the Accreditation Council must be notified.

3.7. Residues

This section refers to residues like herbicides and pesticides or farm inputs in general 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 a raw material of product loses its organic status due to exceeding the permitted maximum 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.
- 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 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, the national organisation 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 the national organisation. 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.
- The certification organisation must report any exceeded orientation values and the corresponding certification decision to the AC.
- Additional sanctioning in cases of acceptable and unacceptable orientation values is regulated in the sanctions’ registers of the respective certification organisations.
- The above only applies if other legal provisions do not prescribe stricter rules.

3.7.1. 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.

National certification organisations are 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 respective analyses are the responsibility of the respective
certifying organisation. They are also entitled to request a corresponding action plan on the basis of this analysis.

The action plan will be set up by the respective certifier and may contain both the following elements and measures going beyond them:

- A written agreement is required with conventional neighbours
- An appropriate buffer zone between certified crops and conventional neighbouring fields. Produce from inside this zone may not be marketed as Demeter. Documentation is required concerning where it is used/sold.
- Harvested produce from the 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.
- If possible hedges should be planted.

In summary:

- 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 exemptions to this standard can be approved according to the procedures outlined above. Exemptions to a national standard (but not the international standard) can be approved by the national certification body. Exemptions to the international standard can be approved by the Standards Committee and the Members’ Assembly.
4.1. Composition and quality of Demeter products

4.1.1. Quality of raw material – general definition

The following sections describe the required quality and composition of raw materials for Demeter production and processing. The following section describes the composition of these categories concerning their qualities. In the following the term “raw material” is used in general but covers all relevant categories for the use on a Demeter enterprise like raw material, ingredients, animal fodder, operating material, aids and additives, animals and seeds.

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 see the labelling section of these standards for the minimum requirements of labelled Demeter products and fodder.

4.1.2. 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:

- First: Products inspected and certified by recognised organic associations and certification bodies.
Second: Products with a basic certification for common organic legal norms like the EU-Regulation on organic farming, the National Organic Program (NOP), Japan Agricultural Standard (JAS) or equivalent organic legal norms

Third: 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 the Demeter labelling standards for the additional requirements of labelling when raw materials, additives and aids are included that are not of Demeter quality.

4.1.3. Availability of Demeter raw material

When raw materials are available in Demeter quality they must be used. The definition of ‘available’ is to be decided by the certification body of the member country by a clear and transparent procedure. This procedure must be publicly available and should 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 the Demeter labelling standards on additional requirements of labelling when raw materials, additives and aids are included that are not of Demeter quality.

4.1.4. Inclusion of organic partially processed products

If partially processed 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 as identified above in 4.1.2..

4.1.5. 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.

4.2. 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.

4.2.1. Approved or restricted approved methods
- All physical treatments and methods like washing, cleaning, sieving, filtering (please note restrictions on filtration material), mechanical chopping, mixing, pressing, blanching, decanting, steaming.
- **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 an exemption issued by the respective organisation.

- **Spray drying**.

- Dried milk powder from **horses** and **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 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 is not permitted. 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** - 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.
4.2.2. 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.
- **Chemical preservation** such as surface treatment or fumigation with chemical preservatives is prohibited.
- **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 (an exemption 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 and/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 nanometers 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.
### 4.3. Aids and additives

#### Product groups with their abbreviations

<table>
<thead>
<tr>
<th>Abr.</th>
<th>Product group</th>
<th>Abr.</th>
<th>Product group</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB</td>
<td>Bread and Bakery</td>
<td>FV</td>
<td>Fruits and Vegetables</td>
</tr>
<tr>
<td>MI</td>
<td>Milk and Milk Products</td>
<td>Oil</td>
<td>Fats and Oils</td>
</tr>
<tr>
<td>S</td>
<td>Sweetening agents, chocolate and ice-cream</td>
<td>IMF</td>
<td>Infant Milk Formula</td>
</tr>
<tr>
<td>MS</td>
<td>Meat and Sausage</td>
<td>HS</td>
<td>Herbs and spices</td>
</tr>
<tr>
<td>COS</td>
<td>Cosmetics</td>
<td>G</td>
<td>Grain products, pasta and tofu</td>
</tr>
<tr>
<td>W</td>
<td>Wine</td>
<td>B</td>
<td>Beer</td>
</tr>
<tr>
<td>A</td>
<td>Alcohol</td>
<td>CFW</td>
<td>Cider, fruit wines and vinegar</td>
</tr>
<tr>
<td>FHS</td>
<td>Food and Health supplements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Additive/processing aid</th>
<th>E-No.</th>
<th>Product group*</th>
<th>Restriction/note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium carbonate CaCO₃</td>
<td>E170</td>
<td>All</td>
<td>As free flowing agent for salt</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W</td>
<td>Acidity regulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MI</td>
<td>Only for sour milk cheese</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HS</td>
<td>As free flowing agent for herbs and spices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Magnesium carbonate MgCO₃</td>
<td>E504</td>
<td>All</td>
<td>As free flowing agent for salt</td>
</tr>
<tr>
<td>Carbon Dioxide CO₂</td>
<td>E290</td>
<td>All</td>
<td>As inert gas/processing aid for all product groups.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO₂ as an ingredient in the production of non-alcoholic beverages.</td>
</tr>
<tr>
<td>Nitrogen N₂</td>
<td>E941</td>
<td>All</td>
<td>As inert gas/processing aid for all product groups.</td>
</tr>
<tr>
<td>Argon Ar</td>
<td>E938</td>
<td>All</td>
<td>As inert gas/processing aid for all product groups.</td>
</tr>
<tr>
<td>Ozone O₃</td>
<td></td>
<td></td>
<td>Limited to treatment of cool store atmospheres; not to be used on products.</td>
</tr>
<tr>
<td>Lecithin</td>
<td>E322</td>
<td>S, OIL, COS</td>
<td>In organic quality</td>
</tr>
<tr>
<td>Additive/processing aid</td>
<td>E-No.</td>
<td>Product group*</td>
<td>Restriction/note</td>
</tr>
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<tr>
<td><strong>Additive/processing aid</strong></td>
<td>E-No.</td>
<td>Product group*</td>
<td>Restriction/note</td>
</tr>
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<td><strong>Fundamental Requirements</strong></td>
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<td><strong>Additive/processing aid</strong></td>
<td>E-No.</td>
<td>Product group*</td>
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</tr>
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<td>Additive/processing aid</td>
<td>E-No.</td>
<td>Product group*</td>
<td>Restriction/note</td>
</tr>
<tr>
<td>FHS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least organic quality, only from sunflowers, only for capsules and hulls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citric acid ( \text{C}_6\text{H}_8\text{O}_7 )</td>
<td>E330</td>
<td>OIL</td>
<td>only for removal of mucilage</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td>Clarification (hydrolysis of starch)</td>
</tr>
<tr>
<td>A, COS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium citrate ( \text{Na}_2\text{C}_6\text{H}_5\text{O}_7 )</td>
<td>E331</td>
<td>MS</td>
<td>Only for scalded sausage if it is not possible to process the meat warm.</td>
</tr>
<tr>
<td>Calcium citrate ( \text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 )</td>
<td>E333</td>
<td>FV</td>
<td>Only for scalded sausage if it is not possible to process the meat warm.</td>
</tr>
<tr>
<td>Tartaric acid ( \text{C}_4\text{H}_6\text{O}_6 )</td>
<td>E334</td>
<td>W</td>
<td>Acidity regulation, processing aid</td>
</tr>
<tr>
<td>Potassium bitartrate ( \text{KCa(C}_6\text{H}_5\text{O}_7)_2 )</td>
<td>E336</td>
<td>W</td>
<td>Tartar stabilisation</td>
</tr>
<tr>
<td>Agar-Agar</td>
<td>E406</td>
<td>FV, S, G</td>
<td>Only for spreads based on fruit and sweet milk products e.g. ice-cream</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Only for puddings</td>
</tr>
<tr>
<td>Carob bean Gum</td>
<td>E410</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>Guar gum</td>
<td>E412</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>Gum arabic</td>
<td>E414</td>
<td>S; FHS</td>
<td></td>
</tr>
<tr>
<td>Pectin</td>
<td>E440i</td>
<td>BB, MI, FV, FHS</td>
<td></td>
</tr>
<tr>
<td>Tartaric acid baking powder ( \text{KHCO}_3/\text{NaHCO}_3/\text{Ca}_4\text{H}_5\text{O}_6/\text{KC}_4\text{H}_5\text{O}_6/\text{NaC}_4\text{H}_5\text{O}_6 )</td>
<td>E500/ E501/ E334/ E335/ E336</td>
<td>BB</td>
<td>(Sodium or Potassium bicarbonate, with Tartaric acid, sodium or potassium tartrate in any combination); Grain starch is the only permitted carrier.</td>
</tr>
<tr>
<td>Sodium bicarbonate ( \text{NaHCO}_3 )</td>
<td>E500</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>G</td>
<td></td>
</tr>
<tr>
<td>Potassium bicarbonate ( \text{KHCO}_3 )</td>
<td>E501</td>
<td>W</td>
<td>Acidity regulation</td>
</tr>
<tr>
<td>Sodium carbonate ( \text{Na}_2\text{CO}_3 )</td>
<td>E500</td>
<td>B</td>
<td>Softening water for brewing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
<td>Sugar production</td>
</tr>
<tr>
<td>Magnesium carbonate ( \text{MgCO}_3 )</td>
<td>E504</td>
<td>FHS</td>
<td>Release and mould release agent</td>
</tr>
<tr>
<td>Calcium sulphate ( \text{CaSO}_4 )</td>
<td>E516</td>
<td>G</td>
<td>Grain products – tofu production</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Brewing gypsum</td>
</tr>
<tr>
<td>Magnesium Chloride ( \text{MgCl}_2 )</td>
<td>E511</td>
<td>G</td>
<td>Tofu production</td>
</tr>
<tr>
<td>Additive/processing aid</td>
<td>E-No.</td>
<td>Product group*</td>
<td>Restriction/note</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Sodium hydroxide (lye) NaOH</td>
<td>E524</td>
<td>BB</td>
<td>Lye bakery products only – 4% solution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
<td>Sugar production</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G</td>
<td>To adjust the pH in the production of starch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COS</td>
<td>Soap production</td>
</tr>
<tr>
<td>Potassium hydroxide KOH</td>
<td>E525</td>
<td>COS</td>
<td>Soap production</td>
</tr>
<tr>
<td>Lime water/Calcium hydroxide Ca(OH)₂</td>
<td>E526</td>
<td>S</td>
<td>Sugar production</td>
</tr>
<tr>
<td>Calcium Chloride CaCl₂</td>
<td>E509</td>
<td>MI</td>
<td>Only for cheese production</td>
</tr>
<tr>
<td>Carbonic acid H₂CO₃</td>
<td></td>
<td>S</td>
<td>To precipitate out excess calcium</td>
</tr>
<tr>
<td>Sulphur SO₂</td>
<td>E220</td>
<td>W</td>
<td>Pure SO₂, as gas or in solution, potassium bisulphite, potassium metabisulfite, please note quantitative restrictions according to type of wine</td>
</tr>
<tr>
<td>Salt</td>
<td>All</td>
<td>Sea salt, rock salt or refined salt without the addition of iodine or fluorine. Permitted free flowing agent: Calcium carbonate</td>
<td></td>
</tr>
<tr>
<td>Gelatin (at least of organic quality)</td>
<td>BB</td>
<td>Only for bakery products containing yoghurt, cottage cheese or cream.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FV</td>
<td>For clarification (cosmetic reasons) of fruit and vegetable juices.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All categories except wine</td>
<td>As ingredient, listed on label</td>
</tr>
<tr>
<td>‘Native’ Starch, pre-gelatinised starch</td>
<td>All</td>
<td>At least organic quality</td>
<td></td>
</tr>
<tr>
<td>Smoke</td>
<td>MI</td>
<td>From native, untreated wood e.g. Juniper, conifer, also spices.</td>
<td></td>
</tr>
<tr>
<td>Aroma extracts</td>
<td>All</td>
<td>Pure etheric oils or pure extracts identical with the parent material and made using permitted extracting agents.</td>
<td></td>
</tr>
<tr>
<td>Bees wax</td>
<td>BB</td>
<td>Non-stick agents</td>
<td></td>
</tr>
<tr>
<td>Carnauba wax</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetable oil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant waxes</td>
<td>FHS</td>
<td>Adhesives and bonding agents</td>
<td></td>
</tr>
<tr>
<td>Rennet</td>
<td>MI</td>
<td>Also chemically preserved</td>
<td></td>
</tr>
<tr>
<td>Bees wax</td>
<td>MI</td>
<td>As a coating only on cheese, uncoloured and without fungicide treatments (also without additives such as short chain polyolefin, polyisobutylen, butyl or cyclic rubber)</td>
<td></td>
</tr>
<tr>
<td>Additive/processing aid</td>
<td>E-No.</td>
<td>Product group*</td>
<td>Restriction/note</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Lactic acid C₃H₆O₃</td>
<td></td>
<td></td>
<td>Only for preparation of natural casings</td>
</tr>
<tr>
<td></td>
<td>MS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starter cultures</td>
<td>All</td>
<td></td>
<td>No genetically engineered cultures (documentation required), not chemically preserved.</td>
</tr>
<tr>
<td>Ethylene C₂H₄</td>
<td></td>
<td>FV</td>
<td>Only for ripening bananas</td>
</tr>
<tr>
<td>Alum KAl(SO₄)₂·12H₂O.</td>
<td>FV</td>
<td></td>
<td>For organic banana production to stop latex flow from the cut surface of the banana hands</td>
</tr>
<tr>
<td>Enzymes</td>
<td>FV</td>
<td></td>
<td>Enzymes can be used for pressing and clarification of juices.</td>
</tr>
<tr>
<td></td>
<td>S</td>
<td>Grains starch invert sugar production: Xylose (Glucose) Isomerase</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COS</td>
<td>All naturally occurring enzymes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>Enzymes can be used for the production of alcohol.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>All enzymes (including additives and carriers) used must comply with the following requirements: - GMO-free - Free from preservatives (an exemption can be approved, based on a non-availability declaration by 3 suppliers). - Glycerine may be added to the enzymes, but must be produced from sustainable sources.</td>
<td></td>
</tr>
<tr>
<td>Yeast</td>
<td>BB, W, A, B, CFW</td>
<td>GMO free</td>
<td></td>
</tr>
<tr>
<td>Oil</td>
<td>S</td>
<td>To prevent foaming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FV</td>
<td>As non-stick agents for dried fruit and vegetables</td>
<td></td>
</tr>
<tr>
<td>Filtration materials</td>
<td>All</td>
<td>Asbestos free, Chlorine free</td>
<td></td>
</tr>
<tr>
<td>Diatomaceous earth</td>
<td>All</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Perlite E599</td>
<td>All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bentonite</td>
<td>All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activated carbon (carbon filter)</td>
<td>All</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Additive/processing aid

<table>
<thead>
<tr>
<th>Additive/processing aid</th>
<th>E-No.</th>
<th>Product group*</th>
<th>Restriction/note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant proteins (e.g. pea protein)</td>
<td>FV</td>
<td>W</td>
<td>For cosmetic reasons, clarification and fining, written permission of the certifying body is needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W</td>
<td>Pea, potato or wheat protein as fining agent</td>
</tr>
<tr>
<td>Tannic acid</td>
<td>S</td>
<td>A</td>
<td>Natural origin</td>
</tr>
<tr>
<td>Organic ester sucrose</td>
<td>S</td>
<td></td>
<td>Organic quality</td>
</tr>
<tr>
<td>Sulphuric acid</td>
<td>S</td>
<td></td>
<td>pH control in sugar production</td>
</tr>
<tr>
<td>Inulin and other oligosaccharides</td>
<td>S</td>
<td></td>
<td>In organic quality only for ice-cream</td>
</tr>
</tbody>
</table>

**In summary:**

- 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 these standards.
- 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 these standards.
- 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 is not to be considered exhaustive.
- Please contact the coordinator of the Standards Committee if clarification is needed.
5. Labelling standards

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – general section*

5.1. Introduction

These labelling standards apply 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.

5.2. 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 the respective country organisation as basis for certification.

As a specific example, in the case of baby foods based on grain, which are legally required to have added vitamins (under EU regulation 1925/2006), the addition must be specified in the ingredients list by including the following sentence: “Containing added vitamins, as legally required.”
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.

5.3. 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).
- The use of the word Demeter within a business name or logo is only possible with written permission from the respective country organisation or Demeter International e.V..

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 these standards.

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 3.6. Certification and 4.1. Composition and quality of Demeter products.

5.4. Labelling of Demeter Products

5.4.1. Single ingredient Products

- Can be labelled with the trademarks only if they consist of 100% Demeter ingredients.
- 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.
5.4.2. Multiple ingredient Products

- 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 4.1 for the definition of available and the additional requirements for ingredients that are not Demeter certified).

- Products containing 66-90% Demeter certified ingredients may be labelled with the trademark logo only if an exemption is given by the respective country organisation. For application details please refer to the statutes or standards of the country organisation. These products must also include either “This product contains between 66 and 90% Demeter ingredients” or the actual percentage of Demeter ingredients in an appropriate place on the label.

- Products containing 10-66% Demeter certified ingredients cannot be labelled with the trademark logo, but ingredient labelling with the word mark ‘demeter’ is allowed. Please refer to style and font of the Demeter trademark below.

- In all products (regardless of the use of the Demeter trademark) which contain ingredients of differing levels of certified quality, the quality of each ingredient must be clearly indicated in the ingredients list (e.g. *organic, **demeter; ***demeter in conversion or demeter-ingredient, organic-ingredient).

- If a product contains any ingredient with differing levels of certification, the ingredient must be labelled at the lowest level of certification. (For example if an ingredient is mixed status Demeter and organic, it can only be labelled organic.)

- Sea fish caught according to the requirements of the Marine Stewardship Council (MSC), may be used as ingredient in Demeter products. The finished product must contain a minimum of 70% Demeter certified ingredients and the lower than usual percentage of Demeter ingredients must be stated in a footnote appropriately placed on the label (e.g. in the ingredients list).

5.4.3. In Conversion to Demeter Products and Ingredients

- If single ingredient products and ingredients are in conversion to Demeter with full organic status the trademarks can be used but additional reference must be made to ‘in conversion to Demeter’ as a footnote appropriately placed on the label. These ingredients may be included as Demeter ingredients in the calculations as described in section 4.1.

- 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.

- Single ingredient products and ingredients with the status “conversion to Demeter” without an organic conversion status cannot be labelled with the trademark, and no additional reference “in conversion to Demeter” as a footnote is possible.
### Table: % Demeter certified ingredients overview

<table>
<thead>
<tr>
<th>Demeter amount</th>
<th>Labelling</th>
<th>Ingredients’ list</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td><img src="image" alt="Demeter logo" /></td>
<td>Single ingredient products do not require ingredient labelling. If ingredients are ‘in conversion to Demeter’ a footnote is required.</td>
</tr>
<tr>
<td>90-100%</td>
<td><img src="image" alt="Demeter logo" /></td>
<td>Ingredients must be clearly identified as to % and certification status. Certification status may be indicated with text <em>(demeter wheat)</em> or with the use of symbols <em>(wheat</em>* ingredients with ** are demeter certified)*.</td>
</tr>
<tr>
<td>66-90%</td>
<td><img src="image" alt="Demeter logo" /></td>
<td>Trademark may only be used with an exemption given to the member country. Ingredients must be clearly identified as to % and certification status (with symbols or text). In addition, there must be a reference to either “This product contains between 66 and 90% Demeter ingredients” or the actual percentage of the ingredients in an appropriate place on the label.</td>
</tr>
<tr>
<td>10-66%</td>
<td><img src="image" alt="Demeter logo" /></td>
<td>No use of the trademark is allowed, however individual Demeter certified ingredients may be labelled as demeter (with symbols or text).</td>
</tr>
</tbody>
</table>

For further information about requirements for conversion status and general certification status of organic and Demeter raw material please refer to appendix 6 of the production section of this standard.

### 5.5. Demeter trademark logo

The Demeter trademark logo consists of three graphic elements: the trademarked stylised word, the background field, and the accenting line. The proportions of the individual elements, or the complete logo, may not be altered.

### Table: Graphic Elements of the Demeter Trademark logo

<table>
<thead>
<tr>
<th>Trademark logo</th>
<th>Trademark stylised word</th>
<th>Background field</th>
<th>Accenting line</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Demeter logo" /></td>
<td><img src="image" alt="Demeter stylised word" /></td>
<td><img src="image" alt="Orange background" /></td>
<td><img src="image" alt="Accenting line" /></td>
</tr>
</tbody>
</table>
5.5.1. Standard placement on products

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 width (respective organisations 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, the respective Demeter organisation may approve placement of the logo.

5.5.2. Form and colour scheme

- The form and proportions of the trademark logo must not be changed.
- If the trademark logo is not clearly differentiated from the background, then the edges of the logo must be identified with an additional line.
- 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 usage of the Demeter trademark logo |
|-----------------------------|---------------------|-------------------------|
| Trademark log               | Colour              | Description             |
| Logo                        | Trademark stylised word: white | White (transparent on a pale background) |
|                             | Background field: orange | 4c CMYK Paper coloured C0/M65/Y100/K0 Paper natural C0/M50/Y100/K0 Pantone Orange 158 c RAL 2011 |
**Monochrome printing**

If a single colour is used, use of the trademark logo is allowed in that colour with the approval of the respective country organisation.

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

### 5.5.3. Text additions to the trademark logo

Text additions to the trademark logo are not permitted.

### 5.5.4. Style and font of the Demeter trademark

Two methods of writing “Demeter” on labels and packaging are to be distinguished:

- **demeter**: If the word is used as part of the text in place of the trademark, or as a description of ingredients (e.g. `demeter-Milk`) – in the typeface as the rest of the text, in lower case, bold italics.

- Demeter: For all other uses (e.g. Demeter quality, Demeter standards, Demeter International) - then the word should appear in the same typeface as the rest of the text, with only the initial letter in upper case.

Any other highlighting of the word “Demeter” (whether in font or colour) in the text is not allowed.

### 5.6. Labelling with the seal

This section is under development.

### 5.7. Labelling with the flower trademark

Countries who use the Demeter “flower” trademark may continue to do so. The labelling of Demeter/Biodynamic wine with the Demeter “flower” trademark is regulated in a separate section below.
5.8. Labelling with Biodynamic/Biodynamic®

- The word Biodynamic must be mentioned wherever the Demeter logo is used, or reference is made to Demeter. This includes labels on all Demeter products/processed products and in any related promotional material.

- Food products may only refer to Demeter/Biodynamic in the ingredients list if those ingredients are Demeter certified. Either word may be used.

- Products with less than 66% Demeter ingredients cannot be referred to as Biodynamic either on the label or in promotional material however Demeter certified ingredients may be identified as Demeter/Biodynamic in the ingredients list. Biodynamic shall not be more prominent than Demeter or be used to the detriment of the Demeter trademark.

- All labelling must be approved by the respective organisation. In addition, the respective organisation will require that all inaccurate promotional material must be changed. (Promotional material includes web sites, leaflets and brochures, product posters or other descriptions.)

- The combination of Biodynamic with the registered trademark symbol - Biodynamic® - may only be used in a country in which the trademark has been legally registered. In the USA, the symbol ® must be used. Please contact DI for further information.

- A vineyard and/or its wine must not refer to Biodynamic unless the production is certified.

- Wine and cosmetic labels may refer to Biodynamic, or use it as the main logo, without referring to Demeter.

5.9. Labelling of products from bee management

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 standards. 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”.

5.10. Labelling of products containing alcohol

5.10.1. Labelling of alcoholic spirits

Alcoholic spirits or Demeter products containing alcoholic spirits must not be labelled with any of the Biodynamic trademarks. The Demeter certified ingredients in the product may be indicated in the ingredients list under the following conditions:

- The word Demeter may only be used on the back or side of packaging or in the information panel.
Font, style and size for use of the word Demeter is similar to the text used on the information panel (no use of the Demeter logo).

The certified Demeter ingredients in the product are clearly indicated (as detailed above).

Each respective organisation must decide on the deadline for phasing out existing labels on alcoholic spirit products which are already labelled but which do not conform to this new standard.

5.10.2. Labelling of Demeter and Biodynamic wine

If wine is made from Demeter/Biodynamic certified grapes, and meets the Demeter International wine standards, 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 wine is made from Demeter/Biodynamic grapes, and meets the Demeter International wine standards, the word Biodynamic may be used. Any use must meet the requirements set out in 5.7 above. It may be used in the text on the front or back label. It may be used only after the Trademark is registered and shall not be used as a prominent logo. It may be used on a label, with no mention of Demeter. Use of the Biodynamic® trademark must not diminish the co-brand.

If wine is made from Demeter/Biodynamic® grapes, and meets the Demeter International wine standards, countries have the option to use the Demeter flower trademark on the front label, back label, or on a collar in a way that complies with the national standards for labelling.

If Demeter/Biodynamic grapes are processed to wine using the EU organic wine standards or to standards recognised as equivalent 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.

5.10.3. 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 “product contains alcohol” or similar. 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.
5.11. Labelling of Demeter cosmetics

■ Products containing at least 90% Demeter certified ingredients (or between 66-90% Demeter ingredients with a country exemption) may be labelled according to the general requirements of this labelling standard, if the products meet the standards for cosmetics and personal care products and all products of non-agricultural origin are listed in 8.15.4..

■ For products containing less than 66% Demeter ingredients, ingredients may be identified as Demeter or Biodynamic only with reference to the raw materials and only if it is not implied that the product as a whole is of Demeter/Biodynamic quality or meets the Demeter International Cosmetics Standards.

■ The words Demeter or Biodynamic may only be used on the back and/or side panel labelling when:
  - The product meets an “organic” or “natural” standard approved* by Demeter International and is labelled as such, or
  - The product meets this standard with the exception of one or more ingredients of non-agricultural origin permitted in a “natural” standard as mentioned above, and
  - The font style and size for use of Demeter or Biodynamic is similar to the text used on the information panel (no use of the Demeter logo).
  - The certified Biodynamic ingredients in the product are indicated either on the packaging or on the insert with the product and in the internet via a link from the product

■ Reference to Demeter/Biodynamic agriculture and raw materials in relation to product(s) which contain less than 66% of Demeter/Biodynamic ingredients in the total formulation may only be made as specified above. Internet and other non-point-of-sale information specific to product(s) must also be clear that the product(s) referenced are not Demeter/Biodynamic certified as a whole.

* please see the standards for the certification of cosmetics and personal care products.

5.12. Labelling of Demeter textiles

■ The labelling of textiles from Demeter wool and other Demeter fibres, which have been produced according to the Demeter processing standards, can be labelled with the Demeter trademark logo if the general requirements are met. Indicating the use of Demeter raw materials must comply with the relevant section of the labelling standard.

Ingredient labelling - Demeter or Biodynamic may be used only on the back and/or side panel labelling when:

■ The product meets an “organic” or “natural” standard approved* by Demeter-International e.g. GOTS and be labelled as such, or

■ The product meets the Demeter-International textile standard with the exception of one or more ingredients/processes permitted in a “natural” standard mentioned above, and

■ Font style and size for use of Demeter or Biodynamic is similar to the text used on the information panel (no use of the Demeter logo)
The certified Biodynamic ingredients in the product are indicated either on the packaging/labelling or on the insert with the product and in the internet via a link from the product.

Reference to Demeter/Biodynamic agriculture and raw materials in relation to product(s) may only be made as specified above. Internet and other non-point-of-sale information specific to product(s) must also be clear that the product(s) referenced are not Demeter/Biodynamic.

* Approval requires the standard in question to have:
  • Minimum organic ingredient content of 50% of the agricultural ingredients
  • No ingredients in parallel (Demeter with organic/conventional)
  • No GMO
  • No nanoparticles

The licensee shall apply for approval by supplying proof that the above requirements are met by the standard in question, and they are certified to that standard.

The DEMETER/BIODYNAMIC trademark logos cannot be used anywhere on the product label.

5.13. Labelling of products from Biodynamic breeding

Products which meet the requirements for Biodynamic breeding as set out in section 7.1 of these standards can be labelled as follows:

■ With the Demeter trademarks in line with the general requirements of this labelling standard.
■ With a text reference to Biodynamic e.g. “Biodynamically cultivated variety”, “Biodynamically grown varieties” or “from Biodynamic breeding” within the information text on the product.
■ With a combination of the ‘Bioverita’ logo and a reference to Biodynamic breeding.

In order to label with either a reference to Biodynamic breeding alone or in combination with the ‘Bioverita’ logo the following minimum requirements apply:

■ Labelled seeds – 100% must meet the standards for Biodynamic breeding.
■ Single ingredient products, loose and unprocessed - 100% must meet the standards for Biodynamic breeding.
■ Single ingredient products which are sold packed and/or processed – at least 66% raw materials must meet the standards for Biodynamic breeding (the proportions are calculated using the yearly average, not per package).
■ Multi-ingredient products – at least 50% raw materials must meet the standards for Biodynamic breeding (the proportions are calculated using the yearly average, not per package).
The requirements outlined above also apply to products and raw materials from seeds on Demeter farms that were multiplied on an organic farm for the purpose of seed production.

Table: Examples of the ‘Bioverita’ logo in combination with text

5.14. 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.

In summary:

- 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.
6. Pest control and cleaning of storage and production facilities

International Standard for the certification of Demeter, Biodynamic® and related trademarks – general section

Version June 2018 Date of revision June 2019

6.1. 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 minimized effects on Demeter products and the environment is the central responsibility of every Demeter licensee.

6.2. Scope

This Directive is not limited to processors only, but refers 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.

6.3. Preventative measures

Both in pest control and in the use of detergents, prophylactic measures and good industrial hygiene must always have priority to prevent the emergence of pests and pathogenic microorganisms than to reduce the resulting pressure with the subsequent use of suppression measures. Both areas should be dealt with using in-house management
systems and constantly further developed. Structural requirements, hygiene of the registered means of production and personal hygiene of the employees require constant optimization and training.
HACCP concepts should address both areas and require responsible and trained staff. Wherever possible, HACCP concepts should be designed so that reduction is based on several complementary but low hurdles and not on a few invasive ones.

6.4. Pest control

6.4.1. Treatment protocol

Many processors outsource pest control to professional companies. These companies must keep a log-book of their activities and findings which shall 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 need to be protocolled by the licensee (date, material, dosage, location of bait stations, training on their use).

6.4.2. 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 (Citrus, linseed, animal oils)
- Ultra sound generators
- Parasitic or predator insects (e.g. Lariophagus)
- Diatomaceous earth
- Pyrethrum (without Piperonylbutoxide). The respective organisation can issue an exemption if PBO is present in materials legally required to be used.
- Bacillus thuringiensis

6.4.3. Approved measures – raw materials

The following measures may be used both in storerooms and in direct contact with raw materials and products:
- Washing with water or steam
- Sieving or beating
- Aspiration
- Compressed air - disinestation
■ Thermal measures (Cooling, blast freezing, heat)
■ Inert gas treatment e.g. with nitrogen or carbon dioxide.

6.4.4. 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 under subsequent conditions. The measures are to be requested in advance from the responsible country organisation, the reasons given include at least:

■ Advice and substantiation by a professional in pest control.
■ Description and specification of means and materials.
■ Description of the measures to avoid contamination of products after reusing the storage
■ Measures to improve prevention in order to avoid repetition.

6.5. Cleaning agents

6.5.1. Cleaning agents - basics

Products authorised for cleaning and disinfection of buildings and installations (e.g. equipment and utensils).

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. General guidelines in the sense of a positive list are not possible under this guideline. In addition to the use of cleaning agents with the lowest possible environmental effects in production, application and production, a 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 notice, especially for wine there are some further requirements, only listed in the section for the processing of wine.

6.5.2. 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

6.5.3. Permitted cleaning agents

In principle, all cleaning products are authorised, with the exception of those listed under 6.5.4, insofar as no other higher-ranking legal directives exclude these. This applies on the condition that measures described under 6.5.3 are not detectable in the product. Product contamination, even with approved agents, may lead to decertification of the product by the respective national organization.

6.5.4. Non-permitted cleaning agents

Agents with the following active ingredients are not permitted:
■ QAC (quaternary ammonium cations)
■ Active chlorine (the respective organisation may grant an exemption in meat processing)
■ Complexing/Chelating agents and their salts
■ Formaldehyde
7. Production

International Standard for the certification of Demeter, Biodynamic® and related trademarks – production

7.1. Arable und Plant Production

"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.

7.1.1. Scope

Arable and plant productions covers all agricultural crops and plants including perennial and ornamental plants usually grown on organically managed enterprises.

New crops or production techniques not covered in these section and which are not usual practice in organically managed enterprises, may only be trialled with the permission of Demeter-International or the respective organisation (APP 3: see appendix 7).

7.1.2. Seed and propagation material

7.1.2.1. General principles – seed and propagation material

Seed, propagation and plant material of genetically modified varieties (GMO) including protoplasm and cytoplasm fusion techniques may not be multiplied or sown on Demeter enterprises.

The use of seed, propagation and plant material produced by new plant breeding techniques (NPBTs) is prohibited in production on a Demeter enterprise. This comprises all NPBTs
considered by IFOAM EU as techniques of genetic modification leading to GMOs according to the existing EU legal definition. These are:

- 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

Seed, propagation and plant material must originate preferably from Biodynamic agriculture, or else from organic agriculture, if Biodynamic is unavailable.

The use of plant seeds treated with low-energy electrons is prohibited if alternative treatment according to this standard is available.

7.1.2.2. Propagation material for vegetables

If propagation material is unavailable in Biodynamic or organic quality, propagation material of conventional origin may be used after approval by the respective organisation (APP 1: see Appendix 7). This exemption may not be given for vegetable seedlings and young plants for growing on that have a short time to maturity and sale (e.g. lettuce, etc.).

7.1.2.3. Propagation material for tree crops and perennial crops

If propagation material for tree crops and perennial crops is unavailable in Biodynamic or organic quality, propagation material of conventional origin may be used after approval of the respective organisation (APP 1: see Appendix 7). Post-harvest treatment with chemical synthetic pesticides (e.g. disinfectants) is not permitted.

Imports of no more than two trees per year per farm are exempt.

7.1.3. Manures

All manures must be handled with care and attention. The storage capacity must be adequate, and an appropriate method for spreading is required. Nutrient losses during storage and use by volatilisation and leaching are to be minimised.
7.1.3.1. Amount of manure

The maximum amount of nitrogen that may be supplied by way of the manures used, averaged over the total area of the farm, may not exceed the amount that would be produced by those animals which the farm could support from its own fodder production (Max. 112 kg/N/ha based on the total area of the farm; see Appendix 1).

Market gardens are allowed to import up to a maximum of 170 kgN/ha if nitrogen export is higher than 112 kgN/ha. The deficit has to be substantiated by a nitrogen balance, to be approved by the respective organisation.

If the organic manures produced by the farm, together with the imported organic manures and other plant husbandry methods are not sufficient for the soils’ requirements, commercial organic manures may be used. However, forced growth is to be avoided.

The amount of nitrogen, imported in commercial organic manures, may not exceed that which could be supplied by compost, stable manure and/or green manures, and in any case must be less than 40 kg/N/ha as an average over the farm (exception: tropical and subtropical perennial crops* and market gardens/vegetable production**).

The allowable manures are listed in Appendix 4.

* tropical and subtropical perennial crops, compare also 7.1.6..
** market gardens/vegetable production, compare also 7.1.5.1..

7.1.3.2. Amount of manure – market gardens

The maximum amount of nitrogen that may be supplied by way of the manures used, averaged over the total area of the farm, may not exceed the amount that would be produced by those animals which the farm could support from its own fodder production (Max. 112 kg/N/ha based on the total area of the farm; see Appendix 1).

Market gardens are allowed to import up to a maximum of 170 kgN/ha if nitrogen export is higher than 112 kgN/ha. The deficit has to be substantiated by a nitrogen balance, to be approved by the respective organisation. The amount of commercial organic fertilisers can be up to 80kg N/ha/year, calculated as an average over the vegetable crop rotation and not the entire farm.

If the organic manures produced by the farm, together with the imported organic manures and other plant husbandry methods are not sufficient for the soils’ requirements, commercial organic manures may be used. However, forced growth is to be avoided.

The amount of nitrogen on the area in question, imported in commercial organic manures, may not exceed that which could be supplied by compost, stable manure and/or green manures, and in any case must be less than 40 kg/N/ha (exception: perennial crops).

The allowable manures are listed in Appendix 4.
7.1.3.3. Manures and soil husbandry – orcharding

The total amount of fertiliser used may not exceed the equivalent of 96 kg N/ha of orchard area. In grapes for wine the total amount of fertiliser in 3 consecutive years shall not exceed 150 kg N/ha.

For perennial crops in tropical or sub-tropical climates it is allowed to import up to a maximum of 170 kgN/ha if nitrogen export is higher than 96 kgN/ha. The deficit has to be substantiated by a nitrogen balance, to be approved by the respective organisation. In this case the amount of commercial organic fertilisers can be up to 60 kg N/ha/year.

Table 1: Maximum amount of manures and fertilisers in the different crops

<table>
<thead>
<tr>
<th>Farm type</th>
<th>Max. nitrogen /ha/year</th>
<th>Specifics</th>
<th>Max. amount of commercial organic fertilisers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>112 kg N/ha</td>
<td></td>
<td>40 kg N/ha as an average over the farm</td>
</tr>
<tr>
<td>Horticulture</td>
<td>112 kg N/ha as a norm</td>
<td>Up to 170 kg N if need can be proven</td>
<td>80 kg N/ha as an average over the vegetable crop rotation</td>
</tr>
<tr>
<td>Glasshouse</td>
<td>No limit</td>
<td>Nitrogen balance</td>
<td>80 kg N/ha as an average over the vegetable crop rotation</td>
</tr>
<tr>
<td>Orcharding</td>
<td>96 kg N/ha as a norm</td>
<td>Up to 170 kg N/ha for tropical and subtropical crops</td>
<td>40 kg N/ha as an average over the orchard area, up to 60 kg N/ha for tropical crops</td>
</tr>
<tr>
<td>Viticulture</td>
<td>150 kg N/ha/3 years</td>
<td></td>
<td>40 kg N/ha as an average over the vineyards</td>
</tr>
</tbody>
</table>

7.1.3.4. Brought in manures and soils

Rock dusts (including those containing phosphate) and soils can be used. Synthetic nitrogen sources, Chile saltpeter, water soluble phosphatic fertilisers, as well as pure potassium salts with a chloride content of greater than 3% are totally prohibited. Municipal composts and sewage sludge are not allowed.

The fertilisers that may be imported are listed in Appendix 4.

Imported animal manures may not originate from animals kept in intensive animal husbandry systems, or systems using no floor litter. In this section “intensive” includes any animals that do not have regular, reliable and effective access to the outdoors (e.g. hens kept in barns etc.); or subject to unethical practices (e.g. beak clipping of hens, tooth cutting of piglets etc.)
Animal manures from animals fed genetically modified fodder must not be brought in. If proof that the manure is free from GMOs cannot be given or GMO free manure is not available, the respective organisation can give an exemption (APP 1A: see Appendix 7).

Criteria for issuing an exemption must include:

- The manure must be composted for at least a year, or by using an intensive, fast composting method.
- The compost must be identified and processed as a separate pile.
- The origin, amount, and use (which area, which crop) of all brought in fertilisers must be adequately documented.

Appropriate systems must be applied to prevent the contamination of certified land by residues of veterinary remedies, feed additives such as antibiotics, natural feed contaminants such as mercury in fish meal and other residues such as herbicides in the litter.

7.1.4. Plant care and protection

Every material for a plant protection product must be listed in appendix 5. New materials and methods may be trialled only with the agreement of the Demeter-International Standards Committee and the respective organisation (APP 3, see appendix 7). If commercial preparations are bought in, care must be taken that they are free from constituents prohibited in these standards and are not produced by transgenic methods.

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

7.1.5. Market gardens and field vegetables

- Enterprises bigger than 40 ha having mainly vegetable crops are not considered as market gardens, therefore the requirement to have ruminants or Equidae apply.
- The soil may not be kept free of vegetation through the whole year. Mulching is allowed (see 7.1.5.4.).
- About 1/3 of the crop rotation in market gardens has to be green manure and/or fodder production. This requirement does not apply to farms smaller than 2 ha (land in vegetable production). Due to the lack of a uniform definition of green manure within the framework of this Standard, the classification is the responsibility of the respective national organisation, depending on climatic conditions and regional practice.

7.1.5.1. Manures, soils and potting mixes

The regulations in Section 7.1.3.2. – Manures – apply. The further requirements are:

- Soils and potting mixes are produced from a mixture of on farm materials if possible. At least 25% by volume of such materials should consist of prepared composts made from plant material or animal manure. The use of commercial potting mixes requires the agreement of the respective organisation.
■ 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.

■ Fertilisers, crop rotation and growing techniques used are to be arranged so as to minimise nitrogen leaching to the ground water, or the enrichment of nitrates in the vegetables.

■ Peat is only allowed as a constituent for propagation beds and potting mixes. The proportion of peat is to be kept as low as possible, and may not exceed 75%. The use of synthetic soil improving agents is not allowed. All fertilisers must meet the requirements of these standards (see Appendix 4).

■ Potting mixes and growing substrates may be steam sterilised. After sterilisation, the Biodynamic compost preparations, liquid compost extracts, the horn manure preparation or the cow pat pit preparation are to be promptly used to guide the microbial recolonisation of the soil.

7.1.5.2. Cultivation techniques

Soil-less growing techniques (hydroponics, thin soil layer etc.), crops grown on inert substrates (e.g. scoria) and container crops are not allowed. Thin soil layer techniques (with the exception of cress, and sprouts grown on a base that is sold with the sprouts) are not allowed.

Chicory roots should be forced in soil. If water techniques are used, the water must have no additives, which are prohibited in these standards. Water forced chicory must be declared as such.

7.1.5.3. 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. Perforated materials suitable for reusing are to be preferred.

7.1.5.4. Weed control

Crop rotation, how the soil is worked and crop husbandry are of decisive importance for weed control. Mechanical measures are to be preferred 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 is allowed.

The use of industrial mulching materials, such as mulching paper or weed suppressing mats, is restricted to soils heavily covered with weeds, because of the wider ecological effects of complete weed suppression and the difficulty of spraying the field sprays. The use of such materials requires the agreement of the respective organisation.
7.1.5.5. Production under glass and plastic

Greenhouses are allowed a higher level of nitrogen if they can prove by a nitrogen-balance during inspection that total input of kg N equals total output of kg N with a margin of 5%. The energy usage for heating crops under glass or plastic should be kept as low as possible.

- 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.
- In glasshouses, shallow soil steam sterilisation/heat treatment is not permitted. Only in case of emergencies can an exemption be given by the respective organisation. (APP 1B: see Appendix 7)
- After sterilisation, the Biodynamic compost preparations, liquid compost extracts, the horn manure preparation or the 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.

7.1.5.6. Sprouts and shoots

The production of sprouts and shoots must use seeds, roots and rhizomes, which have been multiplied Biodynamically. Material of conventional origin is not allowed.

The water used in the production of sprouts and shoots must be of drinking quality. If used, all substrates and carriers must meet the requirements of these standards. In cases of doubt, Demeter-International subcommittee for production standards will give a ruling.

7.1.6. Perennial crops (fruit production and wine growing)

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

Exemptions for orchards in semiarid climates require approval of the respective organisation.

7.1.6.1. Support stakes

In temperate climates no tropical or sub tropical woods are allowed to be used as support stakes for reasons of environmental degradation. The tropical grasses, bamboo and tonkin, may be used.
7.1.7. Mushrooms

7.1.7.1. Origin of spores

Spawn may be bought in from organic sources or derived from the wild. When spawn is produced on the Demeter farm the ingredients of agricultural/forestry origin must be Demeter certified, if available.

7.1.7.2. Origin of growing substrate

- Mushroom substrate must consist of materials derived from biodynamic farming or those permitted 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 shiitake), 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.

7.1.7.3. Biodynamic measures

The compost preparations must be introduced into the substrate at an appropriate stage prior to inoculation. If sterilisation of the growing substrate was, the sets of compost preparations must be applied after this has occurred and before subsequent incubation. Mushrooms growing on sterilised wood substrate shall have the compost preparations inserted in the sawdust during aging prior to the heat treatment if they are not used after it. The horn manure (500) preparation must be applied at least once per crop cycle. This must be after the substrate has been inoculated. The horn silica (501) preparation must be applied at least once per crop cycle.

7.1.7.4. Illumination

Mushroom species which are known to react to light, e.g. Shii-take, are to be cultivated with light. An exemption may be given by the responsible organisation if climate requires insulated growing sheds.

7.1.7.5. Health of crop

Prevention is the overriding principle for maintaining the health of the cultures 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 five.
7.1.7.6. Cleaning and disinfection of growing sheds and growing substrate

- For cleaning mushroom growing rooms / sheds, physical procedures must be used, together with water or steam. Permitted detergents, disinfectants, sterilants and other sanitizers are listed in paragraph 6.6. of these standards. They must be DDAC/BAC free.
- Equipment may be sterilised with 70% alcohol or with agents based on per-acetic acid. Formaldehyde must not be used.
- After cleaning all interior space, surfaces must be rinsed with potable water. This is not required only where the mushroom substrate is introduced after complete biodegradation of the cleaning / sterilising agent.
- An exemption of the respective organisation can be granted for disinfection of the growing substrate in reasonable and justified cases. (Exemption 1C, Appendix 7)

7.1.7.7. 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 operations which can benefit from such material.

7.1.8. Biodiversity and environment

7.1.8.1. Clearing of virgin rainforest

The clearance of virgin rain forest for agricultural usage is forbidden. Other high value conservation areas must also be protected, and may only be cleared after an exemption has been approved by the respective organisation (APP 4: see appendix 7).

7.1.8.2. Irrigation water

The water must not be contaminated with pesticide residues, disease causing bacteria or parasites, or contaminate the end product in any way. In cases of doubt water quality tests are required. Irrigation must be scheduled so that the amount of water and/or the frequency of application does not lead to soil degradation (e.g. salination, erosion). All ground or river water abstraction must have the required official approval and the use of fossil water is permitted only when a plan detailing the impact of the usage is approved by the respective organisation.

7.1.8.3. Biodiversity reserve

The farm must show a commitment to the maintenance of farm biodiversity. If the Biodiversity reserve on the farm and in areas directly adjacent to it does not reach 10% of the total farm area, a biodiversity plan that documents how this will be achieved, with a clear time frame, must be approved by the respective organisation. This plan can include other cultural
elements such as the maintenance of rare or endangered breeds of plants and animals, fostering bird/insect life by providing habitats, utilisation 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 Land seeded to annual/ perennial plants that are allowed to go through flowering “The plants may not be the main (intensive, commercially harvested) agricultural crop on the land unless it’s green manure or grassland, and it has to be a crop pollinated by insects”
- Fallow land as part of the rotation or otherwise
- Undisturbed grasslands (No mowing in the courses of a year)
- Fence lines (width of undisturbed land can be counted)
- Native trees, single trees appropriate to the location (100m² per tree) and tree lined avenues
- Hedges, field and stream bank tree groves
- Water races, ponds, wet lands, 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 approved in the Biodiversity plan
- Biodiversity reserve shall be 10% of the total farm area. If this is not achieved with the listed elements, the respective organisation may approve a biodiversity plan

Those member countries who do not implement Biodiversity as a standard are to include biodiversity as an obligatory issue for farm talks or similar instruments of quality management, which focus on the development of the farm and the motivation of the people.

7.1.9. Biodynamic plant breeding

7.1.9.1. Scope of applicability and fundamentals

The standards for Biodynamic plant breeding were developed primarily by the Association of Biodynamic Plant Breeders (Assoziation biologisch-dynamischer Pflanzenzüchter, ABDP). These standards lay the foundation for the agreement between the users of the phrase “Biodynamically bred plant varieties” and the respective organisation responsible for issuing
contracts to Biodynamic plant breeders and regulating the use of the above phrase for labelling their products. For details concerning the labelling of Biodynamically bred plant varieties please see the labelling section of this standard.

The intention of the Biodynamic plant breeding standard is to provide a standardized set of criteria for identifying and labelling Biodynamically bred plant varieties. This makes it possible to differentiate Biodynamically bred varieties from other varieties that do not meet the standard's criteria. While the Demeter logo indicates that plants or plant products were produced on a Demeter certified farm, it does not currently identify the origin of the seed used to grow the plants. The Biodynamic plant breeding standard aims to draw special attention to the breeding background of the plants by labelling Biodynamically bred plant varieties as such.

7.1.9.2. General requirements for breeding new varieties

- Breeding must take place on Demeter certified fields or otherwise appropriate plant breeding facilities. If this is not possible, breeding can take place under the conditions outlined below.

- If breeding takes place on certified organic fields, the Biodynamic preparations must be applied as follows: minimum one annual crop-appropriate application of horn manure and horn silica preparations, as well as the application of Biodynamically prepared compost or, if not available, cow pat pit (CPP) preparation on all fields. These requirements are to be agreed upon in writing with the certified organic farm, for e.g. with a crop management contract.

- The farm where the breeding takes place as well as the relevant documentation of all breeding activities must be accessible and available for a Demeter inspection at all times.

- The development of a new variety is initiated either via intentional or incidental cross-pollination or the mutation of heritable traits and subsequent selection. A minimum of four years of selective breeding under Biodynamic conditions, as described in Paragraph 1 and 2, is essential.

- The following breeding methods are not permitted:
  - All methods not permitted under the IFOAM standards
  - Hybrid breeding, regardless of production method
  - Double haploidy or polyploidization
  - Plants produced using cytoplast or protoplast fusion

- The use of hybrids or double haploid varieties as parent lines for the development of new, Biodynamically bred varieties is permitted.

- In order to be recognized as a registered plant variety, it is essential that all newly developed Biodynamic varieties are registered with the responsible patent office. Only then can the variety (seed) be sold to others.

- In case of a closed production system, the patenting or registration of a new Biodynamic variety may not be relevant to the breeder. The respective organization can nevertheless issue an official recognition of the variety as a “Biodynamically bred plant variety”. To receive recognition, an application can be submitted demonstrating that the variety meets
the necessary degree of differentiation from other varieties of the same species according to relevant seed and plant breeding or patenting regulations.

7.1.9.3. Requirements for conservation breeding

Conservation breeding inherently takes place on certified Biodynamic farms, or, as a minimum requirement, on farms adhering to the stipulations outlined in Paragraph 3.12.3, article 2, General Requirements for Breeding New Varieties.

7.1.9.4. Special documentation requirements

■ The first delivery of seed to the farm must be documented. (Delivery slip or shipping invoice/receipt/supplier/quantity/treatments/genetic modification risk analysis)

■ A crop plan must show which fields were used for growing and selecting the variety in question. The parent lines of the selected plants must be traceable using invoices or other supporting documents.

■ The sale of seed must be documented via a delivery order invoice as required for EU organic inspections. These invoices must state the name of the variety/lot/quantity/treatment of seed/receipient

■ The required documentation makes it possible to track the variety within the crop rotation and trace the development of the variety over the course of multiple generations.

7.1.9.5. Transparency guidelines for plant breeding

The development history of a variety includes the following information:

■ Variety, cultivar, variety denomination, name of breeder, date, breeding aims

■ Source of genetic (parent) material for breeding, description, supplier, first cultivation date, indication whether the parent material is a result of cross-breeding

■ Under which conditions was or is the variety cultivated and selected? State location and cultivation methods.

■ What selections methods are/were used? Mass selection (positive or negative): how many individuals from a total of how many are chosen? In case of single plant selection, are plants separated and grown out/reviewed according to individual traits or is a mixture of the prepared seed grown out (Pedigree method versus bulk-population method)? Was the procedure changed at any point over the generations? Were there times during the selection period where unique selection criteria were applied? Were specific testing methods used to support the selection process? Under which conditions did additional trials take place? Are there specific requirements that needed to be fulfilled when the variety was introduced for wider use?

■ When was the variety registered with the responsible patent office?

■ Description of the process of seed propagation used to produce seed for sale and distribution.
A current description of the variety: typical characteristics, recommended cultivation methods and other practical guidelines for working with the variety, results of quality analyses.

7.2. Biodynamic Preparations (see also App 10)

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.

The spray preparations are to be used as appropriate to the crop type:

- Cow-horn manure or prepared cow horn manure (500P) is to be spread at the start of the vegetative phase, or after harvest of the certified crop, but in any case at least once a year. Horn silica is to be sprayed as the plant stage of development dictates, however at least once a year.

- The spray preparations must be applied with clean equipment.

- All organic manures (stable manure, compost etc.) are to be treated with the compost preparations. It is recommended to spread a composite preparation (such as cowpat prep, barrel compost, prepared 500 etc.) as a substitute on those areas, which receive no prepared manure in the course of the year.

- All productive areas of the farm must be completely covered with the spray preparations every year. This requirement does not apply to unused or other permanently non-productive areas.

- An exemption can be granted for steep slopes in mountainous regions (providing they are not intensively managed, or mown), and for areas that cannot be driven on. This exemption can be considered by the respective national organisation when the licensee produces a preparation management plan describing the planned preparation usage (areas incompletely or not covered and with what frequency, stirring and spraying machinery available on the farm, proposed improvements to the coverage in the future, etc.) The exception has a time limit, but may be renewed (APP 4 A: see appendix 7).

* Can be less in the case of prior organic management (see Chapter 3.7.)

7.3. Animal Husbandry

7.3.1. Scope

Section 7 gives rules for all livestock kept on a Demeter enterprise for commercial purposes. Animals for home consumption can be taken out of certification without violating the conversion of the whole farm but cannot be marketed under the Demeter trademark.

7.3.2. Requirements to have livestock

Demeter certification of agricultural enterprises without the incorporation of ruminants or Equidae on the farm is not possible.
Exemptions from this requirement have to be regulated by the respective organisation.

In market gardens and in enterprises having solely perennial crops, the requirement to have their own animals is not obligatory if manures, compost, green manures, and preparation usage is particularly intensive (see also 7.1.5). Enterprises bigger than 40 ha independent of the proportion of vegetables produced are not considered as market gardens, therefore the requirement to have ruminants or Equidae apply.*

Market gardens without any ruminants or equidae of their own must bring in farmyard manure from other holdings. The quantity must be equivalent to at least 10kg N/ha/year. Where bringing in farmyard manure is not possible or practical, the 10kg N/ha/year must be provided by other plant or animal composts. All brought in compost materials must meet the requirements of section 7.2 and Appendix 4.

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

7.3.3. Stocking rate

The stocking rate is determined by the possibilities for fodder production, as dictated by climate and the local conditions. It is to take into account the maintenance and development of soil fertility.

The minimum stocking rate has to be defined by the certification organisation in each country. The maximum stocking rate may not exceed 2.0 livestock units/ha, corresponding to a maximum of 1.4 manure units/ha, if feed is brought in.

7.3.4. Co-operation between farms

Co-operation between certified Biodynamic farms (e.g. the exchange of fodder or animal manures) in the sense of a biological unit is possible. The standards are to be applied to this new unit as a whole.

In cases where no Biodynamic farm is sufficiently close by, co-operation can be organised between the certified Biodynamic farm and an organic farm. In either case, however, there must be a legal contract, which must be lodged with the respective organisation.

Before co-operation with an organic farm is permitted, 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
- An exemption must be requested from the respective organisation (APP 5A: see Appendix 7)
- Farmyard manure has to be prepared on the farm where it originates (ideally in the stable), or at least six weeks before application.
- The equivalent manure for the complete area may not exceed 1.4 mu/ha year.
- Fodder-cooperation with organic farms is only possible in cases of perennial fodder plant cultivation (at least three years). Application of preparations has to start at least one year
in advance and has to be executed by the fodder absorbing Biodynamic farm. If crop rotation enables food crops on the cooperation area, application of preparations has to be continued, if the fodder production is continued in the following years. Food crops produced in co-operation cannot be marketed as Demeter.

- Fodder-production in cooperation under the previous conditions can be treated as on farm production and Demeter amount for the purpose of 7.3.6 Feeding.

7.3.5. Management

The stable style and the other management conditions must be organised such that the animals can express normal behavioural characteristics and movement; e.g. they must be able to stand and lie down unhindered, and have a dry resting place. Stables in which the animals have freedom of movement are therefore preferred.

- If stable construction advisory services make a sound argument justifying an extension to the conversion period, this may be extended.

- The management system should allow the animals free contact with their natural surrounding (sun, rain, earth under foot etc.) if at all possible. This should be guaranteed in particular by access to pasture, or at least to the open air. Care must also be taken to provide sufficient light, a good stable environment and protection from the wind.

- To tie up animals in housing is forbidden. For security or welfare reasons a limited exemption may, after approval by the respective organisation, be issued by the inspection-body for certain animals.

- In stables which were built before the 24th August 2000 tying up may only be allowed provided that the animals are comfortably littered, that individual management is guaranteed and that regular exercise is provided (APP 6: 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.

- Limited exemptions from the requirements governing housing and outside access may be issued by the respective organisation if the following conditions exist (APP 8: see Appendix 7):
  - Stable is too small
  - access to stream lake or pond for water fowl is lacking
  - poultry houses which do not fulfil all requirements
  - 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 Appendix 7)

7.3.5.1. Cattle management

Dairy cattle and cows 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.
Young stock (breeding replacements) has the same requirement for freedom of movement reasons. To tie up young replacement or fattening stock in housing all year round is not allowed. Cows should be given freedom of movement at calving. A calving bay must be provided for if stable renovations occur.

In those enterprises where, because of their situation in the village, or the distance to/size of their outlying fields, or for other practical reasons, either access to pasture land or open air ranging is not possible, an exemption may be approved (APP 9: see Appendix 7).

Cattle management without access to pasture and open air run is not possible.

The stable type and the internal arrangement and fittings must meet the following requirements:

- The sleeping stalls for cattle are to have appropriate bedding.
- Fully slatted floors (more than 50%) are not permitted and the slatted area may not be calculated as resting-place.
- Cow trainers are not permitted.
- Sufficient area to be provided and the herd managed to allow the expression of social behaviour and unhindered feeding.
- There must be at least as many feeding/sleeping stalls as there are animals in the stable. In stables with ad lib feeding, fewer feeding stations may be offered.
- Calves are to be given contact with each other as soon as possible. They are to be reared in groups from the second week on if there are sufficient numbers of animals of the same age. Boxes for calves are permitted only through the first week.

Dehorning of animals and dehorned animals are not permitted on the farm. In well-justified cases, an exemption may be approved by the respective organisation but must be reviewed annually.

Species of ruminants polled by any forms of genetic engineering cannot be used to produce Demeter milk, meat and fibre. Historic, land race and heritage breeds of naturally polled ruminants and genetically hornless breed, which no longer exist in horned form (compare to the following positive list) are permitted for the production of meat only. Those breeds may be used for the displacement crossing.

- Aberdeen Angus

(This list is not exhaustive, further breeds can be requested from the Standards Committee)

Genetically hornless breeds in any form and displacement crossing either with genetically hornless breeds nor with any other form of hornless bred breeds or crossbreeds in the production of Demeter milk is prohibited.

It is permitted to castrate calves to improve the health, welfare or hygiene of the animals. 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.

7.3.5.2. Management of sheep, goats and horses

The conditions for cattle apply to sheep, goats and horses accordingly.
■ In addition, operations such as castration, attaching elastic bands to the tails and tail docking must not be carried out systematically in Biodynamic farming.

■ Some of these operations may be carried out to improve the health, welfare or hygiene of the animals. Such operations must be carried out at the most appropriate age by competent personnel and any suffering of the animals must be reduced to a minimum.

7.3.5.3. Management of pigs

Sleeping stalls are to be spread with straw (or other organic litter). Fully slatted floors (more than 50%) and management where animals are tied up are not permitted. Access to the open air where rooting is possible must be offered where ever possible (APP 10: see Appendix 7).

■ Sows may be contained for farrowing for the shortest time only (until 14 days at the latest). They may not be tied up in housing. Sows must have access to the open-air wherever local conditions allow. Open sows, gilts and young sows are to be kept in groups.

■ Confining pens with narrow slatted floors or cages are not allowed for weaned piglets.

■ Tooth cutting or other preventative tooth filing of piglets is not allowed and neither is tail or ear docking.

■ Nose rings or hog rings, which prevent the pigs from rooting, are forbidden.

■ It is permitted to castrate piglets for health, welfare or meat quality reasons. The operation must be carried out at the most appropriate age by competent personnel and any suffering of the animals.

7.3.5.4. Management of poultry – basic regulations

All poultry species require management that allows their natural behaviour. For the improvement of the social structure in poultry flocks, two roosters should be kept for every 100 layer hens.

■ For poultry that normally perches, elevated resting places appropriate to the species must be provided. Sufficient sand-bath area and areas for sun-bathing must be supplied, and water poultry must have an adequate water supply. Ducks need to have water areas for swimming; geese need a supply for plunging their heads and necks.

■ Open-air runs are required for young birds and laying hens, other poultry are to have access to an outside run, water-fowl also having access to open water.

■ Stables, buildings and housing must be constructed and maintained in a way that meets the natural requirements of the birds. Caged systems are prohibited. Nest boxes are to be provided for egg laying.

■ Sufficient daylight, good climatic conditions in the housing as well as low dust exposure are indispensable preconditions for the health and welfare of poultry. Any mutilations of poultry such as beak cutting, trimming, or castration are excluded. The keeping of capons is excluded as well.

■ In their active phase during the day, a maximum of 4.4 layer hens, parent stock or 7.1 young layer hens or a maximum of 16 kg of live weight (max. 18 kg live weight in mobile
coops) per m² can be housed. The minimum slaughter age for all kinds of poultry is given in Appendix 8.

- Daylight can be extended by illumination to a maximum of 16 hours a day. In the scratching area and in the area for feeding and water supply there must be sufficient daylight. For illumination only lamps without a stroboscopic effect are permitted.

- The housing may contain a maximum of 3,000 layer hens (preferably held in flocks of 1000 hens), or parent animals for layer hens or fattening animals, 6300 young layer hens and young parent animals (separated into flocks of no greater than 4800 birds each), 10 x 200 layer quails; max. 1,000 turkeys, 2,500 cockerels or guinea fowl, 1000 geese, 1000 ducks and 10 x 500 quail for fattening. Exemptions may be approved by the respective organisation for existing buildings. All new facilities must comply with this standard (APP 12: see Appendix 7).

- Depending on the local climate of the country, it makes sense to offer stables with different climate areas (warm inner area and an outer area called winter garden, with an adjacent poultry run. Such a poultry run, which counts as open run area (pasture area), fenced in but not roofed, with pop-holes to the pasture, and covered with scratchable, humidity absorbing material, protects the pasture close to the housing from high input of manure.

- For pasture for geese and ducks a shelter is sufficient.

The aforementioned requirements are obligatory for all operations regardless of the number of poultry kept.

### 7.3.5.5. Management of poultry – specific regulations

This chapter is not obligatory on farms with a total number less than 100 layer hens, 100 chickens for fattening, 20 turkeys, geese or ducks.

- In housing with different climate areas it is possible to keep layer hens during the night in the warm climate area at a higher stocking rate.

- When a winter garden is offered, the maximum stocking rate per square meter is: 10 layer hens or parent animals or 16 young hens or 48 kg live weight of poultry for fattening.

- In the inner part of the housing (warm climate area), when the pop-holes to the outer part of the structure (winter garden) are open, a maximum of 8 layer hens or 13 young layer hens or 24 kg live weight of poultry for fattening per m² can be kept. In this case the pop-holes must be self-opening (automated). Only under these preconditions is the winter garden estimated as stable area.

- Stocking rate, number and width of pop-holes, equipment for feeding and water supply, higher perches and nests with litter or with a smooth inlay must be adjusted to the weight of the animals.

- During the active phase the animals must not be hindered in their access to the different housing zones. Both the winter garden and the housing must be illuminated.

- The width of the pop-holes between the different zones/areas 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 is to be adjusted so 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.

- The open air run area shall meet the natural requirements of the respective poultry species. For chickens 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 stables are exempted. The minimal area required per bird is: 4 m² for layer hens and breeding animals, 1 m² per kg live weight of poultry for fattening, but at least 4 m² per animal, 10 m² per turkey, 5 m² per duck. Geese need a minimum of 4 m² pasture area per kg live weight, and a minimum of 15 m² per goose. Pasture must not be further from the housing than 150 m for layer hens, animals for fattening and turkeys, and 80 m for ducks. For geese the distances are unrestricted.

- To minimise the risk of an infection with pathogens like Salmonella, Campylobacter, etc., during the rearing of young layer hens, a large open air run can be an alternative to pasture access.

- The breeding and hatching has to be included in the certification process.

### 7.3.6. Feeding

Each enterprise strives for full self-sufficiency. Concentrates comprise mainly grain and legumes. The feeding of by-products of industrial extraction is not permitted. Animal products are not permitted (except milk, milk products, whey and eggs).

Antibiotics, sulphonamide drugs, coccidiostats, hormones, synthetic compounds from organic chemistry and pharmaceuticals are not permitted as additives to feed. Isolated amino acids, growth promoters, production enhancers (feed antibiotics and enhancers) and synthetic chemical feed additives (except vitamins) are not allowed.

Conventional fodder may not be purchased. In emergency cases conventional fodder may be purchased with approval of the respective organisation (APP 24: see Appendix 7).

Each purchase of feeds, feed-preparations, feed additives, minerals- and vitamin mixtures and silage making processing aids has to be documented. In the same way it has to be checked that there are no genetically manipulated agents or their derivatives in the product. Proof of unavailability from Biodynamic sources is to be included as part of the annual certification process. Documentation showing the origin, designation, amount and how the feed was used must be supplied for every importation of feed.

### 7.3.6.1. On farm production / Demeter share for all animals

Fodder produced on the farm forms the basis of animal nutrition. At least 50% (60% for ruminants, equidae and camelidae) of the feed (DM) must originate on the farm or in cooperation with another Demeter farm. Fodder produced on the farm is the starting point for a feeding regime appropriate to the animals carried on that farm.

- If fodder is to be imported onto the enterprise, particular care in choosing feed quality suitable to Demeter production and the general regime is to be taken.
Table 1 On farm production and average annual ration for all animals in dry matter

<table>
<thead>
<tr>
<th>Animal species</th>
<th>Min. Demeter share in the annual ratio*</th>
<th>Max. organic share in the annual ratio **</th>
<th>Min. on farm production***</th>
<th>Approval for less Demeter share in the case of need possible?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruminants, equidae and camelidae</td>
<td>70%</td>
<td>30%</td>
<td>60%</td>
<td>No****</td>
</tr>
<tr>
<td>Pigs</td>
<td>70%</td>
<td>30%</td>
<td>50%</td>
<td>Yes, down to 50%</td>
</tr>
<tr>
<td>Poultry</td>
<td>70%</td>
<td>30%</td>
<td>50%</td>
<td>Yes, down to 50%</td>
</tr>
</tbody>
</table>

*May contain “in conversion to Demeter” feed, if the feed has an organic certification. If it is brought in, it can be only 20%, so that still 50% is fully converted Demeter fodder.

** May contain “in conversion to organic” feed

***Can be an average calculated for all animals of the farm, as long as it is in line with national organic law

**** Except for emergency cases with approval of the national organization (APP 24: see Appendix 7).

7.3.6.2. In conversion feeds

- Feeds from on-farm production which is in the first year of conversion to Demeter and organic can only be fed on the own farm. In the first year of conversion this feed can be fed up to 100% of the ratio. In the following years or if a farm buys new land up to 20% of this feed can be fed in the ratio.

- Feeds from on-farm production which is in the second year of conversion to Demeter and organic can be fed on the own farm without limit. It can only be brought in up to 30%.

- Feeds from on farm production which is in the second year of conversion to Demeter and already organic can be fed on the own farm without limit. It can be brought in up to 50%, so that at least 50% is fully certified Demeter fodder. See also table 1.

7.3.6.3. Feeding of dairy cows, sheep, goats and horses

The fodder must be appropriate and contain as high a content of roughage (green-feed e.g. pasture, hay, silage) as possible, but at least 75% DM throughout the entire year. The majority of summer feeds must be green material, preferably grazed from pasture.

- In winter the animals should get as much hay as possible (cows three kg per animal per day with small ruminants getting correspondingly less). If climatic conditions do not allow the harvesting of good quality hay, exemptions may be given by the respective
organisation to feed silage of grass (clover) mowed after the start of flowering as a substitute. (APP 14A: see Appendix 7)

- The base fodder ration may not consist solely of silage over the course of the whole year.
- Feeds of animal origin are excluded for all ruminants. This restriction does not apply to milk and milk products.
- In all cases, the corresponding effects on the certification status of the end products must be taken into account.

7.3.6.4. Feeding of beef cattle

The feed ration must be appropriately constituted for ruminants, with a proportion of at least 75% roughage in all seasons e.g. hay, silage or feed straw. Silage can form the majority of the feed ration, but summer feeding must include fresh green material.

In winter the animals should get as much hay as possible (three kg per animal per day). If climatic conditions do not allow the harvesting of good quality hay, exemptions may be given by the respective organisation to feed silage mowed after the start of flowering or straw as a substitute. (APP 14A: see Appendix 7)

7.3.6.5. Feeding of replacement calves, calves for fattening, foals, lambs and kids

The following feeds, as far as possible from on-farm production, can be used: milk, if possible mother’s milk, roughage, milled grains. Calves and foals should get milk for at least three months, sheep and goats 45 days. Fattening on milk alone without the addition of some form of roughage is prohibited.

Feeding with milk replacers is permitted, following the general regime and under the following conditions:

- The milk replacer shall consist of at least 80 % (on the dry matter basis) of milk powder or skimmed milk powder.
- The milk replacer may contain whey powder, cereal starch, sugar, vegetable oils, added vitamins and minerals.
- The milk replacer must not contain vegetable protein sources or palm or coconut oil.

Depending on the quality of the ingredients and the duration of feeding, there may be consequences for the certification status of calves sold in accordance with chapter 7.3.8, and following.

7.3.6.6. Nomadic livestock and grazing on uncultivated areas

Products from nomadic livestock may be marketed as Demeter if two thirds of the fodder is from own production and half of the fodder comes from farm areas that are Biodynamically managed. The balance may come from extensively managed areas, including nature reserves, which must have had no use of synthetic fertilisers or plant protection chemicals,
where the preparations cannot be sprayed because of steep slope or inaccessibility (APP 4A: see 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 the standards during this period.
- A grazing diary must be kept.

### 7.3.6.7. Guest animals

Animals of conventional or organic origin not in the possession of the certified farm can be kept on Demeter pastures for grazing or in Demeter stables under the following conditions.

- A written agreement between the owner of the animals and the farm must be in place.
- All animals must be clearly identifiable by earmarks or comparable marking.
- All animals must be kept concerning the management, medicinal treatment and feeding according to this standard.
- If guest animals fulfil these requirements, they can be integrated in fodder-manure-balance of the certified farm.

If guest animals do not fulfil the above mentioned requirements and are fed organic or conventional fodder the following conditions are required:

- A written agreement between the owner of the animals and the farm must be in place.
- Animals have to be clearly separated in stables and on pastures.
- The feeding of the animals has to be clearly separated.
- If guest animals are kept under separated conditions, they can be integrated in fodder-manure-balance on the basis of a fodder-manure-cooperation according to 7.3.4, only if they are kept at least organic.

In both cases an exemption is required from the respective organisation (APP 15: see Appendix 7). The request for the exemption must have a clear description of the circumstances especially with regard to separation measures.

### 7.3.6.8. Community pasture

Animals from Demeter enterprises may be kept on community pastures if the pasture has not been managed conventionally for at least three years and if the conventional animals 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 at least half the lifetime according to this standard.

Exemptions to use community pasture are required from the respective organisation (APP 16: see Appendix 7).
7.3.6.9. Feeding of pigs

The aim is to produce all the feed requirements for the pigs on the farm. They have to be offered a daily ration of roughage or possibly feeds of high moisture content (e. g. herbage, beets).

- The total amount of brought in feed is limited to 50% (DM).
- The respective organisation may allow the purchase of certified organic fodder for pigs in amounts up to 50% if no Demeter fodder is available. The unavailability has to be proven. (App 13: see Appendix 7)

7.3.6.10. Feeding of poultry

A part of the diet must be given so that the animals can forage for food. Fowl-like birds must have 20% of their fodder as whole grains. At least 5% of the total fodder must be given in the litter or in the open air run so that they may forage for the food. Structured raw material has to be provided; for poultry for fattening as whole grain in the compound feeds.

- All poultry must get some grit. The animals must be able to drink from open water sources, at least cups. Geese and turkey need green pasture during the vegetation phase. Demeter pasture geese need at least 35% of the feed dry matter as fresh pasture. Ducks must be able to dabble to take up feed.
- The respective organisation may allow the purchase of certified organic fodder for poultry in amounts up to 50%, if no Demeter fodder is available. The unavailability has to be proved.

7.3.7. Breeding and identification

7.3.7.1. Breeding

A principle of the Biodynamic method is the keeping of male sires on the farm, and is therefore highly recommended. Artificial insemination cannot fully replace the effect of the male influence in the farm herd, and is not recommended. It is not permitted to produce animals using genetic manipulation, or by the use of biotechnology (embryo transfer, sperm separation for sex determination).

7.3.7.2. Identification of stock and record keeping

All farm-bred and brought in stock must be unequivocally and permanently identified with an earmark, or other marking. For poultry and other small livestock, group identification is adequate. Brought in animals must be accompanied by a certificate stating their origin. It must be possible to trace the animals back to the farm on which they were born, and to their parents.

A stock management diary is to be kept (see also section 5.8 Veterinary treatment of animals) which allows reconstruction from birth to the point of sale. Documents, which
contain the same information (for instance a herd book), can replace the stock management diary.

7.3.8. Origin of animals, brought in stock and marketing

7.3.8.1. Animals brought in for breeding or herd expansion

Brought in stock for breeding or herd expansion should in preference come from certified Biodynamic enterprises. Only if they are not available may animals from certified organic farms be brought in. When animals from organic farming are not available the respective organisation can grant an exemption for animals from conventional farms to be brought in (up to a maximum of 40% of the herd). (Exemption 18: see Appendix 7)

All purchased conventional ruminants must have a confirmation, that they were not fed with animal meal or meat-bone meal, if not already excluded by national law.

For minimum requirements for a marketing under Demeter please compare the tables under 7.3.8.3 and following.

7.3.8.2. Animals brought in for fattening

Animals brought in for fattening to yield meat for sale with the Demeter logo shall come exclusively from Demeter enterprises, and only if unavailable may be sourced from certified organic enterprises. Regarding the minimum periods of time required to achieve Demeter certification for meat and other products, please compare following tables.

7.3.8.3. Milk, dairy cows and calves, beef cattle for fattening

Milk may only be marketed under the label "In conversion to demeter" if the dairy cows are fed from areas of the farm, which have this certification level.

- If single dairy cows of conventional origin are brought in their milk may be marketed as demeter or "In conversion to demeter", depending on the certification level of the feed, after 6 months of feeding and management to these standards.

- Brought in animals for breeding from certified organic farms may be marketed as demeter after feeding and management to these standards for at least 12 month.

- Brought in beef cattle for fattening, of organic origin, must be fed and managed for at least 2/3 of their lives according to these standards if they are to be marketed as demeter.

- Calves brought in for rearing on nurse cows should be drawn preferably from Demeter farms. If this is not possible, they must come from certified organic farms. Calves for breeding that come from conventional management brought in only with an exemption to be approved by the respective organisation (APP 18: see Appendix 7).
Table 1: Labelling of products from animals brought in from organic or conventional origin

<table>
<thead>
<tr>
<th>Product for sale</th>
<th>Certification status of the animal when brought in</th>
<th>Fed and managed to the standards</th>
<th>Labelling of the sale products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>Organic</td>
<td>—</td>
<td>Demeter</td>
</tr>
<tr>
<td>Milk</td>
<td>Conventional</td>
<td>6 months</td>
<td>Demeter</td>
</tr>
<tr>
<td>Beef from fattening cattle</td>
<td>Organic</td>
<td>At least 2/3 of their lives.</td>
<td>Demeter</td>
</tr>
<tr>
<td>Beef from breeding/fattening cattle</td>
<td>Conventional</td>
<td>At least ¾ of their lives</td>
<td>Demeter</td>
</tr>
<tr>
<td>Beef from breeding cattle</td>
<td>Organic</td>
<td>At least 12 months</td>
<td>Demeter</td>
</tr>
</tbody>
</table>

7.3.8.4. Sheep and goats

The order of rank described in section 7.3.8.1 regulates brought in stock.

Milk from brought in conventional breeding stock may be marketed under the Demeter trademark after 6 months.

Table 1: Labelling of products from brought in animals of organic or conventional origin – sheep and goats

<table>
<thead>
<tr>
<th>Product for sale</th>
<th>Certification status of the animal when brought in</th>
<th>Feed and management conforming to the standards</th>
<th>Labelling of the sale products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>Organic</td>
<td>-</td>
<td>Demeter</td>
</tr>
<tr>
<td>Milk</td>
<td>Conventional</td>
<td>6 Months</td>
<td>Demeter</td>
</tr>
<tr>
<td>Meat</td>
<td>Organic</td>
<td>At least 6 Months</td>
<td>Demeter</td>
</tr>
<tr>
<td>Meat</td>
<td>Conventional</td>
<td>More than 12 Months</td>
<td>Demeter</td>
</tr>
<tr>
<td>Wool</td>
<td>Organic or conventional</td>
<td>More than 12 months</td>
<td>Demeter</td>
</tr>
</tbody>
</table>

7.3.8.5. Pigs

The order of rank described in section 7.3.8.1 restricts the purchase of female “young stock” and the other basic requirements.

- Bringing in of piglets for fattening should preferably be from Demeter enterprises. If unavailable, animals from farms certified organic may be obtained.
Piglets of conventional origin may only be brought in with an exemption approved by the respective organisation (APP 19: see Appendix 7).

Newly weaned piglets of conventional origin weighing less than 25 kg may be brought in to start a new herd. Pigs which were brought in as conventional piglets may only be sold with the labelling "In Conversion to demeter" on the carcass if they have been fed and managed on the farm to these standards for at least 6 months. The piglets must weigh less than 25 kg; i.e. they have to be brought in directly after weaning.

Only piglets from management systems using floor litter and with undocked tails may be brought in.

Immuno-castration is not allowed.

Table 1: Labelling of products from brought in animals of organic or conventional origin – pigs

<table>
<thead>
<tr>
<th>Product for sale</th>
<th>Certification status of the animal when brought in</th>
<th>Age when brought in</th>
<th>Feed and management conforming to the standards</th>
<th>Labelling of the sale products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>Organic</td>
<td>At least 1/2 of life</td>
<td>Demeter</td>
<td></td>
</tr>
<tr>
<td>Meat</td>
<td>Conventional</td>
<td>Piglets less than 25kg, directly after weaning</td>
<td>At least 6 months</td>
<td>In conversion to Demeter</td>
</tr>
<tr>
<td>Meat</td>
<td>Conventional (Breeding animal)</td>
<td>At least 2 years</td>
<td>Demeter</td>
<td></td>
</tr>
</tbody>
</table>

7.3.8.6. Poultry

Cockerels for meat or other meat poultry, are to be brought in as “day old chicks” that means they must have left the breeding house at the latest 3 days after birth.

Brought in poultry comes in preference from certified Biodynamic enterprises. Only if they are not available may animals from certified organic farms be brought in.

When not available also from organic farming the respective organisation can allow “day-old” chicks for meat to be brought in from conventional farms (APP 20: see Appendix 7).

Meat poultry of conventional origin which is fed and managed to the standards can be marketed as Demeter. The minimum time limits for slaughtering are to be met (see Appendix 8).

Slow growing breeds are to be preferred.
Table 1: Labelling of products from brought in animals of organic or conventional origin - poultry

<table>
<thead>
<tr>
<th>Product for sale</th>
<th>Certification status of the animal when brought in</th>
<th>Age when brought in</th>
<th>Feed and management conforming to the standards</th>
<th>Labelling of the sale products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eggs</td>
<td>Organic pullets</td>
<td>18 Weeks maximum</td>
<td>The same certification status as the feed</td>
<td>Demeter/ In conversion to demeter</td>
</tr>
<tr>
<td>Eggs</td>
<td>Conventional day old chicks</td>
<td>3 days maximum</td>
<td>The same certification status as the feed</td>
<td>Demeter/ In conversion to demeter</td>
</tr>
<tr>
<td>Meat poultry (including brother chicken of layer hens and layer hens for meat)</td>
<td>Conventional day old chicks</td>
<td>3 days maximum</td>
<td>From arrival to slaughter (slaughter age see Appendix 8)</td>
<td>Demeter</td>
</tr>
<tr>
<td>Meat poultry (including brother chicken of layer hens and layer hens for meat)</td>
<td>organic</td>
<td></td>
<td>½ lifetime</td>
<td>Demeter</td>
</tr>
</tbody>
</table>

7.3.8.7. 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.

7.3.9. Veterinary treatment of animals

Animal health is primarily to be assured by observant animal husbandry, breeding and feeding, choosing the right breed, as well as through the use of prophylactic measures such as management appropriate to the livestock species. If however health problems occur, treatment to alleviate the condition must be given immediately. If the treatment is under direction of a vet, and documented exactly, the remedy chosen may deviate from these guidelines in order to find the best solution for animal health, management of resistance and environmental aspects.
7.3.9.1. General requirements for all animals

Routine and/or prophylactic treatment with materials that are not termed natural remedies (e.g. synthetic allopathic medicines, antibiotics, anthelmintics) is not permitted unless legally required. An exception to this is the use of permitted anthelmintics (see below) in those cases where parasitism is endemic in the area in which the farm is located.

Every treatment given to an individual animal, or to the herd as a whole, no matter what the treatment was, is to be recorded in detail in the appropriate farm records. This record must state, for each treated animal, the treatment, the method, the medicine used, the withholding time and the date of treatment. These records are to be kept and made available when requested.

- When using veterinary allopathic remedies, twice the legal withholding period, at least 48 hours if there is no waiting period mentioned, is to be observed. (Except in the case of a negative bacteria inhibiting test following the use of antibiotics.)
- Animals with a productive life of less than one year may have only one course of treatment with allopathic remedies, all other animals may have 3 treatments per year.
- If any animal receives more than the permitted number of treatments, or is treated with a non-permitted material, it is not to be marketed as Demeter.
- Remedies containing organophosphate materials and treatments with hormones to synchronise oestrus or to increase the growth rate or production of animals are not permitted.

7.3.9.2. Use of remedies for large and small Bovideae, Camelides, Equideae, deer and sows

**Antibiotics:** The aim is to be largely free of antibiotics, with use occurring only in pure emergencies. Individual animals may receive a maximum of three courses of treatment per year. They may not be used prophylactically and only under the direction of a vet. Antibiotics of critical importance for human medicine may only be used as a last resort. 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 (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.
7.3.9.3. Additional requirements for poultry, fattening pigs, rabbits and other small animals

The prior requirements apply also for poultry, fattening pigs, rabbits and other small animals, unless they are not exclusively mentioned for a specific species. In the case of an outbreak of disease in poultry, small animals and fattening pigs, the whole flock may be treated. Fattening pigs and rabbits may receive only one application per year of Ivermectin/Doramectin for the treatment of scabies.

7.3.10. 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. Transport distances should be minimised by slaughtering animals locally. 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 use of electrical goads is forbidden, as is the use of sedatives or other chemical or synthetic materials, before, during or after transport.
- Waiting times at the slaughterhouse should be kept as short as possible. If waiting is required, sufficient covered space must be available.
- The animals are to be given sufficient food and water during the waiting time.
- The animals are to be quickly and effectively stunned. After stunning they must be allowed to bleed completely.
- Throat cutting regulations that are to be found in some religions are allowed for that consumer group, providing the above mentioned standards are respected (with the exception of stunning).

7.4. Conversion of a farm

7.4.1. Conversion plan

The conversion of a farm to a Biodynamic farm should begin by defining the developmental aims of the enterprise. This must 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.

The respective organisation can request tests for residues from agricultural chemicals, or investigate other exceptional environmental influences.

Conversion plans are not binding for certifying organisations, unless there is a signed release and all requirements are met. Conversion plans only signed by consultants represent only a recommendation.

7.4.2. Conversion of the entire farm

The enterprise is to be converted in its entirety, in one step, to the Biodynamic method. The farm manager may not manage a Demeter farm and a conventional farm simultaneously.

Where it can be justified the conversion period of certain areas / animal husbandry can 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, the certifying body 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 conventional up to three years within the conversion period, but only if this part of animal husbandry is subsequently abandoned and it is no longer acceptable to rebuild the barn or to 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 for non-compliance with 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 needs an exemption by the respective national organization. Exemptions require a written reasoning (App 21: see appendix 7).

7.4.3. Conversion of new agricultural areas

The conversion of newly added land due to an expansion of cultivation differs in some respects from the conversion phase of new farms.
In contrast to the restriction for parallel production under 3.6.2 in the total farm conversion, the parallel cultivation of organic, Demeter in conversion and Demeter is permitted for the same type of fodder plants. A descriptive separation protocol concerning harvest and storage is required in any case.

The provisions under 7.3.11.4 concerning the conversion periods depending on the crop and the preliminary cultivation of the newly acquired land apply without restriction.

### 7.4.4. Certification in conversion periods

In General the following time frames and periods represent the respective ideal case of conversion periods. In case of deviations or non-conformities the certifying organization can at any time prolong the conversion period.

The prerequisite for conversion certification is management of the whole enterprise to these Standards, as defined in the section “Conversion”. The use of the trademark is then governed by the following time line (Table 1):

- Marketing of produce from the first conversion year with labelling that implies that it is a product of organic agriculture e.g. “from organic production” or “from Biodynamic production” or similar wording is not allowed.

- Produce harvested 12 months after the start of conversion, may, if certification has been granted, be marketed as “In conversion to demeter”. Crops harvested more than 36 months (perennial crops), or sown more than 24 months after the start of conversion can be marketed as “demeter” once certification is granted.

These time periods may be extended in exceptional cases: If an enterprise or part of an enterprise has been intensively conventionally farmed, a so called zero year may precede the above listed times.

#### Table 1: Normal conversion, prior conventional farming

<table>
<thead>
<tr>
<th>0 (Starting point)**</th>
<th>1</th>
<th>2</th>
<th>3 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodynamic standards have been met</td>
<td>12 Months</td>
<td>Harvest = <strong>demeter</strong> (crops sown 24 month after conversion)</td>
<td>Harvest = <strong>demeter</strong> (perennial crops*)</td>
</tr>
<tr>
<td>12 Months</td>
<td>Harvest = “In conversion to <strong>demeter</strong>”</td>
<td>or Harvest = “In conversion to <strong>demeter</strong>” (perennial crops*)</td>
<td></td>
</tr>
</tbody>
</table>

Point of time 1: 12 Months after the clock begins; products harvested from this time on can carry the certification “In conversion to Demeter”

Point of time 2: 24 Months after the clock begins; products sown 24 month 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”.

**Table 1: Normal conversion, prior conventional farming**
Point of time 3: 36 Months and longer after the clock begins; Products harvested from perennial crops can carry the “Demeter” certification.

Example 1. Grain: Rule of thumb: The third harvest has Demeter certification.

Example 2. Milk: If milk or milk products (e.g. from on-farm processing) are to be marketed with the label “In conversion to Demeter” at least 80% of the feed fed to the animals must be certified “In conversion to Demeter”. A maximum of 20% of the feed ration fed may come from the first year of conversion.

* Grassland or perennial green manure is excluded

** The starting point of a conversion certification can be defined differently by certification organizations, e.g. signing of a conversion contract or approval of a conversion plan.

These time periods may be shortened in exceptional cases:

- If an enterprise or major part thereof has been managed certified organic (conversion time excluded) for a minimum of one year, Demeter in conversion certification can be given for the first harvest, provided that full compliance with all provisions of these standard (including complete preparation usage, see also 7.2.) have been confirmed at the inspection.

- If an enterprise or major part thereof is certified organic (conversion time excluded) before the start of conversion, for a minimum of three years full Demeter certification can be given for the first harvest provided that full compliance with all provisions of these standard (including complete preparation usage) have been confirmed at the inspection.

- Partial conversion and new areas follow the above regulations with the additional requirement for documentation.

For animal products, certification corresponds to the certification status of the fodder. See the tables listed in 7.3.8.

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

* The starting point of a conversion certification can be defined differently by certification organizations, e.g. signing of a conversion contract or approval of a conversion plan.
Table 3: Fast conversion, prior organic farming for a minimum of three years

<table>
<thead>
<tr>
<th>36 Months</th>
<th>Harvest = demeter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic standards have been met</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>3 Years (Starting point)*</td>
</tr>
</tbody>
</table>

* The starting point of a conversion certification can be defined differently by certification organizations, e.g. signing of a conversion contract or approval of a conversion plan.

Table 4: Special conditions for perennials in tropic and subtropic climates

<table>
<thead>
<tr>
<th>12 Months</th>
<th>Harvest = demeter</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Months</td>
<td></td>
</tr>
<tr>
<td>6 Months</td>
<td>Full round of application of the preparations</td>
</tr>
<tr>
<td>0 (Starting point)</td>
<td>0,5</td>
</tr>
</tbody>
</table>

Since permanent crops in the tropics and subtropics are harvested continuously under certain circumstances, the orientation with regard to the first harvest is not significant. For this reason, other reference points apply here.

If an enterprise or major part thereof is certified organic (conversion time excluded) for a minimum of one year “in conversion to Demeter” certification can be given (all three preconditions have to be fulfilled):

- at the earliest 12 months after the start of the conversion (conversion or trademark contract signed);
- at the earliest 6 months after the first full application of the preparations;
- at the earliest 3 months after the first inspection with positive evidence of compliance with the Standard without major non-conformities;

If an enterprise or major part thereof is certified organic (conversion time excluded) for a minimum of three years full Demeter certification can be given (all three preconditions have to be fulfilled):

- at the earliest 12 months after the start of the conversion (conversion or trademark contract signed);
- at the earliest 6 months after the first full application of the preparations;
■ at the earliest 3 months after the first inspection with positive evidence of compliance with the Standard without relevant non-conformities;
Appendix 1: Calculation of the stocking rate

The manure units determine the stocking rate.

One manure unit corresponds to 80 kg N and 70 kg P2O5. One livestock unit (e.g. a cow with a nominal live weight of 500kg) excretes 0.7 manure units in a year.

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

For those animals which produce differing amounts of manure because of their breed or production level, adjustments up or down are to be made.

The manure units are to be calculated on the average number of animals stocked on the farm during the year.
Appendix 2: Allowable brought in feeds

Fodder produced on the farm forms the basis of animal nutrition; complete self-sufficiency is the aim. If, however, fodder must be imported, particular care must be exercised that the choice is appropriate to the production of Demeter quality products. Brought in feeds are to be chosen in the following priority: 1) fodder from certified Demeter enterprises, 2) from enterprises certified organic which is a member of a certified organic organisation, 3) from enterprises inspected to the EC reg. 834/2007 and 889/2008 (or comparably controlled enterprises) 4) from extensively managed areas including nature reserves, which must have had no use of synthetic fertilisers or plant protection chemicals.

Up to 50 % DM of the fodder in an average ration may come from areas not yet certified fully, but farmed Biodynamically, and up to 20 % DM from organic areas. Imported Demeter in conversion feed and organic feed may together not exceed 50% DM of the daily intake. **The bringing in of feeds of conventional origin is not allowed.** The respective organisation is allowed to approve the import of a maximum of 50% of organic feeds for pigs and poultry, if Demeter feeds are not available. This non-availability has to be substantiated.

Imported feeds must be documented and be declared as part of the annual return proving that the standards have been followed.

a) Ruminant diets:
   - Basic staple feeds like hay, straw, silage, maize and beets
   - grain, bran, Grain offal
   - Pulses
   - Hay made from foliage
   - Herbs
   - Molasses
   - Grassland and arable products not mentioned elsewhere
   - Fodder mixes containing the above mentioned ingredients
   - Litter of fruits and vegetable
   - Milk and milk products
   - By-products of processing (other products then milk and milk products of animals are excluded)

b) Pigs:
   - In addition to a) above the following may be used:
     - Milk, milk products and skim milk powder without additives
     - Plant oils of natural origin(providing there is no concern about residue levels)
     - Clean vegetable litter
     - Whey and eggs

c) Poultry:
In addition to a) and b) above the following may be used:

- milled dried herbage
- Paprika powder

d) The following brought in conventionally produced basic, staple feeds to meet structural and energy requirements may be used in cases of need (e.g. unforeseeable occurrences such as natural catastrophes, damage due to fire etc.) with approved exemptions from the inspection body and not genetically modified:

- 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 grain offal's from milling
- Legumes; (no extraction cake)
- Oil seeds, oil press – cake, expeller cake
- Fodder beet

This procedure under d) is subject to approval as an exemption by the respective organisation (App 24: see appendix 7).
Appendix 3: Permitted feed extenders and additives

- 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 (Non-herbivores only), carob
- Plant oil, 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 any genetically modified substances, or be produced with the help of gene technology. Written proof to this effect must be supplied to the inspection body.

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

In principle, the enterprise is to aim for self-sufficiency in its manures and fertilisers. Importation of the brought in fertilisers listed in 1. to 4. below may only be as demand dictates. The use of brought in materials requires particular care with respect to their effects on the quality of Demeter products. The Biodynamic preparations are to be used if possible. Brought in materials are to be declared in the annual certification procedure. In some cases the results of a residue test are to be supplied (e.g. for compost from green material). New fertilisers may be trialled only with the agreement of the Demeter-International, or the respective organisation.

1. Fertilisers and Soil Conditioners brought in 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. Fertilisers and Soil Conditioners brought in from non-certified sources:
   - Manures as far as possible prepared at the place of origin (no liquid or semi liquid manures of conventional origin).
   - 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 the farmyard manure that is composted with the preparations.
   - Fish, composted or fermented with the preparations. Testing for heavy metals maybe required. Factory fishmeal or fish wastes from fish farming are excluded.
   - Seaweed products
   - Fresh wood products: saw dust, bark, and wood wastes (as long as they are not contaminated with fungicides and insecticides) and wooden ash from untreated wood
   - Peat without synthetic additives for growing seedlings, in as far as no alternatives are available;
   - (Seaweed products and peat are to be used sparingly for reasons of resource depletion)
   - Fermented molasses*. Bruised castor seeds

3. Fertilisers and Soil Conditioners of 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 to be used in principle (dolomite, calcium carbonate, seashells, calcified seaweed - only from dead marine deposits or fossil forms on land). Fast release: quicklime* is permitted for disinfection purpose only

3.1. Only if the results of soil testing, tissue/leaf analysis or other deficiency symptoms prove the need may the following materials be used:

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

4. Miscellaneous:

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

5. Substrates, soils, pots and technical aid material

■ Degradable pots
■ Degradable binding material
■ Substrate for pressed pots (according to these standards)
■ Cultivation substrate (according to these standards)
■ 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: Allowable materials and methods for plant care and protection

The material listed here, especially under 3. and 4., may only be used in cases of proven need, and only if the Biodynamic measures (e.g. rhythmic use of horn silica for insect control, peppering) can't bring the problem under control. It should be kept in mind that use of some materials (e.g. microfine sulphur, pyrethrum) could possibly endanger predator insect populations. New materials and methods may be trialled only with the agreement of the Demeter-International Standards Group. If commercial preparations are bought in, care must be taken that they are free from constituents prohibited in these standards and are not produced by transgenic methods.

1. Biological agents and technologies
   ■ Encouragement and use of 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 (Sex-attractants; attractants in traps and dispensers)
   ■ Mechanical repellents (Mechanical traps, slug and snail fences and such methods)
   ■ Repellents (non-synthetic agents to deter and expel pests). Application only on plant parts not for consumption by humans and animals
   ■ Painting (e.g. insect lime)

2. Adhesion aids and materials to promote plant health.

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
   ■ Waterglass* (sodium silicate, potassium silicate)
   ■ Quartz sand, aluminium silicate
   ■ Chitosan
   ■ Additives: Adhesion aids, wetting aids, emulsifiers, oil
   ■ Additional products approved and published by the Demeter International Standards Committee

3. Agents for use against fungal attack
   ■ Wettable sulphur and flowers of sulphur
   ■ Waterglass* (sodium silicate, potassium silicate)
   ■ Potassium bicarbonate*
   ■ Tea tree oil (Melaleuca alternifolia)
   ■ Microorganisms / bacterial preparations
   ■ Sodium bicarbonate*
4. Agents for pest control

- Microorganisms, Virus, fungal and bacterial preparations (e.g. Bacillus thuringiensis, Granulose virus) spinosad with approval of the respective organisation.
- Pyrethrum extracts, and powder, but not for mushroom production (no synthetic pyrethroids). The use as protection in storage is allowed only if no chemical synergists are included in the formulation. The same regulation applies in agricultural production if materials with equally effective natural synergists are available.
- Quassia tea
- Oil emulsions (without synthetic chemical insecticides) based on vegetable (all crops).
- Oil emulsions (without synthetic chemical insecticides) based on mineral oil in the case of perennial crops only before flowering (Plants that flower all year are exempt) and only if effective plant oils are not available.
- Potassium soaps (Soft soap)*, fatty acids
- Gelatine* hydrolysed proteins
- Fe(III) Orthophosphate (Molluscicide)*
- Azadirachtin (Neem - insecticide)*
- Anti-coagulant rodenticide for use in stables or other housing. (only in bait-boxes or similar such that predators are not jeopardised)
- Rock flour*, coffee*
- Agents for use in stables and on animals: Diatomaceous earth, sticky fly-tapes, etheric oils

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

- Diatomaceous earth*
- Calcium hydroxide
- In cases of need, copper may be used such that the average amount used over 7 years shall not exceed 3 kg/ha/year, preferably with a maximum of 500g/ha/spray. In wine- and hop- growing regions with high fungal pressure the respective organisation may grant an exemption for the use of an average amount of up to 4 kg/ha/year over 5 years. This is restricted to grapes and hops only (APP 25, see Appendix 7).
- Sulphur preparations such as Hepar Sulphuris*, 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 7: Approval of exemptions

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

<table>
<thead>
<tr>
<th>APP Nr.</th>
<th>Description</th>
<th>Reference chapter</th>
<th>Further criteria / restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bringing in seeds of untreated, conventional origin or propagation material of conventional origin</td>
<td>7.1.2.2, 7.1.2.3</td>
<td></td>
</tr>
<tr>
<td>1A</td>
<td>Bringing in manure from animals fed GMO fodder</td>
<td>7.1.3.2</td>
<td>At least one year composted separately</td>
</tr>
<tr>
<td>1B</td>
<td>Heat treatment of glasshouse soils</td>
<td>7.1.5.5</td>
<td>Immediate use of the preparations after steam sterilization</td>
</tr>
<tr>
<td>1C</td>
<td>Sterilization of growing substrate for mushrooms</td>
<td>7.1.7.7</td>
<td>Immediate use of the compost preparations after sterilization and before inoculation</td>
</tr>
<tr>
<td>2</td>
<td>Soil kept free of vegetation</td>
<td>7.1.6</td>
<td>First year of planting or permanent in semi-arid climates</td>
</tr>
<tr>
<td>3</td>
<td>New crops and production methods (e.g. new fertilisers, plant protection and plant care agents)</td>
<td>7.1.1, 7.1.4, Appendix 4 and 5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Clearing of high value conservation areas</td>
<td>7.1.8.1</td>
<td></td>
</tr>
<tr>
<td>4A</td>
<td>No preparations used on steep and inaccessible land</td>
<td>7.2, 7.3.6.6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>No animals carried by the enterprise (ruminants or equidae)</td>
<td>7.3.2</td>
<td></td>
</tr>
<tr>
<td>5A</td>
<td>Cooperation between farms</td>
<td>7.3.4</td>
<td>Restrictions compare 7.3.4.</td>
</tr>
<tr>
<td>6</td>
<td>Tying up of livestock</td>
<td>7.3.5</td>
<td>Individual animals for safety reasons, whole herds in buildings erected before 2000, not in pigs, calves and young cattle</td>
</tr>
<tr>
<td>8</td>
<td>Exemptions from the requirements governing housing and outside access</td>
<td>7.3.5</td>
<td>Further requirements compare to 7.3.5.</td>
</tr>
<tr>
<td>9</td>
<td>Lack of either access to pasture or open air runs for cattle</td>
<td>7.3.5.1</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Lack of open air runs for fattening pigs</td>
<td>7.3.5.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Dehorning and dehorned stock</td>
<td>7.3.5.1.</td>
<td>Annual review</td>
</tr>
<tr>
<td>12</td>
<td>Poultry housing existing prior to June 2013</td>
<td>7.3.5.4.</td>
<td>Stock limits only</td>
</tr>
<tr>
<td>13</td>
<td>Limit on imported organic feeds</td>
<td>7.3.6.2. / 7.3.6.9. / 7.3.6.10.</td>
<td></td>
</tr>
<tr>
<td>14 A</td>
<td>Less than 3 kg hay / animal in winter feeding</td>
<td>7.3.6.3. / 7.3.6.4.</td>
<td>Silage or straw as a substitute</td>
</tr>
<tr>
<td>15</td>
<td>Guest animals</td>
<td>7.3.6.7.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Community Pasture</td>
<td>7.3.6.8.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Conventional feed for young turkeys</td>
<td>7.3.6. / 7.3.6.10</td>
<td>Max. 10 % up to the 10th week</td>
</tr>
<tr>
<td>18</td>
<td>Brought in stock</td>
<td>7.3.8.1</td>
<td>Up to 40 % of the herd, further restrictions see 7.3.8.1.</td>
</tr>
<tr>
<td>19</td>
<td>Bringing in piglets of conventional origin</td>
<td>7.3.8.5.</td>
<td>Can be sold as &quot;in conversion to Demeter&quot; max.</td>
</tr>
<tr>
<td>20</td>
<td>Bringing in meat cockerels of conventional origin</td>
<td>7.3.8.6.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Prolonged conversion periods</td>
<td>7.3.11. / 7.3.11.2. / 7.3.11.4.</td>
<td>Up to five years for perennials and ornamental plants (further restrictions compare 7.3.11.2.); Conventional animal husbandry up to three years (if subsequently abandoned), Organic animal husbandry up to five years</td>
</tr>
<tr>
<td>24</td>
<td>Bringing in conventional fodder in cases of need</td>
<td>7.3.6. / Appendix 2</td>
<td>See Appendix 2 for restrictions.</td>
</tr>
<tr>
<td>25</td>
<td>To use an average amount of up to 4 kg/ha/year of copper over 5</td>
<td>Appendix 5</td>
<td></td>
</tr>
</tbody>
</table>

An application for an exemption that is not foreseen must comply with the “Procedure to gain a country exemption” contained in the Directions.
Appendix 8: Minimum age at slaughter for poultry

<table>
<thead>
<tr>
<th>species</th>
<th>Minimum age (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>chickens</td>
<td>81</td>
</tr>
<tr>
<td>Peking ducks</td>
<td>49</td>
</tr>
<tr>
<td>female Muscovy ducks</td>
<td>70</td>
</tr>
<tr>
<td>male Muscovy ducks</td>
<td>84</td>
</tr>
<tr>
<td>Mallard ducks</td>
<td>92</td>
</tr>
<tr>
<td>guineafowl</td>
<td>94</td>
</tr>
<tr>
<td>Turkeys and roasting geese</td>
<td>140</td>
</tr>
</tbody>
</table>
Appendix 10: Biodynamic preparations

Quality assurance for the production of the Biodynamic preparations.

This appendix gives guidelines for preparation production and use. It is a recommendation only. The Biodynamic measures which are required for Demeter certification are contained in Section four.

General aspects

■ The Biodynamic compost and spray preparations (=“preparations”) created out of natural and organic substances are used in minute doses to enhance soil life, plant growth and quality and animal health. They act as a kind of “bio regulator”, forcing the self-regulation of biological systems, e.g. the farm’s whole biological cycle (1).

■ They are essential to Biodynamic agriculture and their use is a recognised requirement of the Demeter Standards.

■ The production of preparations takes place on the farm. The method of production involves taking certain plant materials (e.g. camomile flowers, grated oak bark and dandelion flowers), cow manure or quartz meal, placing them in selected animal organ parts and fermenting them in the soil for certain period of time, usually half a year. After the preparation has been dug out remaining residues of animal organs are disposed of according to the current regulatory requirements.

■ Application rates for the field sprays are 50-300g/ha (Horn manure) and 2.5-5g/ha (Horn silica) and 1-2 cm³ each of the compost preparations per 10 m³ of compost or deep litter manure/slurry.

■ Cow-horn manure or prepared cow horn manure (500P) is to be spread at the start of the vegetative phase, or after harvest of the certified crop, but in any case at least once a year at a rate of at least 50 gr/ha. 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.

■ For full details on the application and use of the Biodynamic preparations see (2)(3).

Basic principles for making the preparations

■ The Biodynamic preparations will be produced under the use of natural processes (e.g. winter soil rest and summer soil life) at the best in the farm on which they are to be applied. All the materials used for making the preparations should originate from this farm as far as possible.

■ Living biological processes are essential during production. The organs used are chosen for the unique properties they possess as a result of their former function within the animal organism. Their function is to concentrate the constructive and formative living forces into the substances of the preparations.

■ The animal organs used need to be of food quality standard. Disinfectants are deleterious to the process.

■ Produced in this special way, the preparations develop a strong yet subtle power whose effect may be compared to that of homeopathic remedies.

The materials required for the production of preparations

The following materials are used in the production of the Biodynamic preparations and the estimated quantities of organ material required per acre.
<table>
<thead>
<tr>
<th>Preparation</th>
<th>Material</th>
<th>Animal Organ</th>
<th>Quantity/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Sprays</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horn manure</td>
<td>Cow manure</td>
<td>Cow horn</td>
<td>1 Horn / ha (*1)</td>
</tr>
<tr>
<td>Horn silica</td>
<td>Quartz meal</td>
<td>Cow horn</td>
<td>1 Horn / 25 ha</td>
</tr>
<tr>
<td>Compost Preparations:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camomile</td>
<td>Flowers</td>
<td>Intestine (2*)</td>
<td>30 cm / 100 ha</td>
</tr>
<tr>
<td>Oak Bark</td>
<td>Bark</td>
<td>Skull (3*)</td>
<td>1 skull / 300 ha</td>
</tr>
<tr>
<td>Dandelion</td>
<td>Flowers</td>
<td>Peritoneum (4*)</td>
<td>30 x 30 cm / 100 ha</td>
</tr>
<tr>
<td>Not affected by Regulation (EC) 1774/2002:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yarrow</td>
<td>Flowers</td>
<td>Stag’s bladder (5*)</td>
<td>1 bladder / 250 ha</td>
</tr>
<tr>
<td>Stinging nettle</td>
<td>whole plant</td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>Valerian</td>
<td>Flower extract</td>
<td>none</td>
<td></td>
</tr>
</tbody>
</table>

Annotation: (1*): if 5-time used; (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)

The origin and treatment of the animal organ material

- The required animal organ material should be taken from fully certified organic animals originating from the farm wherever possible. The origin of other horns used in the production of Horn Manure is possible too.
- Currently bovine intestines can only be used from BSE free countries.
- All animal organs (except of stag’s bladder and horns) are material of category 3 qualified for food according to Regulation (EC) 1774/2002.
- The organs are used either fresh or dried.
- The skull is before filling with oak bark placed in a closed container filled with saw dust and left for a period of time during which it is cleaned of any fleshy remains by means of a process of microbial maceration. After the skull is removed waste material is disposed of in accordance with current regulatory requirements.
- During the production process, the filled organ material is carefully protected from disturbance by wild animals (through the use of unglazed pots, careful fencing etc.)
- After the production of preparations is completed all remaining animal residues are disposed of in the required way.

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 of prepared substance applied is extremely low (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:**


The use of the Biodynamic preparations are permitted under article 12 (1) c) of EC regulation 834/2007.
8. Product Standards for Demeter product categories

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.1. Packaging

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

Version June 2018

Date of revision June 2019

8.1.1. 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 standards may contain further restrictions depending on the product category.

8.1.2. General principles

The Packaging 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 your respective country organisation or the Standards Committee of Demeter International.

Packaging and Demeter products should meet the best possible environmental practice that means in any case:
• Minimise the amount of material used. Packaging which is to suggest the impression of a larger volume than that of the actual content is to be omitted.

• Wherever possible reusable or at least recyclable systems are preferable

• Overpacking in the sense of, for example, small packaging units within an overall package or additional decorative sleeves is to be omitted.

8.1.3. Explicitly prohibited packaging materials

■ Nanomaterials in packaging or coatings of packaging must not be used. At present, the legal provisions regarding the labelling of nanomaterials are not sufficient. If you have any concerns, please insure yourself back with your manufacturer or request a declaration of no objection regarding the use of nanoscale substances. 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.

8.1.4. Approved or restricted approved packaging materials

<table>
<thead>
<tr>
<th>Abr.</th>
<th>Product group / standard section</th>
<th>Abr.</th>
<th>Product group / standard section</th>
</tr>
</thead>
<tbody>
<tr>
<td>BB</td>
<td>Bread and bakery (cakes and pastries)</td>
<td>FV</td>
<td>Fruits and vegetables</td>
</tr>
<tr>
<td>MI</td>
<td>Milk and dairy products</td>
<td>Oil</td>
<td>Cooking oils and fats</td>
</tr>
<tr>
<td>S</td>
<td>Sugar, Sweetening agents, confectionary, ice-cream and chocolate</td>
<td>IMF</td>
<td>Infant milk formula</td>
</tr>
<tr>
<td>MS</td>
<td>Meat and meat products</td>
<td>HS</td>
<td>Herbs and spices</td>
</tr>
<tr>
<td>CO</td>
<td>Cosmetic and personal care products</td>
<td>G</td>
<td>Grain, soy products, cereal products, and pasta</td>
</tr>
<tr>
<td>W</td>
<td>Wine and sparkling wine</td>
<td>B</td>
<td>Beer</td>
</tr>
<tr>
<td>A</td>
<td>Alcoholic spirits and alcohol for further processing</td>
<td>CFW</td>
<td>Cider, fruit wines and vinegar</td>
</tr>
<tr>
<td>Packaging</td>
<td>Product group</td>
<td>Comments / restriction</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Paper</strong></td>
<td>All</td>
<td>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 manufacturer regarding avoidance and possible barriers. This commentary applies to all paper packaging.</td>
<td></td>
</tr>
<tr>
<td>Waxed paper</td>
<td>All</td>
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</tr>
<tr>
<td>PE-coated paper</td>
<td>All</td>
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<tr>
<td>Cardboard/Carton/Pressboard</td>
<td>All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carton packaging/PE</td>
<td>All</td>
<td>Coated with polyethylene on one or both sides</td>
<td></td>
</tr>
<tr>
<td>Pergamin / parchment paper</td>
<td>All</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aluminium</strong></td>
<td>All (exc.wine)</td>
<td>If technically unavoidable (what is classified as technically unavoidable is the responsibility of the respective national organization)</td>
<td></td>
</tr>
<tr>
<td>Aluminium Foil</td>
<td>All (exc.wine)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminium composite (with cardboard, PE)</td>
<td>FV, MI</td>
<td>For fresh milk and beverages, fluid products;</td>
<td></td>
</tr>
<tr>
<td>Aluminium tubes</td>
<td>FV, Oil</td>
<td>Only for mustard, horseradish, mayonnaise</td>
<td></td>
</tr>
<tr>
<td><strong>Mineral oil based plastics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyethylene (PE)</td>
<td>All (exc.wine)</td>
<td>each individually and in combination</td>
<td></td>
</tr>
<tr>
<td>Polypropylene (PP)</td>
<td>All (exc.wine)</td>
<td>Please notice possible restrictions in product standards</td>
<td></td>
</tr>
<tr>
<td>Polyamide (PA)</td>
<td>FV, G, MS</td>
<td>Please notice possible restrictions in product standards</td>
<td></td>
</tr>
<tr>
<td>Polyacrylic</td>
<td>G</td>
<td>Please notice possible restrictions in product standards</td>
<td></td>
</tr>
<tr>
<td>Polystyrol/Polystyrene (PS)</td>
<td>MI</td>
<td>Only K3-Beakers in combination with cardboard sleeves</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Terephthalate (PET)</td>
<td>FW; MI</td>
<td>Only for beverages, only within the framework of returnable systems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MS; MI, G</td>
<td>Only for thermoforming sheets</td>
<td></td>
</tr>
<tr>
<td>Packaging</td>
<td>Product group</td>
<td>Comments / restriction</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Cellulose hydrate / cellophane</td>
<td>S, G</td>
<td>Individually, in combination or as coating</td>
<td></td>
</tr>
<tr>
<td>Bio-based plastics / technical biopolymers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyethylene (PE)</td>
<td>All</td>
<td>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</td>
<td></td>
</tr>
<tr>
<td>Cellulose acetate (CA)</td>
<td>All (exc.wine)</td>
<td></td>
<td></td>
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<tr>
<td>Compostable or biodegradable primary packaging</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Starch plastics (starch blends, polymer raw material, polyvinyl alcohol/PVAL, thermoplastic starch)</td>
<td>All (exc.wine)</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Polylactic acid (PLA)</td>
<td></td>
<td></td>
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<tr>
<td>Cellulose products</td>
<td></td>
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<tr>
<td>Polyhydroxy fatty acids (PHF)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other materials</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Earthenware</td>
<td>All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheet metal and tinplate</td>
<td>All (exc.wine)</td>
<td>welded and not soldered</td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>All</td>
<td></td>
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</tbody>
</table>
8.2. Fruit and vegetables

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

Version June 2018

Date of revision June 2019

8.2.1. Scope

The present section covers the processing of fruits and vegetables including mushrooms, potatoes and potato products. The Standard functions as a positive list, all methods, aids and additives not mentioned are prohibited. In cases of doubt contact your national certification organisation or the coordinator of the Standards Committee.

8.2.2. 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 fruit and vegetables are listed in the following section of the standard.

8.2.3. Fruit

General principles – fruit

■ Processing heat treatments such as pasteurisation, sterilisation und autoclaving are justified with respect to microbial stability and shelf life of the products. The most gentle option to achieve this affect must be chosen. In cases of doubt the respective organisation shall decide on the need for the technology used.

■ 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.

■ Preliminary washing can be with tap water. Final cleaning of the fruit must be done with pure drinking water.
■ **Sweetening of fruit preserves** is permitted, 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.

■ The production of **fruit juice concentrates** from fruit juices or unrefined juice extracts without additional sweetening is allowed, **juice reconstituted from concentrates** is not permitted. The production of Nectars from stone fruit and pip fruit (as well as wild fruits and berries) is permitted.

■ The production of fruit syrups is permitted.

■ Sweetening of paste and plum is not permitted, pulp from sour fruits may be sweetened with honey or sugar.

**Product specific aids, additives and processing methods - fruits**

■ **Ethylene** can be used for the ripening of bananas.

■ For spreads based on fruit the use of **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) is admitted.

■ Native **starch** and pre-gelatinised starch as an ingredient is permitted.

■ **Enzymes** can be used, but must conform to the requirements listed in table 4.3.

■ **Plant oils and fats** (non-hydrogenated) as non-stick agents for dried fruit.

■ **Alum** for organic banana production to stop latex flow from the cut surface of the banana bunches is permitted

■ **Plant proteins** (e.g. pea protein) for cosmetic reasons, clarification and fining is permitted (needs written permission from the respective organisation).

■ The addition of **saccharose** in dried form, or as syrup is not permitted.

■ **Diatomaceous earth, Bentonite** and **Gelatine** for fining, clarifying and filtering of fruit juices is permitted.

■ All treatments of fruit with **natural acids** like lemon juice concentrate or lactic acid are permitted.

■ Mechanical chopping or homogenisation is permitted.

8.2.4. Vegetables (incl. Potatoes and mushrooms)

**General principles – vegetables**

■ Processing treatments such as pasteurisation, sterilisation und autoclaving are justified with respect to microbial stability and shelf life of the products. The most gentle option to achieve this affect must be chosen. In cases of doubt the respective organisation shall decide on the need for the technology used.

■ 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.

■ Preliminary washing can be done with tap water. Final cleaning must be done with pure drinking water.
Mechanical peeling methods are allowed for those vegetables whose skin is not suitable for eating.

All treatments of vegetables with natural acids like lemon juice concentrate, vinegar or lactic acid are permitted.

**Product specific aids, additives and processing methods – vegetables**

- Diatomaceous earth is permitted.
- Freezing vegetables with added liquids is not permitted.
- Tomato paste is produced from pulp by water reduction using heating. To adjust the content of dry matter, fresh pulp may be added back in.
- For the production of vegetables preserved with lactic acid starter cultures are allowed, the addition of sugar up to 1% is allowed.

**8.2.5. Packaging – fruits and vegetables**

The general rules under chapter 8.1. Packaging apply, additional restrictions are as follows:

- Packaging of fresh fruit and vegetables in mineral oil based or bio-based plastic is not permitted, this also applies to packaging consisting at least partly of the named substances. Biodegradable plastic could be used for transitional period, but will be excluded in the nearer future also.
8.3. Bread, cakes and pastries

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.3.1. Scope

The present section covers the processing of bread, cakes and pastries. Related products like cereal products of confectionary are regulated by other standard sections.

The Standard functions as a positive list, all methods, aids and additives not mentioned are prohibited. In cases of doubt contact your national certification organisation or the coordinator of the Standards Committee.

8.3.2. 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 bread, cakes and pastries are listed in the following section of the standard.

8.3.3. General principles – Bread, cakes and pastries

Basic principle: Each country has to decide on the basis of the baking quality of the cereals whether baking improvers are needed and can be used. All ingredients and additives in the baking improvers are to be included in the complete declaration as required for the labelling of wrapped or loose Demeter bakery products. Conventional baking improvers may contain only those ingredients and additives which are listed in section 8.3.4. All baking improvers used in Demeter bakery products require approval by the respective Demeter organisation i.e. confirmation that they meet the standards.
The use of hammer mills is prohibited because of the danger of high rotation speed causing temperature affects, which reduce quality. If the mill is based on hammer technology but equipped with an effective internal cooling system, use is permitted. Mills made with natural or artificial stones, or steel rollers may be used. When buying a mill, stone mills should be preferred.

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 declared.

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. If coated tins or trays are used, before using the first time the recommendations for the pre-treatment of the coated surface must be followed carefully. Even small imperfections in the surface mean that such coated steels may no longer be used.

Demeter Bread and bakery products, whether wrapped or loose, must be accompanied by a list which is available to all customers, retailers and distributors.

8.3.4. Ingredients, aids and additives – Bread, cakes and pastries

- **Peanut and palm oils** at least in organic quality are permitted only for deep-frying
- As a blanket rule **dried milk** products may not be used
- Permitted chemical **raising agents** are **Sodium or Potassium bicarbonate**, with **Tartaric acid, sodium or potassium tartrate** (E 334/335/336 and E 500/501) in any combination. Grain starch is the only permitted carrier.
- **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 yoghurt and cottage cheese and for cream preparations.
- A four per cent solution of **sodium hydroxide**, E 524, is allowed in the production of Brezel and salt-bakery products.
- **Flavourings** for use in fancy baking are to be solely pure etheric oils or pure extracts identical with the parent material.
- **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.
- As **raising agents from micro-organisms** may be used, baking ferments, sour dough and yeast. Culturing acid may be used as a starter only in the first stage for sour dough, the aim is to develop a multi-stage process without the use of yeast. For yeast the regime of availability is organic yeast, yeast multiplied on organic substrates, conventional yeast.
- **Fruit juices, malt and soya flour as well as acerola powder are permitted as baking improvers in the production of all bakery items.**
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 allowed until a more suitable replacement material is found.

**8.3.5. Product specific processing methods – Bread, cakes and pastries**

- Baking in foil is prohibited. Baking paper and baking foil may only be used to prevent sticking of small bakery items (e.g. salt pretzel, buns, biscuits etc.).
- Baked through bread and bakery products may not be frozen and sold as **defrosted products** afterwards.
- Baking in **high frequency infra-red ovens** is not permitted.
- **Single use baking forms** made of aluminium are prohibited.
8.4. Grain, soy products, cereal products and pasta

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing*

Version June 2018     Date of revision June 2018

8.4.1. Scope

This guideline covers grains, milled grain, grain flakes, including pseudocereals like buckwheat, quinoa and amaranth. Also products made from the above e.g. breakfast cereals (muesli), baking mixtures, dry mixtures with substantial grain percentage (Rissoles, patties, risotto), coffee substitutes from grain, “native” starch and pre-gelatinised starch, malted grain. This section does not refer to bread, cakes and pastry, please compare to 8.3.

8.4.2. 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 bread, cakes and pastries are listed in the following section of the standard.

8.4.3. General principles – grain, soy products, cereal products and pasta

Tofu is processed from soya beans that originate solely from certified Biodynamic enterprises, without exception. Only hardwoods (as wood, shavings or sawdust) may be used for smoking soya products. Tropical hardwoods are excluded. For filled products like filled pasta the filling has to meet the respective standard e.g. for fruits and vegetables or meat and meat products.
8.4.4. Ingredients, aids and additives – grain, soy products, cereal products and pasta

■ For ready to use baking mixtures, the following micro-organism cultures (not genetically modified), if available grown on certified organic substrates are allowed: sour dough, dried sour dough granules, yeast, yeast products

■ Permitted chemical raising agents for ready to use mixes are Sodium or Potassium bicarbonate, with 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 are to be extracts from at least certified organic production e.g. etheric oils.

■ Permitted processing aids are Nitrogen (N₂), Carbon dioxide (CO₂) and all other aids without special restriction to product groups according to table 4.3 under Fundamental requirements.

■ Sodium hydroxide (NaOH) is permitted to adjust the pH-value in the production of starch.

■ 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.

8.4.5. Product specific processing methods – grain, soy products, cereal products and pasta

■ The processing of parboiled rice from Demeter rice is permitted.

■ The production of modified starch using chemicals or enzymes is not permitted.

■ Extrusion techniques are defined as "shaping extrusion" - any kind of gentle, cold pressing of substances through a die to shape the substance and "modifying extrusion" - 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. Shaping extrusion is permitted, modifying extrusion is not permitted. 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.
8.5. Herbs and spices

8.5.1. 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 herbs and spices are listed in the following section of the standard.

8.5.2. General principles – Herbs and spices

At harvest, impeccable cleanliness is of paramount importance. This means the harvested products should be free from obvious disease, dead tissue, damage, decay, etc. In order to prevent microbial contamination, it is important to ensure that the herbs and spices do not come into contact with the soil during harvest. If cleaning is required, water of drinking quality, without any additives, is to be used. This cleaning water must be removed from the herbs and spices as completely as possible before further processing.

Drying should be as gentle as possible, maintaining the maximum quality and be carried out using the optimum conditions for each particular product. The drying temperatures are to be determined by the product. The process is to be controlled such that impeccable hygiene is maintained. Reliance on solar energy and the use of energy saving processes is expressly advocated.

Chopping of herbs and spices is always accompanied by a loss of etheric oils. Whenever possible, therefore, the 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 stream being cleaned before release into the environment.
8.5.3. Ingredients, aids and additives – Herbs and spices

■ Calcium carbonate (E 170) is permitted as a releasing agent.
■ Carbon dioxide and Nitrogen for sterilisation and cold grinding are permitted.

8.5.4. Product specific processing methods – Herbs and spices

■ 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 are permitted.
■ 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 of certified organic quality is permitted.
■ Allowable disinfection methods are the use of dry or moist heat. Disinfection using super-heated steam, in cases where 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 degrees C for 2-5 minutes).
8.6. Meat and meat products

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.6.1. 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 meat and meat products are listed in the following section of the standard.

8.6.2. General principles – meat and meat products

The slaughtering of animals requires particular attention. Please compare to 7.10.

8.6.3. Ingredients, aids and additives – meat and meat products

- **Preparations and extracts of spices** are not permitted.
- **Extracts of meat and yeast** and **flavour enhancers** are not permitted.
- The processor must obtain written statements to confirm that **irradiation** or **methyl bromide** have not been used in the disinfection of the herbs and spices.
- **Artificial casings** are permitted if they are declared on the labelling. Natural casings and intestines may be treated with **lactic acid** or vinegar and cooking salt.
- **Citrates** are permitted in the production of scalded sausage if it is not possible to process the meat warm. **Citrates** in general, dried **blood plasma**, blood plasma, or **blood serum** may not be used.
- **Aspic powder** in organic quality is permitted.
■ **Starter cultures** are permitted for use in sausages to be eaten raw. The use of **mould cultures** is permitted, though not from genetically modified micro-organisms.

■ The production of salt cured meat may not include the use of **nitrite salts, E 252 saltpetre, E 300 ascorbic acid, E 575** (Glucono-delta-lactone : GdL) and **food-grade acid**.

■ The use of **milk protein, dried milk products** and other cutting aids is prohibited.

8.6.4. **Product specific processing methods – meat and meat products**

■ **Immersion substances** meeting the general requirements of this standard are permitted. Dry curing and brine bath curing are both permitted, with the brine bath containing all types of salt mentioned in 4.3. with or without spices.

■ The use of **tenderising materials**, or of electrical treatments to tenderise the meat, is not permitted.

■ Cooling down in steps and rapid cooling using cold air are both allowed. The carcasses may not be sprayed with **brine solutions**, or with **food-grade acid**.

■ To prevent clotting, if the blood cannot be processed directly, it can be hit with metal rods.

■ The production of **pressed meat** using off-cuts of meat is not allowed.

■ **Smoking** is permitted. 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. The individual sausage types determine the exact method required. Permitted smoking agents are suitable native wood types (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.

■ **Full preservation** is allowed. Full preservation is permitted 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 no solder may be used. Containers made of plastic, aluminium, or plastic- aluminium laminates are not permitted.
8.7. Milk and dairy products

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing*

8.7.1. Scope

This section of the Standard deals with the processing of fresh milk and dairy products such as yoghurt, curd, cheese and butter. Details for ice cream (also sorbets and frozen yoghurt) production please compare to section 8.10.4 and 8.10.5.

8.7.2. 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 fresh milk and milk products are listed in the following section of the standard.

8.7.3. General principles – milk and dairy products

The milk must be picked up by special milk trucks, which are used only for Demeter milk, or have special tanks labelled for Demeter milk. Transport is also possible in Demeter labelled cans, or may be delivered directly from the farm to the dairy. Please refer also to section 3.6.6 separation of goods.

In order to maintain the inner quality of the milk right through to consumption, it should be processed whole as far as possible and also fresh from the cow.
8.7.4. Ingredients, aids and additives – milk and milk products

- **Starter cultures** (also direct starters) may be used. The raising 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. The rennet should contain no preservatives. It may not however be curdled with pure acid.

- **Calcium carbonate** (CaCO₃) and **Calcium chloride** (CaCl₂) are permitted. Sodium bicarbonate may not be used.

- **Calcium chloride** (E 509) may be used as processing-aid in all cheese production.

- Colouring butter or other milk products with beta-carotene or lactoflavine is not permitted.

- As thickening agents **starch** and **agar agar** may be used.

- Surface treatment with **potassium sorbate**, **calcium sorbate**, or **natamycin** is not permitted.

- The salt brine can be re-boiled and enriched with salt accordingly. Sterilisation with **sodium hypochlorite**, **hydrogen peroxide** etc. is not permitted.

8.7.5. Product specific processing methods – milk and milk products

- The following **coatings** can be used (single or mixed with each other) for hard cheeses, sliceable cheeses and for semi-hard cheeses: Beeswax, natural hard paraffin wax and microcrystalline waxes. Natural hard paraffin wax and microcrystalline wax may contain no other additives such as polyethylene, short chain polyolefine, polyisobutylene, butyl or cyclic rubber. In addition the waxes may not be coloured.

- **Plastic film** is provisionally permitted for covering the outer layer of sliceable cheese, and semi-hard 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 use of **aluminium vats** is not allowed for either storage or processing.

- The legally permitted **pasteurisation methods**, to a maximum temperature of 80 degrees 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. Other heat processes such as sterilisation UHT (Ultra high temperature) or ESL (extended shelf life) treatments are not permitted, and the milk may not be homogenised.

- To be allowed to label milk with the Demeter brand the milk has to have a maximum **homogenisation degree** of 30% (measured with an homogenisation pipette, according to the NIZO method). In order to refer to milk as “non-homogenised”, full fat milk has to have a maximum homogenisation degree of 10%.

- **Indirectly acidified** butter, made according to the NIZO method is not permitted. The other common methods of butter manufacture are allowed.
■ **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. The use of **centrifugal whey separation** methods is not allowed.

■ **Sour milk cheese** may only be manufactured from sour milk curd cheese.

■ For the production of sour milk products, yoghurt, kefir and buttermilk homogenisation by means of an homogeniser is prohibited. Partial homogenisation by means of a centrifuge is allowed in the production of yoghurt. The following options are available for **increasing the dry matter**

■ Addition of powdered milk

■ Evaporating under vacuum

■ Evaporating in a downdraft, multi-stage evaporator.

■ Ultrafiltration

■ Reverse osmosis

■ 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.
8.8. Infant milk formula

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing*

8.8.1. Scope

The scope of the standards for Demeter infant milk formula encompasses initial formula and follow-on formula that is produced based on cows’ or goats’ milk. Only products aimed at infants up to the age of 12 months are allowed to be marketed under the Demeter trademark/logo, or as Biodynamic, or implied to be such.

Products based on soybeans or soybean milk are excluded.

8.8.2. 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 infant milk formula are listed in the following section of the standard.

8.8.3. General principles – Infant milk formula

Breastfeeding means more than just giving the best and healthiest food to the infant. It is also food for the soul and maintains in a unique way the intimate relationship between mother and child that began during pregnancy.

Demeter dairy food for infants is not intended as a substitute for breast milk. It should rather support and supplement in cases where full or partial breastfeeding is not possible for a variety of reasons.

Particularly during this crucial stage, it is essential for Mother and child to receive a diet based on certified Biodynamic raw materials.
The processing and the composition of infant milk formula is subjected to strict legal regulations such as requirements determining hygiene, ingredients and content of macro and micronutrients.

If ingredients and micronutrients are added due to scientifically and not due to legal reasons (see 8.8.5.), the need must be recommended by an advisory body commissioned by the Standards Committee of Demeter International and the applicant organisation. The recommendations must be put to the vote at the Members’ Assembly.

8.8.4. Ingredients, aids and additives – 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 permitted ingredients.
- Added ingredients and micro nutrients (vitamins and minerals, amino acids, fatty acids, choline, inositol and levocarnitine) will only be allowed if the legally prescribed content cannot be achieved with Demeter ingredients alone.
- Isolated nucleotides, hydrolysed proteins and taurine are specifically excluded.

8.8.5. Products specific processing methods – Infant milk formula

- All processing stages will be optimised on the basis of the best realisable food quality.
- The spray drying process is permitted as is homogenisation of the total mass being processed.
8.9. Cooking oils and fats

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.9.1. Scope

The following standard treats cold pressed oils including virgin and extra virgin quality categories as well as oil for further processing. Oil for further processing covers oil as a processing ingredient as well as oil as a processing medium, for example as frying oil or release agent. The standard also covers the production of animal fats and margarine. Please consider additional legislative regulations concerning the production of oil especially concerning different categories of cold pressed oils.

8.9.2. 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 cooking oils and fats are listed in the following section of the standard.

8.9.3. General principles – Cooking oils and fats

The maximum extraction temperatures for the individual oils are orientated to the usual legal requirements for the production of cold pressed oils in the different categories. Some examples listed below.

Lower extraction temperatures are recommended whenever possible.

- Olive oil: process temperature may never exceed 27 degrees C
- Saffron and pumpkin seed oil 50 degrees C
- Sunflower oil 60 degrees C
• Maize, soy, sesame, and hazelnut oils 60 degrees C

- **Deodorising** (steaming) is to be declared on all packing units for consumers and processors.

### 8.9.4. Ingredients, aids and additives – Cooking oils and fats

- For filtering only **Asbestos free** filter material such as paper or cloth is permitted.
- For filtering and clearing **Diatomaceous earth** can be used.
- **Nitrogen** ($N_2$) as an aid is permitted.
- For the production of **margarine**, the lecithin used has to be at least certified organic. The use of **hardened (hydrogenated) fat** and **flavours** for the production of margarine is not permitted.

**Ingredients, aids and additives – only oil for processing purposes**

- For filtering and clearing **Bentonite** (Fullers earth) and **activated carbon** is permitted, but only for oil for processing purposes.

### 8.9.5. Product specific processing methods – Cooking oils and fats

- **Filtration**, **decanting** and **centrifuging** are permitted.
- Permitted processing methods for the production of margarine are **emulsification**, **pasteurisation** and **crystallization**.

**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.”
- **Conditioning/pre-warming** of the raw material, **extraction** using organic chemistry solvents and **mucilage removal** using mineral or organic acids are prohibited.
- The treatment with **active charcoal**, the **removal of acid**, **bleaching** and **chemical modification** (Hydrogenation, ester modification) are prohibited.
- For **palm oil** which will be sold as raw palm oil mucilage removal using acids and removal of acid are not permitted.

**Oil for processing purposes**

- Usual mechanical processes for cleaning and preparing the raw materials (including conditioning, drying with heat and **vacuum drying**) is permitted.
- **Removal of mucilage** and **neutralising/buffering** of pH (only once either before or after fractionation) is permitted.
■ **Bleaching/colour removal** and **thermal fractionation** (decrystallisation/dry fractionation) is permitted.

■ **Steaming/deodorising** (once, with a maximum temperature of 230 °C) are permitted.

■ The **extraction** with organic solvents and chemical modification (Hydrogenation, Ester modification) are prohibited.
8.10. Sugar, sweetening agents, confectionary, ice cream and chocolate

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.10.1. Scope

The present section covers 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 and cane sugar, ice-cream, sorbets and frozen yoghurt, chocolate and other confectionery.

For the processing of beet sugar a national exemption is possible, if the processing method meets the criteria for the described processing of cane sugar within this standard.

The Standard functions as a positive list, all methods, aids and additives not mentioned are prohibited. In cases of doubt contact your national certification organisation or the coordinator of the Standards Committee.

8.10.2. 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 sugar, sweetening agents etc are listed in the following section of the standard.
8.10.3. Ingredients, aids and additives – sugar, sweetening agents, confectionary, ice cream and chocolate

Sugar and Sweetening agents

■ Enzymes meeting the general requirements of this standard are allowed for the processing of grain/starch sugar products.

■ For the processing of sugar and sweetening agents lime water to remove unwanted materials is permitted.

■ Carbonic acid to precipitate out excess calcium as calcium carbonate and oil to prevent foaming are permitted for the processing of sugar and sweetening agents.

■ Tannic acid - from natural sources, organic ester sucrose are permitted for the processing of sugar and sweetening agents.

■ Sodium carbonate, calcium and sodium hydroxide are permitted aids for the processing of sugar.

■ Sulphuric acid as an aid for pH control and Citric acid as an aid for clarification are permitted only for the production of sugar.

■ For the processing of grain/starch invert sugar xylose (glucose) and isomerase are permitted.

Ice cream, confectionary and chocolate

■ Allowable thickening agents for ice cream are carob bean gum, pectin, guar gum and agar agar.

■ Inulin and other oligosaccharides of organic origin for the processing of ice cream are permitted.

■ Colourings are not permitted.

■ For the processing of chocolate and confectionary lecithin of organic origin as emulsifier is permitted.

■ Gum Arabic as an additive for the processing of chocolate and confectionary is permitted.

8.10.4. Product specific processing methods – sugar, sweetening agents, confectionary, ice cream and chocolate

■ Sugar syrup is evaporated under pressure at temperatures not high enough to cause caramelization.

■ No specific restrictions on the production of sugar, sweetening agents, ice cream, chocolate and confectionary besides the general requirements listed in section 4.2. and 4.3..
8.11. Beer

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.11.1. 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 beer are listed in the following section of the standard.

8.11.2. General principles - beer

Demeter beer must be produced using the “traditional art of brewing“ based on processes and procedures appropriate to life. For this reason beer production uses, in preference, materials that result themselves from natural processes (e.g. acid regulation using lactic bacteria instead of the addition of an acid).

Water used for the brewing process and for all other purposes must be drawn from ground water reserves showing the lowest levels of pollutants. It must be at least of drinking water quality, and have a nitrate content of less than 25 mg/l.

Simple upgrading of water quality, such as would be allowed for natural mineral water for human consumption, is also allowed for brewing water. The removal of iron and manganese by aeration is allowed. Elevated lime levels may be reduced by the addition of sodium carbonate.

The removal of alcohol from beer has not yet been regulated.

Beer is to be packed exclusively in glass bottles, or kegs/barrels of stainless steel or wood. Single use cans are prohibited. The bottle labels are to be printed using inks containing no, or only low levels of, heavy metals. Covering of the bottles with silver paper is prohibited. When buying in new beer crates, they are to be made of environmentally friendly materials (low-density polyethylene, with a low heavy metal content).
Bottle tops must have sealing elements that don’t contain PVC.

Environmentally friendly cleaning materials and methods are to be chosen. Cleaning using alkalis and acids is allowed. If needed, hydrogen peroxide (H2O2) or peracetic acid can be used.

8.11.3. Ingredients, aids and additives - beer

- The only ingredients, which may be used, are hops, malt, and brewing water, only Demeter brewing cereals may be used to brew Demeter beer. Addition of fruit, herbs and spices in Demeter quality is allowed. The fruit is to be cleaned in potable water. Crushed fruit is to be pressed in a gentle manner.
- Unprocessed natural hop flowers has to be favoured. Type 90 pelletised hops may be used.
- Type 45 pelletised hops and hops extracts are prohibited.
- Organic yeast may be brought in or obtained from organic breweries. Only live, fresh yeast with no additives may be used. The yeast is to be bred and multiplied in the brewery itself on the wort which stems exclusively from Demeter raw materials, or if not available, from organic raw materials.
- Lactic bacteria may be used for lactic fermentation to produce Demeter speciality beers.
- Water may not be altered using the following processes: filtration with active charcoal, ion exchange, sterilisation of dirty water in particular with UV radiation, ozone, hypochlorite, chlorine dioxide.
- Filter materials made from textiles (e.g. cotton wool), Membranes (without PVC, PVPP, Asbestos and Bentonite) are permitted.
- CO2 may be used solely to temper the barrels and N₂ for filling.
- Diatomaceous earth and brewing gypsum are permitted.
- Sodium carbonate for softening water is permitted.
- The use of food grade additives, aromas, minerals, trace elements, and vitamins is not allowed in the production of Demeter beer.
- The malt may not be treated with sulphur.
- Silicon dioxide (silica) is permitted as processing aid for the production of gluten free beer.

8.11.4. Product specific processing methods - beer

- Only indirect heat may be used for drying to reduce the danger of amine development.
- 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 is not allowed.
- The use of residues of beer as a natural acidifier is allowed.
- Clarification aids, in particular wood shavings, organic chipping impregnated with pitch and aluminium foil are prohibited.
■ Specialist light beers are to be produced with yeast types that naturally produce less alcohol.

■ Accelerated fermentation, using pressure or agitation is not allowed. All accelerated aging processes such as heating in storage are also not allowed. A heated chamber with a maximum of 25°C is permitted for second fermentation in the bottle only if the minimum outside temperature is below 10°C.

■ The correction of visual or taste shortcomings, e.g. the removal of off tastes by flushing with carbonic acid and using active charcoal filters, or alterations to the colour using beer colourings, is not allowed.

■ Nathan Process (fermentation and aging of beer in the same conical tank) is allowed.

■ The use of materials to lengthen shelf life, such as silicic acid preparations, PVPP bentonite etc, is prohibited.

■ Hot filling of the bottles and disinfection filtration to kill micro-organisms are not allowed, as they diminish taste and act as preservatives. Unstrained beer: Flash heating (Heating for a short time) with subsequent rapid re-cooling is permitted.

■ Beers with elevated residual sugar content may be pasteurised.

■ The disinfection of bottles with sulphites and the treatment of cork cap seals with formaldehyde are prohibited.

■ In case of secondary fermentation in the bottle, sugar addition is permitted, only if the maximum addition does not exceed 2.5g/l beer, 7.5 g/l beer (secondary fermentation in the bottle of top fermentation beer respectively 10g/l Beer (top fermented champagne beers).
8.12. Wine and sparkling wine

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.12.1. 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.

8.12.2. 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.

8.12.3. 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 dependant 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 in sensory terms and digestibility, and taste well.
- Sulphur dioxide is to be used to the 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.

8.12.4. 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. Nevertheless, in order to emphasis the strict prohibition of some common processes and materials, the following are not permitted:

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

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’expédition (sparkling wine) the addition 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. Brought in yeast must not have been grown on a petrochemical substrate or sulphite waste liquor.

Only Demeter/organic yeast hulls are permitted, other yeast nutrients need approval by the respective organisation.

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 (KHCO₃), Calcium carbonate (CaCO₃) 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 SO₂, as a gas or in solution
• Potassium bisulphite
• Potassium metabisulphite

■ **Effervescent tablets** are not permitted.

<table>
<thead>
<tr>
<th>Residual sugar</th>
<th>SO₂ total [mg/l] at bottling</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Sparkling, Rose</td>
<td>Red</td>
</tr>
<tr>
<td>&lt;5g/l residual sugar</td>
<td>140</td>
</tr>
<tr>
<td>&gt;5g/l residual sugar</td>
<td>180</td>
</tr>
<tr>
<td>Sweet wines with Botrytis</td>
<td>360</td>
</tr>
<tr>
<td>Sweet wines without Botrytis</td>
<td>250</td>
</tr>
</tbody>
</table>

■ Permitted **fining agents** are, egg white, milk and milk products, Casein, and Pea, potato or wheat protein.

■ Inorganic permitted fining agents are **Bentonite** (tests for dioxin and arsenic may be required), **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**.

■ Permitted **bottling aids** are CO₂ and N₂.

■ Natural **pine resin** with no other aids or additives may be used in the production of traditional Greek **Retsina** wine.

### 8.12.5. 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 not permitted.

■ 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.

### 8.12.6. 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, not 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.
8.13. Cider, fruit wines and vinegar

International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing

8.13.1. Scope

The current standard refers to the production of cider, fruit wines and vinegar made of fruit, vegetables, cereals, wine and beer. For other alcoholic beverages like wine, beer or spirits please compare to the relevant product standards.

8.13.2. 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 cider, fruit wines and vinegar are listed in the following section of the standard.

8.13.3. General principles – cider, fruit wines and vinegar

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

Regular and thorough cleaning is obligatory. This is the best prerequisite for a long product life. As a rule, the bottling plant is to be cleaned with hot water and pressure rather than sterilising with a disinfection agent. Cleaning materials used are as listed in paragraph 6.6 and their use documented. Flushing with potable water is required following the use of any cleaner.
8.13.4. Ingredients, aids and additives – cider, fruit wines and vinegar

- Alcohol as an ingredient is permitted.
- The fruit wines are made using indigenous yeasts. Specific Biodynamic, certified organic or if these are unavailable commercial yeasts may be brought in. All brought in yeasts must be documented GMO free.
- Vinegars may be produced using starter cultures.
- Demeter, or if unavailable, certified organic sugar to a maximum of 10%, when in line with legal framework.
- Metabisulphite (E224) and SO2 (E220) are permitted.
- The addition of caramel colouring and sulphurous acid to vinegar is not permitted, nor is the use of E536 (potassium hexacyanoferrate).

8.13.5. Product specific processing methods – cider, fruit wines and vinegar

- Traditional and rapid vinegar processes are permitted.
- Centrifuging is not permitted.
- Glass bottles and barrels (wood, ceramic materials, stainless steel) for packaging is permitted. Containers made from plastic or aluminium are not permitted.
- Bottle tops must have sealing elements that do not contain PVC.
- Procedures to artificially reduce the alcohol content and procedures to correct taste or visual improvement using colourings are not permitted.
- Determination of the filled level using radiation is not permitted.

Vinegar essences are not to be produced, Synthetic vinegar production methods are prohibited.
8.14. Alcoholic spirits and alcohol for further processing

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing*

8.14.1. Scope

This standard is to define 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 the Demeter International processing standards.

8.14.2. 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 alcoholic spirits and alcohol for further processing are listed in the following section of the standard.

8.14.3. General principles – alcoholic spirits and alcohol for further processing

Raw materials for distillation must be in certified Demeter quality, e.g. grains, fruit juices and vegetables, fully traceable and identifiable. If molasses or clear juice is used, produced from sugar cane or sugar beet, the cane or beets must have been processed according to Section 8.10 of the Demeter International standards. Fruit juice concentrates must meet section 8.2 of the standard.
Incoming raw materials are to be stored in containers cleaned for the purpose that are unambiguously labelled. A separation protocol must be in place to prevent contamination. Before processing begins, all vessels and holding containers must be cleaned, and piping must be purged.

Cereals used for malting are to be washed with water in the steeping containers, and set to germinate in the malting or germination floors.

The water must be of brewing quality.

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.

Demeter alcohol may only be produced from food materials or food by-products (e.g. rotten materials, wood etc. are excluded)

8.14.4. Ingredients, aids and additives – Alcoholic spirits and alcohol for further processing

■ Yeast for fermentation and fermentation aids must be documented as GMO free

■ 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.

■ 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. Yeast containing conventional must is excluded.

■ Demeter alcoholic spirits for human consumption may be flavoured using certified Demeter ingredients. All other flavours require approval of the respective organisation.

8.14.5. Product specific processing methods – Alcoholic spirits and alcohol for further processing

■ The malt may not be treated with sulphur.

■ 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. This may occur in several steps.
8.15.1. Scope

These standards are to define the production of the following products to be labelled as
Demeter/Biodynamic, personal care - Skin and body care products including skin and sun
creams and toothpaste, Etheric (Essential) oils, extracts, extraits, and tinctures, waters &
hydrolates (Hydrosols), Soaps, including liquid soaps e.g. shampoos and shower gels,
cleaners and decorative cosmetics.

8.15.2. 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 cosmetic and personal care products are listed in the following section of the standard.

8.15.3. General principles – cosmetic and personal care
products

The aim is to produce cosmetics that consist of natural products, which are beneficial for the
human skin and body, and have as few negative environmental consequences as possible.
The raw materials of plant or animal origin are to be Demeter/Biodynamic certified as far as
possible. The task in the production of cosmetics is to maintain, or, wherever possible to
enhance through the use of appropriate measures, the special qualities of the raw materials which have arisen through their having been grown according to Biodynamic principles.

The aim is to use processes that respect inherent material qualities, and enhance them. For this reason, ingredients that have been through a rhythmical mixing process, (e.g. light/dark, hot/cold, sunrise/sunset) are preferred. Direct environmental influences during their manufacture, such as the presence of electromagnetic contamination should be considered and the negative effects kept to a minimum. Ingredients of agricultural origin must be processed in such a way as to minimize the loss of quality, including those life qualities arising from their Biodynamic method of production.

Environmental effects of any production must be considered. This covers such areas as wastewater streams including waste hot water, reduction of contaminating waste back to the environment, energy usage, appropriate packaging choices and biodegradability of the product itself. Packaging materials are defined in section 8.1 of these Standards.

The products must have no ingredients that are genetically modified, or that have been produced using genetic modification techniques. Ionising radiation is also excluded from all production steps and no materials with particle sizes of less than 100 nanometres may be used (nanotechnology is excluded). Mineral oil is also excluded as a starting material.

In principle, processes, ingredients, additives and aids that are permitted in Demeter/Biodynamic food production may be used in cosmetics and personal care products. However, this section of the Demeter/Biodynamic standards has priority for cosmetic and personal care products.

Water plays a central role in many cosmetic products, in many cases being the largest ingredient. For that reason it should be of the highest quality. Water enhancement through rhythmic treatment can be beneficial. Pure best quality potable water. Spring water (including mineral water), distilled water or dynamised water is preferred. Water treatment must ensure high water quality. Water may be filtered or softened or UV treated.

All ingredients must be individually listed in the ingredients list. The INCI (International Nomenclature Cosmetic Ingredient) system is legally required to be used. Parallel to it, the name of each ingredient should be listed in an appropriate language.

Environmental impact of processing

- Organic waste that does not pose an environmental contamination risk must be composted or handled in an environmentally friendly manner.
- Processing that involves hot water (such as distillation) must allow the water to cool before returning it to a natural ecosystem such as the soil or waterways.
- Hydrosols/waters containing additives such as preservatives must not be disposed of into natural ecosystems such as the soil or waterways.
- Packaging materials must meet the requirements of the Demeter International processing standards.
8.15.4. Ingredients, aids and additives – cosmetic and personal care products

The following materials are not permitted either as solvents, or for any other purpose as an ingredient, additive or processing aid:

- Mineral oils & petroleum derived products
- Benzene
- Hexane
- Propylene glycol
- Butylene glycol
- EDTA chelating agents and their salts
  Raw materials obtained from dead animals (e.g. animal fats, animal collagen) or living cells
- Microbeads.

Raw materials from the **wild harvest** must be certified to EEC regulations 834/2007 and 889/2008 or other valid organic laws and are considered to be equivalent to organic products. An application fully documenting the procedure for minor collections whose frequency is less than annual, whose amounts do not endanger the plant population, and which make up less than 2% of the final formulation may be approved as an exemption by the respective organisation.

**Skin care products** (Face and body) may require functional additives, like **emulsifiers**. These are derived from natural starting materials such as oils, saccharides, proteins, lipoproteins, organic acids and may be modified by saponification, hydrolysis, esterification and trans-esterification, distillation, fermentation, neutralisation, condensation with the elimination of water, hydration, sulphation. The resulting products must be listed in the table below. Steam stripping of oils to product fatty acids e.g. glycerine is permitted.

**Ingredients of agricultural origin**

- Uncoloured and unbleached **plant or animal waxes** are permitted. When using lanolin (wool wax) the treatment of sheep with insecticides (dipping), the method of lanolin extraction, and the conditioning of the lanolin using solvents must be known. A written declaration is to be obtained from the supplier concerning these details. Each lot must be tested for the materials used and a residues analysis certificate supplied. The lanolin with the lowest pesticide contamination available must be used.

- **Synthetically denatured alcohol** is not permitted.

- Permitted **solvents for extraction** from raw materials are ethyl alcohol, fats and oils of plant origin, glycerine derived from fats or oils of plant origin, honey, sugar and vinegar.
Additives and aids of non-agricultural origin

In principle the following ingredients of non-agricultural origin, providing they are documented as containing low levels of heavy metal contamination or other harmful residues, are permitted:

- **Potable water**
- **Ingredients of mineral origin**: salts (sodium, potassium, calcium and magnesium chlorides and sulphates), clays (including bentonite and diatomaceous earth), stone, precious stones, including silicic acid.
- If **minerals** or **salt** is used as an ingredient, Certificate of analysis and related documentation needs to be submitted in order to document that ingredients used do not contain any prohibited contaminants such as **heavy metals** or added ingredients such as **free-flowing agents**.
- **Ingredients of metallic origin**: precious metals, metals
- **Pigments**, made of mica and agglomerated metal oxides meeting all other restrictions of the standard
- **Preservatives, antioxidants, surfactants/emulsifiers, alcohol, solvents** that are listed and meet the restrictions below. If listed for a particular function, a permitted ingredient may also be used for other functions.
- **Preservation** can be achieved using processes such as drying, freezing, storage in inert atmospheres, or pasteurisation at less than 80 degrees Celsius. Botanical preservative systems shall be used in preference. **Preservation aids** (anti-fungal, bacterial and microbial agents) and additives in the table below may be used if necessary.
- **All additives and aids** that are listed in the Demeter International processing standards as permitted for use in Demeter food products (see 4.3).
- Naturally occurring **enzymes** (e.g. fruit enzymes) are permitted, documented GMO free and free from other prohibited ingredients.
- **CO2** as a solvent is permitted.
- **Synthetic fragrances** are not permitted. **Fragrances** must be pure essential oils only, in DEMETER/BIODYNAMIC or certified organic quality, containing no colours or any other additives.
- Natural **antioxidants** are preferred (e.g. based on sage or rosemary). Permitted antioxidants are included in the table below.

The following materials are permitted:

<p>| Allantoin extract (comfrey) | Lanolin Alcohol |
| Ascorbic Acid               | Lauryl Alcohol  |
| Ascorbic Palmitate          | Lauryl Glucoside (rinse off products only) |</p>
<table>
<thead>
<tr>
<th>Cosmetics and personal care products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benzyl Alcohol</strong></td>
</tr>
<tr>
<td><strong>Benzoic Acid and its salts</strong></td>
</tr>
<tr>
<td><strong>Cellulose gum (for Peeling/toothpaste/gels to increase firmness)</strong></td>
</tr>
<tr>
<td><strong>Cetearyl Alcohol</strong></td>
</tr>
<tr>
<td><strong>Cetearyl Glucoside (rinse off products only)</strong></td>
</tr>
<tr>
<td><strong>Cetyl Alcohol</strong></td>
</tr>
<tr>
<td><strong>Cetyl Glucoside (rinse off products only)</strong></td>
</tr>
<tr>
<td><strong>Cetyl Palmitate</strong></td>
</tr>
<tr>
<td><strong>Cetyl Olivate</strong></td>
</tr>
<tr>
<td><strong>Citric acid</strong></td>
</tr>
<tr>
<td><strong>Coco Glucoside (rinse off products only)</strong></td>
</tr>
<tr>
<td><strong>Coconut Alcohol</strong></td>
</tr>
<tr>
<td><strong>Decyl Glucoside (rinse off products only)</strong></td>
</tr>
<tr>
<td><strong>Decyl Oleate</strong></td>
</tr>
<tr>
<td><strong>Dehydroxanthan Gum</strong></td>
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<tr>
<td><strong>Disodium Cocoyle Glutamate</strong></td>
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<tr>
<td><strong>Ethyl Alcohol</strong></td>
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<tr>
<td><strong>Glyceryl Caprylate</strong></td>
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<tr>
<td><strong>Glyceryl Distearate</strong></td>
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<tr>
<td><strong>Glyceryl Lactate</strong></td>
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<tr>
<td><strong>Glyceryl Laurate</strong></td>
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<tr>
<td><strong>Glyceryl Linoleate</strong></td>
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<tr>
<td><strong>Glyceryl Oleate</strong></td>
</tr>
<tr>
<td><strong>Glyceryl Oleate Citrate</strong></td>
</tr>
<tr>
<td><strong>Glyceryl Stearate, Glyceryl Stearate SE</strong></td>
</tr>
<tr>
<td><strong>Glyceryl Stearate Citrate</strong></td>
</tr>
<tr>
<td><strong>Glyceryl Citrate</strong></td>
</tr>
<tr>
<td><strong>Glyceryl Cocoate</strong></td>
</tr>
<tr>
<td><strong>Hydrolyzed Wheat Protein</strong></td>
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<tr>
<td><strong>Hydrolyzed Wheat Gluten</strong></td>
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<tr>
<td><strong>Iron oxide (for Sunscreen)</strong></td>
</tr>
<tr>
<td><strong>Jojoba Esters</strong></td>
</tr>
<tr>
<td><strong>Lactic Acid (From fermentation of a GMO free carbohydrate substrate only)</strong></td>
</tr>
<tr>
<td><strong>Lecithin</strong></td>
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<tr>
<td><strong>Lanolin</strong></td>
</tr>
<tr>
<td><strong>Polyglyceryl - 3 – Polycinoleate</strong></td>
</tr>
<tr>
<td><strong>Potassium Cocoate</strong></td>
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<tr>
<td><strong>Potassium Olivate</strong></td>
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<tr>
<td><strong>Potassium Palmitate</strong></td>
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<tr>
<td><strong>Potassium Stearate</strong></td>
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<tr>
<td><strong>Potassium Sulphate</strong></td>
</tr>
<tr>
<td><strong>Salicylic acid (for Peeling and Blemish control (Hygiene))</strong></td>
</tr>
<tr>
<td><strong>Sodium Cetearyl Sulphate</strong></td>
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<tr>
<td><strong>Sodium Cocoate</strong></td>
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<tr>
<td><strong>Sodium Cocoyle Glutamate</strong></td>
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<tr>
<td><strong>Sodium Cocoyle Hydrolysed Wheat Protein</strong></td>
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<tr>
<td><strong>Sodium Gluconate</strong></td>
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<td><strong>Sodium Lauroyl Lactylate</strong></td>
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<td><strong>Sodium Olivate</strong></td>
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<td><strong>Sodium Palm Kernelate</strong></td>
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<tr>
<td><strong>Sodium Palmate</strong></td>
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<tr>
<td><strong>Sodium Stearyl Lactylat</strong></td>
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<tr>
<td><strong>Sorbid Acids and their salts</strong></td>
</tr>
<tr>
<td><strong>Stearinie Acid</strong></td>
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<tr>
<td><strong>Stearyl Alcohol</strong></td>
</tr>
<tr>
<td><strong>Sucrose Stearate</strong></td>
</tr>
<tr>
<td><strong>Titanium dioxide (for sunscreen)</strong></td>
</tr>
<tr>
<td><strong>Tocopherol (Vitamin E)</strong></td>
</tr>
<tr>
<td><strong>Triethyl citrate (for Deodorants)</strong></td>
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<tr>
<td><strong>Vitamins</strong></td>
</tr>
<tr>
<td><strong>Xanthan gum (E415)</strong></td>
</tr>
<tr>
<td><strong>Xylitol (for Toothpaste) If extracted from maize, GMO free declaration required.</strong></td>
</tr>
<tr>
<td><strong>Zinc oxide and iron oxide (for Sunscreen)</strong></td>
</tr>
</tbody>
</table>
8.15.5. Agricultural ingredients of conventional origin

If an agricultural origin ingredient is unavailable in Biodynamic or organic quality, that ingredient may be used in conventional quality under the following conditions:

- Proof of unavailability is required in writing from three suppliers
- Multi-residue screen testing is required with limits meeting the BNN orientation values
- The amount must not exceed 5% of the total formulation

8.15.6. Product specific processing methods – cosmetic and personal care products

This standard explicitly lists all permitted processes. All others are prohibited. This includes the testing of any new Demeter/Biodynamic product during its development on animals.

- In principle all traditional mechanical and biological methods are allowed, including but not limited to steam distillation, extraction, grinding, drying, mixing, freezing, chopping, sieving, washing, heating cooling, fermentation.

- For the production of extracts, extraits and tinctures, the raw materials have been prepared using only mechanical, thermal, or fermentation methods. For extracts have no other extracting agents than water, oil, ethyl alcohol, CO₂, glycerine, fruit vinegar, or mixtures of the mentioned substances are permitted.

- Essential oils are produced using steam distillation, CO₂ extraction, cold pressing, scarification, rectification (i.e. to take sensitising ingredients out as a vacuum redistillation only e.g. mint oil), fractional distillation (e.g. ylang, ylang).

- Hydrolates are produced using steam distillation only.

- Effleurage extraction must use Demeter or certified organic waxes or fats.

- For the production of soap the raw soap may be produced only from neutral plant fats of Demeter/Biodynamic quality, without any other ingredients. Only sodium hydroxide or potassium hydroxide, that has had no previous usage, may be used for saponification and must not exceed 10% of the formulation. Liquid soaps are sodium and potassium based liquid soaps, shampoos and shower gels.
8.16. Textiles

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing*

8.16.1. 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 textiles are listed in the following section of the standard.

8.16.2. General principles - textiles

Textile raw materials (wool, cotton, linen, silk, flax, etc.) are agricultural products for which all the principles of the Biodynamic method of production apply. Textile production differs from food production in that processing is always necessary. Just as the processing of food can degrade Biodynamic qualities, so the processing of textiles can negatively affect the qualities of Biodynamic fibres. Textile processing also uses a large number of chemical inputs (scouring, dying, etc.). These may lead to significant environmental damage and/or contamination of the end product.

The exclusion of specific toxic products in production is regulated by the Demeter Production Standards.
In processing, this aspect is regulated by the standards of the International Association of Natural Textiles (IVN) which have been chosen as the most suitable for the processing of Demeter textiles.

Demeter products always meet the minimum standards for organic textile products.*

* Approval requires the standard in question to have:
  
  - Minimum organic ingredient content of 50% of the agricultural ingredients
  - No ingredients in parallel (Demeter with organic/conventional)
• No GMO
• No nanoparticles

The licensee shall apply for approval by supplying proof that the above requirements are met by the standard in question, and they are certified to that standard.

8.16.3. Raw material, aids and additives - textiles

■ All Demeter certified fibres (wool, cotton, flax etc.) may be used in Demeter textiles. Certified fibres from properties in conversion to Demeter are acceptable if their share in the processed textile does not exceed one third of the overall content.

■ Mixtures containing any fibres that come from Demeter certified agriculture are permitted. As long as silk or other natural fibre is unavailable in Demeter quality, the mixing with organic fibres is permitted.

■ Demeter labelling of such products containing mixed fibres must contain a minimum of 66% Demeter fibre by weight.

■ Cotton must be handpicked. Machine harvest is only permitted when the use of chemicals is excluded. Animal fibres are to be shorn or combed.

8.16.4. Product specific processing methods - textiles

■ The standards of the International Natural Textiles Association (IVN) in their latest published edition (currently version Best 5: 2012) apply.
8.17. Food, health and pharmaceutical supplements

*International Standard for the certification of Demeter, Biodynamic® and related trademarks – Processing*

**8.17.1. Scope**

The present standard applies to products which supplement human nutrition or support medical treatment without being direct or mandatory subject to general food law or pharmaceutical law. This covers categories like food supplements, functional food, health supplements or pharmaceutical supplements.

Due to the fact that this is an international basic standard and national legal requirements respectively jurisdictions may delimit or classify those categories in different ways a clear and conclusive delimitation of this scope to certain product groups is not possible. Due to differing scopes of national organic standards or conflicts in horizontal law an organic certification as a pre-requisite for all Demeter products like formulated in the general part is subject to restrictions for this product standard. Accordingly, this condition shall only enter into force if a basic organic standard for the respective product category exists, in any case raw materials of agricultural origin must be covered by organic basic regulations.

Please note for some products and in some countries the reference to organic and therefore to Demeter may be even prohibited for food or pharmaceutical supplements. The licensee is fully responsible for a legally unambiguous classification and approval. It is highly recommended that national certifiers refer to this in the product approval process.

**8.17.2. 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 compare to 4.2 and 4.3). Special
requirements for food and health supplements as well as for functional food and pharmaceutical supplements are listed in the following section of the standard.

8.17.3. Ingredients, aids and additives – food, health and pharmaceutical supplements

- Concerning the use, quality and origin of raw material, minimum requirements for composition of a Demeter product and availability the general conditions for Demeter food products apply.
- As sticking agents guar gum, gum arabic, maltodextrin, plant waxes, native starch, gelatine and pectin (E440i) are permitted.

8.17.4. Product specific processing methods – food, health and pharmaceutical supplements

- Drying and heating processes authorised under the general table of this standard are permitted. Spray and drum drying is permitted. Freeze drying with an exemption by the respective country organisation.
- Shaping extrusion within the formulated boundaries concerning pressure and temperature is permitted.

8.17.5. 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 origin are permitted.
- Maltodextrin, sunflower lecithin, guar gum, gum Arabic and native starch of at least organic origin are permitted.
- Magnesium carbonate as releasing agent or mould releaser is permitted.
- Colourings are not permitted, the use of colouring ingredients in the form of vegetable powder or similar is possible.

The manufacturer shall ensure that the material does not contain any additives other than those listed above. Product specifications must be available within the context of product approval.
**Agricultural ingredient**: A raw material, either raw or processed, originating from agriculture or aquaculture. Ingredients from wild collection are not originally ingredients from agricultural primary production, but are often treated in the same way when calculating proportions, for example. In contrast, ingredients of non-agricultural origin, such as water, salt or vitamins.

**Antioxidant**: A substance that hinders oxidation

**Accreditation Council (AC)**: The AC is responsible for the compliance of the Demeter certification of all member organisations with the DI standards and their implementation. The AC develops and maintains an internal evaluation and accreditation program; refer to 3.6.3..

**Biodynamic Seal**: In some countries the Biodynamic seal is used to label and to express a selective sales strategy according to different trade channels.

**Additive**: Substance that is not normally used as a food or characteristic ingredient thereof, but that is intentionally added with a technological or sensory purpose. The substance remains part of the final product. At least in the EU, additives can be identified independent from languages by an “E” number followed by three digit figures. E 200 to 299 for example are reserved for preservatives. Varying specifications are presented by Roman i). Additives can play different roles in processing a product depending on raw material, point of time and amount. E 270 milk acid for example can be used as an antioxidant or as a preservative. Additives have to be declared on the label (see also full declaration). Some additives can also fulfil the requirements of an aid, if they are removed from the product during the processing process.

**Aid**: Also process aid, substance which is not normally used as a food or characteristic ingredient, but which is deliberately added to start certain processes. The substance does not remain part of the final product. Processing aids are subject to similar classifications and regulations as additives, but are not subject to labelling in the sense of general labelling regulations. Since Demeter products are subject to the full declaration requirement, labelling on Demeter products is mandatory as far as legally possible.

**Anthroposophical view of nutrition**: In anthroposophical nutrition attention is directed both toward the material, and the forces that are housed in it. The aim of a quality oriented
processing method is to maintain these forces, and where possible tap them to make them available. It is known today that, as well as the generally recognised importance of wholefoods for physiological nutrition, food is especially nourishing when its inner quality is appropriately and harmoniously developed. Anthroposophical nutrition is less a certain diet, although it has a lot of parallels to a mainly ovo-lacto vegetarian based form of nutrition, than a holistic approach on human nutrition from many perspectives to support the spiritual development of the consumer.

**Aroma:** Aroma in the sense of food and nutrition are meant to additionally flavor a product for human consumption and can be divided into different classes. The EU flavouring regulation for example distinguishes “flavouring substances”, “natural flavouring preparations (aroma extracts)”, “thermal process flavourings”, “smoke flavourings” and “other aroma”. Further subdivisions are possible, flavouring substances for example are generally differentiated by synthetic or natural origins. The use of aroma is restricted for products produced according to organic regulations. For the use in a Demeter product only aroma extracts from natural sources are permitted, sometimes with further restrictions. The distinction of the different categories of aroma is often not clear on the first view as already the legislative basis is quite complicated. Mixtures of different categories for example sometimes only refer to the main component. For product approval in most cases a complete product specification is required.

**Aroma extract:** Isolated or mixed natural flavourings, gained by physical, enzymatic or microbiological procedures from natural source materials, for example from fruits, herbs, vegetables or yeast.

**Aseptic filling:** Filling of products mainly used for beverages and milk products under aseptic conditions to reduce or avoid thermal treatment of the product and therefore the loss of micronutrients and aroma.

**Autoclaving:** Also “full preservation”, method of sterilization under moist heat and pressure. In general a temperature of 121 °C and higher is used. This method of sterilization even destroys the spores of bacteria. Duration of the treatment depends on the type of product, amount of product and amount of microbiological load of the raw materials.

**Availability:** A general principle of the standard is, wherever Demeter is available, it has to be used. That demand applies not only for raw material and ingredients, but also for animals, seeds, propagation material, fertilizer and operating material in general. The availability of Demeter inputs is decided by the respective country organisation and decided on the criteria whether the input is obtainable in an appropriate form, quality, distance and quantity, refer to 4.1.3..

**Backing improvers:** also baking aids, are fluid, creamy, powdery or paste-like substances which are added to the dough of bread and pastry. Their purpose in general is to facilitate processing and to balance varying quality of raw materials. Typical backing improvers are source strength, hydrocolloids, emulsifiers, gluten, sugar, phosphates, enzymes, ascorbic acid, acidifier, milk powder, whey powder or cysteine. Not to be confused with raising agents or flour treatment agents. Only a few backing improvers are permitted for Demeter products, every country organisation provides a positive list.

**Bactofuging:** Centrifugal technology to reduce microbiological load of a fluid product, mainly used for milk.

**Carrier:** Substance physically bonded to the actual effective component, to raise durability, effectiveness, microbiological stability or to balance volume fluctuations. Carriers are considered as aids although they mainly remain within the product, therefore no declaration
is needed from a food legislation point of view. Demeter labelling demands full declaration wherever possible, in general this also applies for aids and carriers. Carriers in the context of Demeter products are mainly used for additives and enzymes.

**Centrifuging:** Processing method using mass inertia, mainly used for separation of substances.

**Certification:** Procedure in which compliance with certain requirements is demonstrated. Certification is a part of conformity assessment.

**Chemical preservation:** The curing or preservation of food can be roughly divided into physical, chemical, microbiological preservation and preservation by irradiation. Chemical preservation can be reached by salt (physiological dehydration), sugar, vinegar, alcohol, oil and chemical preservative agents (preservatives, antioxidants and coating agents). Compare also to aids and additives.

**Clarification aids:** Synonymous use “fining agents”. Substances for the precipitation of suspended and airborne particles like proteins and polysaccharides in fluid products, mainly used for juices, wine and beer. Mainly used for optical reasons or microbiological stability. Organic and inorganic aids are used, aids are removed from the product.

**Conversion:** The period up to a fully recognised Demeter certification is called the conversion period. Only agricultural holdings undergo a conversion period for processing enterprises there is no comparable preparatory phase. The length of the conversion can vary greatly and depends on the initial requirements such as the duration of participation in an organic certification before the start of the conversion. Conversion periods may also vary within a holding in relation to crops and animal species and the products thereof. Details on conversion recognition and products labelled "Demeter in conversion" can be found in the general part of the standard, the Producer standard and the Labelling standard.

**Colourings:** Food additives from natural or synthetic sources to colour food products. Compare also to additives. Colourings for organic products are not permitted, correspondingly not permitted for Demeter products. Only exemption at the moment is the colouring of Easter egg shells with colourings from natural plant origin. Colouring raw material of agricultural origin used as ingredient for a product like beetroot or spinach is permitted.

**Certified organic:** Also eco-certification, procedure in which compliance with the legal standards (e.g. EU Organic Regulation, USDA NOP) of organic farming is proven. Certification according to these standards is a basic condition for certification according to Demeter guidelines.

**Demeter International:** Association that works together in the spirit of international confederation with democratic principles. Its purpose is 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, originated by Rudolf Steiner in his "Agricultural Course" given in Koberwitz 1924, and further developed in practice and research.

**Demeter inspection:** A formal visit of a Demeter (sub-)licensee to verify compliance with the Demeter standard. Usually carried out by independent third parties accredited control bodies. Special forms are unannounced inspections, spot checks or accompanied inspections.
Demeter Members’ Assembly: May take the initiative on all affairs of the association. According to the statutes of Demeter International, it is the highest body of the association.

Demeter product: Certified product from Biodynamic Agriculture with Demeter name or logo on it or referred to.

Demeter trademarks: The (approved) marks and / or word images of Demeter International. The Demeter trademark is a private law registered trademark. Demeter International owns the Demeter brand mark, the related trademarks, figurative marks and related figurative marks held by the independent association International Biodynamic Association. 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.

Exemption: Approved exemption in practice from the Demeter Standards for a specific period of time.

Emulsifier: Surface active ingredient which promotes the mixing of, typically, oils and water.

Essential oils: Non-aqueous oil obtained from plant material.

Esterification: Process that is the reaction of an alcohol and an acid.

Extracts: Soluble material that is dissolved from plant material using a solvent such as alcohol or water.

Extracts: Process by which essence is extracted via maceration and further distillation processes.

Extrusion: Food Extrusion is a process in which food ingredients are forced to flow under one or several conditions of mixing, heating and shear, through a die that forms and/or puff-dries the ingredients. Extrusion may be subdivided to “shaping extrusion” as any kind of gentle, cold pressing of substances through a die to shape the substance and “modifying extrusion”. In many processes by means of high pressure and/or high temperature, not only the physical shape of the product is influenced, but also the specifications and qualities of the original material. The higher temperatures and pressures are used the higher is the influence on the former integrity and characteristics of the product.

Extended shelf life (ESL): Summary of several processing methods to reduce the microbiological load and therefore the shelf life of milk. Not regulated by legal norms, therefore not selectively to define. ESL milk has a shelf life of 20 to 40 days, somewhere between pasteurized milk (five to seven days) and ultraheat treated milk (3 to 6 months). Typical technologies for extended shelf live are aseptic homogenisation, micro filtration, ultra filtration, bactofugation, depth filters and combinations of. Some are permitted within this standard, some are not, please compare to the product standard “milk and dairy products”.

Fermentation: Enzymatic process carried out by micro-organisms.

Fining agents: See clarification aids.

Flavours/Flavourings: See aroma.

Flower trademark: The flower trademark is one of the trademarks of Demeter International. It is only used in several countries and sometimes restricted to certain product types. As for all
trademarks the usage on Demeter products follows certain rules formulated within the labelling section of this standard.

**Freeze drying:** Technology for drying products based on the physical process of sublimation. Freeze drying is only permitted for certain applications and with an exemption by the respective organisation.

**Freezing:** Treatment of product by lowering the temperature under the respective freezing point depending on the water content of the product. Deep freezing of food describes temperatures of at least –18 °C or lower, national regulations may deviate. Shock freezing describes several technological treatments like contact freezing, blast freezing or cryogenic freezing which enable a rapid lowering of the product temperature under -18 °C or even lower within only a few minutes.

**Fruit juice concentrate:** Fruit juice with physically reduced water content. As the reduction is usually reached by thermal treatment it is also related with the loss of aroma and micronutrients. The processing of concentrate out of 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 is not permitted.

**Full preservation:** compare to autoclaving.

**Ionising radiation:** Describes every kind of radiation with enough kinetical energy to remove electrons from an atom or molecule, as a rule more than five eV. Within the electromagnetic spectrum complies that with a wavelength less than 250 nm. Ionising radiation is not permitted for organic food in general as it is for Demeter products. Artificial or technical electromagnetic radiation (even above a wavelength of 250 nm) in general is not permitted for the treatment of Demeter products and raw material, besides the formulated exemptions for UV radiation.

**IBDA:** International Biodynamic Association

**Ingredient:** Every substance and every product including raw materials, semi-finished products, enzymes, aroma and additives, which are used for the preparation of products marketed under Demeter brand and which remain or remain in modified form in the final product.

**Hydration:** Addition of water

**Genetically modified organism:** Organism whose hereditary factors were altered using genetic methods. In connection with food and agriculture mainly three types of categories play a role. Raw material which is a genetically modified organism itself, for example plants or plant based products. Raw material and products which are produced with the aid of GMO, need not contain GMO by itself, for example meat from animals fed with GMO. Raw material and products which are produced by GMOs, may not contain GMOs, because of subsequent purification. Examples for the third type in connection with food are mainly vitamins, enzymes or additives produced by genetically modified microorganisms like yeasts or moulds. All three types are not permitted by organic food legislation nor are they for Demeter products.

**High temperature short time (HTST):** The general term “pasteurisation” in conjunction with food and different food types can be subdivided to different temperature levels, duration of heat exposure and combinations of temperature and pressure. In general “low temperature for long time” describes a microbiological load reducing process with the parameters 65 °C for 30 min. “short term heating” describes a temperature between 71°C and 78°C for less
than a minute (milk for example for 40 sec.) up to 10 min. For “high temperature short time” (HTST) a temperature range from 85°C to 90 °C only for a few seconds is used.

An additional heat treatment, not for pasteurised food but for sterilized food is the UHT procedure. UHT (ultra high temperature) can be subdivided to direct UHT (150°C for 2s) and indirect UHT (135°C for a few seconds). In general the requirements for heat treatments of the Demeter standard for all products follow the principle of antimicrobial necessity and food safety. Thereby the processor should always consider the highest reachable food safety whilst keeping the lowest degree of processing to receive the characteristics of the raw material. Please notice, despite the above mentioned general ruling, for some products like milk certain temperatures and processes are not permitted.

**Homogenisation:** Homogenisation in general describes the increase of homogeneity within a system. In conjunction with food the equal dispersion of individual ingredients or substances is often called homogenisation. The use of homogenisation for the production of food is not only but above all connected to the processing of milk. The priority objective here is to reduce to average diameter of the fat globules within the milk and thereby to reduce the ability of creaming. Homogenisation of milk can be reached by shear forces, plump flows and cavitation. These forces may already work by transporting the milk from the cow to final processing through pumping and vibrating. To distinguish aimed homogenisation from process-related accidental homogenisation, this standard defines certain borders of homogenisation degrees for milk.

**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:** Also called autochthonous yeast; in contrast to pure-breeding of selected yeasts. Describes naturally occurring yeast strains already cultivated on the surface of the raw material in contrast a precise vaccination with cultivated yeast strains with a certain functionality.

**Juice reconstituted from concentrate:** Compare also to fruit juice concentrate. To reduce transport costs, fruit juice is sometimes reduced to concentrate with a separated collection of the aroma components. Before the final filling into consumer packages the concentrate is reconstituted with water and added aroma. This method is not permitted for Demeter juice.

**Members’Assembly:** May take the initiative on all affairs of the association. According to the statutes of Demeter International, it is the highest body of the association.

**Microencapsulation:** Technology to cover fluid, solid or gasiform substances with a shell made of at least one second substance. Microencapsulation offers for example the possibility to convert fluid substances into powder, to reduce reactivity with other ingredients or to design a certain period of release for a component. In conjunction with food microencapsulation is mainly used for functional food, food supplements or additives/aroma. Microencapsulation is not permitted for Demeter products.

**Mineral:** Raw materials obtained from naturally occurring processes formed through geological process, but excluding fossil derived materials

**Nano particles:** Nano particles or nano material in general is defined similar but with varying size indications. EU legislation defines nano material according to its size as nano objects within a range from 1 nm to 100 nm particle size in unallocated condition as aggregates or
agglomerate composed and if at least 50 % of the nano objects fit into the before formulated particle size. A further category for a narrowing is a distinction between natural emerging nano particles an man made synthetic nano particles. A labelling obligation for nano sized particles in food at least in the European Union will be further developed. A labelling obligation for nano sized particles for packaging is still in discussion. For further details concerning nano particles and Demeter products please refer to 4.2.2.

Neutralisation: Adjustment of the pH to neutral

Labelling Standard: Section of these standard, describes basics and application of the different trademarks owned by Demeter International on Demeter products. Application may vary in accordance to the type of product.

Organic regulations: Governmental resolution on organic agriculture and products deriving from. Notable examples are the EU regulation on organic agriculture/EU Eco Directive, USDA organic program,

Organic semi-finished products: Products which are probably produced and sold as preconceived ingredients for further processed consumer products. Typical semi-finished products in Demeter products are for example fruit preparations for yoghurts or spice mixtures for sausages. Although organic semi-finished products are produced by organic enterprises outside of Demeter certification, they must not contain aids and additives divergent from this standard. In case of doubt this has to be verified by the distributing company of the final Demeter product.

Pasteurisation: (see also HTST) designates a brief heating (40 s to a few minutes) of fluid or pasty food within a range of at least 60°C up to a maximum of 100°C. The procedure reduces the microbiological load while simultaneously protecting the nutrition value, the flavor and the texture of food. Pasteurisation reduces most of the food spoiling and pathogen microorganisms but pasteurized food cannot be considered as germ-free (compare sterilization). Especially sporulating bacteria are not harmed sufficient. Normally pasteurized food must be stored in a cool place (5 +/- 3)°C.

Preparations of spices: Mixtures of spices, also spice aroma, with other flavor enhancing ingredients like salt, sugar and technological needed substances. They contain at least 60 % spices. Preparations of spices are not permitted if they contain aroma and/or other technological needed substances which are not in line with this standard.

Preservative: Substances which prevent the growth of micro-organisms, specifically bacteria, moulds and yeasts.

Process aid: Substance that is not normally used as a food or characteristic ingredient thereof, but that is intentionally added with the purpose to start specific processes. The substance remains not a part of the final product

Product approval: Every Demeter product has to be approved by the respective country organization before entering the market. Minimal requirements for procedures on product approval are formulated within the “Directions for the implementation of a certification program within the organisations of Demeter International”.

Production certificate: Official document as a confirmation of a successful participation of a certification program for agricultural enterprises. A valid Demeter production certificate is an admission requirement for the further trade of Demeter raw materials from agricultural origin.

Process and product certificate: Official document as a confirmation of a successful participation of a certification program for processing enterprises. A valid Demeter process
and product certificate is an admission requirement for the further trade of Demeter products as well as a requirement to source certified raw material by using the original certification status. In contrast to production certificates which always cover the conformity of the enterprise as a whole, process and product certificates do not necessarily relate to all products and therefore processes of the processing enterprise.

**Raising agents, chemical:** Substances like ammonium bicarbonate or potassium carbonate, reacting with water, acid or heat producing gases (mainly carbon dioxide). Released gas is stored within the dough of bread and pastry and loosens the product.

**Raising agents, microbiological:** Loosening of dough by bread and pastry with the help of microorganisms. Mainly yeasts and lactic acid bacteria are used metabolizing mono- and polysaccharides of the dough to carbon dioxide and alcohol. Released gas is stored within the dough of bread and pastry and loosens the product.

**Rectification:** distillation or re-distillation to remove undesirable components

**Sanctioning:** Violations of this standard may, depending on the seriousness of the offence, cause sanctions by the respective country organization if determined in inspection or by voluntary declaration. Normal procedure for minor or medium non-conformities is a regime of condition, written warning and decertification. For serious non-conformities like fraud levels can be skipped. Every country organization is obliged to publish a public penalty catalogue to provide the certification principles of transparency and equality of treatment. 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 for example citrus rind to extract the oil.

**Solvent:** A substance that dissolves or causes dispersion

**Soap:** Cleansing and emulsifying agent that is the sodium or potassium salt of a fatty acid

**Spray drying:** Also atomization drying; a process technology for the powdery drying of solvents, suspensions and emulsions. The goods that are to be dried are released by an atomizer into a hot gas flow and dries within a split second up to a few seconds depending on the size of the particles to a powdery product. Spray drying is a permitted technology for Demeter products.

**Standards Committee (SC):** One of four organs described by the statutes of Demeter International. The committee presents new Demeter Standards and amendments to the existing standards, together with its 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, available in the internal area of the homepage of Demeter International or by the coordinator of the AC.

**Standing orders/SC:** Describes the rules of cooperation and decision making within the Standards Committee, available in the internal area of the homepage of Demeter International or by the coordinator of the SC.

**Starter cultures:** Specialized, on specific characteristics selected microorganisms which are capable of replication and are used to start fermentative processes by the processing of
food. Starter cultures are traded as suspensions or freeze dried powder with or without carrier substances. About a third of processed food for human consumption is produced by using starter cultures, like cheese, pastry, yoghurt, sausages, beer and wine. The classification of starter cultures and their conformity is often not an easy task. As there is only a small range of organic starter cultures with limited functionality available at the moment, freedom of GMOs, usage of preservatives in suspensions and conformity of carrier substances have to be considered concerning the conformity with organic standards and the Demeter standard. Additionally there are some restrictions for certain product groups like wine within this standard.

**Steam stripping:** Splitting of a compound with steam e.g. splitting a vegetable oil into fatty acids and glycerine

**Sterilisation:** Compare also to autoclaving and full preservation. Describes the use different technological methods like steam sterilization with the objective to completely remove the microbiological load of the treated product. In contrast to other preservation methods for food, sterilization also removes sporulating microorganisms and prions. In practice and according to the kinetic of dying organisms a survival probability can never go to zero. Therefore certain probability levels like D 12 values (12D-concept) and Z-values are used in the production of food to lower the risk of left contamination to a minimum and to find the most appropriate temperature and time level for the respective food matrix.

**Sulphation:** 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):** Compare to HTST