ORGANIC AQUACULTURE
2005

STANDARDS FOR ORGANIC AQUACULTURE

Introduction

Debio is the Norwegian inspection and certification body for organic production, processing, distribution and import in Norway. The notion "organic" is protected in accordance to agriculture production, and goods / commodity / products can only be sold as organic when the producer is approved by Debio.

Debio have been delegated authority from The Norwegian Food Safety Authority "to run inspection with organic agriculture production, processing, distribution and import in Norway. The supervision is control and approving in accordance with the Norwegian regulations for organic production and is in accordance with EU Regulations.

The Norwegian regulations on organic aquaculture are currently under preparation; for the time being, Debio standards are part of Norwegian Civil Law. The standards are, however, in accordance with guidelines from IFOAM Basic Standards. IFOAM, the International Federation of Organic Agriculture Movements, is an international association of organisations and agencies that are working to further organic production.

The regulations on organic aquaculture have been developed in cooperation with the Swedish inspection and certification body, KRAV. In addition to a joint set of standards for Norway and Sweden, there is mutual recognition between Debio and KRAV – in other words, when production is certified as organic by one body, it is automatically certified by the other. Both Debio and KRAV are engaged internationally according import and export.

A general portion of the standards applies to all organic aquaculture, while specific portions deal with the aquaculture of various species. In this second edition, there are specific standards for salmonid fish (salmon, trout, rainbow trout and char), perches, zander and cod. The intention is to develop specific standards for other fish species and shellfish as well.

Please contact Debio for further information on control routines, including inspections, certification and labelling or visit our homepage www.debio.no.

Debio's label, the "Ø", is the consumer guarantee that they are purchasing a certified organic product, and that the control system encompasses every stage of production, from the earliest stages to the end product.

Definitions

Aquaculture animals	Living aquatic animals that originate from, or will be transferred to, an aquaculture facility.
Additives	Product or preparation added to feed to: - Give a positive effect for/on the feeds characteristics, or have an effect for the product - Meet the animals nutritional requirements and increases the feed conversion ratio by mainly affecting the gut- and stomach or the feed digestibility - Achieve special nutritional benefits or temporary meet special requirements for the animal
Anadrome salmonids	Salmonid fish that migrate from the sea to freshwater in order to spawn, as well as the roe and offspring from such fish.
By-product	Cut-off from the fish industry, including raw materials from fish originally intended for consumers but downgraded due to lack of quality.
Certificate and certification documents	The certificate confirms that the producer abides by Debio controls and standards. The certification document lists the production and activities that are certified as organic, as well as which products can be marketed with the Debio label. Certification documents are renewed annually.
Conversion period	The conversion period is the time between the start of organic management and certification of the production.
Debio labelling	Product labelling that refers to Debio as the inspection and certification body. (See Debio`s "Standards for Labelling and Marketing".)
Environmental harm able chemicals	Chemicals with negative affects on the environment.
Freshwater fish	All fish that live, or can spend part of their life cycle, in freshwater.
Genetic engineering	Genetic engineering is a set of techniques from molecular biology (such as recombinant DNA) by which the genetic material of plants, animals, micro organisms, cells and other biological units may be altered in ways or with results that could not be obtained by methods of natural reproduction or natural recombination.
ICES	International Council for the Exploration of the Sea
Marine fish	All fish that live or spend all their whole life cycle in seawater
Medication	Medication mentioned under the Norwegian Law on Medicinal Products, § 2, or in other sections of Norwegian law, as a result of the EEA Agreement no. 132 of 4 December 1992 (the economic agreement between the EFTA and EU countries).
Artificial products	Products not occurring in nature

Nature identical	Expression used for products that are synthetic produced, but also occurs naturally
Organic production units	Those parts of production (fish pens, feed storage areas, production equipment, products etc.), which are encompassed, by organic production or production in conversion, and which the same owner or company manages. (See Production unit.)
Parallel production	Conventional as well as organic production in the same production unit.
Production description	A description of the production facility, which serves as a basis for Debio annual inspection. This description is formulated when the site is first inspected, and it is updated whenever significant changes are made. The description comprises the conditions under which the production permit was granted, as well as any conditions or measures agreed to between Debio and the producer to ensure a proper follow-up of Debio standards.
Production unit	All production – organic/in conversion and conventional – which is managed by a single owner/company. (See Organic production unit.)
Synthetic product	Product produced by chemical methods If the product also occurs in nature, its called natural identical, otherwise, artificial
Triploid organisms	Organisms that have three sets of chromosomes as a result of the influence of temperature and pressure during the initial phase of the first cell division. Normally, organisms have double sets of chromosomes.
Withdrawal period	The required length of time an aquatic animal must be withdrawn after receiving medical treatment, until it can be classified as organic.

Formulating the standards

Each chapter has the following structure:

General Principles	*Description of general conditions*
Recommendations	*Practical advice*
Standards	*Minimum requirements*

Standards are set in bold type if exemptions may be obtained.

1. Motivating Ideas and Principal Aims

Within organic aquaculture it is an aim that the natural resources are managed in such a way that negative effects on the environment are avoided.

The production must as far as possible be based on local and renewable resources.

Motivating Ideas

The organic production is based on a general view including the organic, economic and social sides of the production, both in a local and a global view. Organic aquaculture must be operated in such a way that the marine environment will be a positive part of the nature.

Principal Aims

The most important aims of organic aquaculture production are to:

- Produce high quality foods in quantities which are sufficient and fairly distributed
- Consider the wider social and ecological impact of the organic production and processing system
- Develop a stable aquatic ecosystems
- Manage the natural resources in such a way that harmful / negative affects on the environment are avoided
- Secure a genetic diversity and richness of species
- Make an environment that favours the organisms natural behaviour and demand
- Secure a healthy and balanced use of the water resources and water living organisms
- Secure as far as possible recirculation of nutrients (harvest leftovers, manure)
- As far as possible establish the system on local and renewable resources, support good Communication between the organic aquaculture industry and the general society
- Secure local stock against negative affects from the farming / aquaculture activities

2. How to take part in the Debio control

General

To market aquaculture products as organic with Debio-labelling, the operation must be attached to the Debio control device, and the approval must be verified.
Debio is following the law of professional secrecy – Law of administration 10.th. of February 1967.
Fee for taking part in the control device and the terms of payment will be published at the beginning of the year. The Debio board sets the fee.

To run a suitable control, the actual company must have a contact person facing Debio. The operation manager can himself be such a contact person, or delegate this responsibility.

There will be performed At least one announced inspection each year for all units connected to the Debio control. In addition unannounced inspections can be performed.

The handling of the approvement will be done based on information from the inspector. The inspector procures the information about the running operation, but do not himself participate during handling of the approval.

As a documentation for the running approval there will be produced a certificate with a certificate document. The certificate confirms attachment to the control body, and the certificate document shows the production methods that are approved (conversion or organic), and the products that can be marketed with Debio-labelling. The certificate document must be renewed yearly.

It is assumed that public laws in accordance with the operation are fulfilled.

The standards for organic aquaculture are an addition to official regulations concerning the production..

We also refer to the Debio Standards for processing, import and trade and Standards for labelling and the use of the label..

Recommendations

Advices and supervisions according organic operations shall be sought with organisations / instances involved in this as their own field of expertise. Debio will only be able to give advice in the use of standards and control system.

Production, processing and trading organic goods assume their own routines, and the company / firm shall therefore be well aware of the actual agreements.

In many cases it will be natural that it's the same person that are responsible for the company / firm quality assurance system that also are responsible facing Debio. All employees that are handling goods covered by the control device shall be trained in the actual standards. The general principles about organic primary production and processing shall be included in the training.

2.1 attachment to Debio

2.1.1
Every firm / company that wants to use Debio-labelling in attachment with farming, harvesting (slaughtering), processing, import or trading, or wants Debio-labelling on such products approved as organic by an other foreign control-body, shall have their own attachment to Debio.

2.1.2
The company pay an attachment fee to enter the Debio-control device, and in addition yearly fees. Fees will be published by the beginning of each year.

2.1.3
The company are attached to the control device when Debio have received the application

2.1.4.

The company bind themselves to fulfil the demands that at any time are given in Debio standards

2.2. Your contact person

2.2.1
The company shall have one person that is the contact person facing Debio. This person is responsible for following up and reporting according to the standards. Debio must be informed who is the company contact person.

2.3. Inspection

2.3.1
The Debio inspector shall announce about actual inspection days at least two weeks ahead. If the announced time is not convenient for the company contact person or the deputy with delegated responsibility, this shall immediately be announced to Debio. The company must confirm the inspection time at least one week ahead. If the company contact person / deputy not are present during agreed inspection, new inspection can be run with an additional fee, or the company can be shut out from the control system this year.

2.3.2
At the very first inspection there shall be a production description stating how the standards are fulfilled for the production unit. The production description shall be worked out according to appendix 3 in EU Regulation 2092/91, and shall be approved by Debio.

The production description shall be updated as required, at the least every five years.

2.3.3
During the yearly inspection the company shall have all agreed documentations given in the running description available.

2.3.4
In addition to yearly-announced inspection, Debio also can run unannounced inspections.

2.3.5
Companies not having a regular activity according Debio-approval, shall within a prior agreed time-limit inform Debio about planned time for start of the activity and duration.

2.3.6
Tests can be run / performed to control that the products are produced according to running agreements. The costs in connection with sampling / analysing shall be covered by the company.

2.3.7
If the company contact person / deputy not are present during the agreed time (point of time), or if during the inspection vital information or documentation not are given access to, or if it in other ways are put up hindrance that makes it difficult to run usual inspection routines, the inspection visit can be interrupted and the fundament of the approval can be dropped.

2.3.8
The site manager is with his signature legal responsible that information about the activities / operations are given as good as possible.

2.3.9.
If the producer breaks terms given by Debio or by The Authorities if other regulations is not complied with. Not legal use of labelling, not giving information on important changes in the production. Then the producer can be economically responsible and may be shut out from the control for a period of time.

2.3.10
The company cover all expenses in accordance with the inspection based on fees announced at the beginning of the year.

2.4. Approval

2.4.1
As a confirmation of approved production Debio will produce a certificate with certificate documentation. The site manager is responsible for the keeping and the legitimate use of the certificate.

2.4.2
The site manager is bound to inform Debio if important changes occur about the running operation after an inspection. This also covers insufficient following up of possible duty given by public authorities. Deviation in accordance to the conditions for the approval shall immediately be reported to Debio.

2.4.3
The approval covers the running methods. Debio-approval / - labelling of products are no guarantee against reminders caused by conditions in air, water or rainfall. Debio-approval / - labelling is no guarantee of fulfilling of quality demands covered by ordinary grading standards.

2.4.4
The approval is valid until the time of next handling of approval. If approval is wanted for other type of production before the next inspection, this shall be announced to Debio at least 12 weeks before the actual time of marketing.

2.4.5
Overview covering companies having received the label approval, and what the marking approval covers, will be published.

2.4.6
Overview (lists) covering companies not any more carrying the marking approval, caused by withdrawal or not approved, will be published.

2.4.7
The approval is redrawn if the requirements in the standards of Debio are not fulfilled or the company looses public approval.

Dependent on the type of contraventions, parts or the whole running operations can be rejected. If the producer fails to execute terms given by Debio or public authorities, if other laws are broken, or the producer abuse the label or neglect to report major changes in the running operation, Debio can put sanction in operation covering prohibition against marketing organic products and the use of the Debio label for a specific time, until five years.

2.4.8
Resolutions made by Debio can be appealed to a specific appeal committee established by the board of Debio.

3. Scope

Organic aquaculture covers farming of different species living in fresh water, brackish water and salt water, including transportation and slaughtering / harvesting of these species. The species in aquaculture can be carnivore, herbivore or omnivore (eating meat, plants or both) covering all stages.

These can be farmed in all sorts of land based and floating / submersible enclosures in the sea or fresh water, or in a pond/lake with natural limitation and where the area are available for inspection.

Stationary organisms, for example seaweed and shellfish, can be certificated as organic when the other running conditions are full filled. Organisms that can move freely in open water, and / or not can be inspected after usual procedure for organic production, including wild living fishes, cannot be included by the idea “certified organic aquaculture”.

These regulations have specific rules for the individual species salmonids, perches and cod.

General Standards for All Types of Organic Aquaculture Production

4. Production Setup

General Principles

The overall objective for the production shall be consideration for the environment and the well-being and good health of the organisms. The production shall be managed so that the organisms live to the greatest possible extent in an environment that is arranged to secure their fundamental physiological and behavioural needs.

The production shall be managed in such a way that the environment in surrounding water and land area is preserved through:

- Minimal impact on the local biological processes, which covers micro-organisms, plants and animals
- Preventing escape
- Use of marine feed which comes from a sustainable managed stock and which is not normally used as human food, or by-products from species used as human food
- Managing the production so that infections, parasites and drug residues do not affect wild (animals) in the environment
- Not using synthetic/chemical fertilizers and impregnating (painting) agents that strain the environment
- Providing for diversity in the production (polyculture) where this is possible (for example production of common sea mussels in connection with fish breeding)
- The production can consist of both organic and conventional production provided that these operating units are kept well separated (parallel production).
- Records must be kept for the whole production unit, the organic and the conventional production
- The fallowing period between generation is at minimum 4 months

Recommendations

It is recommended that the whole management of the unit is converted to organic production. To gain experience with this type of production, however, it may be appropriate to convert the production step by step After some production cycles the whole production on the organic unit should be transferred to organic production.

Consideration for the surrounding environment is crucial for positioning and management of the organic unit. This consideration shall include the Norwegian national salmon fjords, and with respect to risk of infections special care must be taken at outlets of salmon running rivers in Sweden

In accordance with the objectives for organic aquaculture it is important that the production is located at an appropriate distance from polluting sources and conventional units.

Feed wastage or faeces, which are collected, shall if possible be used as fertilizer in organic agri-culture or in other appropriate ways.

4.1. Conversion to Organic Production

4.1.1.
At the very first inspection there shall be a production description stating how the standards are fulfilled for the production unit. The production description shall be worked out according to appendix 3 in EU Regulation 2092/91, and shall be approved by Debio.

The production description shall be updated as required, at the least every five years.

4.1.2.
The organic production unit shall be clearly defined and demarcated so that organic feed, input factors etc. cannot be mixed with conventional. It shall be possible to inspect the unit with respect to the documentation requirements laid down in the standards.

4.1.3.
An operating record shall always be able to be presented as a documented systematic overview of the production activity. The record shall be available during inspection.

4.2. Parallel Production

4.2.1.

The situation with parallel production must NOT be permanent – within 3 years the whole unit must be organic.

The separation from conventional production must be clear, traceable and have physical barriers.

If the whole production unit is not converted at the same time, the following applies:

- The units shall not affect each other through feed wastage, medication, use of cleaning agents, and so on.
- In sea and lakes, the distance between open organic and conventional installations shall be at least 250 metres.
- In flowing freshwater the organic unit and/or the unit in conversion shall lie at least 10 metres upstream of the conventional unit.
- For land-based installations, there shall be physical barriers between organic and conventional units.
- Areas for storing feed and input factors between the different production methods shall be kept well separated.
- Feed and input factors for organic production shall be clearly marked.

4.2.2.
Converted units cannot switch between organic and conventional management without this first having been agreed with Debio. A return to conventional production without Debio approval means that Debio can refuse a new certification as organic for up to five years.

4.2.3.
Both production methods, organic and conventional, shall be documented separately through record keeping, accounting and so on including the whole operation

Debio shall have access to relevant documentation for the conventional management as well.

4.3. Environment / Water Quality

4.3.1.
The water shall have such a low degree of pollution and such a content of oxygen that the cultivation organisms show no signs to changed parameters according physiology or behaviour. The unit must not be positioned in the vicinity of, or downstream of or an important source of pollution that in any sense can be against the rules

4.3.2.
The unit (net pen) shall be positioned in an area with a good water movement, and/or so that no significant sediment build-up occurs underneath the unit. The unit must have a yearly environment inspection (MOM B) based on NS 9410 if available and the activities must be adjusted in a way that long term activities at the location can be run without environmental affects worth mentioning.

4.3.3.
The environment shall be loaded to the minimum possible extent with feed wastage and faeces that can cause over-fertilization or other disturbances. Depending on technical possibilities, Debio can demand collection in and around the unit.

In fresh- and brackish water with content of nutrients higher than background levels, the rules are closed net pens (tarpaulins) or similar, adequate systems for the collection of faeces and spilled feed starts from 2009

4.3.4.
Material, equipment, paints, etc., used in the production shall be selected based on the environmental caution principle.

4.3.5.
Growth on production equipment shall be removed in the first instance using mechanical or biological methods.

Antifouling with poisonous chemicals is prohibited

4.3.6.
Installations for cultivating fish or other aquatic animals shall have a container or other device for satisfactory storage of dead aquatic animals. The capacity shall be dimensioned for the installation's production and cleaning routines.

4.3.7.
The fallowing between different generations shall be at least 4 months.

5. Conversion Period

General Principles

Conversion to organic production is a process to develop an environmentally sustainable production system with special consideration for the well-being and health of the cultivated organisms, and where the environment continue to keeps its sustainability and renew ability The time between the start of organic management (handling, caring and feeding) and certification of the organic production is called the conversion period.

The aim is that the cultivation complies with the standards for organic production throughout the organism's life cycle. If certified organic material (fry, for example) is not available, importation of organisms from conventional production with a subsequent conversion period is permitted. The organisms may be classified as organic when the last 90 percent of the increase in biomass has taken place under organic management / or 2/3 of the life (time) is spent under organic management, counted from hatching

During the conversion period, the standards for organic management shall be applied, and it is therefore necessary that inspection be performed during this period as well.

Recommendations

A conversion period should not be started until all conditions for stable organic production are fulfilled.

Standards

5.1.
The conversion period, i.e. the time from when these standards are fulfilled in their entirety until the production is certified by Debio, shall at least constitute the last 90 percent of the increase in biomass until the time of selling the product/ or 2/3 of the life (time) is spent under organic management, counted from hatching

During the conversion period, the requirements for organic production laid down in these standards shall be fully complied with.

5.2.
Organic approval includes that the production must be inspected during the conversion period.

6. Breeds and Breeding

General Principles

The breeding work shall focus on health and environmental sustainability and good growth with the minimum possible use of input factors.

The production shall be managed so that injury to individuals is avoided. The production must be controlled in such a way so that malformations are avoided. (by using updated knowledge – to avoid malformations)

Recommendations

Breeds that are adjusted to local conditions should preferably be used.

Breeding should build on a large number of breeding pairs to prevent inbreeding, genetic damage and loss of genetic variation.

Fry / fingerlings should if possible be bought locally, to reduce transportation time as far as possible

Standards

6.1.
If breeding material is brought into the unit, this shall be certified organic when it is available with desired characteristics.

6.2

If organic certified fry are available, this must be used.

6.3.
If certified organic breeding material with desired characteristics cannot be obtained, a full conversion period is required.

6.4.
Triploid and genetically modified organisms are not permitted.

6.5.
A change of sex through artificial influence is not permitted.

6.6.

During hatching and during the fry period environmental factors must be controlled to avoid malformations.

6.7

Fry must be graded before transferring to ongrowing to reduce the possibilities of deformed fry in the ongrowing pens,

7. Feed and Feeding

General Principles

The feed in organic aquaculture shall be of good quality with a nutritional composition to fulfil the species requirement The feed shall consist of certified organic products and/or raw materials originating from wild aquatic stocks. For resource reasons, aquatic raw materials from stocks that are not used for human consumption, and from by-products, shall be used. A basic principle is that marine raw materials originate in fishing activity operated in a sustainable way, take in consideration the function of the total marine ecosystem and preferably are certified as sustainable harvest. To secure over fishing of such stocks, we recommend that the quotas set by ICES are to be followed.

Additives such as vitamins, minerals, antioxidants and colouring agents shall have a natural origin or shall be as close to their natural form as possible. Synthetic/unnatural additives are not permitted.

Feeding shall be performed in a way that allows natural feed intake with minimal wastage. The feed type and feeding shall not have a negative effect on the biological diversity in the area.

In all connections taking care of the environment and good feed conversion ratio shall be a superior goal during choosing feed and feeding.

Recommendations

In all connections, consideration to the environment and efficient feed utilisation shall be a basic principle when choosing feed and feeding. The aquatic raw materials should come from certified sustainable fisheries, to the extent that such are available.

We want to encourage feed materials based on cut offs or other materials of biological origin that are not suitable, or to a little extent are used as direct feed for humans. Simultaneously the feed shall cover all the nutritional needs for the organisms, and in no way content/have concentrations of environmental poison that can be harmful for the fish or as food or feed.

Standards

7.1. Raw Materials

7.1.1.
Feed for aquaculture organisms shall basically consist of 100 percent organic certified feed and/or feed originating in wild aquatic stocks, which is approved for use in organic production.

If such feed is not available, up to 5 percent of the feed (dry weight) can be of conventional origin.

Ongrowing feed must contain at least 30% organic vegetable ingredients.

The dry matter level in the feed must be at least 45%

7.1.2.

If a certified organic feed ingredient is available, but not in a justifiable way with regard to use of resources or not with satisfactory quality, a dispensation can be given for use of an equivalent conventional ingredient for a time-limited period.

7.1.3.

Raw materials from wild fish can be used in organic production under the following conditions:

- Wild fish shall come from sustainable stocks and shall be certified as such by a certification body accepted by Debio.

Or:

- Where raw materials from sustainable fisheries are not available or only constitutes a proportion of the feed, at least 50 percent of the aquatic protein in the remaining proportion shall come from by-products. The rest shall then consist of aquatic raw materials from species that normally are not used for human consumption and come from sustainable stocks
- If raw materials from wild caught fish are used, this shall come from sustainable stocks that are within biological secure limits according ICES. This means that the raw material shall come from fish stocks where the catch/ harvest not exceeds the recommendations set by ICES for the actual year or / and are in accordance with FAO Code of Conduct / certified by MSC,

7.1.4.

Ingredients that are genetically engineered or produced using genetic engineering are not permitted.

7.1.5.

Materials from the same species as the feed is going to be used for are not allowed.

7.2. Additives

7.2.1

Approved additives:

7.2.1.1.

Shrimp shells, algae, fungi and bacteria cultures are permitted feed additives as colouring agents

7.2.1.2.

Natural antioxidants, vitamins, minerals , natural nucleotides (from walls of yeast) and binding agents of natural origin

7.2.1.3.

When minerals and vitamins are found both in concentrated/synthetic form and natural form, additives in a natural form shall be used when this is reasonable. If this is not possible, synthetic vitamins and minerals can be used when pre approval are given by Debio.

7.2.1.4.

Other additives according EU Regulation 2092/91 Appendix IV

7.2.2.

Additives that are prohibited:

The following synthetic / unnatural additives are prohibited:

- Growth regulating agents,
- Appetite stimulants,
- Antioxidants,
- Preservatives,
- Colouring agents,
- Amino acids.
- Hormones

The following are also prohibited:

- Gelatine from cattle
- Additives consisting of GMO (genetically modified organisms)
- Additives produced using GMO
- Products / ingredients where chemical solvents are used during the production

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7.3. Record Keeping

7.3.1.

The production manager shall keep a monthly record of the feed type, feed producer and quantity fed.

8. Health and Animal Welfare

General Principles

Efforts should be made to attend to the organisms' health through preventive measures so that medication does not become necessary. If there are still signs of disease, suitable measures shall be adopted immediately.

When breeding fish, prophylactic work shall be carried out, including effective vaccination against relevant infectious diseases, so that outbreaks of disease and use of drugs are avoided to the greatest possible extent. The production conditions shall always be such that the risk of infection and outbreak of disease is minimised.

In the event of disease, animal welfare and environmental care shall be crucial when choosing method of treatment.

In organic production the objective is to maintain a low aggression level and to prevent fish from injuring each other. It is documented that a low stock density can lead to increased aggression for certain species of fish. On the other hand, a high stock density can also cause discomfort. In these standards, the stock density weighs these considerations against each other, compare with Chap. 9.5.

The production unit should have a minimum deep of 15 m.

The production unit must continuously being kept under control / supervision in such a way that stress or diverging behaviour will be discovered If this is the case, appropriate measures must be taken so that the organisms can resume to its normal behaviour.

Predators must be discouraged from damaging or stressing stock by the use of effective deterrents that are non-destructive both to target and non-target species.

To prevent spawning of cod in the nets, artificial light is allowed to prevent this. However selection of late spawning fish should eliminate this requirement in the future.

Recommendations

Production should focus on prophylactic health work and be adjusted to the needs of the organisms. There should be hygienic routines, and routine examinations should be carried out to detect latent diseases and production disturbances.

Biological combating of disease should be prioritised above use of chemicals where this is possible and effective, for example for delousing with the help of wrasse. Drugs with the minimum environmentally harmful effect and with the minimum risk to human and animal health should be preferred. The risk of resistance to antibiotics in the environment should be given special consideration.

The organisms shall be handled as little and as carefully as possible.

The water quality should be such that the physiological demands for the species not are affected in a negative way.

Standards

8.1. Treatment / Medication

8.1.1.
Organisms that show signs of disease shall be given suitable treatment immediately.

8.1.2.
Synthetic chemical drugs shall be used when no other treatment method can be justified from the viewpoint of animal welfare or when this is required according to national law.

8.1.3.
Routine prophylactic treatment with synthetic chemical drugs is prohibited.

8.1.4.
Drugs and additives in feed and water that is added to artificially promote growth/production are not permitted.

8.1.5.
Drugs consisting of GMO or which are produced using GMO may only be used when there are no justifiable alternatives.

8.1.6.
Artificial light is allowed to prevent maturation and spawning in the net pens.

An artificial day length may not be longer than the year's longest natural day length for the location.

In open installations, light may only be supplied in the form of underwater light.

8.1.7.
When using drugs and disinfectants in the breeding installation, care shall be taken and active measures adopted to minimise pollution of the surrounding environment.

8.2. Withdrawal Period When Using Drugs

8.2.1.
The withdrawal period when using synthetic chemical drugs is twice the legal withdrawal period.

Synthetic chemical drugs that do not have a legal withdrawal period have a withdrawal period of two weeks in organic production.

8.2.2.

During treatment with drugs with a withdrawal period in one unit, the same withdrawal period applies for all surrounding organic production within 250 metres in sea and lakes, and within 10 metres when a treated unit lies downstream in flowing freshwater.

8.2.3.

With the exception of vaccinations, treatments for parasites and any compulsory eradication schemes established by Member States, where an animal or group of animals receive more than two or a maximum of three courses of treatments with chemically-synthesised allopathic veterinary medicinal products or antibiotics within one year (or more than one course of treatment if their productive lifecycle is less than one year) the livestock concerned, or produce derived from them, may not be sold as being products produced in accordance with this Standard, and the livestock must undergo the conversion periods laid down in Chapter 5, subject to the agreement of the inspection authority or body

8.3. Record Keeping

8.3.1.

A record shall be kept covering handling of diseases where drugs with withdrawal periods have been used

The record shall contain:

- Identification of the relevant disease/infection
- Details about type and length of the treatment
- The type of drugs used
- Implemented withdrawal period

Specific Standards for Production of Fish

9. Salmonids, perches and gadoids (cod)

This section contains specific standards for salmonids, perches and gadoids These standards are based on the General Standards for All Types of Organic Aquaculture Production.

The section covers the species Atlantic salmon, rainbow trout, brown trout ,Arctic char, perches, zander and cod (Atlantic cod – Gadus morhua)

The standards for Conversion to Organic Production (4.1), Parallel Production (4.2), Conversion Period (5.1), and Feed and Feeding (7.1) apply in their entirety

The following additional standards also apply for salmonids, perches and cod :

Standards

9.1. Measures against Escape

9.1.1.
The production shall focus on preventing escape, regarding technical equipment and internal control. Currant effort shall be a part of the operation description.

The plant / operation shall fulfil demand within NS 9415 or similar

(Shall use the strongest there is – best available technology)

The best technology available is to be used.

9.1.2.
The production manager for breeding salmonids/gadoids shall have contingency plans for all production units as to how any potential escapes can be limited and how recapture can be made more efficient. This is valid for all production units in use. Any escape shall immediately be reported to Debio in addition to the actual authorities

The contingency plan shall also cover governing principles to reduce the possibilities for escaping fish during moving breeding cages, net pen changing, stranger changing and during handling fish during grading / loading / unloading and during extreme weather conditions.

9.1.3.
Debio can impose special conditions on the production manager to prevent escapes and to identify escaped fish, for example, these conditions can be individual marking..

Visual inspection of the net pens should be done at least once a month, for example with divers or by the use of underwater camera. This activity must be documented.

If the cod farming operation is using a special strong net pen (visual inspections of the net pen should be done every three months.

9.1.4.

If a farmer is sentenced for irresponsible management of his farm regarding escapes of fish, it will entail that Debio approval will stop

9.2. Environment and Water Quality (cf. Chapter 4)

9.2.1.
Daily measurements shall normally be performed, and logged for the organic production unit according:

- Temperature
- Salinity (in marine installations)
- Oxygen content
- Carbon dioxide (land-bases installations)

In net pens all measured shall be performed in the middle at a depth of 3 metres (10 m for cod)

In land-based installations measurements shall be performed in the outlet water.

Too high temperatures can create great stress for the fish. The water temperature in an organic plant / installation shall not for a longer period than one week (7 days ?) exceed:

19 C for farming artic char

20 C for farming salmon and trout

20 C for farming cod

22 C for farming rainbow trout

28 C for farming perch and zander

The solution of oxygen in water is dependent of temperature and salinity. The oxygen level shall be kept optimal in relation to the fish welfare.

As a minimum the oxygen content in the water shall be at least 7 mg oxygen per litre, and the water through flow shall be so great that harmful effects of carbon dioxide (CO_2) and ammoniac (NH_3) are avoided.

When there is a risk to exceed these limits, the operation shall be equipped with suitable equipment, for example for pumping up colder water to net pens or ground water to land based operations, and adding oxygen.

9.3. Record Keeping

9.3.1.
The following information shall be recorded every month for every production unit:

- Putting out and stock of salmonids and cod, number of individuals, species, origin, times when put out and average weight (live weight)
- Volume per production unit
- Number of kilograms of fish per cubic metre water volume
- Removed quantity of dead/dying fish. Information about the quantity shall be specified as the number of individuals and total weight in kilograms.
- Production result (harvesting weight): Information about the quantity shall be specified as the number of individuals and total weight in kilograms.
- Use of cleaning agents and disinfectants including agents given exemption for, chemical type, product name, quantity and period of use

9.3.2.
Information about the following conditions shall be recorded every calendar month for the organic production unit:

- The fish's health status. In the event of disease, the diagnosis shall be specified, as well as who has made the diagnosis (fish health control/veterinary surgeon), diagnostic investigations carried out (public/private laboratory), treatment implemented or treatment method, withdrawal periods.
- Handling of dead fish: Method, quantity, time of delivery and recipient
- Oxygen level/content, temperature, salinity (at sea plants), carbon dioxide (land based operations), inspections of the net pen condition/ situation and the fish behaviour,
- Escaped fish

9.4. Breeds and Breeding (cf. Chapter 6)

9.4.1.
The biological material (such as roe, fingerlings and breeding fish) taken into the production unit shall come from breeding/operations with regular health control.

9.4.2.
Breeding salmonids and cod shall originate from domesticated fish.

Roe and fingerlings of perches can come from wild (caught) parents. Parent fish should be caught with gear causing as little damage and stress to the fish as possible, for example fyke nets/ traps. The use of gillnets is not allowed.

9.4.3.
The origin of the breeding fish shall be recorded.

9.5. Health and Animal Welfare (cf. Chapter 8)

9.5.1.
When adjusting the stock density, consideration must be given to:

- The fish must have a low aggression level and low frequency of fin biting / damage
- That the fish can form shoals
- That the fish optima behaviour is maintained
- That the fish density do not cause behaviour indicating stress
- The oxygen content in the water (cf. Environment and Water Quality 9.2.1)
- For cod the fish density must not exceed 15 kg/m3 and not exceed 10 kg/ m3 on average during ongrowing.

9.5.2.
The production unit shall be registered in a health control programme.

9.5.3.
In the event of abnormal behaviour or mortality exceeding 0.5 per thousand daily, this shall be reported to the fish health control programme and to Debio.

Necessary action must be taken immediately to solve the problems and restore normal conditions.

Emergency slaughter shall be considered as an alternative to medication.

9.5.4.
Dumping of dead/dying fish or fish parts/residues is prohibited. Release of fish from the production unit is also prohibited.

Dead or diseased fish, waste that comes from the production and used packaging materials shall be considered to be infectious and shall be treated correctly so that it cannot cause a spread of infection. Packing materials should if possible be recycled.

This means that dead or dying fish should be picked from the production unit daily, if possible. Dying fish should be put to death immediately. Dead fish shall immediately be ground down and be conserved in acid or handled according to other approved treatment methods.

9.5.5.
In the event of occurrence of salmon lice (cod lice), natural methods shall be preferred, wrasse for example, if there not are heavy arguments against this.$ This reasons ca be that the location have too strong currents / too exposed location or the production plants are in the county of Troms or Finnmark). Even if the use of cleaner fish not gives a total solution to the lice problems, the cleaner fish can do an important job by grazing surviving female lice after medical treatment, or keep control over lice during the time the fish are stored in waiting / harvesting pens. Attention shall be given to the wrasse's natural needs, for fed and by providing hiding places in the cage.

During bath treatment against salmon/cod lice the treatment should be done using closed tarpaulins for all production units at the location to reach an effective control with the treatment concentration, minimise the use of chemicals, reduce outlet to nature, reach an effective treatment and to avoid the development of resistance against the actual medicine / medicament.

It there are needs for regional delousing, the organic plants /operations shall participate.

9.5.6.

Vaccination is permitted if it is established that there is or have been a disease in the area and that it cannot be controlled using prophylactic production methods. Organic certification is not affected by vaccination that is recommended by the fish health service or the veterinarian authorities

Vaccination should be performed in such a way that brings as little harm and stress to the fish as possible.

GMO free vaccines must be used if available

9.5.7

In case of deviations in the fish physiology and / or behaviour are noted /recorded, suitable actions should immediately be taken to restore optimal conditions.

9.5.8

The fish within one production unit should be graded according to size in such a way that the distribution in size does not cause poor fish welfare.

The grading should be performed with as little stress as possible for the fish

9.6. Transportation

9.6.1.
Live fish can be transported for a maximum of 6 hours by truck. Without water exchange. Max density with transportation of fry is set to 10 kg/m3

There can at most be 30 kg/ m^3 in closed well boat transportation

Well boat with constant water exchange can at most have a fish density of 50 kg/m3As a minimum the oxygen content in the water shall be at least 7 mg oxygen per litre

Debio can give a time-limited dispensation from this standard.

9.6.2.
There shall be a person responsible for the animals' well being during transportation. It shall immediately be reported to Debio if the transportation causes stress or physical injury to the fish.

9.6.3.
Transportation equipment and materials shall not cause poisoning.

9.6.4.
Synthetic stimuli or tranquillisers must not be administered in connection with transportation.

9.6.5.
Transport time, number of fish and any deviations from the standards during transportation shall be recorded.

9.7. Harvest

9.7.1.
All handling in connection with harvesting shall cause the least possible suffering and stress to the fish.

9.7.2.
Fish must be starved in connection with harvesting, at a minimum 3 days, but not more than 2 weeks (14 days) or 150 day degrees (water temperature x days).

9.7.3.
Capture methods for salmonids/ cod can be a tight collection bag, vacuum pump, seine and fish trap. Fish caught using a hook or line cannot be certified as organic.

9.7.4.
Fish shall be unconscious before they are killed.

Fish shall be unconscious with a blow/stroke against the head using equipment accepted by the authorities

All fish that are made unconscious shall be killed immediately

Putting to death shall be done by bleeding.

Fish shall be totally unconscious before bleeding

Debio / the control device can allow the use of natural occurring medicine to calm down the fish before slaughtering / harvesting

It is allowed to use cold water + 1C to calm down the fish before harvest

9.7.5.
Fish shall not be prepared for slaughter in water with temperature over given in 9.2.1

9.7.6.
Slaughtering and subsequent handling of certified organic and conventional fish shall be clearly separated in time or space so that the fish cannot be mixed.

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We also refer to the Debio Standards for processing, import and trade and Standards for labelling and the use of the label.