Bioland
ÖKOLOGISCHER LANDBAU

Bioland Standards as of April 27th, 2009

"This is a translation from German to English, in case of discrepancies the German version prevails"

1 Introduction

”No act contrary to nature remains without consequences. No natural principle can be breached without its being punished, no natural order of things be dispensed with without danger to ourselves. The integration of humans in the order of creation is a vital prerequisite for their lives.” Dr. H. P. Rusch

Dr. Hans Müller and Dr. Hans Peter Rusch, in their work on the care of the soil and the maintenance of its long-term fertility, established the organic biological method of farming.
This is based on the exact observation of biological connections of the effects between soil – plants – animals and humans with the aim of achieving optimum care of biological regulation systems in the agricultural field. Agricultural products are generated within as closed a operation operating cycle as possible in the sense of a true original production. The mutual tasks of organic biological cultivation consist of:
- caring for the natural basics of the life of the soil, water and air
- producing foodstuffs of a high health value
- carrying out active nature protection and the preservation of species
- avoiding to damage the environment
- keeping animals according to the needs of its species
- making a contribution towards solving the world-wide energy and raw materials problems
- creating the basis for the maintenance and development of independent farming structures.

For decades farmers have been working according to the knowledge gained by Dr. Müller and Dr. Rusch and have mutually developed this further in their practical work. It has thus been possible for them in their fields of work to counteract the negative effects of the agricultural and social politics, to operate an environmentally friendly form of agriculture and, in co-operation with processors and consumers, to put a stop to the destruction of the existence of farmers. These farmers, gardeners, wine-growers and beekeepers in the Federal Republic of Germany combined to establish the BIOLAND e.V. Verband für organisch-biologischen Landbaumethoden (further in the text called BIOLAND) and have compiled the following standards.
The standards explain in detail the application of the organic biological methods of farming, the conversion to this method of operation and enable control of the cultivation defined according to the standards to be executed. It remains the mutual task of the people connected with BIOLAND to continue to work towards the aim of maintaining our natural basics of life and to improve the standards to keep them in line with the latest knowledge available.

EU-Regulation on Organic Agriculture

During the drafting process of these standards the ”Council Regulation (EC) No 834/2007 on organic production and labelling of organic products” and the “Commission Regulation (EC) No 889/2008 laying down detailed rules for the implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control” and its amendments have been observed. BIOLAND member farms and contract partners are always obligated to adhere to the provisions of these EU-regulations in their currently amended form.

Notice

When in the following text the use of the trade mark BIOLAND is adressed, the use of the name of the association BIOLAND is likewise included.

2 General Stipulations

2.1 Genetic Engineering

2.1.1 Exclusion of Genetic Engineering

Genetically modified organisms (GMOs) and products derived therefrom are not compatible with the organic production method.
Products, produced according to BIOLAND-standards, have to be produced without the use of genetically modified organisms (GMOs) and/or GMO derivatives.

2.1.2 Definition of Terms

'Genetically modified organism' (GMO) shall mean any organism as defined in Article 2 of Council Directive 90/220/EEC of 23 April 1990 on the deliberate release into the environment of genetically modified organisms
'GMO derivative' shall mean any substance which is either produced from or produced by GMOs, but does not contain them.
'Use of GMOs and GMO derivatives' shall mean use thereof as food stuffs, food ingredients (including additives and flavourings), processing aids (including extraction solvents), feeding stuffs, compound feeding stuffs, feed materials, feed additives, processing aids for feeding stuffs, certain products used in animal nutrition (under Directive 82/471/EEC), plant protection products, veterinary medicinal products, fertilisers, soil conditioners, seeds, vegetative reproductive material and livestock.

2.2 Location

2.2.1 Selection of Location

In the choice of the location, the load created by pollutants from the environment and from previous usage of the soil are to be taken into consideration. If there is the danger of such a load being present, food stuffs and soil must be examined for residue. Areas which have been affected by loads can only be used for organic biological farming when the loads involved have been reduced to a level which is justifiable for health by the adoption of suitable measures (e.g. protective planting). The BIOLAND Association can prohibit the use of the trade mark BIOLAND on products which have been produced from land, partial land or border land contaminated by such loads.
The clearing of primary ecosystems is prohibited.

2.2.2 Ecological Design

In order to promote the health and the resistance of plants, the location must be designed in accordance with ecological points of view. For example, by planting and maintaining hedges, creating nesting possibilities and ensuring provision of shelter for insects, beneficial animals are to be encouraged and the self-regulation within the ecological system improved.

2.3 Air, Soil and Water Protection

Water resources are not to be used excessively, the effects of water extraction are to be observed. Wherever possible, rainwater shall be collected and used. Any agricultural measures may not lead to salinisation of soil and water.
Covering material like mulch and silo foils, forcing foils, fleeces, cultivation guard nets etc. may only be used if produced on basis of polycarbonates (e.g. polyethylene, polypropylene). Used foils shall be recycled if feasible. It is not permissible to burn used plastic in the fields.

2.4 Use of machines and equipment from other operations

Machines and equipment which are also used in conventional production (e.g. in machinery cooperatives) have to be carefully drained and cleaned before being used on BIOLAND operations. This also includes mobile breaking and mixing plants for feed stuff.

2.5 Renewable Energy Sources

It is the aim that Bioland operations use energy efficiently and that a high share of this energy shall originate from renewable sources.

2.5.1 Operation of biogas plants and use of fermentation residues

It is the aim of biogas plants on Bioland operations and cooperative plants, at which Bioland operations are involved, to exclusively ferment fermentation materials coming from organic production.
If maize of non-organic origine is used as a co-ferment in biogas plants on the Bioland operation, the maize may not have been treated with neonicotinoides as mordant. As far as possible this shall also apply for cooperative plants.

2.5.1.1 Requirements to biogas plants on Bioland operations

Biogas plants on Bioland operations shall have a rather high energetic total efficiency achieved by an energy recovery programm and other suitable measures. It shall be strived for an efficiency of at least 70 %.

Requirements to biogas plants already in operation on Bioland operationss before 1st of May 2009:
At least 70 % of the fermentation materials shall originate from organic production.
Additional fermentation materials shall be listed in the appendix 10.1 (permissible soil conditioner and fertilisers as well as components of substrates).
For existing plants, BIOLAND can approve an transitional arrangement for the use of less than 70 % organic fermentation materials.
Until 31.12.2010, the operations shall issue an individual and verifiable corrective action plan to steadily reduce the share of conventional fermentation materials.

Requirements for new biogas plants on Bioland operations:
The following is applicable for operations which conclude a producer contract from the date this standard will come into effect as well as for Bioland operations which have built a biogas plant from 1st of May 2009:
At least 70 % of the fermentation materials shall originate from organic production. Additional fermentation materials shall be listed in the appendix 10.1 (permissible soil conditioner and fertilisers as well as components of substrates).
The operations shall issue an individual corrective action plan proving that the share of conventional fermentation materials will be reduced to 0 % from 1.1.2020 on (this regulation will be verified latest in 2015).

For **cooperative plants at which a Bioland operations has shared in since 1st of May 2009**, the regulations for new plants on the Bioland operation are valid.

2.5.1.2 Requirements for the use of fermentation residues as fertilizer

General
Fermentation residues may only be brought out on Bioland fields if all fermentation materials being added within the last 6 months before spreading of the fertilizer are listed in the appendix 10.1 (permissible soil conditioner and fertilisers as well as components of substrates).

Fermentation residues from plants on the own operation can be brought out as fertilizer, whereas purchased fermentation materials have to be involved in the calculation of the permissible quantity of nutrients (refer to 3.4.4) and are thus limited.

For **fermentation residues from cooperative plants**, at which Bioland operations are shared in, the following is valid: Bioland operations are allowed to take back the equivalent quantity of nutrients, which was delivered into the plant by the operations themselves, as fermentation residues and to bring it out on their fields. Additional quantities of nutrients can be used taking into consideration the general limitation of permissible purchased quantities of nutrients (refer to 3.4.4).
Also taking into consideration the general limitation of permissible purchased quantities of nutrients (refer to 3.4.4), the equivalent quantity of nutriment can be brought out, max. however 0,5 DE/ha, as fermentation residues, if in the last 6 months before spreading less than 70 % fermentation materials of organic production were applied.

Fermentation residues from other plants
Fermentation residues from other plants may only be used as fertilizer, considering 3.4.4, if at least 70 % of the fermentation materials originate from organic production.
Based on a purchase and delivery contract, Bioland operations can take back the equivalent quantity of nutrients as fermentation residues, which was delivered into plants at which less than 70 % of the fermentation materials originate from organic production, and bring it out on their fields, max. however 0,5 DE/ha; this regulation is valid until 31.12.2014.

2.6 Social Responsibility

The respect and observance of human rights and social responsibility built the basis for the production and processing of BIOLAND products.
The legal stipulations of the social and labour law are valid for all persons working on BIOLAND operations. It is not allowed to use the trade mark BIOLAND in cases where the production is based on clear social inequity.

People working on a BIOLAND operation receive equal opportunities independent of race, faith and sex. Children may only be occupied appropriate to their development, supervised by persons in charge, as well as considering the legal stipulations.

3 Crop production

3.1 Soil Fertility

The care of the soil and, correspondingly, the maintenance and the improvement of soil fertility constitutes a special point of emphasis in organic biological farming. A healthy, invigorated soil is the best prerequisite for healthy plants, healthy animals and healthy people. All measures of plant growing should form the basis for the improvement and care of a diverse and active soil life. Only the vitality of the soil itself will ensure long-lasting fertility.

3.2 Crop Rotation

Crop rotation is to be planned in such a variable and balanced manner that this fulfils the following functions:
- the maintenance of soil fertility
- the production of healthy plants
- the suppression of weed in fields
- the nutrition of animals using the operations own fodder
- the achievement of economically feasible yields without the use of chemical fertilisers and chemical products for plant protection.

In order to fulfil these functions, crop rotation must contain leguminous plants as main or intermediate crops or as mixed cultures.

3.3 Soil Preparation

The objective of soil preparation is the creation of optimum growth conditions for the crops. The compatibility with the soil life is to be taken into consideration in all measures adopted in soil preparation. Soil preparation must be carried out in such a manner that the natural soil structure is not excessively disturbed and that a loss of nutritional content and unnecessary expenditure of energy are avoided.

3.4 Fertilisation and Humus Management

3.4.1 Basic Principles

The objective of fertilisation is to achieve harmonic nutrition of the plants by means of a soil full of life. Organic material from the operation itself forms the basis of fertilisation. It is mainly added to the soil by means of spread composting. Manure from the operation itself must be prepared and spread in such way that the life in the soil is supported and the humus content is maintained or increased.

3.4.2 Permissible External Fertilisers

In order to complement the fertiliser produced in the operation itself and to compensate any losses in nutrition caused by the operational cycle, fertilisers from external farms and organic and mineral fertilisers may be used in as far as these are listed in 10.1.
The solubility of mineral fertilisers may not be increased by means of any chemical treatment.
Farm fertilisers from conventional sources must be subjected to careful composting. They may only be used when they are considered harmless in regard to their pollution content. If necessary a quality examination can be requested. Trace elements may only be used when the deficiency determined cannot be removed by any other means.

3.4.3 Non-permissible Fertilisers

The use of farmyard slurry and urine and poultry manure from conventional animal farming as well as of fermentation residues of biogas plants being operated solely with conventional fermentation materials is forbidden. In addition, the use of chemical synthetic nitrogenous fertilisers, easily soluble phosphates and other fertilisers not listed in 10.1 is prohibited.

3.4.4 Quantity Limitation

The total volume of organic fertiliser, based on the nitrogen content, may not exceed the amount which corresponds to an animal livestock count of 1.4 manure units (= DE) per ha. A maximum of 0.5 DE of this may be organic fertiliser from external sources.(DE = maximum animal stock density according 1.4 DE, see attachment 10.3).
The conditions specified in Chapter 5 apply to gardening and perennial crops. In measuring the fertilising, the reserves available in the soil must be taken into consideration.

3.4.5 Production of Quality and Environmental Compatibility

Fertilising is to be designed in conformity with the location and the crops involved in such a way that the quality of the products (physiological nutritional value, taste, imperishability) may not be detrimentally affected in particular by the amount of nitrogenous fertiliser. In regard to the type, the amount and the time of applying fertiliser, care must be taken to avoid placing loads on the soil and the water (e.g. through heavy metals and nitrates).

3.4.6 Sewage Sludge and Compost

The use of sewage sludge and composted household waste is prohibited. Compost from plant material and peat substitutes (e.g. bark products) may only be used after prior analysis of their pollutant content and following agreement with the BIOLAND Association.

3.5 Seeds, Seedlings and Plant Materials

3.5.1 Basic Principles

For growing, those species and varieties of plants should be used which are best suited for the conditions prevailing at the location, they should not easily be subject to disease and be of a high physiological nutritional quality. In farming, varieties typical for the area should be used in preference to hybrid varieties.
The use of CMS hybrids originating from cytoplast fusion is forbidden in vegetable growing.

3.5.2 Organically Produced Seeds and Plant Materials

When certified seeds and plant materials of suitable varieties are available from organic propagation, then these must be used. Any other sources require the express exceptional approval by the BIOLAND Association.

3.5.3 Treatment of Seeds

Seeds and plant materials may not be treated after the harvest with chemical synthetic pesticides (e.g. disinfectants).
Care is to be taken when using conditioned seeds (pelleted seeds, seed plates, etc.) to ensure that the materials used are harmless in the sense of these standards.

3.5.4 Seedlings

The seedlings used in the operations must be grown by the operation itself or be purchased from other farms of the BIOLAND Association, if here not available in accordance with the requirements of BIOLAND from other organically managed farms
Substrates for cultivation may only contain a maximum of 80 vol. % of peat. Peat substitutes must low in pollution and ecologically compatible.

3.5.5 Young Plants for Perennial Crops

Young plants used in the operationss must be be purchased from nurseries or producers of propagating materials of the BIOLAND Association, if here not available in accordance with the requirements of BIOLAND from other organically managed farms, if the required varieties and suitable qualities are available. Other surces require express approval by the BIOLAND association. Prerequisite for a derogation for conventional young plants is the observance of the BIOLAND demands, in particular the adherence to the time limits for advance order.

3.6 Plant Protection

3.6.1 Basic Principles

The objective of organic-biological farming is to produce plants under such conditions that their infestation with parasites and disease achieves a point where this is of no or only minor economic significance. Appropriate measures for the achievement of this are balanced crop rotation, selection of suitable varieties, soil preparation in accordance with the location and the time of year, fertilising in appropriate amounts and qualities, fertilising by growing, etc. In addition, the spread of beneficial animals should be promoted by suitable means and measures such as hedges, nesting places, wet biotopes, etc.

3.6.2 Permissible Measures

Special preventive measures should only be carried out using the agents which are listed in 10.2. They are only to be used when all other measures for activating the defensive powers of the soil and the plants themselves and the design of the location have been exhausted. The legal regulations regarding their use are to be observed in using plant treatment agents.

3.6.3 Prohibitions

The use of synthetic pesticides and growth regulators is forbidden.

3.7 Weed Regulation

3.7.1 Basic Principles

The regulation of weeds is effected by preventive measures (e.g. crop rotation, soil preparation, variety selection), mechanical measures (e.g. harrowing, raking, hoeing) and thermal measures (e.g. burning off).

3.7.2 Prohibition of Herbicides

The use of herbicides is forbidden.

3.8 Wild Collection

The collection of edible plants or parts thereof, growing naturally in natural areas or forests, where the only humen interference consists of the hearvest (collecting) of the products, is considered as wild collection, if the following conditions are observed:

- The collecting area must be clearly defined. It must be identified by the way of land register maps (if necessary drawing of plans).
- The collection in areas out of the area under the care of the BIOLAND Association is only allowed with prior approval.
- The collecting area shall not be under the direct influence of any sources of pollution.
- The areas have received no treatments with products other than those allowed by this standards (Annex 10.1 and 10.2) for a periode of three years prior to the collection. This must be documented by appropriate means.
- The collection shall not affect the stability of the natural habitat or the maintenance of the species in the collection area.

Those products may be labelled with the trade mark BIOLAND with the addition "... from wild collection" (processed products in the list of ingrediences).

4 Animal Husbandry

4.1 Importance of Keeping Animals in organic-biological operation

Keeping animals is a sensible link in the operational cycle.
Keeping animals in accordance with the needs of the species and their considerate care by humans form the prerequisite for the health, the performance and the well-being of the animals.
With the help of the animals, the feed produced in the operation is used in the production of foodstuffs of a high quality for human consumption.
Animal keeping is to be designed in such a way that it can be assured that the production, storage and spreading of the manures produced in the operation of operation through keeping animals is with as little loss as possible. This serves to maintain and improve the fertility of the soil in the operation.

4.2 Requirements in the Keeping of Animals

4.2.1 General

4.2.1.1 Principle

Keeping animals in accordance with the needs of the species must be the objective of every operation. This means that the behaviour peculiar to the species in question, such as behaviour in movement, rest, ingestion of feed, social contact, comfort and reproduction is made possible as far as feasible.
To promote robustness and vitality, the animals should often be allowed to face the weather and climatic conditions of the location.
Keeping animals in a manner peculiar to the species involves providing sufficient space for movement and rest throughout the year, natural light, shade, protection against wind, fresh air and fresh water.
The housing buildings have to offer a suitable stable climate corresponding to the animal species, among others referring to temperature, humidity, air circulation, dust nuisance and concentration of harmful gases.
It is mandatory for all animals to have access to open air run and/or grazing (for existing livestock buildings transitional periods until 2010 are possible for poultry and pigs with permission of the BIOLAND Association, compare 9.4).
Injuries and illnesses resulting from their being kept must be avoided.
Herd animals may not be kept individually. Keeping animals individually is permissible only in case of male animals for breeding purposes, in case of sickness, versus the end of pregnancy and in small stocks.
Animals are to be sufficiently protected against predators.

4.2.1.2 Space Requirements

Requirements for in- and outdoor areas of the livestock housing system are listed for each type of animal in attachment no. 10.6 (for existing livestock buildings transitional periods until 2010 are possible with permission of the BIOLAND Association, compare 9.4). For the keeping of fallow-deer and red deer the regulations in chapter 4.2.7 apply.

Housing systems for mammals with no clear separation between in- and outdoor area have to fulfil space requirements in sum.
In case of housing systems for ruminants and horses with free range barn and access to pasture in summer, the space requirements for outdoor area according to attachment 10.6 can be skipped. In this case permanently accessible, durable and non-roofed barn area can be taken into calculation of the total barn area.
In regions with suitable climatic conditions, allowing animals to be kept outdoors all year round, housing is not stipulated.

4.2.1.3 Movement and Rest Area

Barns with fully perforated floor area (fully slatted floors, flat decks, cages) are not permissible.
The width of slots and holes in case of perforated floors have to be adapted to animal size. Slatted floors must be in excellent technical condition. Surface slats are to be preferred.
The majority of accessible movement and rest area for each mammal category must be a solid floor area (no slat floors).
The tread surface must be non-slip and of tread proof nature.
A soft, dry and clean place in which to rest is to be ensured at all times for ruminants, pigs, horses and rabbits by means of strewing (as a rule, straw).
Straw for bedding purposes should, as far as available, be from the farm itself or from other organic farms.
Conventional straw for strewing should be grown on lands with a minor degree of farming intensity.

4.2.1.4 Assessment of Housing Systems

As an orientation aid in evaluating the adequacy of the compliance in the keeping of animals, the index of adequacy in animal keeping (TGI = Tiergerechtigkeitsindex, prepared by the society for ecological animal keeping (GÖD = Gesellschaft für ökologische Tierhaltung)) can be applied.
New buildings and alterations to existing buildings for keeping animals should be in accordance with the latest status of knowledge in regard to keeping animals in compliance with the needs of their species.
The planning of such buildings should therefore be co-ordinated with the BIOLAND Association.

4.2.1.5 Access and Care of Open Air Run

Access to open air run and pasture has to be afforded always when physiological, climatic and soil conditions allow for this.
The stock density of animals on outdoor areas may not result in the soil being trampled down – with the exception of feeding and drinking areas. Over-grazing has to be avoided.

4.2.1.6 Construction and Maintenance of Livestock Buildings

In construction and maintenance of livestock buildings ecological issues have to be considered. Substances hazardous to health and environment in building materials and its treatments have to be avoided, if possible.
Native building materials have to be preferred.
The use of non-regenerative energy resources in the construction and maintenance of stables has to be reduced, if possible.

4.2.2 Keeping cattle

4.2.2.1 Dairy Cattle and Suckler Cow Keeping

At least during the summer months, cows are afforded access to pasture or, if no suitable areas for grazing are available, must have access to an outdoor run.
Free calving under pure hygienic conditions shall be made possible.

4.2.2.1.1 Non-penned cowsheds

Efforts should be made to have non-penned cowsheds which allow the cattle freedom of movement.
Dead ends and bottle necks in the non-penned cowsheds are to be avoided.
If outdoor grazing in summer is not possible due to lack of available areas for grazing, then access to open air run has to be afforded all year round.
In winter the possibility of regular movement in the open air run should also be afforded.
There must be a place in the non-penned sheds for each animal to sleep and eat. A slight reduction in number of eating places is possible with the permission of the BIOLAND Association in case of permanent availability of fodder (storage feeding system).
Boxes in which the animals can rest must enable the animal to lie down and rise up in a manner in compliance with the species.

4.2.2.1.2 Tethering system

Keeping animals tethered in combination with summer pasture or, if no suitable areas for grazing are available, regular access to open air run is possible with the permission of the BIOLAND Association during a transitional period until 2010 in existing livestock housing (compare 9.4).
Subject to the permission of the competent authorities, tethering system for small holdings is possible provided the cows have access to pastures during the grazing period and at least twice a week access to open air run when grazing is not possible.

Tethering of single animals for security or animal protection reason is possible with the permission of the BIOLAND Association as long as it is limited in time.
If the animals are kept tethered, the width, the length and the technology used in tethering and the design of the edges of the trough must allow the animal to stand up, lie down or eat in a manner suitable for the species and must allow the animal sufficient body care.
The cows must be able to fully stand and rest on the level, secure surface, which has to be strewn sufficiently.
Rigid neck frames and tightly drawn chains or nylon belts are not permissible.
Electric cattle trainers are forbidden.

4.2.2.2 Cattle for breeding and beef cattle

All cattle for breeding purposes and for beef should have the possibility of free movement throughout the whole year. Efforts should be made for grazing throughout the vegetation period.
In case there is lack of available areas for grazing, cattle for breeding and beef can be kept throughout the year in non-penned cowsheds.
Keeping beef cattle without access to open air is permissible only during the end of the fattening period to a maximum of 1/5 of the life time, but in any case no longer than 3 months.
If grazing possibilities are afforded during the vegetation period, tethering is permissible for breeding and beef cattle of an age of over 1 year. In this case the same requirements as described in chapter 4.2.2.1.2 apply.

4.2.2.3 Calves

The calves should be able to stay with the mother for at least 1 day following the birth.
From their second week of life, when the number kept is correspondingly large, the calves must be kept in groups. In case of their being kept in cowsheds (huts/igloos) with the respective generous possibility to move about and to have social and eye contact, they can be kept in groups from the 6th week of life on.
Tethering of calves and young cattle under the age of 1 year is not permissible.

4.2.3 Keeping pigs

Pigs must be allowed access to open air runs (for existing livestock buildings transitional periods until 2010 are possible with the permission of the BIOLAND Association). With the exception of the late pregnancy period and the suckling period of sows, pigs have to be kept in groups.
Tethering of sows is not permissible.
Fixing should only be undertaken with problematic animals during and after farrowing.
A wallowing area should be available.
Housing pigs without access to open air is only permissible during the final fattening period for a maximum of 1/5 of life time, but in any case no longer than 3 months (limited until 31.12.2010).
During the 6 summer months period breeding pigs, wherever possible, are to be afforded access to a pasture. The pasture should have shady areas and an area for wallowing.

4.2.4 Sheep and goats

The stables must be designed in a non-penned manner. During vegetation period efforts must be made to keep them on pastures.
If no pastures are afforded, sheep and goats have to be kept in non-penned stables with access to open air.
During final fattening period the keeping of fattening lambs is only permissible to a maximum of 1/5 of the life time, but in any case no longer than 3 months (limited until 31.12.2010).

4.2.5 Poultry

4.2.5.1 Laying hens

4.2.5.1.1 Barn

Keeping laying hens in barns is in the form of floor or multy layer systems with access to open air run.
The single barns with a maximum of 3000 laying hens have to be separated completely (feedstuff chain, egg belts, way out for manure, air conditioning etc.) in such a way, that a pressure of infections which may exist and/or a contamination with parasites will be reduced, and to ensure a sustainable management of the greened area for movement (for existing barns transitional periods until 2010 are possible with the permission of the BIOLAND Association, compare 9.4). In one building a maximum of 6000 hens may be kept.
Per each m^2 of movement area in the barn accessible to the animals, 6 animals can be kept.
Movement area that accounts for the calculation of the animal stock density has to fulfil the following requirements:
- minimum width at least 30 cm
- maximum slope 40 %
- in case of gritted floor minimum wire strength to be kept at 2 mm
- free height between floor levels or perch rods at least 45 cm
- durable floor area has to be covered with suitable strewing material in sufficient thickness
- laying nests, its landing grids and higher perch rods are no moving areas and can thus not be accounted for in animal density calculations.

The stock density in the inner barn area may be raised if the exterior climate aerea is used as an intergrated exterior climate area. This is the case if

- it is accessible through all barn openings for all animals during their total activity time (light phase, natural and artificial light)
- if it is roofed and equipped with automatic opening system, lighting, fencing and wind protection possibility (only in very cool temperatures and strong winds the number of barn openings can be reduced)
- if the whole exterior area is strewn with sand or similar for all animals
- if it has a height of at least 2 m
- if it is located on the same level as the barn; a level difference between barn and exterior area is limited to a maximum of 50 cm (in case of higher level differences, a sufficient circulation of animals can be reached by the construction of balconies and climbing and descending supports).

In relation to the barn floor area the maximum animal density in multy layer systems is 12 animals/m^2.
In barns with an integrated exterior climate area, a maximum of 8 laying hens/m^2 accessible area in exterior barn areas can be kept at night, in multy layer systems at all times the additional requirement is to be observed that as a maximum 15 animals/m^2 floor area may be kept.
The barn has to be designed in such a way that animals will have the least possible contact with excrement. The different floor levels accessible to laying hens have to be arranged in such a way that excrement do not fall on the level beneath it.
At least 1/3 of the moving area in the barn for all animals must be available as strewn area for the purpose of scratching. In barns with integrated exterior climate area this third refers to the interior area of the barn. The strewing material has to be at least 5 cm deep and must be kept dry, loose and clean.
The barn has to be lighted sufficiently with day light. The window area has to be equivalent to at least 5 % of the barn floor area. Natural day light may be ex-tended to a maximum of 16 hours by artificial light.
The offered space for feeding, feeding dishes and the strewn area for the application of feeding seeds have to be designed in such a way, that all animals can forage together.
The animals should be able to take water from an open water surface. The available drinking water has to be always fresh and clean.
At least 18 cm of perch rod have to be provided. In barns with excrement pits at least 1/3 of the perch rods have to be elevated at least 45 cm. The profile of the perch rods must have at least 30 x 30 mm, the upper edges of the rods have to be rounded. For the total perch rod length only such perch rods are accounted for, that have at least 30 cm horizontal axis distance from each other and at least 20 cm distance from the walls.
For the laying of the eggs the animals must have available sufficient strewn laying nests or rolling nests with smooth rubber nops or similar material. For 80 laying hens 1 m2 family nest has to be available, a single nest is sufficient for a maximum of 5 hens.
The animals must have permanent access to a dust bath, if possible in a winter garden.
The barn openings to the exterior climate area and the access to the outdoors are to be measured in such a way that the animals can circulate without problems and unrestricted. The barn openings have to add up to a combined length of 4 m per 100 m2 of the floor area of the building available to the hens (for existing buildings a transitional period until 2010 is possible with the permission of the BIOLAND Association, compare 9.4). The minimum measures of the openings are 50 cm width and 45 cm free height. Between charging the barn has to be cleaned and disinfected. Only the substances listed in attachment 10.7 are permissible.

4.2.5.1.2 Exterior climate area

For an animal stock density of more than 4 hens per m2 in the barn at least 1 m2 of durable, roofed exterior climate area (winter garden) per 12 hens is mandatory. Excepted from this are stocks of less than 200 hens and mobile barns.
The exterior climate area can be accounted for in the calculation of the animal density provided they fulfil the conditions mentioned in chapter 4.2.5.1.1.

4.2.5.1.3 Green open air run

A green open air run is mandatory (for existing buildings transitional periods until 2010 are possible with the permission of the BIOLAND Association, compare 9.4).
To each animal at least 4 m2 of green roaming area in a perimeter of 150 m has to be available.
Measures have to be taken that a nutrient intake of 170 kg N per ha roaming area and year must not be exceeded. Strongly used areas close to the barn are to be strewn with bark shred or similar and designed in such a way that the strewing, soil material respectively, enriched with nutrients, can be replaced periodically, latest before next recharging of the barn.
Plants must grow on the majority of the outside roaming area. Frequent and sufficient resting periods have to be scheduled for the regeneration of vegetation.
Access to the green roaming area has to be provided during the whole vegetation period from 12.00 h noon on. In extreme weather conditions (snow, permanent rain, thunderstorms) access to green roaming area can be restricted in time or totally.
The green roaming area has to offer protection from enemies and shade to the animals, so that they will use the roaming area in an equally distributed manner. Thickets will be planted for a natural structure of the whole roaming area. Shading or wind protection nets will provide artificial possibilities of shelter.

4.2.5.2 Young hens

The regulations on laying hens as described above apply for young hens respectively as far as in the following paragrafs no other regulations to be met. Additionally the following has to be observed:

4.2.5.2.1 Principle

During growth the young animals should learn the natural behaviour which they can conduct in the laying barn, that way avoiding behavioural disorder. During growth robustness should be developed and a natural immunisation should be achieved. The housing system in the growing barn should be equivalent to the barn of the laying hens.

4.2.5.2.2 Barn

In the prime weeks of life rings for chicken are permissible.
From the 3rd up to the 12th week of life max. 15 kg life weight and not more than 16 animals per m² moving area are allowed to be kept.
From the 12th week of life per m2 of accessible moving area a maximum of 10 animals can be kept in the barn.
In barns with multiple levels a maximum to 24 animals per m2 barn floor area can be kept from the 12th week of life on.
In barns with an integrated exterior climate area in the 12th week of life, at night times, a maximum of 13 young hens per m2 accessible moving area can be kept in the heated area, provided the exterior climate area is permanently accessible during the light phase. At the earliest from the 6th life week on in addition the exterior climate area (wintergarden) may be taken into account.
At least half of the moving area of the barn must be provided as area for scratching purposes. The strewing material has to be at least 5 cm deep and to be kept loose, dry and clean.
Daylight with natural intensity is obligatory.
If suitable equipment is installed, the application of a lighting program can limit light exposure and period.
Clean and fresh drinking water is always supplied to all animals. The equipement for feeding shall be constructed in a way that all annimals are able to eat at the same time.
From the 1st week of life on the animals must be provided with raising possibilities, from the 8th life week on 8 cm per animal, from the 12th week on 12 cm of perching rod per animal is required, whereas 1/3 are to be designed as elevated perching rods.
From the 1st week of life on the animals must have available a dust bath and strewing material with sand and coarse-graind limestone material as well as oppotunities for shelter and to cover.

4.2.5.2.3 Exterior climate area and outdoor run

From the 10th week of life latest the animals must have access during their activity period to a durable, roofed exterior climate area (winter garden) in the size of at least one quarter of the accessible barn area, depending on the extent of feathering and the climate. The size of the barn openings is at least 2 m per 1000 young hens.
Stock sizes of less than 200 young hens or mobile stables are excluded, if a green open air run of at least 2,5 m² per animal is available.
The exterior climate area can be added in the calculation of the animal stock density in the barn as laid out in chapter 4.2.5.1.1.
It shall be possibke to divide the green outdoor run into portions, and it must contain equipment for shelter

4.2.5.3 Poultry for fattening

The regulations on the keeping of laying hens apply for the keeping of poultry for fattening respectively. Additionally the following applies:

4.2.5.3.1 Barn

Locally the single barn buildings with a maximum of 4800 fattening chicken, 5200 guinea-fowls, 4000 female ducks, 3200 male ducks or 2500 geese and turkeys have to be separated completely (feedstuff chain, egg belts, way out for manure, air conditioning etc.) in such a way that a pressure of infections that may exist and/or contamination with parasites are reduced, and a sustainable management of the green roaming area is achieved (for existing barns transitional period until 2010 is possible with the permission of the BIOLAND Association, see 9.4). In one building a maximum of 9600 fattening chicken, 10400 guinea-fowls, 8000 female ducks, 6400 male ducks or 5000 geese and turkeys may be kept. The total used area of all fattening poultry barns of one single operation may not exceed 1600 m^2 (for existing barns transitional period until 2010 is possible with the permission of an inspection authority, compare 9.4).
In the barn per m^2 of accessible roaming area a maximum of 21 kg live weight and not more than 10 animals can be kept, whichever case applies first. Roaming area is defined as the floor area of the barn available to the animals.
In mobile barns a maximum of 30 kg live weight and not more than 16 animals can be kept per m2.
For guinea-fowls a minimum of 20 cm perching rod per animal is mandatory. For fattening chicken and turkey hens perching rods in respect to their size and age are to be offered.

4.2.5.3.2 Exterior climate area and outdoor run

For fattening chicken and turkeys an exterior climate area (winter garden) or a durable outdoor run is mandatory in addition to the interior barn area. The size has to be at least one third of the minimum barn area. Exempt from this are stock sizes of less than 100 animals and mobile barns.
The exterior climate area can be taken into the calculation of the animal density in the barn as laid out in chapter 4.2.5.1.1.

4.2.5.3.3 Greened roaming area

A greened roaming area is mandatory (for existing barns for fattening chicken with respect to the afforded greened roaming area, for other fattening poultry with respect to the size of the greened roaming area respectively, transitional period until 2010 is possible with the permission of the BIOLAND Association, compare 9.4).
To every animal the following minimum greened roaming area per animal has to be afforded:
- fattening chicken and guinea-fowls 4,0 m2
- ducks 4,5 m2
- turkey hens 10 m2
- geese 15 m2
- fattening poultry in mobile barns 2,5 m2

If the climatic conditions and the physiological conditions of the animals allow for this, access to a greened roaming area has always to be afforded, nevertheless if possible at least during one third of the lifetime. Restrictions may result from the physiology by the age and by the feathering of the animals and from the climate.

4.2.5.3.4 Water surfaces

Water fowl has to be afforded access at any time to running streams, ponds or lakes (only if hygienic conditions and water protection acts permit it) or to a durable water surface that is replaced regularly by fresh water.

4.2.5.4 Small poultry (pigeons and quails)

The standards on laying hens apply for small poultry respectively, unless no other rulings are determined below. Additionly the following has to be observed:

4.2.5.4.1 General requirements on keeping and barn

The minimum pen size with roofed veranda is 7,5 qm for pigeons and 1,5 qm for quails.
All pen areas are to be structured to achieve a behaviour appropriate to the species (e.g. for pigeons possibility to rest on boards, bars, branches etc. of different heights and shapes, for quails possibility for retreat and shelter by means of tubes, caves etc.).
The stud above the accessible space of the individual areas shall be adapted to the respective requirement of the management, however, it shall be at least 200 cm for pigeons and 50 cm for quails. The accessible space can be extended to max. one further level in addition to the usable barn floor area.

4.2.5.4.2 Barn

A barn for keeping quails can offer space for max. 1500 animals, whereas the max. group size is limited to 300 animals for laying and fattening quails. A barn for pigeons contains max. 1000 breeding pairs with progency.
The barn (warm area) may be charged with max. 15 animals or 3 kgs live weight per m² roaming area.
The barns shall dispose of strewn area for the purpose of scratching (at least 50 % of the barn floor area).
Max. 50 % of the accessible space in the warm area may have a perforated floor corresponding to the age.
150 laying quails shall have 1 m² area for nest at disposal. A single nest has a space of at least 600 cm².
At keeping pigeons, each pair shall have at least one separate nesting site of 0,5 m² area with a strewn brood tray. In order to establish their nest, the pigeons shall be offered building material like straw, spray, leaves, etc.

4.2.5.4.3 Exterior climate area and open air run

The durable, roofed exterior climate area (winter garden) shall be at least 50 % of the accessible space in the warm area and shall be loosely strewn. The material for strewing shall be selected to avoid foot or toes pad ulcer. A dust bath shall be offered
Green open air run is recommended.

4.2.6 Keeping horses

Whenever soil conditions allow, horses have to be afforded grazing or exterior roaming.
For them being kept in barns it has to be in the form of boxes or non-penned stables with access to open air roaming area, if possible.
As far as possible, the animals are to be kept in groups.

4.2.7 Keeping of Fallow-deer and Red Deer

For fallow-deer and red deer keeping on pasture is mandatory all year round.
The minimum preserve size for fallow-deer is 3 ha, for red deer 5 ha.
In the pens there must be hiding places for calves. The pens must provide shelter against climate conditions, preferably by means of natural hedges and trees. Red deer pens must have a slough additionally.
The minimum pack size of deer comprises of 5 animals (1 stag, 4 females).

Per ha preserve area the stock density is 7 PED or 3.5 PER respectively.
One production unit fallow-deer (PED) comprises of 1 adult animal, 1 calf, 1 one-year-old, one stag proportionately; one production unit red deer (PER) comprises equally.

4.2.8 Keeping of Rabbits

The following regulations apply for keeping systems of more than 3 animals for breeding purposes or more than 20 animals for fattening respectively.

4.2.8.1 General

Barn and roaming area allow for the kind of behaviour peculiar to the species.
Keeping in groups is mandatory except during the nursing time of females. In housing, the max. group size is limited to 40 animals for fattening purpose and 5 reproducing ewes as well as up to 3 offspring ewes. If keeping the animals outdoor, this limitation is not applicable providing that space requirements as per 10.6 are observed.

4.2.8.2 Barn

The height of the barn must be at least 60 cm. The area of movement can spread on multiple levels. It ought to contain different surface features.
Possibilities for retreat and resting areas must be available for all animals.
Each nursing female needs its own nest to litter.

4.2.8.3 Open air run and pasture

A durable open air run, possibly roofed over, is prescribed except in the case of grazing system. The exterior climate area shall offer at least 50 % of the total movement area (sum barn and exterior climate area).
In case of grazing system areas for rotation and resting periods for the vegetation is mandatory

4.3 Dealing with animals

4.3.1 General

Dealing with animals must take into consideration the needs of the species and the feelings of the animals.

4.3.2 Measures in the operation

Care of hair, skin and hooves is to be carried out at regular intervals.
As far as this is possible in the system used in keeping, no removal of horns should be carried out in the case of ruminants.
Not permissible are:
- removal of horns by means of cautery sticks
- cropping of tails in the case of cattle or pigs
- prophylactic shortening of pigs' teeth
- insertion of nose rings and nose clamps to -prevent pigs from grovelling
- disfigurement of poultry by shortening of the beaks, cropping of comps and wings.

Animals must not be subjected to further surgical interference systematically.
The surgical castration of piglets is permitted only with application of anaesthesia and analgesia (for anaesthesia a transition period expiring on 31 December 2010).
Keeping a laying pause is possible for laying hens. During this resting period the free access to water and fodder may not be restricted. The day light may be limited to 5 hours per day.
As far as possible in each flock at least 1 cock per 100 hens should be kept from the beginning of the rearing time.

4.3.3 Transport and slaughter

4.3.3.1 General

Stress and unnecessary suffering on the part of the animal is to be avoided in transport and slaughtering.
Transport distances should be as short as possible.

4.3.3.2 Transport of the animals for slaughter

It should be given priority to the transport of carcass than transporting animals alive.
From loading to slaughtering all measures should generally be taken to minimize stress, pain and harm and in particular anxiety of the animals. The sense of responsibility of all persons involved is to be encouraged to obtain this and it should be paid attention to that the personnel engaged with the transport and/or slaughtering dispose of the required knowledge on the subject.
The use of electric prods for driving, any instruments for striking or similar instruments for driving is forbidden.
It must be possible to identify each animal or each group of animals at any singular stage of the transport and the slaughtering process.
The distances between the farms and the slaughterhouses should be kept as short as possible, and it should be given priority to regional slaughterhouses. The transport period must not exceed a max. of 4 hours and the transport distance a max. of 200 km. Only in exceptional cases and subject to prior approval by BIOLAND, a

transport period exceeding 4 hours is allowed, provided that sufficient watering during the transport and a longer rest period before slaughtering are guaranteed.
Before loading and during transport the animals are to be watered sufficiently. Pay attention to the time of slaughtering when feeding the animals. It is recommended that pigs should have an empty stomach for a period of not more than 12 hours (which is the time without taking any food). For ruminants the period should not surpass 16 hours.
It is forbidden to treat the animals before or during transport with synthetic tranquilizers or synthetic stimulants.
Particulars on the individual species are described as follows:

Ruminants
- the transport plane shall be sprinkled in
- milk-yielding animals are to be milked before loading
- careful loading and unloading
- sexually mature male animals must be transported separately from female animals of the same species.

Pigs
- the transport plane shall be sprinkled in
- careful loading and unloading (e.g. drive shields and fences for guiding)
- if possible driving from darkness to brightness
- separation by fattening groups and origins, in case of common transport use dividing walls

Poultry
- dark boxes, sufficiently aerated and high enough

4.4 Animal Density and Purchase of Additional Feedstuffs

4.4.1 General

The animal density is oriented in the main on the basis of the provision of feed by the operation itself.
In case of additional purchase of feed, at least 50% of the feed for one animal species must come from the operation itself or from other farms of the BIOLAND Association, if here not available in accordance with the requirements of BIOLAND from other organically managed farms, or, if here not available, according to the regulations for the purchase of permissible conventional feed (see 4.5.1 and 10.4). Ready mixed feedstuff shall be purchased only from feedstuff companies certified by BIOLAND, mineral feedstuff only from companies approved by BIOLAND.
In case of poultry, pigs and horses, 100 % of the fodder can be purchased in small stock sizes, if the stock size in the operation is less than 1000 laying hens (or the respective figure of other poultry categories), less than 30 sows, less than 60 fattening pigs places or less than 10 horses and simultaneously, the total stock concentration (=animals per hectare) limit of the operation is not exceeded. Before December 31st, 2010 latest, this provision shall be reviewed.
The highest permissible number of animals per hectare is limited by the numbers listed in table 10.3.

4.4.2 Feed from land in conversion

Feed produced on land in conversion (compare 9.2.3) may be used up to a maximum of 30 % in the ration, in relation to the annual average per animal category. If the feed produced from land in conversion is from the operation itself, this percentage amounts to 100 %.
Up to 20 % of the total average amount of feedingstuffs fed to the livestock may originate from the grazing or harvesting of permanent pastures or perennial forage parcels in their first year of conversion, provided that they are part of the holding itself and have not been part of an organic production unit of that holding in the last five years. When both in-conversion feedingstuffs and feedingstuffs from parcels in their first year of conversion are being used, the total combined percentage of such feedingstuffs shall not exceed the maximum percentage for in-conversion feedstuff.
(all percentage calculated on the basis of the dry matter of the feedstuff of agricultural origin)

4.4.3 Quality of purchased feed

The purchase of fodder is subject to most stringent quality standards in order to minimise the load placed on the operational cycle of the operation by pollutants.
Imported feed from Third World countries, fodder of animal origin (with the exception of milk products as per chapter 4.5 and 10.4), extraction groats and spoiled feed may not be used.

4.4.4 Feed additives

Permissible are in particular the mineral substances and additives necessary for a nutrition in compliance with the needs of the animals involved as well as harmless, natural feed additives helping to improve the operation's own feed and the health of the animals.
The use of feed with active substances or additives such as antibiotic, chemobiotic or hormonal performance boosters, coczidiostatica, histomonostatica, copper as performance booster, NPN-compounds, synthetic aminoacids and synthetic colorants is forbidden.
The used vitamins, trace elements and additives must be used from natural origin, as far as they are available in sufficient quantity and quality. If they are not available and need is determined, the individual feed and additives as listed in appendix 10.4.5 may be used in animal nutrition.

4.5 Feeding

4.5.1 General

In principle, the feeding of the animals is done with fodder of organic origin.
Animal feeding is to be designed in such a way, that fodder produced in the operation itself is to be used to achieve animal products of high value. Feeding in accordance with the needs of the species, in addition to the determination of rations according to the animal needs, also involves supplying feed as per animal's behavioural requirement.
In case of non-availability and shortage of supply the temporary regulations for purchased feed from non-organic origin subject to authorisation, see 10.4., are valid.
When the animals are being driven from one pasture to the other during a period of transhumance, the uptake of conventional vegetation will be acceptable (max. up to 10 % of annual ration referred to the dry matter contents of the fodder of agricultural origin).

4.5.2 Cattle feeding

In cattle feeding basic fodder (straight fodder) from the operation itself must be used. At least 60% of the dry matter in the daily ration must be roughage. In summer, the basic fodder has to be in its majority fresh green fodder.
The rearing of calves is based on the operation's own milk or milk from other farms of the BIOLAND Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms, for a period of at least 3 months.
Feeding with hot air dried green fodder (cobs) should be waived wherever possible due to the high energy input required. This does not apply for milk producing operations which, for reason of quality, cannot use silage.

4.5.3 Pig feeding

Fattening pigs and breeding pigs are to be offered roughage appropriate to their age.
Piglets are to rear by natural milk for a period of at least 40 days.

4.5.4 Sheep and goat feeding

The basic principles of cattle feeding also apply for sheep and goats.
The rearing is achieved with natural milk for a period of at least 45 days.
In case of the rearing of lambs and kids in milk sheep or milk goat operations as well as in problematic cases (outcast lambs, triplets, etc.) the use of organically produced cow milk or milk powder from organically produced milk is possible.

4.5.5 Poultry feeding

At least 10 % of the daily feed ration for laying hens must be given as kernels (seeds) into the strewing material.
Free consumption of mussel shells and grit or similar is to be ensured. The food ration must contain food components requiring little digestion (e.g. grass).
For poultry in the fattening phase the feed must contain at least 65 % grain.
Young hens must be able to take an appropriate kernels mixture out of the strewing material from the 7th week of life on latest.
Water fowl (ducks, geese) should, from the 6th week of life on, be given part of their feed in moist form.

4.5.6 Horse feeding

If in keeping horses in boarding stables fodder is used or treatment is effected by the horse owner, not being approved, it must be ensured that these are of no danger for the operational cycle of the operation. The manure generated in this way is to be treated as organic manure from external sources.

4.5.7 Rabbit feeding

The places of feeding must be accessible to all animals at all times.
The predominant part of the ration consists of roughage in the form of pasture fodder, hay, green fodder silage, dried grass meal (pellets) etc. Furthermore, ingredients of firm consistency must be contained as fodder for gnowing, e.g. tree branches, boughs, fresh wood or similar.

4.6 Animal Health

4.6.1 General

The basis for the animal's health and fertility is suitable keeping, feeding and breeding. Preventive measures for maintaining the animal's health without the use of medication, for increasing the animal's own physical defence forces and to contribute towards avoiding illnesses are to be applied wherever possible.
Hygienic measures as there are cleaning and Disinfection measures, keeping of resting times in non-durable open air runs and greened open air runs and measures of the pasture management are to be preferred to therapeutic treatment.

4.6.2 Treatment

If animals have to be treated, natural healing methods and homeopathic treatment are to be given priority. Conventional medication (ethical or on prescription) should be used exclusively to prevent unnecessary suffering on the part of the animal and to preserve life. These must be prescribed by the veterinary surgeon.
If one animal or a group of animals gets more than 3 treatments with chemical-synthetic allopathic medication per year or more than 1 treatment, if the productive life cycle is shorter than 1 year, then the animals or the products produced from them can no longer be labelled as organically produced or they have to restart the conversion period, provided the permission of the BIOLAND Association (compare 9.2.4). Exempted from this are vaccines, parasitic treatment and medication the use of which is regulated by official regulations.
In case of the use of chemical-synthetic allopathic medication, the double period of waiting following their use as legally stated is to be observed. If no legal waiting period is defined, at least 48 hours have to pass prior to the production of foodstuffs.
The prophylactic use of conventional medication and hormones is forbidden. Exempted from this is medication the use of which is regulated by official regulations as well as vaccines. Within a veterinarian therapy hormones may be used in single animals. The use of synthetic substances that enhance growth or increase production or suppress natural growth are not permitted.
Vaccines may only be used if diseases on that particular operation are known to be problematic or it is to be expected that diseases may not be controlled by other management measures. Legally prescribed vaccines are permissible.
The list of active substances and groups of pharmaceuticals the use of which is forbidden or limited must be observed when carrying out treatment (compare 10.5).

4.6.3 Stable/barn register

Detailed records are to be kept in a stable/barn register about all treatment of animals. This will include time of treatment, diagnosis, type and duration of treatment and waiting period for the medication used. The treated animals are to be labelled as such in a doubtless manner, in case of large animal each, in case of poultry and other small animals each or in groups.

4.6.4 Storage of medication

Only medication the use of which is approved may be stored in the operation.
The medication is to be stored in a medicine cupboard safeguarded against access by unauthorised persons. A clear labelling of the medication has to be provided.
Residual amounts of medication have to be disposed off appropriately.

4.6.5 Stable/barn hygiene

Environmentally compatible agents are to be used wherever possible in the cleaning and disinfection of milking machines and other barn equipment.
The list of approved substances for cleaning and disinfection has to be observed (attachment 10.7).

4.7 Animal breeding

4.7.1 General

Breeding must be planned in such a way, that the performance, the health, the vitality of the animals and the quality of the animal products are maintained and improved throughout different environmental conditions.
Keeping domestic animals common to the region should, wherever possible, be promoted.
In breeding animals and in the choice of the type and race of the animals, particular ecological requirements for location must be taken into consideration.
In the case of breeding animals for milk production and for breeding purposes, especially the feature of longevity are to be observed.
Types of animals and races not being suitable for the above described keeping systems (compare 4.2) must not be kept.
For fattening poultry the following applies: If no as such defined slow-growing races/origins are kept, the following minimum age for slaughter has to be observed:

- chicken 81 days
- Peking ducks 49 days
- female flying ducks 70 days
- male flying ducks 84 days

- "Mulard" ducks 92 days
- guinea fowl 94 days
- geese 140 days
- turkey (male) 140 days
- turkey (hens) 100 days.
- Pigeons and quails 28 days.

4.7.2 Origin of animals for breeding -purposes

The use of animals for breeding originating from embryo transfer should be avoided.
The breeding may not be carried out on the basis of animals permanently purchased from non-organic origin.

4.7.3 Reproduction

Reproduction by means of natural copulation is preferable.
Artificial insemination can, however, be applied for the purpose of improvement of the breeding ability of the animals.
Embryo transfer and cloning are forbidden.

4.8 Additional Purchase of Animals

4.8.1 Principles

The purchase of additional animals may only be from other farms of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms.
Only excepted from this are animals where it can be proven that their acquisition from such a operation is not possible and where the BIOLAND Association has issued an exemption permit. Exemption permits are only applicable in the cases regulated under chapter 4.1.2. In this case the conversion periods and the indications for the use of the trade mark as listed in 9.2.4 have to be observed.

4.8.2 Possible permits for conventional purchase of animals

4.8.2.1 Cattle

For the initial generation of a stock, calves for breeding purposes may be purchased after weaning, however latest up to an age of 6 months.
Young cattle before the first calving and male cattle for breeding purposes may be purchased annually to an extent of 10 % of the adult cattle stock. For the purpose of massive expansion of the stock, the switch to another race, the opening of a new operation branch or for breeds that are in danger to beeing lost to farming this percentage may be increased to 40 %.
The use of the trade mark BIOLAND is not permitted for beef from cattle that was born on conventional farms and/or raised with feedstuffs non-compliant with these standards.

4.8.2.2 Pigs

Young sows before having piglets for the first time and boars for breeding purposes may be purchased annually to an extent of 10 % of the stock of adult pigs. For the purpose of massive expansion of the stock, the switch to another race, the opening of a new operation branch, or for breeds that are in danger to beeing lost to farming this percentage may be increased to 40 %.

4.8.2.3 Sheep and goats

For an initial stock build-up female lambs and kids for breeding purposes may be purchased after weaning, however latest up to an age of 60 days.
Animals for breeding purposes may be purchased annually to an extent of 10 % of the stock of adult animals. For the purpose of massive expansion of the stock, the switch to another race, the opening of a new operation branch, or for breeds that are in danger to beeing lost to farming this percentage may be increased to 40 %..

4.8.2.4 Poultry

Subject to the permission of the competent authorities young laying hens and young poultry for fattening may be purchased up to the age of less than three days.

Young poultry from the age of 3 days on may only be purchased, if they are raised on organically managed farms. Regarding young laying hens the BIOLAND standards for rearing young hens must be observed.
In stocks up to 100 laying hens young hens may be purchased up to the 18th week of life (only with permit of the competent authority, limited until 31.12.2011).
In the case of poultry for fattening purposes care should be taken to ensure that the choice of the race is suitable for the method of fattening with open air runs.
In case of small poultry breeding animals may be purchased for an initial stock build-up without limitation, otherwise annually to an extend of 10% of the stock.

4.8.2.5 Fallow-Deer and Red Deer

For the initial generation of a stock animals for breeding purposes may be purchased.
Animals for breeding purposes may be purchased annually to an extent of 10 % of the stock of adult animals.

4.8.2.6 Rabbits

For the initial generation of a stock animals for breeding purposes may be purchased.
Animals for breeding purposes may be purchased annually to an extent of 10 % of the stock of adult breeding animals. This percentage can be increased to 40 % in the case of massive expansion of the stock, switching to another race or opening a new line of production.

4.9 Marking of animals

All of the domestic animals kept on the operation premises must be clearly identifiable.
Thus all animals or groups of animals are to be marked and a register of animals must be kept.

4.10 Bee-Keeping

4.10.1 General

The general parts of the BIOLAND Standards are also applicable for bee-keeping in as far as there are no exceptions specified in the following.
Bee-keeping can be also carried out according to the BIOLAND Standards by operations which do not cultivate any area under agricultural use.

4.10.2 Keeping of the Bees

4.10.2.1 Location of the Bee Colonies

Paragraph 2.2.1 of the Standards applies accordingly to the locations of the colonies. If the location of the hives is an agriculturally used field it must be managed organically. The location of the colonies has to be chosen in such a way that within a perimeter of 3 km an impediment worth mentioning of the bee products by agricultural or non-agricultural sources of pollution is not to be expected. For pollen gaining it is not allowed to use crops of which the flowers were sprayed with pesticides. Also industrial areas or the vicinity to streets having huge volume of traffic (e.g. highways) should be avoided.
If it is suspected that the load on the environment is too great, the bee products are to be examined. If the suspicion proves to be founded, the location is to be abandoned.
Only such numbers of bee colonies are to be placed in one location which allow adequate supplies of pollen, nectar and water for each colony. If canopies from cultivated plants are intended to be used, organically cultivated areas are to prefer as nectar collecting areas. The planned targeting of conventional intensive fruit cultures for nectar gathering or pollination is not permissible.
The locations of the colonies are to be recorded in a movement plan throughout the year. The movement plan must contain exact details in regard to period of time, location (fields, plots of land, or similar), canopy and number of colonies.
Locations outside the area under the care of the BIOLAND Association are to be used only with permit.
If locations of colonies are situated in areas, which are indicated by inspection authorities as to be unsuitable for organic apiculture, products from those areas must not be marketed with reference to organic production.

4.10.2.2 Hives

Hives must be constructed of wood, straw or clay. This does not apply to small parts, roofing, grid floors and feeding appliances. In manufacturing the hives pollutant free glues and paints (e.g. natural varnishes on a linseed oil or wood oil basis) are to be used. Varnishes containing pesticides or those manufactured in chemical synthetic processes are excluded.
Treatment of the interior of the hive is prohibited unless this is done with beeswax, propolis or plant oils.
Cleaning and disinfection is to be by means of heat (flame, hot water) or mechanical. In case of acute infections the use of NaOH-solution for the desinfection and cleaning of the hive with subsequent neutralisation by means of organic acids is permissible. The use of other chemicals is prohibited.

4.10.2.3 Wax and Honeycombs

The colonies are to be afforded the possibility of constructing natural honeycombs on several combs during the breeding season.
Central walls, start strips may only be made of BIOLAND beeswax which has been produced in BIOLAND operations from natural honeycombs or wax for decapping. Plastic central walls are forbidden.
There may be no residue of chemo-therapeutics which may indicate the non-permissible use of varroa or treatment against wax moth.
Wax may not come into contact with bleaches or solvents or other additives. Only devices and containers of non-oxidising materials are to be used for the wax processing. For hive hygiene, only thermal processes, acetic acid or bacillus thuringiensis preparations are permissible.

4.10.2.4 Calming and Driving away Bees

No chemical synthetic materials may be used to calm or drive away the bees. Smoke shall only be used to a limited extent. Means for smoke should be of natural materials.

4.10.2.5 Feeding Bees

The feeding of bees is permissible as long as this is necessary for the healthy development of the colonies.
Within the scope of the possibilities of the operation, bees should be fed using honey from the operation's own bee-keeping.
Feeding with sugar in any case requires an agreement by the inspection authorities and has to be limited to the winter hibernation period and for the creation of young colonies.
Adulteration of the honey as a result of excessive winter feeding is to be avoided by removing this prior to the start of the gathering season.
Gaps in the feed with nectar supply are to be filled only by BIOLAND honey.
Feeding with pollen substitutes is not permissible.
For the feeding only organicallyBIOLAND feedstuffs may be used, if not available, feedstuffs from other organic sources in accordance with the requirements of BIOLAND other organically producemanaged farms.

4.10.2.6 Bee Health

The use of chemo-therapeutic medication is forbidden. Only in combating the varroa mites is, in addition to the bio-technical and bio-physical methods, the use of

- lactic acid,
- formic acid
- oxalic acid

permissible. For bee colonies destined for the production of honey with their honeycombs, the use of these materials is only permitted in the timespan between the last honey harvest of these colonies and January 15th of the following year. Oxidation on metals where residues may be expected is to be avoided.
All treatment measures used are to be recorded in a treatment journal.

4.10.2.7 Apicultural Methods

The curtailing of bee wings as well as other
mutilations are forbidden.
The larvae with drones may only be removed in order to fight a varroa infection.

4.10.2.8 Bee breeding

The objective of the breeding is the keeping of varroa-tolerant bees in a manner suited to the ecological conditions.
Natural breeding and reproduction processes are preferable. The swarm instinct is to be considered in this.
Instrumental insemination may be applied in breeding operations in individual cases if an exception has been approved by the BIOLAND Association.

4.10.2.9 Purchase of Additional Bees

The purchase of colonies, swarms or bee queens is only permitted from other operations of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms. The catching of conventional swarms is permitted as long as its number does not exceed a limit of 10 % of the existing bee stock size in the operation annually.
This regulation applies also to the purchase of bee queens from conventional origin.

4.10.2.10 Marking

All bee colonies are to be unmistakably marked and recorded in a colony register.

4.10.3 Honey

4.10.3.1 Harvest

Only honey which has ripened in the hive may be extracted.
Combs destined for the production of honey must not contain any eggs.
The use of chemical repellents as well as the killing of bees during harvesting is forbidden.
All harvesting measures have to be recorded in the colony register in combination with yield figures as exact as possible.

4.10.3.2 Processing

Warming of the honey should be carried out as gently as possible. It may not be heated to more than 40℃. The melitherm process is permissible.
The honey should be filled wherever possible before it sets for the first time. Returnable sales units are prescribed.
To preserve the natural contents, the honey must be stored in dry, cool and darkened conditions. To remove impurities such as wax parts, the honey may be passed through a filter (filter mesh not less than 0.2 mm). Pressure filtering is not permissible.
Devices and containers used in the processing of the honey must be made of materials legally permitted for the use with foodstuffs. Metal devices are to be of stainless steel.

4.10.3.3 Measurable Quality Criteria of the Honey

In addition to the legal requirements, the following are applicable: water content max. 18% (heathland honey 21.5%), HMF content in mg/kg max. 10, invertase units min. 64 U/kg honey (according to Siegenthaler), with exception of honeys having a low enzyme content (very pure acacia and linden honeys).
Honey which does not fulfil the quality criteria in regard to HMF, enzyme or water content may only be marketed under the trade mark / association name of BIOLAND as processing honey.
No residue of chemical therapeutic agents may be traced in the honey which would indicate treatment of an impermissible nature.

4.10.3.4 Declaration

All stores and sales containers are to be marked.
The following marking is to be shown on the honey jars: As a result of the large radius of flight of the bees it cannot be expected that in all cases they will fly over only or mainly organically farmed areas (or in a similar form).

4.10.4 Pollen

4.10.4.1 Pollen trap

The stripping facility should be arranged to avoid any injury to the bees. The pollen collecting basin should be arranged to remain sufficient pollen for the bees‘ own supply.
The pollen within the pollen trap has to be protected against rain, moisture and direct sunlight. The pollen trap should be arranged to avoid the pollen to get lumpy (piling-up).
For aeration the floor of the collecting basin should be equipped with a fine grid of special steel. The bottom of the hives are to be cleaned regularly.
The pollen collecting basin must be of material legally permitted for the use with foodstuff and it has to be cleaned regularly upon need (but at least 2 times a week) carefully with boiling water or steam to avoid any mould.

4.10.4.2 Processing

At least once a day the pollen has to be removed and it must not be left within the pollen trap overnight.
The pollen took must be dried immediately or frozen for a later processing.
The drying air must not exceed 40°C degree of dryi ng: The water contents must not exceed 6 %.
The pollen has to be cleaned mechanically. Keep attention to that no foreign parts are in the pollen.

4.10.4.3 Packing and storage

The pollen must be stored cool and dry.
Storage and sales drums should be largely airtight to avoid humidity penetrating the pollen, and they have to protect the pollen against light.
The storage drums are to state the year of harvest and the batch number.
The sales packing has to indicate a batch number as well as the best-before-use date which should be limited to the 31st July of the year after next year of harvest.

4.10.5 Further Bee Products

The use of the trade mark / association name of BIOLAND is possible for beeswax and beeswax products if the beeswax was originally produced from bees from a BIOLAND operation.
In the processing of mead, the processing standards for the production of mead apply.

4.10.6 Conversion

During the conversion period, the hives, frames and combs are to be adapted according to the standards. They are to be marked accordingly. Available wooden hives with coats of harmless paint are regarded as being in accordance with the standards. The BIOLAND wax cycle will also be introduced during the conversion.
The use of the BIOLAND trade mark / association name is permissible for bee products from converted colonies, if these have been managed at least for period of one year in accordance with the standards and all colonies are included in the conversion. As long as no BIOLAND beeswax is available, the purchase of proven unpolluted wax from decapping and natural comb construction (see 4.10.2.3) is permissible – also when using the trade mark for this particular colony – for the creation of central walls and the impregnation of the hives.
Stocks of honey from the period prior to conversion are to be clearly marked.

4.11 Fresh Water Fish Production

4.11.1 General

The general parts of the BIOLAND standards apply also to fish production in as far as no exceptions are made in the following.

4.11.2 Types of Keeping

4.11.2.1 General Requirements for Keeping Fish

The fish may only be placed and reared in natural or almost natural waters such as earth basins and ponds. The use of plastic foils and keeping in nets is prohibited. The free movement of fish living in natural waters should not be hindered by the basin. A diversion ditch must be used in the case of new constructions or in reconstruction. Adequate measures shall be taken to prevent that introduced, cultivated species of fish may not escape from the culture. Any losses shall be recorded.
Special regulations apply for propagation (see 4.11.9).

4.11.2.2 Retaining Fish

For retention purposes, ponds or basins with the smallest possible organic bed or suitable fish containers should be used. The period which the fish spend in the retention area is to be kept as short as possible.

4.11.3 Water Quality

Input water should fulfil the following minimum requirements:
• has no or only minor sewage water load
• has no harmful load from pesticides or fertilisers from farming
• has a sufficient oxygen content
The quality of the water may not deteriorate significantly between input and exit points as a result of the fish culture. In order to evaluate water quality, the legally specified water quality classes will be applied. Aeration of the water is only permitted in exceptional circumstances to maintain life and not for the increase of growth.

4.11.4 Fish Culture and Care

4.11.4.1 Drying Out

When removing fish and subsequently drying out the pond or basin, appropriate damming measures must be taken to prevent sludge from being carried into the recipient.

4.11.4.2 Fertilising and Lime Fertilising

As fertilisers only organic fertilisers according to chapters 10.1.1 and 10.1.2, as well as lime and stone powder are permissible. The use of quicklime for fertiliser purposes is prohibited.

4.11.4.3 Encroaching Water Plants

Encroaching water plants may only be removed by biological or mechanical means (e.g. cloudiness, joint weed). Chemical agents are not permissible. It is not permitted to burn off dams.

4.11.4.4 Biotope Unit

The operation is obliged to maintain biotope structures, withdrawal possibilities and shelter for flora and fauna (guideline for total operation is 5% of the pond area). At least 20% of the banks is to be left as a 1.5m wide sedimentation and reed zone.

4.11.5 Fish Stock Density

The stock of fish is to be oriented on the local conditions and the natural capacity of the pond. The following maximum stock limitations apply:
• carp/ha: 3,000 K1 or 600 K2
In the case of mixed stock with tench and other non-predacious fish, the values are to be adapted in accordance with the weight of the fish. Stocking with predacious fish is to be in accordance with the natural feed content. Several types of fish are to be included in the stock.

4.11.6 Feeding

The basis for fish feeding is the natural feed content of the pond, by which the major part (more than 50 %) of the total feedstuff need of the production procedure must be covered. The pond's own production is to be used optimally by addition of feed of mainly plant origin. Additional feeding is to be carried out exclusively with feed from the operation itself or from other farms of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms.

4.11.7 Treatment of Fish

Retention, transport, fishing and killing fish are to be carried out in such way that the fish are not subjected to any undue loads or stress. The fish are to be stunned before killing and may not be killed by means of suffocation. Any facilities for stunning and killing shall be maintained in an effective and duly traceable way.

4.11.8 Health of Fish

Permissible for treatment of fish are immersion baths with sodium chloride (common salt), quicklime or potassium permanganate. Furthermore the use of quicklime is permissible in case of immediate danger as treatment for the stock as well as after the occurrence of a disease as a hygienic measure to be spread on the wet floor of the pond or prior to the flooding of the pond. When prescription medication is used, the waiting period is to be doubled before the fish are put into circulation. All treatment measures effected are to be recorded in a treatment register.

4.11.9 Fish Reproduction and Breeding

The objective of breeding fish in fish culture is to have healthy, strong fish suitable for the location and which are to be found locally in the region.
The use of hormones in reproduction is also prohibited.
Artificially polyploided fish shall not be used.

4.11.10 Additional Purchase of Fish

In as far as such are available, fry fish must be purchased from other farms of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms. Fish purchased from conventional operations must have spent at least two thirds of their lives in a BIOLAND operation before they can be sold under the trade mark BIOLAND.

4.11.11 Conversion

Adaptation of the fish culture to comply with the standards is carried out during the conversion period. At the beginning of the conversion, the water and the location are to be tested in regard to its suitability. Conversion, as a rule, takes place rapidly within two years, after a maximum of 5 years all production units must be taken into conversion. The trade mark BIOLAND may be used when the total production process (or, respectively, a total production unit) has been converted and the fish must have been kept at least 2/3 of their lifetime in compliance with the standards.
When converting the complete operation with all production branches in one step, it is allowed to use the trade mark BIOLAND after a period of 24 months for all fishes available on the operation at the time of start of conversion.

5 Horticulture and Permanent Crops

The general parts of these standards apply also to horticulture and permanent crops in as far as no exceptions are specified in the following. In farming without animals the supply of nitrogen must be effected as far as possible by leguminous growing in the operation itself. The amounts of nitrogen fertiliser which is additionally required and permissible may be purchased in the form of external, organic additional fertilisers.

5.1 Vegetable production

5.1.1 Fertilising

The total amount of fertiliser from the operation and organic supplemental fertiliser to be used in free range vegetable gardening may not exceed 110 kg of nitrogen per ha and year. In greenhouses, carefully considering the problematic of nitrogen, the use of up to 330 kg of nitrogen per ha and year is permissible.
In general, in vegetable gardening, Pt. 3.4.5 above is of particular importance. In order to control the nitrogen dynamics in the soil it is urgently recommended that N min. tests be carried out on a regular basis.

5.1.2 Soils and Substrates

Growing vegetables on stone wool, hydroponics, nutritional film technology, thin layer culture and similar systems are not permissible neither the production in bags and containers.
Permissible is the growing of herbs in pots and similar products, whereas the container is sold together with the plant.
The production of chicory sprouts in water is possible.
The use of peat to enrich the soil with organic substance is not permitted. It is also forbidden to use styrol mull and other synthetic materials in soils and in substrates.

5.1.3 Steaming Surfaces and Soil

Soil and substrates may be steamed. Flat steaming of the soil for the purpose of weed regulation is permissible. Depth steaming to de-pollute the soil may only be permissible, if the plant protection problem may not be solved by other measures, e.g. change of crop, and requires express approval by the BIOLAND association.

5.1.4 Crop production under Glass and Foil

Heating greenhouses and foil covered premises must be within ecologically reasonable limits and, as a rule, should be limited to the reasonable extension of the culture period in autumn and to earlier starting in spring. In winter, the cultures should merely be kept free of frost (approx. 5°C). The young plant culture, forced sprouting and potted herb cultures are excepted. When choosing the system of heating and the fuel, the environmental compatibility should be taken into account. The buildings should be well insulated thermally.

5.1.5 Use of Technical Mulch Materials

A maximum of 5% of the free range area used for growing vegetables may be covered at any one time by mulch foil, mulch fleece or mulch paper. Operations with less than 4 ha of area for vegetables may mulch up to 2,000 m2 using the methods stated.

5.1.6 Harvesting and Preparation

When choosing the harvesting method and the date of harvesting and the preparation of the harvested products, the basic objective should be the achievement and the maintenance of an optimum quality for human nutrition.

5.2 Herb Cultivation

5.2.1 Preliminary Remarks

Medicinal and aromatic plants as a special group of cultures place higher demands on growing and processing. Their use, particularly in naturopathy, phytomedicine and cosmetics, necessitates detailed special knowledge in order to achieve the desired effectiveness of the active agents involved.

5.2.2 Advice on Production

In order to achieve the desired contents choice of location, fertilising, crop rotation and preparation should be adapted to comply as optimally as possible with the differing requirements of the individual species. The operation should, therefore, obtain advice prior to entering into the field of growing medical and aromatic plants.

5.2.3 Selection of Location

As a result of the special significance of medicinal plants, the location is especially relevant (see 2.2.1. The minimum distance to roads should be 50 m and to field paths 5 m if no suitable protective planting has been effected.

5.2.4 Fertilising

In the year in which they are harvested it is not permitted to fertilise the cultures with liquid manure. Fresh manure may only be applied until the beginning of vegetation.

5.2.5 Preparation

In preparation the maintenance of an high quality is the prime principle. The devices used in processing must be designed in such way that the goods harvested are handled as gently as possible and no damaging substances (e.g. lubricants) can come into contact with the harvested goods.

5.2.6 Drying

The harvest for drug production must be taken into the drying plant immediately after processing. Materials detrimental to health such as PVC and treated chipboard may not be used. The drying room should form a closed unit.
Direct heating with oil or wood or the extraction of moisture by means of chemical additives is forbidden. When drying, the temperature may not exceed the critical point at which a reduction in quality occurs. The drug must be dried to such an extent that its useful life is guaranteed (ideal figure is 8%). Different types of plants may not be dried together with one another when they have a negative effect on each other.

5.2.7 Further Processing and Packing

The main priority in further processing is the protection of the contents. For this reason, it is, therefore, inadvisable to mince or pulverise these too much.
Further processing and packing of the drug should be effected as soon as possible after drying. Prior to packing, the drug should be cooled to room temperature.
The packing material may not transfer any harmful materials to the drugs and must protect them from the effects of light (see 7.5).

5.2.8 Storage

The storage room must be protected against light, dry and as cool as possible.
A weekly inspection of the goods in storage is mandatory to check for moisture, possible damage due to fungus or pests. Drugs of different types packed in permeable materials may not be stored on top of one another.

5.3 Shoots and Sprouts

In the production of shoots and sprouts the seeds, roots and rhizomes used must originate from BIOLAND propagation. If these are not available in sufficient quantities and qualities, then materials may purchased in accordance with the requirements of BIOLAND from other organically managed farms. Conventional sources are not permissible.
The water used for the production of shoots and sprouts must be of drinking water quality. Any possible substrates and carrier materials used must be permissible and harmless in the sense of these standards. In cases of doubt, clarification should be obtained from BIOLAND.

5.4 Mushroom Production

5.4.1 Basic Principles

In addition to harvesting the mushrooms, the other important prodedures of mushroom growing (preparation of the substrate, inoculation, intermix growth phase) must take place in the operation itself or in other operations of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND in other organically managed farms. Substrates of foreign organic origin (intermixed or not) require the permission of the Bioland Association.

5.4.2 Substrate

The basic organic materials, substrate components and additives of the substrate (straw, cereal, bran, etc. and manure and compost) must originate from farms of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms. Only those sources of organic manure are allowed where it is guaranteed that only organic materials were used for the bedding of the animals.
Should wood not be available from organic operations in sufficient quantities, other sources are possible after careful testing. In order to obtain material which contains as few pollutants as possible, it must be possible to follow the origin of the wood in the chain of process in the selection of tree trunks, chips and sawdust; if necessary, their harmlessness should be proved by means of analysis.
Non-organic substrate components must comply with section 10.1.4.
The use of peat as covering soil for growing champignon is permissible.

5.4.3 Disinfection and Plant Protection

Apart from composting only thermal processes are permissible for disinfecting the substrate. Appliances can be sanitised by means of alcohol or acetic acid.
The major objective in maintaining the health of the cultures is preventive plant control (hygiene, climatic conditions, mechanical protection against pests, etc.). The use of pyrethrum agents in mushroom production is not permissible.

5.4.4 Mushroom brood

Attempts should be taken to obtain organic mushroom brood from other farms of the Bioland associations or in accordance with the requirements of BIOLAND from other organically managed farms. In the case of the operation's own production of brood, the cereal used must originate from other operations of the Bioland Association or, if not available there, in accordance with the requirements of BIOLAND from other organically managed farms.

5.4.5 Use of Energy

By the selection of suitable culture rooms, the energy used in the production of cultures must be kept as low as possible.

5.5 Fruit Growing

5.5.1 Basic Principles

Fruit growing, as an intensive permanent culture, places special demands on the design of the total operation. Prerequisites for successful, organic-biological fruit production are:

- the selection of suitable varieties, (under) stock and forms of training,
- • the generation and maintenance of an ecological balance between pests and beneficial animals,
- • creation of a favourable microclimate in the fruit plantation, and
- • the use of measures which strengthen the health of the plants and prevent illnesses and pests.

5.5.2 Fertilising

The total quantity of nitrogenous fertiliser used (see 10.1) may not exceed 90 kg N per ha of fruit plantation and year. In operations in which there are no animals, this amount may be purchased.

5.5.3 Supporting Material

Tropical or sub-tropical woods may not be used as supporting material. The tropical grasses, bamboo and tonkin are permissible.

5.6 Viticulture

5.6.1 Soil Care, Greening and Fertilising

In order to reduce the problems and disadvantages of the mono-culture in vineyards and in the process of extensive growing to ensure the production of grapes, juice and wine of a high quality, the yield giving vineyard must be greened throughout the year. Greening is to be regulated by mechanical means in such a way that a mixture of various plant species is maintained and beneficial animals are attracted by the blossoming flowers. For special soil care measures, in dry periods in summer and in care of young plantations, the greening can be turned over in part. If the soil is kept open for more than three months, a soil covering of organic material must be applied. Re-sowing must be with a well mixed variety among which there must be a considerable part of

leguminous plants. The nitrogen balance should be considered when doing this. In the case of vineyards on steep slopes with skeleton rich soil, all measures should be carried out according to the local conditions. Changes in the complete surface greening throughout the year are to be recorded on the inspection sheet. In wine growing, the nitrogen fertilising should not exceed a total volume of 150 kg N/ha in a three-year cycle whereby the fertiliser available for the plants may not exceed 70 kg N/ha in any one year.

5.6.2 Supporting Material

Tropical or sub-tropical woods may not be used as supporting material.

5.6.3 Plant Protection

In the sense of preventive plant care all measures adopted in vineyard cultures are to be effected in such a way that the resistance of the vine is increased, the amount of damage by infectious agents reduced and useful organisms supported. It is, therefore, essential to select vine varieties, vine cultivation and stock formation, foliage work, vine nutrition and soil care suitable for the location. For direct plant protection and to self-regulate the ecological system of the vineyard and the vine's own resistance, agents can be adopted in accordance with Section 10.2.

In the case of plant protection measures from the air extending beyond the operation itself, the whole of the operation is nevertheless subject to the standards described here. It is to be agreed in writing with the BIOLAND Association which plots of land can be regarded as being free of pesticides and drift from helicopter spraying. Extent, form and location are to be taken into consideration. Grapes from this lands as well as the products prepared from them like wine and juice must not be marketed under the trade mark BIOLAND.

5.6.4 Ecological Niches

Every vintner is obliged to plant and tend reasonably a part of its vineyard area as an ecological niche. Efforts should be made to reach at least one percent of the vineyard area. The ecological niches must, in order to interrupt the mono-culture, be distributed throughout the area. The situation of the surroundings and communal measures for nature conservation have to be considered.

5.7 Hop Cultivation

5.7.1 Location and Area

When the location necessitates this, protective plantings must be created latest within five years after start of conversion (when directly adjactant to conventional areas) or, respectively, ecological compensation areas (in cleared areas).
New hop cultivation must be a border field or a separate area.
In order to prevent the immission of conventional plant protection agents, the distance to conventional hop cultivation areas must be at least 10 m. Where this is not possible, the outer rows must be plucked separately and marketed conventionally.

5.7.2 Support Material

Wood as support material for new hop cultivation units must be from species of trees growing in the country in which the operation is located. Impregnation may only be carried out with agents which exhibit high environmental compatibility.

5.7.3 Greening

Greening of hop cultivation areas throughout the whole of the year is to be effected using mixtures of grasses, herbs and leguminous plants of appropriate species. In order to prevent nutrients being washed out, greening is mandatory, at least from the time of harvesting until spring.

5.7.4 Fertilising

The nutritional supply of the hops must be mainly in the form of fertilisers generated by the operation itself and a balanced green fertilising is to be effected. The total amount of the fertiliser from the operation itself and external organic complementary fertilisers used (compare 10.1) may not exceed 70kg of nitrogen per ha and year.

5.7.5 Preparation

The use of sulphur for conservation is prohibited in drying and processing.

5.7.6 Records

The operator agrees to keep a record in which all fertilising, plant protection and green fertilising measures are noted documenting the amounts used and the date for each hop cultivation area.
The hop cultivation involved must be noted on the weighing slip with official sealing.

5.8 Ornamental Plants, Herbaceous Plants and Woody Plants

5.8.1 Fertilising and Soil Care

The use of nitrogenous fertilisers on free range culture areas in which tree nursery cultures are cultivated is limited to 90 kg N/ha and year, otherwise limited 110 kg N/ha and year. It is urgently recommended that annual mineral nitrogen content (Nmin-method) checks are carried out annually to control the nitrogenous dynamics of the soil.
For areas which will probably remain uncultivated for more then 12 weeks during the vegetation period and, as far as possible, also throughout the winter, green fertilising is to be carried out.

5.8.2 Surface Sealing

Sealing free range storage areas for pots and containers is only permissible for the purpose of reusing water.

5.8.3 Plant Health and Regulation of Weeds

In operations operating as ornamental plant, herbaceous plant and tree nurseries measures for preventive plant protection are of central importance. This includes, among other things, the choice of suitable resistant types, the selection of healthy seeds and plants, optimum culture processing with appropriate plant density, adapted crop rotation, fertilising and management of humus.
Measures must be taken in the operation to further the self-regulatory powers of the ecological system (see 3.5). The regulation of weeds is effected in accordance with 3.8. Flat steaming is permissible in greenhouses to combat weeds. In-depth-steaming and steaming of free range areas is only permissible, if the plant protection problem may not be solved by other measures, e.g. change of crop, and requires express approval by the BIOLAND association.

5.8.4 Seedlings

If no organically reared seedlings are available (see 3.6) recourse can be made to conventional sources following approval being issued by the BIOLAND Association. These conventional seedlings must pass through conversion in special areas. Should they be sold prior to completion of conversion, they may not be designated as being organic. Use of the trade mark BIOLAND is prohibited in such cases.

5.8.5 Additional Purchase and Trade Goods

If conventionally finished products are purchased this must be clearly recognisable in the operation at all times (purchase, insertion, further culture, etc.). This is to be ensured by means of suitable measures (e.g. labelling, separate beds or patches).
In relation to turnover of the plant products sold, the majority must originate from ecological production.

5.8.6 Soils and Substrates

Wherever possible, peat should not be used. The peat content of substrates may not exceed a maximum of 50 vol. % in the case of tree, herbaceous and ornamental plant cultures and 80 vol. % in the case of seedlings. In the case of plants which require a low pH value for their growth, this ruling can be deviated from.
Purchased composts, peat substitutes and additives must be examined in regard to their environmental compatibility and, in particular, to their pollutant content.
Synthetic additives (e.g. styrol mull, hygro mull) and stone wool are not permissible.
Soils and substrates may not be steam treated.

5.8.7 Containers for Cultures

Attempts should be made wherever possible to use containers of decomposable materials (e.g. recycled paper, wood fibres, flax, jute, hemp) or earthenware containers. Pots and bowls of plastic must be of a stable material and can be reused. The material must also be recyclable. Containers made of PVC are not permitted. Available pots which do not meet these criteria may be used up during the conversion period.

6 Storage

BIOLAND products must be stored in such way that the quality is not negatively affected by storage.
The treatment of the harvested products with chemical storage protection agents (insecticides, fungicides or similar) and storage in containers made of materials with substances which may be detrimental to health, washing stored fruits with chemical cleaning agents, further ripening with chemical substances, the use of germination prevention agents and radioactive irradiation are forbidden. Cleaning of the storage facilities is to be effected using measures which exclude placing environmental loads on the goods stored.

7 Processing

7.1 Objectives of Processing Standards

Processors of BIOLAND products continue the efforts of organic agriculture to maintain the natural living conditions for plants, animals and human beings on a long-term basis. BIOLAND products produced in

accordance with these standards are characterised by their high quality in taste and their high values in health, ecology and culture. The processing standards, in the sense of high nutrition, are designed to ensure a ”Vollwert” nutritional, physiological and ecological quality standard of the final products while taking social tolerance of trade and processing steps into consideration. A further objective of these standards is the creation of the greatest possible degree of transparency, in particular for the consumer.

7.2 Scope of Validity of the Processing Standards

All BIOLAND processors, production operations with their own farm processing and commissioned operations are obligated to comply with these standards.
Processors in the sense of these standards are natural persons and legal entities who/which, by means of cleaning, treating or processing or filling BIOLAND products, achieve an added value and who/which have concluded a contract with BIOLAND for the use of the trade mark.
In addition to the general processing standards, the product-specific standards which are regulated either in the contract or in the branch standards also apply (see 10.8).

The appropriate branch standards contain, in particular, regulations concerning scope of validity, additives and processing aids, processing methods, packing, hygiene, declarations and quality assurance.

7.3 Ingredients and Processing Aids

7.3.1 Ingredients of Agricultural Origin

Basically, only ingredients from Bioland production are permissible for Bioland products being processed. They are to be acquired from producers and processing operations which are connected to Bioland by means of a producer’s or processing contract, respectively.
The use of foreign ingredients from organic production in Bioland processed goods is possible in founded exceptional cases to a limited extend, if these ingredients

- are not produced in Bioland producers or processing operations
- are evidently not produced in sufficient quantity and/or quality available from Bioland producers and processing operations.

Prior to the use of such foreign ingredients from organic production, the processor has to file a formal application to Bioland for express approval, except Bioland has issued a general approval for special goods or group of goods (e.g. seed, spices, exotic fruits) and has informed processors about this. An express approval is always limited in time and quantity.

Prerequisite for the use of foreign ingredients from organic production is that these ingredients are recognised by Bioland. In the approval of foreign ingredients Bioland observes the following priority:

1. ingredients or goods from operations that are certified by IFOAM accredited organisations or from other organisations recognised by Bioland
2. ingredients or goods from operations that manage at least according to EU regulations No 834/2007 and No 889/2008.

In principle the use of ingredients from conventional production is not permissible. If it is proven that certain ingredients from organic production are not available, conventional ingredients may be used in exceptional cases to a part of a maximum of 5 % as far as these are listed in the EU regulation No 889/2008, annex IX. A Bioland product may not contain the same ingredient from organic and non-organic origin.

7.3.2 Further Additives and Processing Aids

Only additives and processing aids which cause no damage to health may be used. Water and salt may be used as ingredients in the production of BIOLAND products and are not included in the percentage calculations of organic ingredients. Any additives and processing aids permissible for the production of BIOLAND products are itemised as positive listings in the product-specific BIOLAND processing standards. If there are no regulations for certain products, annex VIII section A and B of the EU regulation No 889/2008 as well as annex 4 of the IFOAM Basic Standards are authoritative.
Bioland products may not be enriched with minerals (including trace elements), vitamins, amino acids or similar isolated substances, except the use in food is legally prescribed and approved by BIOLAND.

7.4 Processing

Processes are to be used in the treatment and processing of raw materials which – in accordance with the latest status of scientific knowledge – maintain the ingredients of the foodstuffs in an optimum manner and in the sense of wholefood nutrition. This has to be ensured by applying processing methods and techniques the basis of which are biological, physical and mechanical nature.
Extraction shall only take place with water, ethanol, plant oil, carbon dioxide and nitrogen, These shall be of a quality appropriate for their purpose.
The processes must ensure the most economical use of resources such as water, air and energy sources.
The appropriate branch standards contain recommendations for processing methods and devices.
The processor has to take all required measures

- to ensure the identification of BIOLAND products or parts by clear labelling of the product itself as well as of packing, cases, means of transport, shipping documents etc.,
- to prevent co-mingling, contamination or confusion of BIOLAND products with Non-BIOLAND products,
- to prevent the contamination of BIOLAND products by pollutants and residual matters, including impurity by cleaning and decontamination; if necessary, the production rooms and facilities are to be purified and disinfected thoroughly.

The processor has to take care that these measures securing the quality are executed also in the previous processing stage, including the subcontracted work. Especially all operations processing, storing or transporting also conventional products apart from BIOLAND products have to carefully and completely purify the means of transport, storage rooms and receptacles (silos), facilities, equipment or appliances before taking any BIOLAND products.

Direct or indirect contact with non-permissible substances (e.g. pesticides) and Bioland products while doing pest control measures has to be avoided at all times.

In case any non-permissible substances or methods have been applied directly on foodstuff or stocks, the products in concern may not be marketed as BIOLAND products. The processor has to take all necessary safety measures to avoid a contamination, including the removal of BIOLAND products from the store or the processing facility. The application of non-permissible substances on facilities or appliances may not contaminate the BIOLAND products produced therein or therewith. In case of doubt the processor has to analyse such products on residue loads. The measures for pest control authorised in the BIOLAND contractual operations are listed in the BIOLAND standards for pest control in storage rooms and operational premises.

7.5 Packing Materials

The choice of packing materials is made in accordance with the following criteria:

- packaging materials must be unharmful physiologically, especially with respect to the migration of health-hazardous substances into the food, and as environmentally friendly in production as possible.
- No packing materials as well as storage rooms, silos or other storage tanks may be used which contain synthetic fungicides, food preservatives or vermin destruction agents. BIOLAND products may not packed in used bags or cases which came into contact with substances possibly influencing the intactness of BIOLAND products or their ingredients.
- The packaging volume must be reduced to the minimum amount technically required. Hereby, ecological requirements are to take priority over marketing technical and costing aspects.
- The packing materials should be recyclable within the scope of refuse reprocessing.
- Plastics which are difficult to decompose (for example, such as PVC) or, respectively, plastics which are manufactured in a manner which causes an irresponsible load to be placed on the environment may not be used.
- Aluminium foils or foils with aluminium content or combined packaging may only be used following express approval by BIOLAND e.V. The processor is obligated to attempt to find alternative forms of packing.
- Non-returnable packing may not be used if returnable packaging is possible and feasible.
- The appropriate branch standards contain recommendations / positive listings for packaging materials.

7.6 Labelling of Processed BIOLAND Products

When designing the packaging, the ”Standards for the Design of Packaging for BIOLAND Products” as currently amended must be complied with in order to present the consumer with an easily recognisable BIOLAND total assortment.

Labelling and declaration must be in accordance with the requirements of the German Foodstuffs, Consumer Goods and Feedstuff Act (LFGB). Ingredients and additives to BIOLAND products are to be declared fully and all ingredients in Bioland products must be declared in full extent and -in the case of multi ingredient products- listed in the sequence of their weight percentage. Herbs and spices may be listed within a collective expression, if their percentage is less than 2 % of the total weight of the product. It has to be stated clearly which ingredients are from organic origin and which are not. If additives are used they have to be listed with their product name or their original name. A class or group designation of the additives is not permissible.

7.7 Storage and Transport

General conditions in regard to this are to be found in Section 6 of the BIOLAND Standards. Bioland- and non-Bioland-products may not be stored or transported together except the Bioland-products are clearly labelled and separated physically. A control system for storage conditions including controlled atmosphere, temperature control, drying and moisture control is allowed. Further details are specified in the branch standards.

7.8 Transparency and Product Identification

7.8.1 Retention Samples

The processor is obligated to draw a sample from each batch of raw materials delivered, to mark these with the date of delivery and the name of the supplier. In addition, samples from the finished resp. half-finished products must be drawn. These retention samples are to be kept until expiry of the „best before“ date of the processed goods resp., in case the indication of a „best before“ date is not necessary, for an appropriate period.

Exceptions can be made in individual cases for certain products or processing areas (e.g. in the case of easily perishable raw materials) in the appropriate branch standards if the aforementioned obligation to draw and keep samples is not economically justifiable or practically feasible.

7.8.2 Raw Material Identification

Each processor is obligated to ensure by means of suitable measures within the scope of the quality control procedures of the operation that the BIOLAND raw materials supplier can be identified at all times.

7.9 Execution and Inspection

7.9.1 Responsibility in the BIOLAND Association

The basic concepts and the major contents of the general processing standards and the branch-specific standards are passed by resolution at the Federal Delegates' Assembly.

The Advisory Council responsible for the processing standards or, respectively, its sub-commission, in which representatives of the processors under contract from individual product areas also act in an advisory role, develops and continuously monitors the branch-specific processing standards. It is also the task of the Advisory Council to reach decisions on alterations and extensions of these standards and to make recommendations in regard to them. The Federal Board can then reach a decision on the alterations to the standards unless the objectives and the contents of the standards are affected to such an extent that the Federal Delegates' Assembly is required to reach a resolution in regard to this.

7.9.2 Alterations to Products being Processed

Each processor is obligated to inform BIOLAND e.V. in a timely manner of any major alteration in the processing, the additives, the packing or the design of his products within the scope of the processing or, respectively, the design standards.
New products or planned alterations to existing products being processed which cannot be brought into line immediately with the requirements of the general and branch-specific processing standards must be approved by BIOLAND e.V. An application is to be submitted to the appropriate Advisory Council which will discuss and reach a decision on the application. If required, the processor will supply information on all of the ingredients of the product and the methods of processing.
Should differences of opinion arise, an attempt will be undertaken with the processor to reach an acceptable solution on the basis of the processing standards. If this is not possible, the Federal Board will decide on the way of action.

7.9.3 Inspection

Each processor is regularly inspected in regard to compliance with general and branch-specific processing standards. The processor is obligated to place the necessary documents and records at the disposal of the person from the inspection body authorised by BIOLAND e.V. to carry out the inspection.
The latter are bound to maintain secrecy in respect to third parties. In the case of a founded suspicion, BIOLAND e.V. is entitled to inspect the operation during normal working hours without giving prior notice.
The processor will place the inspection results according to EU regulation No 884/2007 and No 889/2008 at the disposal of BIOLAND e.V., so that the BIOLAND inspections can be based on them.
The production of BIOLAND products at order or labour work by other operations (subcontractors) is subject to the prior notification to BIOLAND. The supplier has to provide a declaration (according to the BIOLAND specimen contract) in which he commits himself to observe the BIOLAND standards and to grant BIOLAND corresponding authority for inspection. The BIOLAND contractual operation is responsible that the order production of BIOLAND products is executed according to the BIOLAND standards, in particular with regard to the origin and quality of the used raw material and ingredients, and ensures that the produced BIOLAND products are not being marketed by the supplier itself using the BIOLAND tradename.

7.10 Contamination Tests

As a result of the general loads be placed on the environment or other possible sources pollutants can also find their way into BIOLAND products. The processors are therefore obliged to carefully analyse and determine the weakest points resp. risky areas for potential pollutants of the products. Based on this, a programme according to the HACCP concept for systematic pollution test of BIOLAND products has to be established. The pollution analyses must be executed through acknowledged testing laboratories based on latest techniques with regard to sample taking, test extent, analysis programme and analysis method. The results of the pollution analyses are to be recorded and made available upon request to BIOLAND as well as the responsible inspection body. Please observe the obligation to inform and to register as per chapter 7.11.

7.11 Obligation to inform and to register

The processor is obliged, over and above the legal obligation to inform according to the German Foodstuffs, Consumer Goods and Feedstuff Act (LFGB), to immediately inform BIOLAND in case of any assumption or

doubt that raw materials, ingredients or BIOLAND products being processed do not correspond to the regulations serving for the protection of human health, or if they cannot be put into circulation for any other reason.

8 Marketing

8.1 Basic Principles

Marketing is carried out in close co-operation with BIOLAND e.V. in order to ensure that the quantitative and qualitative requirements of the market are considered.
The products are to be brought to the consumer by the most direct means possible. Marketing must be so transparent that the consumer can follow the path of the product from the producer through to the consumer.
Only marketing activities (in particular in regard to advertising / sales promotion, the choice of distribution method, price and product design) may be adopted which do not contradict the objectives and measures of BIOLAND e.V.

8.2 Production Recording

The contractual operation is obligated to participate in the annual production recording (operation reports).

8.3 Marking and Packing

Contractual operations are obligated to mark their products at distribution to BIOLAND contractual partners, produced in accordance with the standards, with the trade mark BIOLAND. BIOLAND designs marking and packing material. In case of distribution to final customer corresponding marking should be applied.
Products from BIOLAND production purchased from other contractual operations may only be marketed under the own name if not using any marks like „producer“, „from BIOLAND farm“ or any similar sign referring to own production. Exempted from this is the purchase of raw materials for mixed products at processing on the own farm, unless the ingredients of the mixed products are mainly home-produced, as well as the purchase of products which are not available within short term from own production for special reasons.
The use of other marking or packing belonging to the operation itself requires the express approval of BIOLAND. Uncontrolled packing material may not be used.

8.4 Additional Purchase for direct marketing

Trade goods destined for direct marketing are to purchase from BIOLAND contractual operations preferably. Bulk goods purchased which do not originate from BIOLAND operations must be clearly marked as such in marketing by stating of the farmers' association or the certifying organisation respectively.
The purchase of conventional goods for direct marketing is not permissible. Products which are not supplied in organic quality are exempted from this, but necessitates exemption approval by BIOLAND.

8.5 Sales to Commercial Buyers

In selling to commercial buyers, the contractual partners of BIOLAND e.V. or, respectively, other trade partners with whom BIOLAND e.V. co-operates, are to be given preference.

8.6 Use of the BIOLAND Trade Mark

Contractual operations are obligated to actively and continually promote and care for the BIOLAND trade mark. All activities are to be aimed at increasing the degree of awareness of the trade mark and clearly marking and preventing the misuse of the BIOLAND products on the markets supplied.
The operations will inform BIOLAND e.V. immediately of any misuse or unauthorised use of the BIOLAND trade mark on the part of association members or other users of the trade mark on the market and in advertising.

8.7 Commercially Operated Farm Shops and Market Stands

The standards apply also to all of the non-agricultural parts of the operation associated with the operation itself such as farm shops, market stands in as far as these appear for the consumer to be connected to the operation.
The contractual operation is obliged to arrange the necessary to ensure that the Bioland standards are being observed on the non-agricultural operation, that Bioland inspections are being carried out and that the necessary documentation and records required for inspection are made available to the persons or inspection bodies appointed by BIOLAND for inspection.

9 Contractual and Inspection Measures

9.1 Responsible Bodies

The responsibilities for all matters in connection with these standards and for the rights and duties of the members are regulated in the articles of incorporation (statutes) of BIOLAND Verband für organisch-biologischen Landbau e.V. (Federal Association).

9.2 Conversion

9.2.1 Producer Contract

The sale of products under the trade mark BIOLAND presupposes the conclusion of a producer contract with the issue of a operation operating number which carries the obligation to comply with the standards of BIOLAND. Producer contracts are concluded in relation to areas and to single persons. Prerequisite for the conclusion of a contract is membership in BIOLAND e.V.
When a contract is issued, a visit is made to the operation by a person authorised by BIOLAND. Each producer contract will be accompanied by a binding conversion plan. All of the conversion steps will be specified in this and, in particular, the resulting possible commencement of the use of the trade mark BIOLAND for the individual branches of the operation. Any subsequent deviating agreements between the operation and BIOLAND must, in order to achieve validity, be made in writing.
In the case of pending difficulties in plant or animal production or in the marketing or in the case of factual uncertainty the manager of the operation must contact BIOLAND in due time prior to reaching a decision (as a rule, in writing).

9.2.2 Conversion of Total Operation

Contractual operations are obligated to cultivate all lands and production branches of the operation in accordance with the standards as currently amended.
The keeping of utilizable animal species, for which these standards do not provide express regulations, requires the approval of BIOLAND, likewise the use of the trade mark BIOLAND for the products of such branches of production.

9.2.3 Use of Trade Mark for Plant Products

The use of the trade mark BIOLAND with the addition of ”from conversion” can be used for plant products consisting of a single ingredient of an agricultural source when the area has been cultivated in accordance with the standards for 12 months prior to the harvest. For reasons of importance, this period can be extended.
The trade mark BIOLAND can be used if the land is cultivated in accordance with the standards for a period of 12 months prior to sowing and in the case of perennial cultures for 36 months prior to harvesting.
If new areas (fields) are added to the operation, then these must be put through the process of conversion. Efforts should be made also in the cases of rented areas, to achieve long-term, organic-biological cultivation.
It is not permitted to simultane usly plant the same types of plants on different areas of the operation which are at different stages within the conversion process. Exceptions to this are:

- perennial cultures
- growing of vegetables and ornamental plants when the cultures which are planted parallel to one another are easily differentiated from each other
- growing of fodder plants.

For annual crops applies: The use of the trade mark BIOLAND is only permitted for crops whose sawing or planting took place when the fields are under BIOLAND control. Corps that are overlapping in time must be clearly distinguishable.

9.2.4 Use of Trade Mark for Animal Products

9.2.4.1 Product related Conversion

Animal products may first be marked with the trade mark BIOLAND at the earliest when the beginning of the conversion of the areas for fodder/feeding took place at least 12 months prior to this and the subsequent following periods for conversion for feeding and keeping of all of the animal species have been adhered to in accordance with the standards (see 4):

- Eggs: 6 weeks; the use of the trademark/association’s name ”Bioland” is only permitted if the hens are kept and fed according to the BIOLAND standards from the first week on.
- Milk: 3 months(from 24.08.2003: 6 months)
- Cattle: 12 month & in any case minimum three quarters of the animal’s lifetime;
  The use of the trade mark BIOLAND is not permitted for beef from cattle that was born on conventional farms and/or raised with feedstuffs non-compliant with these standards.
- Sheep & Goats: 6 months
- Pigs: 4 months (from 24.08.2003: 6 months)
- poultry meat: 10 weeks (if put in barn no later then the 3rd day of life), for small poultry 6 weeks
- Fallow-Deer and Red-Deer: 12 month
- Rabbits: The use of the trade mark BIOLAND is only permitted if the animals

were kept and raised with feedstuffs compliant with these standards from birth.

Feed/fodder in accordance with the standards is specified as being:
- organically produced fodder: fodder from lands which has been managed organically a minimum of 24 month prior to sowing, in case of permanent grassland 24 months prior to the beginning of the use as fodder.
- feed/fodder permissible in accordance with 4.4.2.

The use of the trade mark BIOLAND can start earliest when the all animals of the same species have been converted.
In bee-keeping, the use of the trade mark BIOLAND can be used at the earliest 12 months after the commencement of conversion if the bee colonies comply with the requirements of 4.10.
In aquaculture, the use of the trade mark BIOLAND can be used at the earliest 12 months after the commencement of conversion if the ponds comply with the requirements of 4.11.
Keeping of poultry in cages in the operation must be discontinued prior to any use of the trade mark.

9.2.4.2 Simultaneous Conversion of the Total Operation
In case of simultaneous conversion of the total operation (i.e. all lands and animal categories) all animal products produced from animals, present at the commencement of the conversion, and its progeny can be marketed under the use of the trade mark / association name BIOLAND in deviation from 9.2.4.1, provided that the animals are fed mainly with the operation' own fodder.
The use of the trademark/association's name "Bioland" is not permitted for beef from cattle that was born on conventional farms and/or raised with feedstuffs non-compliant with these standards.

9.2.5 Conversion Deadlines
Conversion is carried out without delay, in plant culture in one step. In exceptional cases this can be effected in steps and must be completed at the latest after a maximum of 5 years.

9.2.6 Non-permissible Operating Resources
Resources, the use of which is excluded by the standards, may no longer be available in the operation.

9.2.8 Further Training
The managers of operations must possess the necessary theoretical and practical skills. Minimum evidence of this, in addition to the prior completion of agricultural training or professional experience, is supplied by successful attendance of an introductory course in organic biological farming. The exchange of experience and the discussion on the operating conditions are important basic factors of further training and the gaining of the necessary confidence. Each manager is a member of a regional or specialised group. The operation managers participate as actively as possible in group work and in the exchange of experience in the group.

9.3 Inspection
9.3.1 General
The BIOLAND Association will check compliance with its standards by the contracting operations (producers). Inspection checks will assist the contracting parties in the further development of the operation in the sense of these standards.

9.3.2 Inspection Procedure
The inspection of contractual operations is composed of supplying written answers to a questionnaire (operating operation report) and an inspection visit for which an inspection report will be written. It will be carried out at least once per year by an inspector authorised by the BIOLAND Association who is both independent and competent. The operation inspected in this manner will receive a copy of its operation operation report and the inspection report.
In the case of a step by step conversion, the inspection of the operation will also include those parts of the operation not yet converted.
A commission for recognition set up by BIOLAND for this purpose will decide annually on instructions, warnings and sanctions. The basis for any decisions of this nature is a catalogue of sanctions published by the BIOLAND Association.

9.3.3 Necessary Documentation and Information from the Operation
The operations must keep clear records of all points to which these standards apply: cultivated area, crop rotation, fertilising, plant protection, animal stock, keeping, feeding, treatment of animals, marketing, storage and purchasing from external sources.
The BIOLAND Association is entitled to require the member to supply and to store data which will serve to record production quantities and for inspection purposes.
Additions to the area must be reported to the Association without delay. This applies also to any change in the operation address or change in the management of the operation.

The BIOLAND Association can require the operation to supply soil examinations, quality tests and examinations of residues. If there is evidence of a breach of the standards, the costs of the examinations will be borne by the operations.

9.3.4 Right to Examine Records and Right of Access

The operation is required to afford the representative of BIOLAND access to the whole of the operation in order to carry out inspections. The BIOLAND Association is entitled at any time to have the operation and the books of the member examined by an employee or an authorised person. Such person is sworn to secrecy and may not pass on any information to any third party.

9.4 Commencement of Validity and Implemetaion Rules

Amendments to the standards become valid on their being published in the association's organ, the magazine *bioland*.
Operations which at the time of the respective amendment to the standards have concluded a producer or processor contract with the BIOLAND Association and do not yet fulfil the amended standards have, with effect from the date of publication, one year's time, in case of constructional changes in buildings two years (unless another deadline is expressly determined) in which to adapt to comply with the new conditions with provison to further going conditions of the EU-regulation No 834/2007 and No 889/2008.
There are no transitional periods for the construction of new barn buildings.
Limited to the following rulings the above mentioned implementation periods can be extended until 2010 for buildings existing before 24.08.1999 (in case of buildings with animal tethering systems existing before 24.08.2000), if it has been approved by the BIOLAND Association:

- space requirements for interior and exterior areas of barn buildings for mammals
- tethering systems for cattle
- space requirements for the open run for poultry
- maximum size of poultry barns
- total useable area of the barns for fattening poultry
- combined length of the fly-out-openings of poultry barns

10 Appendix

10.1 Permissible Soil Conditioner and Fertiliser as well as Components of Substrates

(see 3.4)
For the use of fertilisers and soil conditioners the legal regulations, above all the conditions of the EU regulation No 834/2007 and No 889/2008, have to be observed. If there are any doubts as to the permissibility or quality of a fertiliser, information is to be obtained from the BIOLAND Association.

10.1.1 Fertilisers and Soil Conditioner from Organic Operations

- stable / shed manure and poultry manure
- liquid manure following processing
- liquid manure
- composts from organic refuse
- substrates from cultures of mushrooms
- straw

10.1.2 Fertilisers from Conventional Operations

- cattle manure
- sheep and goat manure
- horse manure.

10.1.3 Organic Complementing Fertilisers and Soil Conditioners as well as components of substrates

- quality assured plant composts (composts from greens) according to the BIOLAND specifications in the actual version.
- quality assured composts from bark of chemically untreated wood after cutting
- saw dust, wood cuttings and wood ashes of chemically untreated wood after cutting
- peat, only in substrates and with the restrictions mentioned in chapter 5
- the following products and residue of animal origin: horn shavings, horn meal, feather meal, hair meal and bristles.
- products and residue of plant origin (e.g. castor-oil groats, rape groats)
- vinasse (only in plant gardening and permanent cultures)

- algae and algae products
- Fermentation residues of biogas plants as per requirements of article 2.5

10.1.4 Mineral Complementing Fertilisers

- mineral powder
- clay
- raw phosphate (ground, soft texture, not partially processed)
- thomas phosphate
- raw potassium salt (e.g. Kainit)
- patent potassium (potassium magnesia)
- potassium sulphate
- magnesium sulphate
- magnesium carbonate
- Calcium carbonate, dolomite lime, shell lime, marine algae lime
- basic slug, converter lime, smelter lime
- gypsum of natural origin
- calcium chloride
- carbo-lime from the processing of organically cultivated sugar beet)
- elementary sulphur
- trace element fertilisers

10.1.5 Preparations

- Preparations from micro-organisms to use in soils, composts and substrates, e.g. for advancing resetting processes if their compositions comply with these standards.

10.2 Permissible Plant Treatment Materials and Methods

(see 3.6)
For the use of plant protection and plant care agents the legal regulations, above all the conditions of the EU-regulation No 834/2007 and No 889/2008and the German Plant Protection Law, have to be observed. Only the restrictions in the use exceeding these regulations are mentioned below.

10.2.1 Biological and Biotechnical Measures

- planned use of beneficial animals (e.g. predatory mites, parasitic hymenopter)
- insect traps (glue traps)
- culture protection nets, mulch foils etc.
- use of pheromones

10.2.2 Plant Protection and Care Materials

The agents specified may only be used in as far as these are not used in combination with other plant protection agents which are not named here.

10.2.2.1 Generally Permissible Materials

- stone meal
- bentonite and prepared aluminium oxide
- algae meal and algae preparations
- water glass (sodium silicate)
- herb extracts, herb liquid manure and teas (e.g. nettle, horsetail, onion, horse radish, parsley fern)
- Azadirachtine from Azadirachta indica (Neem tree)
- quassia from quassia amara
- mineral oils and paraffin oils
- plant oils
- ethyl alcohol
- potassium soap
- iron-III-phosphate
- milk and whey products
- micro-organisms (bacteria, virus, fungi), e.g. bacillus thuringiensis preparations
- sodium and potassium bicarbonate
- lecithin
- quartz (siliciumdioxide)

10.2.2.2 Materials only Permissible in Horticulture and Permanent Cultures as well as in the indicated crops

- pyrethrines from Chrysanthemum cinerariaefolium (without the synergist piperonyl butoxide)
- wettable sulphur
- sulphuric lime (calciumpolysulfide)
- potassium permanganate
- copper preparations (max. copper volume 3 kg/ha and year, in hop cultivation max. 4 kg/ha and year, in potato cultivation only with permission of the Association. If agents with copper content are used, the copper content of the soil must be continuously monitored by means of soil examination).
- hydrolysed protein (attractant)
- calcium hydroxide (against fruit tree cancer at fruit trees)

10.3 Calculation of Animal Stock per Hectare

Permissible animal stock density corresponds with 1,4 manure unit (DE).The animal stock is oriented on the manure unit. One manure unit (DE) corresponds to 80 kg N and 70 kg P2O5.

animal category or species	maximum permissible number of animals per hectare
horses from 6 month on	2
fattening calves	5
other cattle of less than 1 year	5
male cattle between 1 & 2 years	3,3
female cattle between 1 & 2 years	3,3
male cattle from 2 years on	2
breeding heifers	2,5
fattening heifers	2,5
dairy cows	2
cull dairy cows	2
other cows	2,5
rabbits (number of ewes plus offspring)	20
suckler sheep	13,3
suckler goats	13,3
piglets	74
breeding sows	6,5
fattening pigs	10
other pigs	10
fattening chickens	280
laying hens	140
young hens	280
fattening ducks	210
fattening turkeys	140
fattening geese	280
Pigeons	500
Quails	800
fallow-deer	10 PED 1 2
red deer	5 PER 3 4

Figures are to be rounded upwards or downwards, after obtaining approval of the BIOLAND Association, for animals by which, as a result of their race or performance, other amounts of excrement are produced.
If animals are not kept throughout the whole of the year or, as a result of age or a change in their use, are allocated to another category, the numbers are to be calculated in accordance with the average number of the animals kept in the year.

[1] The pen area for fallow-deer and red deer is regulated in chapter 4.2.7. Even with neglecting the pen area and the stock density for fallow-deer and red deer the limit of 1.4 manure units per hectare (1.4 DE/ha) may not be exceed.
[2] PED=production unit Fallow-deer (=1 adult(old) animal, 1 calf, 1 one-year-old, one stag proportionate)
[3] The pen area for fallow-deer and red deer is regulated in chapter 4.2.7. Even with neglecting the pen area and the stock density for fallow-deer and red deer the limit of 1.4 manure units per hectare (1.4 DE/ha) may not be exceed.
[4] PER = production unit red deer (= 1 adult animal, 1 calf, 1 one-year-old, one stag proportional

10.4 Temporary regulations for purchased feed from non-organic origin subject to authorisation

Only with particular authorisation by BIOLAND certain conventional feed may be used. They are subject to max. percentage restriction referring to the dry matter content of the feed from agricultural origin and the annual average of the diet of an animal category. Mixtures of mineral substances are not taken into account.
The daily ration can include conventional feed of max. 25% of the feed from agricultural origin of an animal category.
For following components authorisation is possible:

10.4.1 Pigs

Max. 5 %, limited up to 31.12.2011; only for feeding suckling breeding pigs, piglets and during fore-fattening period (up to a weight of 50 kgs):

- potato protein

10.4.2 Poultry

	to 31.12.2009	from 01.01.2010 to 31.12.2011	from 01.01.2012
• Raising of poultry (all species); • Fattening poultry up to the 10th week of life; • Laying hens • Small poultry;	10 %	5 %	0 %

- potato protein
- maize gluten

10.4.3 Fallow and red deer

Max. 10 %:

- chestnuts and acorns

10.4.4 Feed from non-organic origin subject to authorisation for all animal categories at the beginning of conversion for conventional marketing

Only in case of complete conventional marketing of all animal products and with consent of BIOLAND max. 20% conventional feed may be purchased (referring to the dry weight content), within a period of 5 years commencing conversion. If own feed is available, it has to be fed at priority.
In addition to the feed components listed in 10.4.1 and 10.4.2 the following components may be used for all animal categories:

- hay
- grass silage
- leguminous plants
- cereals and mill residue products
- oil-bearing seeds
- oil cakes
- oil expellers
- fodder beets.

10.4.5 Permitted single fodder and additives as feed additives in feeding animals

- Volume and trace elements (according Annex V 1. of EU regulation No 889/2008)

For copper and zinc the following limits are set (max. content in the diet):

Animal catagory	Cu	Zn	(mg/kg dry matter)
piglets	30	100	
pigs for fattening	20	100	
breeding sows/boar	20	100	
calws	15	100	
cattle	30	100	
sheep	15	120	
other animals	20	120	(horses 80)

It is not permitted to bring in strewing material for the purpose of adding Cu and Zn.

- Cattle salt
- Carriers from local plants (according Annex V 1. of EU regulation No 889/2008)
- Vitamins, provitamins and chemically well defined substances having a similar effect in mineral element mixtures (according Annex VI 1.1. a) of EU regulation No 889/2008)
- Enzymes and microorganisms (according Annex VI 1.2. of EU regulation No 889/2008)
- Preservatives (according Annex VI 1.3 a) of EU regulation No 889/2008)
- Binders, anti-caking agents and coagulants (according Annex VI 1.3 c) of EU regulation No 889/2008)
- Antioxidant substances (according Annex VI 1.3 b) of EU regulation No 889/2008)
- Silage additives (according Annex VI 1.3 d) of EU regulation No 889/2008)
- Brewer's yeasts (according Annex VI 2 of EU regulation No 889/2008)

10.5 Pharmaceutical Products, the Use of which is Prohibited or Limited in the Keeping of Animals

10.5.1 Use is prohibited

Active agents:

- Brotizolam (appetizer)
- Fenvalerat (ecto-parasiticide)
- Piperazine (endo-parasiticide)
- Sulfadimidine (chemo-therapeutics, antibiotics)

Groups of pharmaceuticals:

- fluochinolone (gyrase inhibitor) (antibiotic)
- pharmaceutical containing formaldehyde (permissible: vaccines containing formaldehyde)
- combined preparations containing chemotherapeutic agents (antibiotics) and glucocorticoids (inflammation inhibitors)
- combined preparations containing non-steriod antiphlogistics (inflammation inhibitors) and glucocorticoids (inflammation inhibitors)
- estrogens (female sex hormones)

10.5.2 Limitations on Use

Active agents:

- deltamethrine only for sheep in case of ecto-parasite infestation
- dimethylsulfoxide (DMSO) (inflammation inhibitors) only for horses which do not serve the purpose of food production
- gentamicin (antibiotic) in injections only intravenous (permissible: vaccines containing gentamicin)
- metamizol (inflammation inhibitors) only in the case of colics by horses and calves
- neomycin (antibiotic), only for local and not for systemic application (permissible: vaccines containing neomycin, udder injectors)
- thiabendazole (endo-parasiticide), only if waiting period of 6 days is observed

Groups of pharmaceuticals

- antibiotics and chemotherapeutics (anti inflammation agents) in the case of udder illnesses if possible only when a bacterial examination with resistance test is carried out (individual animal or, resp., samples from each of the four teats), b-lactam antibiotics are preferable if effective, short-term anti inflammation agents are preferable to long-term
- parasiticides only if evidence of parasites, in case of high infection pressure even before appearance of clinical symptoms (strategical controlling)
- avermectine (parasiticide), only in cases of heavy infestation of ecto-parasites
- gestagens, gonadotropins, HVL preparations and prostaglandins in the case of individual animals
- glucocorticoids (inflammation inhibitors) only in acute situations where life is in danger, acute allergic conditions and in the case of non infectious inflammations
- neuroleptics and other sedatives only if indicated medically
- organophosphates only as pour-on preparations in the case of ectoparasitosis of pigs **-:-**
- synthetic pyrethroids (parasiticide) only as pour-on preparations or earclips (permissible: in individual cases also in form of solutions only if indicated medically)
- tetracyclines (antibiotic) in the form of injection, if possible only intravenously; long term tetracyclines (antibiotics) only in cases of chlamydien infection
- "drying agents" (long-term antibiotics) only for single problematic animals if indicated medically

10.6 Space Requirements for the Keeping of Domestic Animals

Minimum barn- and open air areas and other features of animal housing of different animal species and categories of production.

1. Cattle, Sheep and Pigs

	barn area (net area available to animals)		outdoor area (open air areas exclusive grazing areas)
	live weight (kg)	minimum space (m^2/animal)	(m^2/animal)
breeding- and fattening cattle	up to 100 up to 200 up to 350 over 350	1,5 2,5 4,0 5, minimum 1 m^2/100 kg	1,1 1,9 3 3,7, minimum 0,75 m^2/100 kg
dairy cows		6	4,5
breeding bulls		10	30
sheep and goats		1,5 sheep/goat 0,35 lamb/kid	2,5 0,5 per lamb/kid
suckling sows with up to 40 days old piglets		7,5 sow	2,5
fattening pigs	up to 50 up to 85 up to 110	0,8 1,1 1,3	0,6 0,8 1
piglets	over 40 days old and up to 30 kg	0,6	0,4
Breeding pigs	female breeding pig male breeding pig	2,5 6,0	1,9 8,0

2. Poultry

	barn area (net area available to animals)			outdoor area (m^2 of the area available per animal in case of area rotation in m^2)
	number of animals/m^2	cm perching rod/animal	nest	
laying hens	6	18	**5** laying hens per nest or in case of a common nest 125 cm^2/animal	4, as far as the limit of 170 kg/N/ha/year is not exceeded
fattening poultry (in immobile barns)	10, maximum permissible live weight 21 kg per m^2	20 (only guinea fowl)		4 fattening chicken &guinea fowl 4,5 ducks 10 turkeys 15 geese For all mentioned species the limit of 170 kg N/ha/year must not be exceeded
fattening poultry (in mobile barns)	16 (*) in mobile poultry barns maximum live weight 30 kg per m^2			2,5, as far as the limit of 170 kg N/ha/year is not exceeded
Small poultry (in immobile barns)	Heated area: 15 animals/m² or max. 3,0 kg per m² Exterior climate area 30 animals/m² or max. 6 kg per m²		Quails: 150 animals/m² or 600 cm² single nest for 8 laying quails Pigeons: 0,5 m² each pair	Recommended in protected green open air: 0,4 [1)]
Small poultry (in immobile barns with integrated exterior climate area)	At night max. 22 animals or 4,4 kg per m² During the day 11 animals or 2,2 kg per m² total accessible area			Recommended in protected green open air: 0,4 [1)]
Quails in mobile barns	At night max. 4,4 kg per m²			Obligatory in protected varying open air0,1 [1)]

(*) Only for mobile barns with a floor surface up to a maximum of 150 m^2 , which remain open at nights.

3. Rabbits

LW= life weight, ALWY = average life weight per year

Keeping in Barns	Barn area (net area available to animals, kg LW/m²)	Exterior climate area (kg LW/m²)	Pasture (net area, permanent accessable to animals, kg LW/m²)
Nursing ewe incl. nursed young animals	10 kg /m²	6,7 kg/m²	---
Bucks, resting ewes, breeding animals, fattening animals starting from 5th week of life	20 kg/m²	10 kg/m²	---

Pasture enclosure at min. daily rotation (0,05 kg ALWY/m²)	Barn area (net area available to animals, kg LW/m², incl. roofed area with at least 2 firm side walls)	Exterior climate area (kg LW/m²)	pasture (net area, permanent accessable to animals, kg LW/m²)
Nursing ewe incl. nursed young animals	15 kg/m²	---	6,7 kg/m²
Bucks, resting ewes, breeding animals, fattening animals starting from 5th week of life	25 kg/m²	---	10 kg /m²

Keeping on pasture/open air (0,05 kg ALWY /m²)	---	Exterior climate area (kg LW/m²)	pasture (net area, permanent accessable to animals, kg LW/m²)
Nursing ewe incl. nursed young animals	15 kg/m²	---	3,33 kg/m²
Bucks, resting ewes, breeding animals, fattening animals starting from 5th week of life	25 kg/m²	---	3,33 kg/m²

10.7 Cleaning und Disinfecting Agents for barns, installations and devices

- Alcohol
- Formic acid
- Caustic potassium
- Caustic soda
- Quick lime
- Acetic acid
- Potassium and Sodium soaps
- Lime
- Lime milk
- Lactic acid
- Sodiumhypochlorite
- Sodiumcarbonate
- Oxalic acid
- Peracetic acid
- Natural essences of plants
- Phosphoric acid (Milking equipment)
- Nitric acid (Milking equipment)
- Water and steam
- Hydrogenperoxide
- Citric acid
- Cleaning and disinfecting agents for teats and milking devices

10.8 List of processing standards

- Beer
- Bred, cakes and pastries
- Egg products
- Produces of soya and other vegetable protein carriers
- Meat and meat products
- Vegetable and fruit
- Grain and grain products
- Yeast and yeast products
- Mead
- Milk, dairy products, butter, cheese, ice cream
- Pest control in storage and operation premises
- Edible oils and fats
- Spirits
- Sweeteners
- Pasta
- Wine and sparkling wine