

# **Soil Association organic standards aquaculture**

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You can search and download these standards at  
[www.soilassociation.org/whatwedo/organicstandards](http://www.soilassociation.org/whatwedo/organicstandards)



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## **1 The principles of organic production and processing**

1.1 Introduction

1.2 The principles of organic production

1.3 The origins of organic farming and organic standards

1.4 Where we are today

1.5 Developing the standards

## **1.1 Introduction**

Welcome to our standards for organic processing. It contains all that you have to do to produce and sell your products as organic using the Soil Association symbol.

We have written our standards in plain English to make them as simple and clear as possible. Each standard clearly indicates how you should treat it.

### **What you 'should' do**

These give the ideal or best organic practice. They say how you should ideally be working.

### **What you 'must' do**

These state the actual requirements, including what you must get our permission for and what you must **not** do.

### **What you 'may' do**

These state what you can do. We say if you need to get our permission for these or if there are other conditions. We have divided these conditions into three categories to be clear about your responsibilities when using them:

- With justification – you must be able to justify the use of certain products/practices at your inspection with evidence, such as test results, records, forms, a plan etc. For example, you record why you needed to use the product/practice.
- With our approval – we must have approved your use of certain products/practices. This may cover more than one use or it may be in your annual plan that we have approved. For example, you produce an annual plan that details the product/practice which your certification officer has approved and you have a copy available for inspection.
- With our permission – you must get our permission before each use of certain products/practices. For example, you phone your certification officer for permission every time, they may ask for further documentation.

Generally, if we do not mention a product or practice, it means we do not allow it so you must not use it. Please ask us if you are in doubt.

### **Text format**

- We have included additional notes to help with interpretation or provide background information.
- We have identified new standards introduced since the last edition with 'New' written alongside them.
- We have identified standards where we have changed the wording or corrected a mistake with 'Revised' written alongside them.
- We use green text for paragraphs containing principles and best organic practice. These set the context for the standards that follow. They are things that you should do, or work towards, but they are not requirements.

## **1.2 The principles of organic production**

Organic is a 'whole system' approach to farming and food production. It recognises the close interrelationships between all parts of the production system from the soil to the consumer. We have established a comprehensive set of organic principles that guide our work and our standards.

### **Agricultural principles**

- To produce food of high quality in sufficient quantity.
- To work within natural systems and cycles throughout all levels from the soil to plants and animals.
- To maintain the long term fertility and biological activity of soils.
- To treat livestock ethically, meeting their physiological and behavioural needs.
- To respect regional, environmental, climatic and geographic differences and (appropriate) practices that have evolved in response to them.

### **Environmental principles**

- To foster biodiversity and protect sensitive habitats and landscape features.
- To maximise use of renewable resources and recycling.
- To minimise pollution and waste.

### **Food processing principles**

- To minimise processing, consistent with the food in question.
- To maximise information for the consumer on processing methods and ingredients.

For more detailed food processing principles see chapter 40.

### **Social principles**

- To provide a fair and adequate quality of life, work satisfaction and working environment.
- To develop ecologically responsible production, processing and distribution chains, emphasising local systems.

From these principles the practices that form the foundations of organic farming have been established:

- encouraging biological cycles involving micro-organisms, soil fauna, plants and animals
- sustainable crop rotations
- recycling of nutrients using composted manure and vegetable waste
- cultivation techniques that enhance and protect the soil and its life
- avoiding soluble mineral fertilizers
- avoiding agrochemical pesticides, and
- animal husbandry which meets their physiological, behavioural and health needs.

## ***1.3 The origins of organic farming and organic standards***

### **The origins of organic farming**

Three different strands contributed to the founding of organic farming.

- Rudolf Steiner delivered a series of eight lectures to a group of farmers in Austria in 1924. These lectures defined biodynamic agriculture and the Demeter symbol was created in 1927 to identify foods grown by these methods.
- Lady Eve Balfour was inspired by the work of Sir Albert Howard (on composting and agricultural health) and Sir Robert McCarrison (on diet and human health), both working in India. She started the Haughley Experiment on her farm in Suffolk researching the links between the health of soil, plants and animals within different closed systems. Based on this work she wrote *The Living Soil* in 1943 - the book that stimulated the founding of the Soil Association in 1946.
- Also in the '40s, Hans and Maria Müller together with Hans-Peter Rusch developed a natural approach to farming and soil fertility in Switzerland particularly using rock dusts.

However, JI Rodale in the USA actually coined the term 'organic' in 1942 when he started publishing the magazine *Organic Gardening*.

Despite their differences these founding strands shared an underlying basis:

- The concept of the farm as a living organism, an integrated whole.
- The concept of a living soil as the basis of health right up the food chain.
- The whole being greater than the sum of its parts.

So although organic farming involves and develops simple traditional agricultural practices, it is very different and involves a great deal more. Organic farming is not necessarily a low input system, as it aims to maximise the farm's own inputs. As few inputs as possible from outside the farm are used.

### **The origins of organic standards**

Apart from Demeter, there was no formal definition or recognition of organic farming until the 1960s. The Soil Association was the first, publishing its 'standards for organically grown food' as four pages of guidelines in its magazine *Mother Earth*. The standards ended with a 'declaration of intent' for those prepared to subscribe to them.

In 1973 the Soil Association took the next step and formed the Soil Association Organic Marketing Company Limited as a wholly owned subsidiary. Initially its role was to market products grown to the Soil Association standards. However, it soon dropped marketing to concentrate on certification.

Through the '70s and early '80s the inspection element was informal and cursory, but this gradually changed as the organic method of production became more prominent. Later, to reflect this change, the company changed its name to Soil Association Certification Limited (SA Certification).

### **IFOAM**

In 1972 Lady Eve Balfour, JI Rodale and a number of others formed the International Federation of Organic Agriculture Movements (IFOAM), recognising the international nature of organic farming. Their aim was to bring together the various movements and to share information across language, cultural and geographic boundaries. It produced its first 'basic' standards (for information and education, not certification) in 1980.

## **Governments**

By the late '80s the organic market was sufficiently strong that governments started to take an interest, wishing to protect the consumer from possible fraud. In 1987 the Minister of Agriculture announced the formation of UKROFS (UK Register of Organic Food Standards).

Its brief was to draw up a minimum UK organic standard, to register the organic certifiers including their inspectors, and to certify those wishing to by-pass the private bodies.

The EU was also looking at organic farming. Based on the IFOAM standards, it published its 'organic' regulation (no. 2092/91) in 1991. However, it was not until 1999 that livestock standards were legally included in the regulation. In 2005, the European Commission started drafting a new regulation to replace 2092/91, following the European Organic Action Plan in 2004. The new regulation came into force on 1 January 2009 and is in several parts:

- the framework 'Council' regulation no. 834/2007.
- its implementing rules, Commission regulation no. 889/2008.
- other implementing rules for aquaculture, seaweed, yeast and imports.

This official definition and control of organic farming also allowed the authorities to give financial support to organic farmers. This stimulated the significant, sometimes dramatic, growth that the organic market still enjoys.

Several countries followed the EU's lead, including the USA, Japan, Australia and many smaller nations, particularly those exporting to the big trading blocks. Thus the proliferation of national organic laws mirrors the many private organic standards that have emerged.

Partly to address this the Codex Alimentarius Commission of the Food and Agriculture Organisation (FAO), which sets global standards for farming and food, produced guidelines for organic farming. It used the EU regulation as its starting point. The new EU regulation now references the Codex guidelines as a measure of equivalence for imports into the EU.

IFOAM was also active. It set up the IFOAM accreditation programme in 1992 to provide an international service that would allow 'one inspection, one certification, one accreditation'.

## **1.4 Where we are today**

### **European Union**

The EU organic regulation is the legal basis for the control of organic farming and food processing in Europe. It contains:

- standards for crop production (including wild harvesting and seaweed)
- standards for livestock husbandry (including beekeeping and aquaculture)
- standards for processing and labeling of both foods and livestock feeds
- requirements for importing products from outside the EU, including ensuring equivalence to production within the EU
- requirements for inspection and certification of farmers, processors, wholesalers, distributors and importers
- requirements for controlling inspection and certification by national authorities, and
- procedures for amending the regulation, including developing standards for other livestock species (which are under national responsibility until then).

The EU regulation does not cover:

- processing of non-food crops such as for textiles and personal care products
- certification of inputs, and
- non-commercial production (that which is not sold).

### **United Kingdom Revised 2013**

The Department for Environment, Food and Rural Affairs (Defra) is the UK authority. It is responsible for:

- applying and interpreting the EU regulation in the UK
- approving and regulating the private certification bodies
- holding a register of organic producers, processors and importers, and
- assisting the European Commission in approving imports from outside the EU.

### **Soil Association**

Founded in 1946 our mission is to research, develop and promote sustainable relationships between the soil, plants, animals, people and the biosphere, in order to produce healthy food and other products while protecting and enhancing the environment.

There are two parts to our organisation:

- the Soil Association is a membership charity that owns these standards and reviews and updates them. As an applicant or a licensee you will automatically be a member. It is therefore your organisation and you can have your say in how to run it and what standards it sets
- Soil Association Certification Limited (SA Certification) is a wholly owned subsidiary company which inspects and certifies farmers and processors to the symbol scheme using Soil Association standards.

We are 'solutions' based and bring consumers, producers and all other parts of the organic movement together in one organisation. Our structure reflects the holistic principle at the heart of organic production.

Our main activities include:

- educational campaigns reaching out to consumers, farmers and the food industry, opinion

formers and policy makers.

- policy research into targeted areas of agriculture and the links with health, environment and animal welfare.
- promoting local food and community supported agriculture.
- representing organic farmers and serving their needs through conferences, courses and demonstration farms.
- setting standards for organic production and processing, and
- certification to these standards (through SA Certification).

## ***1.5 Developing the standards***

We maintain our own standards as they are the practical expression of our guiding philosophy. We feel this is important:

- to uphold integrity, maintain trust and so safeguard your market
- to continue standards development to reflect organic principles
- to be able to react to new understanding, technical innovation or progress in the market, and also to new threats, and
- for the organic movement to own the standards - they are too precious and too important to be left only in the hands of the authorities.

We aim to review different parts of the standards in rotation so that we can focus properly on only the chosen sections.

Our standards comply with all legal requirements, in particular EU Regulations 834/2007 and 889/2008. Some areas of our standards are higher than those required by law and we also have standards for types of production not covered by the EU Regulation. These include environmental management and conservation, textiles and health and beauty care products.

### **Setting our standards**

Our standards department is responsible for managing the standards and their development. We follow a set process:

- anyone can propose an amendment to us
- we analyse and research the changes we think are needed and, along with the proposals we receive, make recommendations to the relevant Standards Committee (however we aim to undertake more in-depth reviews of a small number of areas so will not necessarily deal with all proposals immediately)
- the Standards Committee approves (or not) the proposed changes for consultation
- if approved, we make the proposed amendments available to licensees in Certification News, to Soil Association members through Living Earth, as well as on our website and by contacting relevant stakeholders directly
- we collate your responses and submit them to the Standards Board (or possibly back to the Standards Committee if they identify issues that need further work)
- the Standards Board may revise the proposals and approves them for final authorisation by the Soil Association Council
- the Council gives its final approval
- we publish the approved changes or new standards for you to start applying after a notice period of three months.

Three bodies assist us in this process:

- Council:
  - i. Council members are trustees of the charity, elected by all Soil Association members
  - ii. it is the final authority on our standards and appoints the standards board
- Standards Board:
  - i. this consists of an independent chair, the chairs of the eight standards committees, three organic sector representatives and three lay members
  - ii. it directs the work of the standards department and appoints the standards committees
- Standards committees:
  - i. these consist of a wide range of practical, professional and scientific experts, balanced by consumer representatives and non-governmental organisations

- ii. each committee is responsible for technical evaluation of standards in its specific area.

We set all this down in formal standards-setting procedures and terms of reference - please ask us if you want a copy.

All standards committee members offer their services voluntarily and as individuals, not as representatives of companies. We gratefully acknowledge the huge contribution they make to our standards work through the time and expertise they freely give.

## **2 The certification process**

### **The certification process**

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2.1 Soil Association Certification Limited

2.2 The Soil Association symbol

2.3 Inspection

2.4 Certification

## **2.1 Soil Association Certification Limited**

### **2.1.1**

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Since 1973 Soil Association Certification Limited (SA Certification) has certified farm enterprises, foods and other products as organic. SA Certification is a wholly owned subsidiary of the Soil Association charity. We are registered with Defra to certify organic food production and processing under the terms of EU Regulation No. 834/2007

### **2.1.2**

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Our certification scheme is accredited to EN45011 (ISO 65) by the United Kingdom Accreditation Service (UKAS). Our certifier code is 'GB-ORG-05'.

### **How we work**

### **2.1.3**

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We inspect and certify organic farms, food manufacturers and producers of non-food items such as health and beauty products and textiles. See 'Inspection and certification process' (standard 2.4.11) for the process we follow.

If we are satisfied that the farmer, food manufacturer, producer or operator has met our standards we issue:

- an annual certificate of registration
- a trading schedule, and
- a licence to use our symbol.

### **2.1.4**

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We license every stage, from production on the farm, through processing, to distribution to the consumer.

## **2.2 The Soil Association symbol**

### **2.2.1**

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The Soil Association symbol is the most recognised organic trademark in the UK and has gained the trust, respect and confidence of consumers and producers across the globe. The Soil Association symbol demonstrates that an organic food or non-food product meets our standards (see 2.2.2 and 2.2.3).

### **2.2.2**

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Food production includes:

- horticultural and arable crops, livestock and aquaculture
- food processing and packing, distribution, retail and catering - all the operations between farm production and consumer purchase, and
- importing organic food from outside of the EU, either for direct sale or for further manufacturing.

### **2.2.3**

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Non-food production includes:

- other products containing organic ingredients, such as health and beauty care products and textiles
- products that are used as inputs to farming and gardening systems
- sustainable forestry and manufacture of timber products (covered by the Woodmark scheme), and
- education and courses in organic agriculture, horticulture and food processing.

## **Using the Soil Association symbol**

### **2.2.5**

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The Soil Association organic symbol is a registered certification mark (®) of Soil Association Limited.

### **2.2.6**

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We have made some changes to our symbol to improve readability and recognition for consumers. The new symbol design is available for use from January 2009 but to reduce waste (for example, packaging) the final deadline for switching to the new symbol is 1 January 2012. Until then, it is acceptable to use either symbol.

Old symbol



New symbol



### **2.2.7**

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You may only use the symbol on your products if you hold a valid certificate of registration from us. You must only use it for organic products identified on your trading schedule.

### **2.2.8 Revised 2013 (applies from February 2014)**

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You may use the symbol on company stationery, promotional literature and websites if we certify a range of your products, providing it is not misleading to the consumer as to which products the symbol applies.

### **2.2.9**

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From July 2010, you must use our symbol on the final (consumer) packaging of the products we certify except where we agree there is a good reason for not doing so.

Note – examples of exceptions we might agree are:

- where the label is so small that it would jeopardise other information required by law
- for products which are exclusively exported
- where your labelling machine cannot print a symbol (and you cannot apply the symbol in another way)
- where you are acting as a sub-contractor to a brandholder who is licensed with a different organic certification body and the brandholder requires that you do not use it.

### **2.2.10**

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Where our symbol has not been used on a brand since July 2008 you may instead use the words 'Soil Association organic'.

Note - this only applies where our symbol has not been used at all across a brand. The font size of 'Soil Association organic' must be at least that of the EU phrases 'EU agriculture' and 'non-EU agriculture'.

### **2.2.11**

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Where the words 'Soil Association organic' are used instead of our symbol, you should communicate about the value of the Soil Association organic standards in your marketing and promotional materials.

## **What the symbol should look like**

### **2.2.12**

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You must reproduce the symbol from original artwork. Please contact your certification officer for a copy of the symbol.

### **2.2.13**

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The symbol must appear:

- complete and upright
- in proportion to the product description
- at least 10mm in diameter (example 'A')
- in black or white (examples 'B' and 'C')
- clearly visible
- clear and legible over the whole of a background, for example if used over a photograph (example 'D'), and
- no less prominent than the EU logo.

You must ask us if you wish to use the symbol at a smaller size than 10mm in diameter (for example on very small packaging) or in a colour other than black and white.



### 2.2.14

The symbol should be:

- on the main face of the label or packaging
- in proportion to the product description, but it works best if it is at least 12mm in diameter, and
- placed on a clear background that extends 30% beyond the area of the symbol (for example 3mm around a symbol 10mm in diameter).

### 2.2.15

The symbol must **not** appear:

- against a background that affects the legibility of the symbol (example 'E')
- incomplete
- at an angle
- within an extra circle either of an outline or solid colour (example 'F')
- in more than one colour (example 'G'), or
- with a different font or typeface (example 'H').

Examples of how **not** to use the symbol are shown below.



### 2.2.16

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In addition to standards 2.2.10 - 2.2.15 you must also comply with the labelling standards in sections 3.5 (for producers) and 40.10 (for processors).

### 2.2.17

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A version of the 'Soil Association organic' symbol is available in Welsh.



### The EU organic logo

### 2.2.18

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You must display the EU organic logo on your labels of packaged organic products. You may continue to market products that were produced, packed and labelled before 1 July 2010 without the EU organic logo, new certifier code or new 'country of origin' requirements until these stocks run out.

### Our certifier code

### 2.2.19

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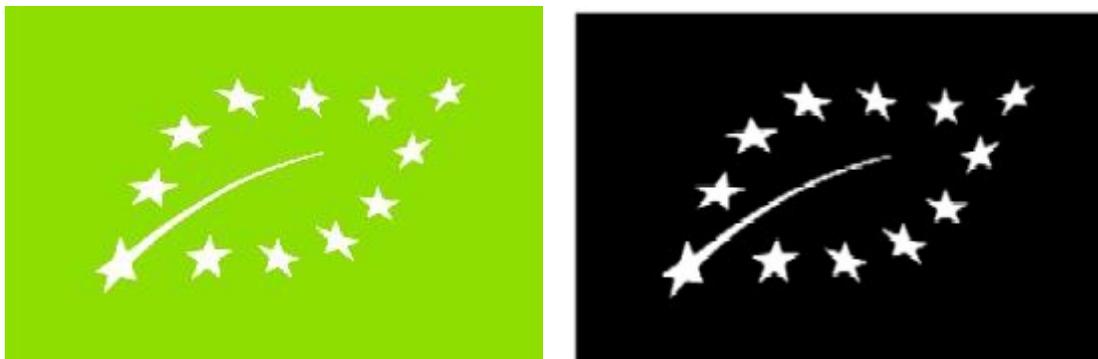
You may continue to place products on the market using existing packaging without the EU organic logo, new certifier code or new 'country of origin' requirements until 1 July 2012.

Thereafter your labels of packaged organic products that are placed on the market must also include the EU organic logo. Your certifier code must be placed in the same visual field as the logo. The place of farming should be placed immediately below the certifier code. The text should align with the left edge of the EU organic logo. For full guidance please refer to [http://ec.europa.eu/agriculture/organic/eu-policy/logo\\_en](http://ec.europa.eu/agriculture/organic/eu-policy/logo_en) and standards 3.5.8 and 3.5.9 (for producers), standards 40.10.9 to 40.10.14 (for processors).

### 2.2.20

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The EU organic logo is published for use in green as shown below. The reference for single colour printing is Pantone 376, or if you print using four colour process, 50% cyan, 100% yellow. Where colour is not possible you may use black and white. It may also be possible to use other colours as described in standard 2.2.20. Please refer to [http://ec.europa.eu/agriculture/organic/eu-policy/logo\\_en](http://ec.europa.eu/agriculture/organic/eu-policy/logo_en) for full details on how to use the EU organic logo.



### **2.2.21 Revised 2013 (applies from October 2013)**

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The EU organic logo must:

- appear at least 9mm high and 13.5mm wide, or
- appear 6mm high for very small packages, and
- have a proportional height to width ratio of 1:1.5

### **2.2.22**

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The EU organic logo may appear:

- anywhere on your packaging, providing it is easily visible, clearly legible and indelible
- in negative, if the background of your packaging is dark
- in the single colour of your packaging if you are only able to print one colour
- with an outer line around it to improve how it stands out on coloured backgrounds
- in conjunction with other logos and text referring to organic, providing this does not overlap, obscure or change the logo.

### **2.2.23**

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Our certifier code is 'GB-ORG-05'; it must appear in the same visual field as the EU organic logo. This certifier code will replace the old certifier code 'GB organic certification 5'. You should use the new certifier code on any new packaging from 1 July 2010. You may use labels displaying our old certifier code until 1 July 2012. Please refer to sections 3.5 (for producers) and 40.10 (for processors), for when to use 'GB-ORG-05'.

### **The approved product symbol**

#### **2.2.24**

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You may use the approved product symbol (which replaces the certified product symbol from January 2009) on non-organic products such as salt and agricultural inputs certified under our approved products scheme. You may **not** use the Soil Association organic symbol on these products. Please ask us if you would like further information on this scheme.



## **2.3 Inspection**

### **2.3.1**

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Our inspectors check your operation to make sure that it meets our standards. The inspector will give you an inspection report.

We will draw up an action summary form (either at inspection or we will send it to you afterwards). This lists areas that do not comply with the standards and asks how you will correct them.

We may impose sanctions depending on the severity of the weakness. We grade these as:

- minor non-compliance
- major non-compliance
- critical non-compliance, or
- manifest infringement.

We may also ask for extra information to complete the approval process.

### **2.3.2**

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You must complete the action summary form with the actions you will take to comply with the standards, and return it to us with any other information we request before the deadline we give you.

When we have received your completed form and agreed that the information you have given is satisfactory we will approve the action summary form.

We will then issue your licence if you are an applicant or continue it if you are a licensee.

We may suspend or even terminate your licence if you do not send the completed form, or the information we request, within the deadlines. If your licence is suspended you must **not** trade as organic.

## **Additional inspections**

### **2.3.3**

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We may do extra inspections throughout the year if:

- you wish to add a new enterprise to your licence
- you move to new premises
- we receive a complaint regarding your business
- you are selected as part of our spot inspection programme
- we need to inspect again to make sure you have corrected non-compliances, or
- our risk assessment of your operations suggests the need for this.

These may be announced or unannounced. We may charge you for these inspections. UKAS or Defra inspectors may accompany our inspectors.

Defra may also inspect you as part of their surveillance of our inspection procedures.

### **2.3.4**

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If you are an international group licensee you must comply with section 8.3 of IFOAM 'Norms for Organic Production and Processing'. Please refer to [www.ifoam.org](http://www.ifoam.org).

## **2.4 Certification**

### **2.4.1**

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You must have available the current Soil Association standards relevant to your organic enterprises.

### **2.4.2**

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You must comply with all relevant standards for each enterprise or product shown on your trading schedule.

### **2.4.3**

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If you suspect or know a product you have produced, or another operator has supplied to you, does not comply with these standards, you must stop trading it and tell us immediately.

### **2.4.4**

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You may sell, or process for other companies to sell, only those products listed on your valid trading schedule.

### **2.4.5**

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If you sell direct to the public you must display your certificate of registration in a prominent place at the point of sale for consumers to see. You must also have your most up-to-date trading schedule available if consumers wish to see it.

### **2.4.6**

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If you wish to use our symbol, the wording 'GB-ORG-05' or reference to SA Certification or Soil Association on your product, it must be licensed by us. For the application process see standard 2.4.11.

### **2.4.7**

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Once we license you we will send you a new certificate of registration every 12 months. This is subject to you paying us your annual certification fees and showing by your annual inspection that you are continuing to meet our standards.

### **2.4.8**

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If you are a producer we calculate your fee each year primarily based on the area of your organically managed land.

### **2.4.9**

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If you are licensed under our processor certification scheme we will ask you each year to provide your total organic sales, which we use to help calculate your fees.

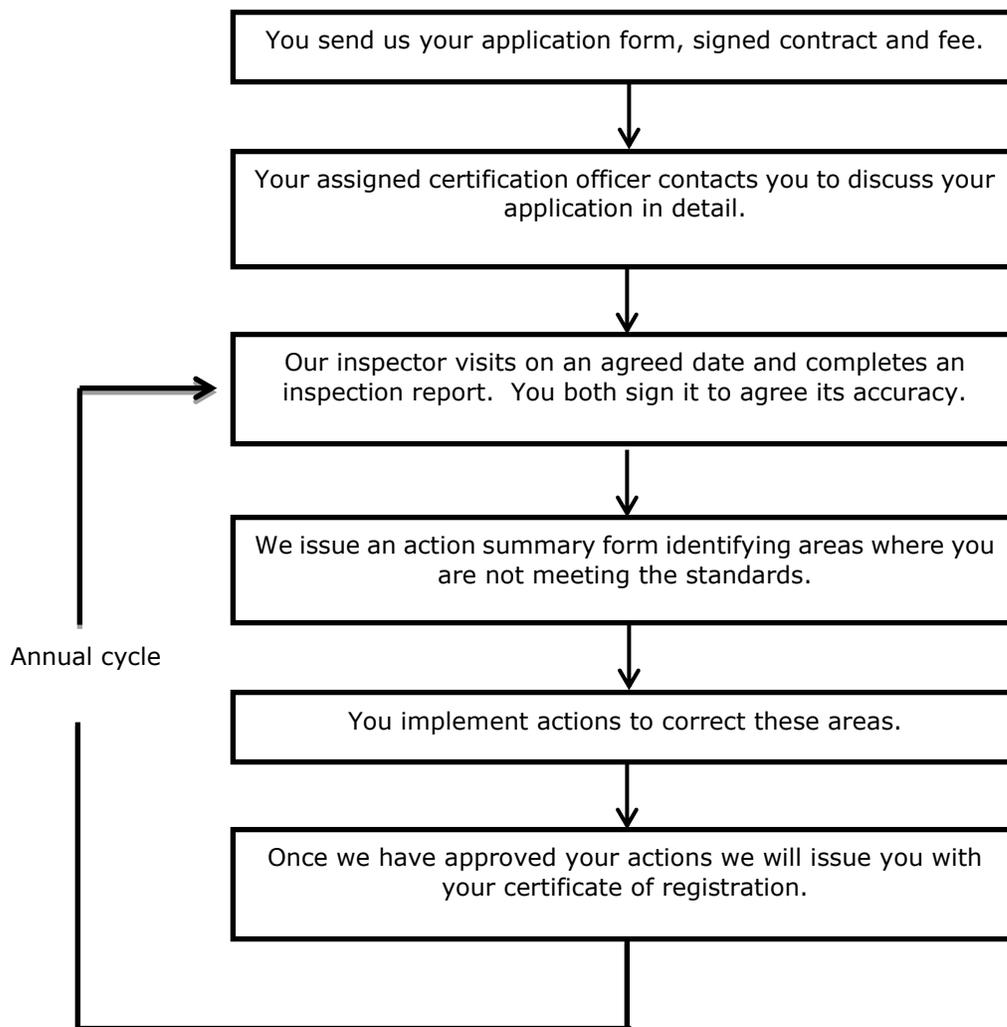
## Complaints

### 2.4.10

We appreciate there may be occasions when you wish to make a formal complaint to us. This could be regarding service, standards, policy, another licensee or an unlicensed company. We have formal complaints and appeals procedures which are available on request. You can make a complaint in writing, by email or by telephone.

## Inspection and certification process

### 2.4.11



## **30 Aquaculture**

Standards you must read with this chapter:

Chapter 1. The principles of organic production and processing

Chapter 2. The certification process

Chapter 3. Farming and growing

Chapter 10. Animal welfare and general livestock management

### **Aquaculture**

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30.1 Organic aquaculture systems

30.2 Managing your aquaculture system

30.3 Managing stock through conversion

30.4 Eggs and youngstock

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30.7 Managing water quality

30.8 Feeding organic stock

30.9 Maintaining high stock welfare

30.10 Keeping your stock healthy

30.11 Transporting live stock

30.12 Harvesting and slaughtering

30.13 Record keeping

## **30.1 Organic aquaculture systems**

### **30.1.1**

---

These standards cover the organic production of farmed fish, including both fin fish and shellfish.

### **30.1.2**

---

The following aquaculture principles are in addition to the relevant principles of organic production in chapter 1:

- To develop valuable and sustainable aquatic ecosystems.
- To maintain or enhance the quality of the water and water resources.
- To respect the needs of other aquatic life.

### **30.1.3**

---

You should manage your organic aquaculture system to:

- produce high-quality food products free from artificial ingredients
- use minimum inputs
- have minimal environmental effects
- ensure the health and welfare of your stock by:
  - i. minimising stress
  - ii. reducing disease incidence
  - iii. nurturing vitality
  - iv. meeting their physiological and behavioural needs
- minimise use of veterinary products
- eliminate reliance on chemical pesticides, and
- develop local employment and services.

### **30.1.4**

---

Where permitted by the statutory authority, you should combine in your aquaculture system species that:

- occupy different trophic levels or ecological niches, and
- are capable of utilising the wastes of other organically farmed fish or shellfish, for example combining the farming of salmon, shellfish and seaweeds.

## **30.2 *Managing your aquaculture system***

### **30.2.1**

---

You must have an up-to-date aquaculture management plan that details how you will meet these standards. You must review the plan every year. It must address:

- conversion (see section 30.3)
- sourcing of stock (see section 30.4)
- environmental management (see section 30.5)
- managing the holding facilities (see section 30.6)
- managing water quality (see section 30.7)
- health and welfare (see sections 30.9 and 30.10), and
- any other measures necessary to comply with these standards.

### **30.2.2**

---

To maintain organic integrity, you must provide all your staff with training on:

- your aquaculture management plan
- your control systems
- their responsibilities, and
- these standards.

### **30.2.3**

---

You must ensure your contracts with purchasers and suppliers are agreed and understood by both parties, in particular regarding:

- terms and conditions
- product specifications
- confirmation of compliance
- return of non-compliant goods, and
- any contract changes.

### **30.2.4**

---

You must:

- ensure the accuracy of calibrating, measuring and testing equipment, and
- store inputs correctly.

### **30.2.5**

---

You must monitor and control all stages of production, harvesting, transportation, packing and processing operations in accordance with the current industry codes of good practice and paying particular attention to:

- fish welfare
- health control
- water quality, and
- environmental impact.

### **30.3 Managing stock through conversion**

#### **30.3.1**

---

Conversion must take place over at least one production cycle.

#### **30.3.2**

---

At the start of conversion, you must develop and agree with us your aquaculture management plan. The conversion plan component must include:

- the management history of the unit, and
- a conversion timetable and the changes you need to make.

#### **30.3.3**

---

You may sell your first batch of stock as organic when the conversion period is completed and:

- you have managed them to these standards throughout their life
- all your units (sites) have at least started conversion
- there is clear separation to prevent cross-contamination or accidental mixing with those still in conversion, and
- we have sent you a trading schedule identifying those fish as organic.

### **Keeping both organic and non-organic stock**

#### **30.3.4**

---

You must **not**:

- have non-organic stock of the same species on the same holding
- have a non-organic operation with the same species unless you can show it is physically, financially and operationally separate (see standards 10.7.1-10.7.3), or
- switch sites or parts of sites between organic and non-organic management.

## **30.4 Eggs and youngstock**

### **30.4.1**

---

You should, where possible, use stock that:

- occurs naturally in the area, or can easily adapt to the local environment
- is bred extensively with minimum interference to the broodstock
- is reared from your own breeding programme
- is domesticated, and
- will produce a high quality product.

### **30.4.2**

---

You must use organic eggs and youngstock from organic broodstock. If you are setting up a new organic operation, you may use broodstock kept to these standards for at least 12 months before you use them for breeding.

### **30.4.3**

---

With our permission, if organic stock is not available, you may use:

- non-organic mixed-sex eggs, or
- youngstock that have not been treated with any products we do not allow in these standards.

### **30.4.4**

---

You must **not** use:

- triploid stock
- genetically engineered stock, or
- all female stock.

### **30.4.5**

---

You should inspect eggs soon after fertilisation and frequently thereafter to ensure they are healthy.

## **30.5 Environmental management**

### **30.5.1**

---

You should:

- manage your operation sustainably and integrate it with the local environment
- make sure the environmental impact of your operation is minimal
- use renewable energy sources and recycled materials where possible, and
- develop area management agreements with neighbouring farmers and landowners.

### **30.5.2**

---

As part of your aquaculture management plan, you must develop a detailed environmental management plan for your operation, consulting relevant experts as appropriate. This must include:

- details of the environmental loading of your operation before conversion and its impact on the surrounding area
- suitable controls or reductions of these loadings to meet the levels we require in these standards
- initiatives for positive environmental management or improvement of your local area
- measures to prevent escapes and your plans to reduce the environmental impact if escapes occur, and
- what you will do to monitor and implement the plan.

### **30.5.3**

---

You must choose a location for your production unit that minimises the impact on:

- aquatic and terrestrial environments, and
- wild stocks of the same or other species.

### **30.5.4**

---

You must:

- maintain and where possible enhance ecological diversity and local wildlife in your area, and
- manage aquatic and terrestrial environments connected with your operation to maintain their wildlife and conservation value.

### **30.5.5**

---

You must ensure that:

- water leaving the operation is the same or better quality as that entering
- you remove suspended solids from flow-through operations and compost and spread them on organic land
- dissolved nutrients, such as phosphorus, do not cause harmful effects on the water and environment downstream, and
- you minimise the benthic impact below holding facilities.

### **30.5.6**

---

You must **not**:

- use herbicides or other agro-chemical pesticides on any part of your operation, or
- burn plastic waste.

## **30.6 Managing holding facilities**

### **30.6.1**

---

You must ensure you design and operate your holding facilities (for example net pens, ponds, ropes and moorings) so that you:

- minimise stress and promote good health in your stock
- do not harm your stock or the environment because of the materials the facilities and equipment are made of or treated with
- can empty them without the discharge causing pollution or stock escaping, and
- minimise the risk of escapes.

### **30.6.2**

---

For all holding facilities, you must:

- keep them secure and well maintained, and
- monitor them regularly. In particular, for nets, floating structures and moorings, experienced divers must check them regularly to make sure they stay secure and undamaged.

### **30.6.3**

---

If using nets, you must:

- test and replace your nets according to the manufacturer's recommendations
- make sure the netting material is smooth enough to prevent your stock being injured during stormy conditions or crowding
- inspect a net immediately if there is any suspicion that it may have been damaged
- use non-polluting methods to keep the nets clear of weed and other fouling organisms (you may use non-toxic anti-foulants provided they are approved by the UK Health and Safety Executive for aquaculture use), and
- clean nets away from remaining stock.

## **30.7 Managing water quality**

### **30.7.1**

---

You must:

- identify and tell us of any potential sources of pollution that may affect your operation. This includes any non-organic production units in the area, and
- site your operation far enough away from any non-organic production operations and other potential sources of pollution.

### **30.7.2**

---

You must:

- provide an adequate supply of high quality water at all times, and
- ensure there is adequate water circulation for the needs of the species

### **30.7.3**

---

You should have an emergency back-up aeration system where there is a risk to stock welfare from low oxygen levels.

### **30.7.4**

---

In land-based operations, you must ensure you have alarm systems and back-up facilities that can cope with water supply failure or other major problems.

### **30.7.5**

---

You may use:

- back-up oxygenation systems
- borehole water in hatcheries for fry up to 5g.

### **30.7.6**

---

With our approval, you may:

- use borehole water for larger stock, but you must provide us with an up-to-date and favourable environmental impact assessment, and
- heat water by up to 10°C in hatcheries for fry up to 5g.

### **30.7.7**

---

You must make sure cleaning and disinfecting procedures do not harm the surrounding environment or the water downstream.

### **30.7.8**

---

You must regularly monitor and record the water quality parameters detailed in the table on the opposite page, both 'upstream' and 'downstream' if appropriate. You must agree the frequency of these checks with the relevant environmental monitoring agency and us.

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<i>Water quality parameters you must monitor and record:</i>	<i>Type of operation:</i>		
	Freshwater	Saltwater	Saline or brackish ponds
Dissolved oxygen	✓	✓	✓
Biological oxygen demand	✓		✓
Ammoniacal nitrogen	✓	✓	✓
Dissolved available inorganic nitrogen	✓	✓	✓
Dissolved available inorganic phosphorus	✓	✓	✓
Salinity		✓	✓
pH	✓	✓	✓
Water temperature	✓		✓
Chlorophyll		✓	
Suspended solids (turbidity)	✓		✓
Water pumped	✓		✓
Water storage	✓		✓
Flow rate	✓		✓
Stocking density	✓	✓	✓
Volume of discharge	✓		✓

Note – you should avoid sites with large or rapid changes in any of these parameters.

### 30.7.9

You must **not** use:

- oxygenation systems to increase production, or
- copper-based and other toxic anti-foulants.

## **30.8 Feeding organic stock**

### **30.8.1**

---

You should:

- allow your stock to feed from natural sources providing it is not harmful to their health and welfare
- use feeds that meet the physical and behavioural needs of the species and its life stage, and
- collect, recirculate or re-use uneaten food.

### **30.8.2**

---

When providing feeds, you must:

- use feeds that meet the nutritional needs of the species and are suitable to the life stage
- use aquatic ingredients:
  - i. of organic origin, or failing that
  - ii. from wild marine resources that we recognise as independently certified as sustainable (such as by the Marine Stewardship Council), or failing that
  - iii. made from the by-products of wild caught fish for human consumption
- make sure any feed ingredients of agricultural origin you use are certified as organic
- use feeding methods that minimise stress and are suitable for the species, life stage, and natural feeding behaviour
- monitor feeding behaviour,
- minimise uneaten feed or feed wastage, and
- keep automatic feeding systems in good working order.

### **30.8.3**

---

If you use a commercial or compound feed, it must be certified by us.

### **30.8.4**

---

You may use:

- vitamin and mineral supplements of natural origin
- natural binders
- antioxidants of natural origin, and
- for finfish: crustacean shell or other shellfish processing waste, which must be from wild caught or organic shellfish processing.

### **30.8.5**

---

In addition to feeding crustacean shell or other shellfish processing waste as in standard 30.8.4, you may use phaffia yeast to provide up to a total of 100ppm astaxanthin in salmon and trout feeds.

Note - we will review other sources of natural astaxanthin as they become available.

### **30.8.6**

---

With our approval, you may use vitamins and mineral supplements not of natural origin.

### 30.8.7

---

You must **not** use:

- fishmeal or fish oil from dedicated operations that are not independently certified as sustainable
- fishmeal or other processed ingredients from the same taxa or from terrestrial animals
- artificial, synthetic or nature identical pigments
- growth regulators, hormones or appetite stimulants
- materials that have been solvent extracted (except those extracted using ethanol and water)
- commercially produced compound or blended feeds which are not certified by us
- genetically modified organisms or products and ingredients derived from them
- synthetic binders
- high energy diets (more than 28% oil) to increase production or to 'fast track', or
- any substance or material not allowed in our standards.

## **30.9 Maintaining high stock welfare**

### **30.9.1**

---

You should provide shade or turbidity, according to the needs of the species, especially for:

- trout
- young-stock
- shallow holding facilities, and
- land-based ponds or tanks.

### **30.9.2**

---

The welfare of your stock is essential. You must always look after their physical and behavioural needs, health and well-being so that they enjoy the five freedoms – freedom from:

- malnutrition and hunger
- physical discomfort and extremes of temperature
- injury and disease
- fear and distress
- unnecessary restrictions of behaviour.

### **30.9.3**

---

You must:

- manage your stock so they can carry out their basic behavioural needs
- keep stress as low as possible during all operations
- keep similar sized stock together to minimise aggression, and
- support the whole body when handling fish.

### **30.9.4**

---

You must inspect your stock at least once a day to check their health and welfare, unless weather conditions prevent this.

### **30.9.5**

---

You must **not**:

- leave live fish out of water for more than 15 seconds unless anaesthetized
- hold live fish only by the tail, or
- throw live fish onto solid objects.

### **30.9.6**

---

You must **not** use artificial light to:

- prolong the day length to longer than 16 hours
- manipulate smolting (smoltification) in Atlantic salmon, or
- control maturation or production in finishing stock.

## **Grading and other operations**

### **30.9.7**

---

You must use well-maintained grading equipment that does not harm stock.

### **30.9.8**

---

In seawater systems, you must allow sufficient time for your stock to swim through grading nets (passive grading).

### **30.9.9**

---

You may only crowd stock when necessary for harvest, capture or treatment for a maximum of 2 hours.

### **30.9.10**

---

When you crowd stock, you must monitor dissolved oxygen levels in the water and not let them fall below 6mg/l.

### **30.9.11**

---

You must **not** crowd in any holding facility more than twice in any week or three times in any month, unless your vet requires this for health reasons.

## **Deterring predators**

### **30.9.12**

---

You must use protective methods to deter predators from damaging or stressing your stock. This must deter and not kill the predators or other species.

Note – you should consult relevant statutory authorities where specific predator problems arise.

## **Removing morts**

### **30.9.13**

---

You should have an airlift system to remove morts daily.

### **30.9.14**

---

You must remove morts from the water in a hygienic way so that they do not contaminate the remaining stock, wildlife or the environment. You must remove them daily or at least weekly and record the cause of death.

## **Broodstock**

### **30.9.15**

---

You must take particular care for the welfare of broodstock when stripping them, using only competent and fully trained staff.

**30.9.16**

---

Before stripping salmonid broodstock you must anaesthetise them or slaughter them.

## **30.10 Keeping your stock healthy**

### **30.10.1**

---

You should aim to produce healthy stock with a high level of resistance to disease through:

- good stockmanship
- using suitable feed, and
- minimising stress.

### **30.10.2**

---

You should treat disease by:

- promoting natural immunity
- using natural herbal treatments and homeopathic remedies
- using salt (sodium chloride) baths or flushes to prevent parasite build-up, and
- isolating diseased stock using tight quarantine procedures.

### **30.10.3**

---

You must draw up a health and welfare plan with a veterinary surgeon that has appropriate knowledge of fish farming. This must be part of your aquaculture management plan and must cover:

- biosecurity
- stock management and husbandry (including feeding, handling, grading, deterring predators, transport and slaughtering)
- health and disease management
- veterinary treatments
- storage and use of chemicals
- record keeping
- training, and
- reviewing your procedures regularly.

### **30.10.4**

---

You must keep your stock as healthy as possible to reduce or prevent the use of veterinary medicines.

### **30.10.5**

---

You must treat your stock promptly, even if the only treatment available is prohibited by these standards and will result in your stock losing organic status.

### **30.10.6**

---

If you fail to treat stock we may withdraw your organic certification.

### **30.10.7**

---

You should only sell your stock as organic if there are no detectable residues of veterinary medicines in the fish.

### 30.10.8

---

When you use an unlicensed treatment under the veterinary prescribing cascade, you should request a withdrawal period from the prescribing veterinary surgeon that will, to the best of their knowledge, result in no detectable residues.

### 30.10.9

---

If you treat your stock with veterinary medicines, you must observe a withdrawal period before selling your stock as organic of (whichever is longer):

- at least 140 degree days, or
- the time taken to achieve no detectable residues.

Note – you must calculate degree days using average daily water temperatures. The time taken to achieve no detectable residues is specified in the product's Marketing Authorisation data.

### 30.10.10

---

You may use:

- iodophor to disinfect eggs and equipment
- vaccination for specific known disease risks
- licensed anaesthetics to:
  - i. handle broodstock
  - ii. vaccinate individual animals
  - iii. humanely slaughter injured stock
  - iv. examine fish for sea lice, and
- yeast and algal derivatives (cell wall and nucleotides) to help stock overcome stressful situations or illness.

### 30.10.11

---

For any medicine (including anaesthetics) you must:

- hold a discharge consent
- dispose of it appropriately, and
- observe a minimum withdrawal period before harvest of fish as per standard 30.10.9 or standard 31.4.11.

### 30.10.12

---

With our approval, you may use:

- chloramine T
- formalin for salmonids
- antibiotics in clinical cases where no other treatment would work, or after major trauma such as surgery or accident, or
- with vet prescription, anaesthetics not licensed for use in fish where licensed treatments can be shown to be ineffective.

### 30.10.13

---

You must **not** use:

- veterinary medicines to prevent disease
- genetically engineered vaccines
- hormone treatments on fish for human consumption
- benzalkonium chloride (BZK)
- synthetic pesticides or veterinary treatments including organophosphate and avermectin based products, or
- any veterinary medicines not allowed in these standards.

**30.10.14**

---

You must develop categories to classify cause of death of morts and detail these in your health and welfare plan.

## **30.11 Transporting live stock**

### **30.11.1**

---

When transporting stock you should make sure:

- the journey time is kept to a minimum
- the density of fish is not so high that their welfare is affected
- the stock are loaded using methods that minimise stress, are approved by your veterinary surgeon and are detailed in your health and welfare plan, and
- the transporter has enough oxygen on board for twice the planned journey time.

### **30.11.2**

---

Before transporting stock you must make sure that:

- they are in good health and are settled (after grading or weighing) before transportation
- you have not used any veterinary treatments for at least three days before transportation
- before loading, you starve:
  - i. smolts for at least 24 hours
  - ii. fry for at least 12 hours
- you keep to all biosecurity measures in your health and welfare plan, and
- all the staff responsible for the loading, transporting and unloading are adequately trained.

### **30.11.3**

---

When transporting stock you must make sure:

- the oxygen and carbon dioxide levels of the water carrying the stock are monitored on an in-cab display
- the air is supplied using an oil free compressor to spread diffused oxygen and assist the release of harmful gases from the water
- oxygen remains at saturation level of between 90 and 110%
- there are no large changes in water temperature or pH
- you keep a full record of any mortalities or injuries, and
- when transporting stock by road, the journey time is less than six hours.

### **30.11.4**

---

You may only transport juvenile fish when they are fit and healthy. You must check that they are fit and healthy before transport and remove any that are not.

### **30.11.5**

---

When you net fish you must use a net with a water holding bag.

### **30.11.6**

---

If you are transporting stock by helicopter you must ensure that:

- the journey lasts no more than 25 minutes
- oxygen levels are stabilised before setting off, and
- there is sufficient oxygen supply for twice the intended journey time.

### **30.11.7**

---

You must **not** transport adult growing stock between operations.

### **30.11.8**

---

When unloading stock you should make sure:

- it is as smooth and quick as possible, using a method approved by your veterinary surgeon detailed in your health and welfare plan, and
- the transport container's tank floor is sloped gently to guide the stock to the discharge outlet.

### **30.11.9**

---

You should release fish through 'gentle' valves large enough to allow more than one fish to pass through at the same time.

### **30.11.10**

---

When unloading stock from transport containers you must make sure:

- water is pumped into the tanks during unloading to ensure the fish have adequate water, and
- the water temperature the stock are transferred to is similar to that in the transport container.

## **30.12 Harvesting and slaughtering**

### **Harvesting**

#### **30.12.1**

---

You should use a dedicated harvesting facility.

#### **30.12.2**

---

You should make sure fish for harvest:

- can swim through to the dedicated harvest facility, and
- are slaughtered on site.

#### **30.12.3**

---

You must:

- follow the guidance notes of the Humane Slaughter Association for the humane slaughter of salmon and trout
- handle your stock with minimal disturbance and stress, and
- in sea net pen systems, use a separate harvest pen to hold stock before slaughter.

#### **30.12.4**

---

You may only starve a whole net pen or pond (for the periods we allow for the species) when you are harvesting all the fish from that pen or pond.

#### **30.12.5**

---

You must **not**:

- operate a rolling harvest where you starve all fish in the holding facility and selectively grade a number for slaughter on a repeated basis, or
- starve stock to modify carcass weight or quality (body composition).

### **Slaughtering**

#### **30.12.6**

---

You must:

- make stock instantly insensible as soon as you take them from the water
- make sure staff are skilled to perform their tasks efficiently and humanely
- carry out strict hygiene procedures during slaughtering and evisceration, and
- dispose of blood, viscera, disinfectants and unclean water in a way that does not harm wildlife, farmed fish or the environment.

#### **30.12.7**

---

You may stun fish by:

- concussion to the head, or
- electrocution.

**30.12.8**

---

You may slaughter finfish by severing of the gill arches (exsanguination).

**30.12.9**

---

You must **not** slaughter stock using:

- ice, except for warm water shrimp
- carbon dioxide
- suffocation, leaving stock to die in the open air, or
- exsanguination without stunning.

**30.12.10**

---

Your fish processing, storage and transport must comply with the Soil Association food manufacturing standards (chapters 40 and 41).

## **30.13 Record keeping**

### **30.13.1**

---

You must keep all the relevant records that we detail in section 3.4, together with the additional ones we identify in this section.

### **30.13.2**

---

You must keep the following operational records:

- the name and position of the person with overall responsibility for the organic operation
- details of the responsibility and authority of all other key personnel, and their named deputies
- the name, address and telephone number of your veterinary surgeon
- staff training records
- calibration of measuring/testing equipment and instruments, and
- procedure reviews and changes.

### **30.13.3**

---

You must have an individual number and label for each holding facility (for example pen or pond) and you must keep a record of:

- date installed
- age of net/rope/mooring
- dates and results of inspections
- damage found, and
- maintenance you have carried out.

### **30.13.4**

---

You must keep the following general husbandry records:

- all management activities in your aquaculture management plan, and
- measurements of all water and environmental parameters.

### **30.13.5**

---

You must record the nature, quantities and details of all stock harvested and sold. If you are selling direct to the consumer, you must record quantities sold on a daily basis.

## **31 Atlantic salmon**

Standards you must read with this chapter:

Chapter 1. The principles of organic production and processing

Chapter 2. The certification process

Chapter 3. Farming and growing

Chapter 10. Animal welfare and general livestock management

Chapter 30. Aquaculture

### **Atlantic salmon**

---

31.1 Conversion

31.2 Managing water quality and holding facilities

31.3 Maintaining high stock welfare

31.4 Keeping your stock healthy

31.5 Harvesting and slaughtering

## **31.1 Conversion**

### **31.1.1**

---

You must include the following in your conversion plan:

- historical data on your sea lice monitoring programme and any sea lice treatments used at the proposed sites in the last three production cycles
- details of any salmon rivers and wild salmonid populations nearby, and
- details of any nearby seal haul-out sites, wild bird nesting areas and nature conservation designations.

### **31.1.2**

---

You must **not** locate your operation in a special conservation area for salmon, trout or freshwater mussels.

## **31.2 Managing water quality and holding facilities**

### **31.2.1**

---

Your operation must meet the following limits for water quality and welfare conditions:

- sea water – grade one quality sites with minimal risk of pollution
- dissolved oxygen – at least 80% air-saturated value for 90% of the time
- dissolved available inorganic nitrogen – no more than 168µg/l (winter values)
- dissolved available inorganic phosphorus – no more than 6.2µg/l (winter values)
- pH – between 7 and 9
- chlorophyll – no more than 10µg/l
- mean flush rate – moderate 5+cm/sec to strong 10+cm/sec, with the speed of current greater than one body length per second at some stage of the tidal cycle
- stocking density in saltwater net pens – maximum of 10kg/m<sup>3</sup> +/- 1%.

### **31.2.2 Revised 2014 (applies from June 2014)**

---

Your freshwater operations for youngstock must meet the limits for water quality and welfare conditions in standard 32.2.2 (trout and arctic charr).

### **31.2.3**

---

With our approval, you may operate at lower water quality levels than in standard 31.2.1. However, we would only allow this for individual fish farms with specific, mitigating characteristics.

### **31.2.4**

---

You must **not** use covered on-growing and finishing systems for salmon.

### 31.3 Maintaining high stock welfare

#### **31.3.1**

---

You must:

- take extreme care when hand feeding newly transferred smolts until they are actively feeding and showing normal shoaling behaviour
- take part, within the scope of our standards, in your local Area Management Agreement, and
- fallow sites for at least six weeks between production cycles.

#### **31.3.2**

---

You must **not** have multi-year class stock on a site or in the same water body.

## **31.4 Keeping your stock healthy**

### **31.4.1**

---

You should:

- ensure your site is at least 5 km by sea from the nearest fish farm
- use locations where hydrographic modelling suggests that the water body's flushing time is less than seven days
- synchronise sea lice management with other sites in the same water body, and
- position and maintain pens so as to maximise water flow-through.

### **31.4.2**

---

You must:

- avoid locations of importance for wild salmonid populations, and
- remove moribund fish, as they can be a source of sea lice.

### **31.4.3**

---

For monitoring sea lice you must:

- keep sea lice monitoring and management procedures in your aquaculture management plan
- use sampling techniques as directed in the Code of Good Practice for Scottish Finfish Aquaculture (2006)
- count sea lice numbers every week, weather permitting
- record numbers of:
  - i. juveniles (attached stages), all mobile stages and adult females of *Lepeophtheirus salmonis*
  - ii. the total number of *Caligus elongatus*, and
- monitor all these levels and give your sea lice data to us every month.

Note - 'all mobile stages' includes pre-adults, adult males and females.

### **31.4.4**

---

You do **not** need to undertake weekly sea lice monitoring within 140 degree days of harvest.

### **31.4.5**

---

You may use locally caught or cultivated wrasse to remove sea lice. The wrasse must have access to adequate shelter and feeding. You must include a section in your aquaculture management plan covering the welfare of the wrasse including origin, how you catch (or otherwise source), manage and dispose of them.

### **31.4.6**

---

You must **not** over-fish your local wild wrasse stocks.

### **31.4.7**

---

Between February and June inclusive, you should treat your salmon when average sea lice levels rise above fifteen mobile stages per ten salmon. At other times of the year, you should treat your salmon

when average sea lice levels rise above thirty mobile stages per ten salmon.

#### **31.4.8**

---

You must **not** allow numbers of adult female lice to exceed:

- five per ten salmon between February and June inclusive
- ten per ten salmon at other times of the year.

#### **31.4.9**

---

With our permission, when the trigger levels in section 31.4.8 are exceeded, you may use licensed emamectin benzoate or cypermethrin based treatments. You must follow the manufacturer's guidelines for treatment. You must provide justification from your vet or a copy of your Area Management Agreement and any other relevant supporting information.

#### **31.4.10**

---

In order to reduce the risk of sea lice developing resistance to licensed veterinary medicines, you must **not**:

- exceed two consecutive courses of the same treatment on any site, unless advised to do so by your vet
- use in-feed treatments when fish are off their food.

Note - a course of treatment means all the measures you need to take to restore the health of your animal following an illness.

#### **31.4.11**

---

If you treat your fish with emamectin benzoate you must either:

- observe a withdrawal period before harvest of 600 degree days, or
- provide us with evidence that residues in the fish are 10ppb or less.

#### **31.4.12**

---

You must **not** sell your fish as organic if you treat them with more than two courses of veterinary medicines per production cycle directed against *Lepeophtheirus salmonis*, or three courses of veterinary medicines directed against any species of sea louse.

## ***31.5 Harvesting and slaughtering***

### **31.5.1**

---

You may starve salmon for up to 40 degree days or 72 hours before harvest, whichever is shortest.

### **31.5.2**

---

We may give you approval to extend the starvation period in 31.5.1, such as when you cannot harvest the entire population of your holding facility in one working day.

## **32 Trout and arctic charr**

Standards you must read with this chapter:

Chapter 1. The principles of organic production and processing

Chapter 2. The certification process

Chapter 3. Farming and growing

Chapter 10. Animal welfare and general livestock management

Chapter 30. Aquaculture

### **Trout and arctic charr**

---

32.1 Conversion

32.2 Managing water quality and holding facilities

32.3 Maintaining high stock welfare

32.4 Harvesting and slaughtering

## **32.1 Conversion**

### **32.1.1**

---

Your conversion plan must include details of:

- any nearby salmon or trout rivers and wild salmonid populations, and
- any nearby seal haul-out sites (for sea trout), wild bird nesting areas and nature conservation designations.

### **32.1.2**

---

You must **not** locate your operation in a special conservation area for salmon, trout or freshwater mussels.

## **32.2 Managing water quality and holding facilities**

### **32.2.1**

---

You should:

- use a spring water supply, or a lake or river water supply with minimal risk of pollution, and
- use the water twice, except in your incubation facility.

### **32.2.2**

---

You must keep to the following limits for water quality and welfare conditions:

- dissolved oxygen - at least 6mg/l or 70% for trout, 65% for arctic charr, air-saturated value for 90% of the time
- biological oxygen demand - no more than 4mg/l
- ammoniacal nitrogen - no more than 0.6mg/l
- dissolved available inorganic phosphorus - no more than 100µg/l
- pH - 5.2 to 9.0
- water temperature - 4 to 18°C for trout, 1 to 18°C for arctic charr
- stocking density in running freshwater operations - no more than 20kg/m<sup>3</sup> +/- 2%
- stocking density in net pens - no more than 10kg/m<sup>3</sup> +/- 1% for trout, 80kg/m<sup>3</sup> for arctic charr.

### **32.2.3**

---

You may use:

- pollution free reservoir sites
- borehole water, if you give us an up-to-date Environmental Impact Assessment that demonstrates minimal impact on the water system
- back-up oxygenation systems when water temperature temporarily exceeds 18°C.

### **32.2.4**

---

You must **not** use covered on-growing and finishing systems reliant on artificial lighting for trout.

### **32.3 *Maintaining high stock welfare***

#### **32.3.1**

---

You must take particular care for the welfare of broodstock when stripping, using only competent and fully trained staff.

#### **32.3.2**

---

You may slaughter broodstock before stripping.

## **32.4 Harvesting and slaughtering**

### **32.4.1**

---

You should starve your fish for no more than 30 degree days before harvest.

### **32.4.2**

---

You must **not** starve your fish for more than seven days before harvest. This includes the time you take to transport them to a licensed processing plant for slaughtering and the holding time at that plant.

## **33 Shrimp**

Standards you must read with this chapter:

Chapter 1. The principles of organic production and processing

Chapter 2. The certification process

Chapter 3. Farming and growing

Chapter 4. Crop and land management

Chapter 10. Animal welfare and general livestock management

Chapter 30. Aquaculture

### **Shrimp**

---

33.1 Introduction

33.2 Conversion

33.3 Eggs and youngstock

33.4 Environmental management

33.5 Managing water quality and holding facilities

33.6 Feeding shrimp

33.7 Maintaining high stock welfare

33.8 Keeping your stock healthy

33.9 Harvesting and slaughtering

## **33.1 Introduction**

### **33.1.1**

---

These shrimp standards apply to farmed Penaeid shrimp such as *Penaeus monodon* or *Litopenaeus vannamei* using extensive and semi-intensive production systems.

### **33.1.2**

---

Your operation should comply with the Soil Association Ethical Trade standards.

Note - we are currently piloting our Ethical Trade standards in the UK. Please contact us if you would like more information.

## **33.2 Conversion**

### **33.2.1**

---

You must include in your conversion plan:

- confirmation of your ownership and management control of the land, and
- details of the legal rights of any stakeholders who can use the land, water or surrounding area.

### **33.2.2**

---

You may convert an existing shrimp farm that was previously an area of natural vegetation such as mangrove forest, provided:

- you set aside at least 10% of the operation as undisturbed wildlife zones
- no more than 50% of the farm was natural vegetation before construction
- you complete a reforestation and habitat renewal programme within three years of starting organic conversion.

### **33.3 Eggs and youngstock**

#### **33.3.1**

---

You should minimise stress and promote the development of healthy youngstock well adapted to organic aquaculture by:

- establishing a breeding programme that does not rely on taking broodstock from the wild
- rearing broodstock naturally in low stress conditions without using chemicals or mutilations, and
- breeding shrimp and rearing youngstock using methods as similar as possible to the shrimps' natural breeding behaviour and environment.

#### **33.3.2**

---

You should:

- feed the shrimp larvae with a diet of at least 75% live food which is produced on site using local resources
- make sure the grow-out ponds meet the biological and physiological needs of the shrimp larvae, and
- minimise the use of veterinary medicines to promote health.

#### **33.3.3**

---

You must get broodstock from local organic sources.

#### **33.3.4**

---

With our approval, you may:

- capture wild broodstock as long as you do not harm the welfare of the stock and the longer-term sustainability of wild populations of shrimp
- and other non-target species
- use non-organic broodstock until you have your own organic broodstock, or
- use sites that rely on wild seed to naturally populate the ponds.

#### **33.3.5**

---

If organic seed or young-stock are not available, with our permission, you may use:

- non-organic nauplii (post-hatch), or
- non-organic PL (post-larvae) as long as you manage them to full organic standards for at least the remaining two thirds of their life.

#### **33.3.6**

---

You must prepare your grow-out ponds carefully to receive shrimp larvae, particularly the salinity, pH, water temperature and primary productivity.

#### **33.3.7**

---

You must **not**:

- use eye ablation to stimulate maturation in female shrimp
- capture wild seed to supply grow-out ponds.

## **33.4 Environmental management**

### **33.4.1**

---

Your operation should help the local community, for example by sharing the by-catch from ponds and supply channels with local people.

### **33.4.2**

---

Your environmental management plan must include:

- a detailed survey of the biodiversity and conservation value of each site
- a detailed survey the hydrological properties of the water around the holding
- how you intend to keep nutrient and sediment loss from the ponds to a minimum, and
- how you will manage the banks and surrounding land and vegetation on the site.

### **33.4.3**

---

You must make sure:

- development of each site does not lead to the permanent loss of natural vegetation, biodiversity or conservation value
- your shrimp farm, and its establishment, does not lead to salinisation of the surrounding local ecosystem
- you keep nutrient and sediment loss from the ponds to a minimum, and
- you manage all vegetation on the site to section 4.10 of these standards.

### **33.4.4**

---

You must ensure that you keep erosion of banks, pond sides and channels to a minimum by:

- using suitable construction materials and designs
- careful control of water level and flow rates, and
- planting native plants or crop species (you must plant up at least 50% of the exposed soil).

### **33.4.5**

---

You may, during construction, temporarily clear up to 5% of the high biodiversity natural vegetation on the site. However, you must reforest or replant an equivalent sized area with native species within three years of starting construction.

### **33.4.6**

---

With our approval, you may leave up to 75% of the soil between ponds without vegetation as long as we agree your long-term reforestation and habitat renewal programme.

### **33.4.7**

---

You must not operate a shrimp farm within a nature reserve or other recognised area of conservation value.

## **33.5 Managing water quality and holding facilities**

### **33.5.1**

---

You should:

- help develop a diverse ecosystem that supplies the stock with natural food, shelter and a clean environment
- have mangrove and other natural vegetation within the ponds and on adjacent banks as wildlife refuges, and
- use ecologically balanced production systems, which minimise or avoid the need for water exchange.

### **33.5.2**

---

You must:

- use a minimum of fossil fuels to pump water, without compromising the needs of the stock
- record the quantity of fuel your pumping equipment uses
- record the volume of water pumped into and out of the unit to build up a water budget for the whole shrimp farm, and
- make sure the ponds and banks support a diverse pond ecology of micro and macro flora and fauna.

### **33.5.3**

---

Your operation must **not**:

- have more than 5% average water exchange for the whole production cycle, or
- pump more than 35m<sup>3</sup> water/kg of shrimp produced.

If your operation cannot meet these requirements at the start of conversion, you may with our approval, agree a plan to meet them within three years.

### **33.5.4**

---

To reduce the risk of unwanted species entering the ponds and to stop the shrimp escaping, you must ensure that entrance and exit screens for all ponds:

- have an appropriate size mesh
- are regularly cleaned, and
- are maintained in a good state of repair.

### **33.5.5**

---

With our approval, you may remove unwanted species from your ponds. The method you use must **not** cause stress to the cultivated shrimp or to other species. If you want to remove unwanted species you must:

- use physical means where possible
- only use barbasco or saponine when physical removal is not possible.

### **33.5.6**

---

You must put any by-product of removing unwanted species to good use, such as human consumption or composting and spreading on organic land.

**33.5.7**

---

You must **not** use rotenone for pest control.

## **33.6 Feeding shrimp**

### **33.6.1**

---

Your shrimp ponds should produce most of the feed required by the stock. The remainder of the feed should come from organic shrimp feed made in the region using local materials.

### **33.6.2**

---

You should fertilise your shrimp ponds with locally produced nutrients (that are acceptable for use in organic farming) to stimulate phytoplankton and zooplankton production. This should include products and waste from the organic land around the shrimp farm.

Note – please refer to sections 4.7 and 4.8 for materials that you can use to fertilise your ponds.

### **33.6.3**

---

You should produce organic agricultural crops to supply raw materials for the shrimp feed or develop trading relationships with other local organic units to supply them.

### **33.6.4**

---

You must:

- maintain the natural productivity of the ponds so that at least 50% of feed is produced in the pond
- minimise food wastage, and
- make sure excess food left in the ponds does not cause sediment build-up and pollution.

### **33.6.5**

---

You may feed up to 50% of the shrimps' diet as certified organic feed.

### **33.6.6**

---

You must **not** use:

- phaffia yeast
- shrimp shell
- fertilisers and manures that we do not allow (we detail these in sections 4.7 and 4.8), or
- shrimp feed that is not certified organic.

### **33.7 Maintaining high stock welfare**

#### **33.7.1**

---

You must keep to the following stocking limits:

- stocking density in extensive systems – no more than 25g/m<sup>2</sup>
- stocking density in semi-intensive systems – no more than 200g/m<sup>2</sup>
- stocking density for broodstock – no more than 150g/m<sup>2</sup>.

## **33.8 Keeping your stock healthy**

### **33.8.1**

---

To avoid or deal with health problems you should:

- control the flow and level of water in your ponds
- plough the pond substrate and leave it to dry in strong sunlight when the pond is empty, and
- treat stocked ponds with lime and rake the pond substrate regularly.

### **33.8.2**

---

In semi-intensive systems you must measure:

- stock levels
- phytoplankton and zooplankton levels, and
- redox potentials and depth of the anaerobic layer in the pond substrate.

### **33.8.3**

---

You may use:

- probiotics to control pathogenic bacteria
- hydrated lime (also called slaked lime or caustic lime) to sterilise ponds post harvest, and
- quick lime (also called burnt lime) to treat shrimp with health problems.

### **33.8.4**

---

You must **not** use:

- formalin
- antibiotics, or
- benzalkonium chloride.

### **33.9 Harvesting and slaughtering**

#### **33.9.1**

---

You may:

- starve shrimp for up to 24 hours before harvest
- slaughter shrimp in tropical regions using ice slurry
- treat harvested stock with ascorbic acid to stop discolouration.

#### **33.9.2**

---

You must **not**:

- harvest ponds less than seven days after fertilising them
- harvest shrimp if more than 5% have soft shells, or
- treat harvested stock with sodium metabisulphite to prevent discolouration.

## **34 Bivalves**

Standards you must read with this chapter:

Chapter 1. The principles of organic production and processing

Chapter 2. The certification process

Chapter 3. Farming and growing

Chapter 10. Animal welfare and general livestock management

Chapter 30. Aquaculture

### **Bivalves**

---

34.2 Conversion

34.3 Site characteristics

34.4 Water quality

34.5 Equipment

34.6 Type and origin of stock

34.7 Culture methods and harvesting

34.8 Food safety

34.9 Predation

34.10 Handling and welfare

34.11 Processing and packing

34.12 Transport

34.13 Managing waste

## **34.1 Introduction**

### **34.1.1**

---

These standards cover the production of mussels (*Mytilus* species), native oysters (*Ostrea edulis*), Pacific, Japanese or cupped oyster (*Crassostrea gigas*), scallops (*Aequipecten opercularis* and *Pecten maximus*) and clams (*Mercenaria mercenaria*, *Ruditapes philippinarum*, and *Tapes decussatus*).

### **34.1.2**

---

The production of bivalves to these standards should maintain and, where appropriate, enhance the biodiversity and ecological health of the production site and surrounding area.

## **34.2 Conversion**

### **34.2.1**

---

You should participate in an Area Management Agreement covering the area of organic production, where one exists.

### **34.2.2**

---

With our approval, the site for organic production will not have to go through a conversion period provided you can demonstrate that you have managed your operation to these standards from the time your existing stock have been on the site.

### **34.2.3**

---

You must provide us with a map of the site for organic production, including the location of other bivalve or finfish farms in the area.

### **34.2.4**

---

If you bring in juvenile stock from another (nursery) site, that site must also be inspected and certified by us.

### **34.2.5**

---

To minimise the risk of disease and of introducing pests, when transferring juvenile stock to your site, you must:

- adhere to the guidelines in the Association of Scottish Shellfish Growers Code of Good Practice, or equivalent, and
- source stock from areas of equal or better disease status or a certified disease free hatchery.

### **34.3 Site characteristics**

#### **34.3.1**

---

You must:

- ensure your site for bivalve production is at least 500 metres from non-organic finfish farms
- demonstrate through hydrographic data that contamination by anti-fouling and therapeutic products from neighbouring farms will not occur, and
- provide us with a letter from the relevant local authority or the Scottish Environment Protection Agency (SEPA) to confirm that there is no known problem with high levels of contamination by heavy metals, organic compounds or sewage in the area you intend to use for bivalve production.

Note – we are likely to include in these standards specific limits on radioactivity and other contaminants after further research.

#### **34.3.2**

---

Before you start organic production, you must:

- carry out a survey of the carrying capacity of the site you choose for organic bivalve production
- plan your production levels (for example, the number of ropes/trestles) to stay within the sustainable limits for that area, and
- include a copy of the survey and justification for your production levels in your aquaculture management plan (see standard 30.2.1).

#### **34.3.3**

---

You must minimise the impact of your shellfish production on the seabed from drop-offs and pseudo-faeces.

### **34.4 *Water quality***

#### **34.4.1**

---

Bivalve production sites must have grade A or B water quality according to the Food Standards Agency Classification of Shellfish Harvesting Areas.

#### **34.4.2**

---

You must keep a monthly record of water quality classification.

#### **34.4.3**

---

Where water quality is grade B, you must re-lay bivalves in grade A waters or depurate them according to statutory requirements.

## **34.5 Equipment**

### **34.5.1**

---

In order to minimise the visual impact of the site on the landscape you must:

- use subdued and neutral colours for floats and other structures above the water surface (except for navigational markers), and
- store equipment in a tidy and unobtrusive manner.

### **34.5.2**

---

You must use nets and ropes made of durable material that is suitable for re-use.

### **34.5.3**

---

After their productive life, you should recycle nets and ropes or allow them to decompose in a contained area of your land-based unit.

## **34.6 Type and origin of stock**

### **34.6.1**

---

You may use:

- wild seed for mussel and scallop production
- seed from non-organic oyster, scallop and clam hatcheries until 31st December 2018, and
- partially grown seed from non-organic oyster, scallop and clam hatcheries until 31st December 2015, provided it:
  - i. spends at least two thirds of its life under organic management, or
  - ii. has been reared according to these standards.

### **34.6.2**

---

If you source seed from a hatchery, from 1 January 2019 you must use organically reared seed.

### **34.6.3**

---

If you collect wild seed you must:

- do so in a way that does **not** cause lasting damage to the environment, and
- record how, where and when you collect seed to enable traceability back to the collection areas.

### **34.6.4**

---

With our permission, you may harvest mussel seed by dredging. You must provide us with evidence that the dredging system you use does **not** have detrimental effects on the area you collect the seed from or other species.

## **34.7 Culture methods and harvesting**

### **34.7.1**

---

You may use bouchot poles for mussel cultivation.

### **34.7.2**

---

With our approval, you may buy in seeded mussel ropes, but they must be from organic production sites.

### **34.7.3**

---

If you thin your mussel stocks you must on-grow the thinned mussels on the same site or on sites in the local area, or dispose of them appropriately.

### **34.7.4**

---

With our approval, you may harvest mussels and oysters by dredging. You must provide us with evidence that the dredging system you use does **not** have detrimental effects on the sea bed and other species. This evidence must include a survey and report on the area you dredge by an independent monitoring body.

### **34.7.5**

---

You may only harvest scallops by hand.

### **34.7.6**

---

You must **not** harvest clams by dredging.

## **34.8 Food safety**

### **34.8.1**

---

You must ensure that you comply with all statutory food safety requirements.

## **34.9 Predation**

### **34.9.1**

---

You should:

- discourage eiders from feeding in mussel production areas so their numbers do not become problematic, and
- use a variety of deterrents against predators in random and infrequent sequences to reduce habituation.

### **34.9.2**

---

You may use human presence to deter predators.

### **34.9.3**

---

When you are planning a new bivalve production site, you must incorporate anti-predator measures into the design of the site and cost them into development.

### **34.9.4**

---

You must **not** use eider duck moulting areas for commercial mussel production.

Note - in the UK, Scottish Natural Heritage and other bodies can advise on where these areas are.

### **34.9.5**

---

You must regularly count and record numbers of eiders and other sea ducks on mussel production sites.

Note - you should count at consistent times of the day, ideally early in the morning before work starts on the site.

### **34.9.6**

---

You should remove starfish, crabs and other biofouling organisms by physical methods such as by hand.

### **34.9.7**

---

With our permission you may use lime to control starfish or other biofouling organisms on mussel lines. You must provide evidence to show that treatment is necessary – for example, yield data for treated and untreated mussel ropes.

### **34.9.8**

---

You must **not** use predator nets.

## ***34.10 Handling and welfare***

### **34.10.1**

---

You must handle bivalves carefully at all times, avoiding shocks from physical impact or from changes in temperature. This includes handling stock during grading and on-site movements.

## **34.11 Processing and packing**

### **34.11.1**

---

You may only use mechanical means (for example, filters) and/or UV light to treat water for depuration and/or purification purposes.

### **34.11.2**

---

When depurating bivalves, you must follow industry approved operating procedures for all site depuration units.

Note - for example the Seafish 'Guidelines for the harvesting, handling and distribution of live bivalve shellfish'.

### **34.11.3**

---

When packing oysters for dispatch to the customer, you should pack them cup-side down.

### **34.11.4**

---

If you use seaweed in packaging (for aesthetic reasons), you must:

- ensure your collection of seaweed does not damage the areas where you harvest it, and
- cleanse the seaweed to reduce the risk of contaminating the bivalves.

## **34.12 Transport**

### **34.12.1**

---

During transport you must:

- avoid windchill (for example, direct exposure to fan assisted refrigeration)
- keep temperatures between 0 and 5°C (except for scallops), and
- keep the stock moist and dark during the journey.

### **34.13 Managing waste**

#### **34.13.1**

---

You must draw up a waste management plan detailing how you will manage waste from your bivalve production and processing units, including:

- how you will maximise re-use of nets and ropes
- how you will recycle waste shell and grade outs (for example, to land)
- if not re-used or recycled, how you will appropriately dispose of:
  - i. nets, ropes and socking material
  - ii. waste shell
  - iii. deadstock and grade outs.

#### **34.13.2**

---

You must dispose of waste from your organic production and processing units:

- in a responsible and appropriate manner, and
- according to any relevant legislation, for example the Animal By-products Regulation.

#### **34.13.3**

---

You should recycle shellfish waste back to an organic farming system (for example, as a fertiliser).

#### **34.13.4**

---

You may recycle shellfish waste back to non-organic farming systems.

#### **34.13.5**

---

You may only dispose of shellfish waste at sea if:

- you carry out an environmental impact assessment which shows it does **not** have a detrimental effect on the area
- you have the necessary statutory licences, and
- we give you approval to do so.

## **35 Carp**

Standards you must read with this chapter:

Chapter 1. The principles of organic production and processing

Chapter 2. The certification process

Chapter 3. Farming and growing

Chapter 10. Animal welfare and general livestock management

Chapter 30. Aquaculture

### **Carp**

---

35.1 Introduction

35.2 Breeding and youngstock

35.3 Managing water quality and holding facilities

35.4 Feeding carp

35.5 Maintaining high stock welfare

35.6 Harvesting

## **35.1 Introduction**

### **35.1.1**

---

These standards cover the production of carp (*Cyprinus carpio*) and other species grown with carp.

## **35.2 Breeding and youngstock**

### **35.2.1**

---

You should:

- allow adult carp to breed naturally
- rear young carp in ponds which are as similar to their natural environment as possible
- source breeding stock locally, when available, and record where you sourced them from, and
- stock a ratio of four females to one male for breeding carp. The females should be second year spawners.

### **35.2.2**

---

You may spawn carp in Dubich ponds, providing you remove the parents carefully from the pond after spawning and transfer the fry to fry ponds.

### **35.2.3**

---

With our permission, you may bring in C1 fry when there is no organic broodstock available. You must:

- manage these fish organically for at least two years before you use them for breeding, and
- demonstrate how you are progressing towards producing broodstock on the farm or to sourcing organic fry.

### **35.2.4**

---

You may bring broodfish into breeding condition early using water temperature and light on sites where fry growth will be poor. You must:

- carefully hand strip the fish
- incubate and hatch the eggs in appropriate holding facilities
- transfer fry to nursery ponds
- detail these procedures in the aquaculture management plan, and
- keep records of these activities.

### **35.2.5**

---

When you stock a newly-prepared pond with fry, you must make careful preparations to ensure it is suitable for good fry survival. You must record details of your preparations in the aquaculture management plan.

### **35.2.6**

---

You must **not**:

- use hormones to induce breeding in broodstock, or
- use any chemicals to control plankton populations in ponds.

### **35.3 Managing water quality and holding facilities**

#### **35.3.1**

---

You should:

- manage carp ponds to enhance biodiversity and to act as a nutrient sink
- retain natural native vegetation around at least one third of the pond, extending from the water's edge to at least two metres up the bank
- have a catching zone at the base of the pond to capture fish easily, and
- manage your pond to eliminate the need to use support systems that correct oxygen/carbon dioxide imbalances (except in emergencies).

#### **35.3.2**

---

The ponds you use for carp must:

- have a natural substrate and natural banks (except temporary holding facilities), and
- be possible to empty.

#### **35.3.3**

---

You must:

- assess the pollution risk from the surrounding land
- put in place measures to minimise contamination of the water supply, and
- record these measures in the aquaculture management plan.

#### **35.3.4**

---

You may house stock in artificial holding units for up to:

- three weeks from hatch for first feeding fry
- eight weeks for stock for harvesting.

#### **35.3.5**

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You may introduce a few predatory fish to limit the numbers of small carp in a pond. The combined biomass of these additional species should **not** exceed 5% of the pond's total and you must provide refuges for carp in the pond.

Note – predatory species you may use include pike (*Esox lucius*), perch (*Perca fluviatilis*) and zander (*Stizostedion lucioperca*).

**35.3.6**

You must **not** exceed the stocking densities in the table below:

<i>Life stage</i>	<i>Year</i>	<i>Pond Density: number per ha</i>	<i>Transport Density</i>
Brood stock (in breeding ponds)	4+	3-5 breeding groups (4 females to 1 male for each group)	1kg per 5l
Fry / C1	1	10,000-20,000 first feeding fry	1kg per 5l
C2	2	3,000	1kg per 2.5l
C3/C4	3 - 4	500	1kg per 2.5l
Wintering ponds	3 - 4	4-8 carp /m <sup>2</sup>	1kg per 2.5l

**35.3.7**

You must remove unwanted species by hand and cull them humanely.

## 35.4 Feeding carp

### 35.4.1

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You should develop local feed production systems in line with organic principles. Examples of these include producing seed cakes or culturing natural aquafeeds (including live feeds) in specialised ponds.

### 35.4.2

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The natural productivity of the production ponds should produce enough food for the fish.

### 35.4.3

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You should feed your carp with feeds that are by-products of food for human consumption.

### 35.4.4

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The fish must obtain at least 50% of their feed through foraging in the pond.

### 35.4.5

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You may use certified organic feeds to supplement the natural feed in the pond. You must calculate the maximum amount that you can feed as follows:

	<i>Feed conversion ratio</i>	<i>Feed conversion ratio</i>
Grain	3.5:1	Weight gain x 1.75 = kg feed
Protein feeds (legumes, oil cake)	1.5:1	Weight gain x 0.75 = kg feed

### 35.4.6

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You may use the following feeds:

- organic grains: wheat, rye, oats and barley, and
- organic protein feeds: sunflower, pumpkin, pea, pelleted oilseed cakes.

### 35.4.7

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You may use organic manure or compost to increase the pond's natural productivity. You may use these either when the pond is newly stocked or as a top up during the growth seasons. You must include the details of how and when you fertilise ponds in the aquaculture management plan.

### 35.4.8

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You must **not** use any feeds that we have not approved.

## **35.5 Maintaining high stock welfare**

### **35.5.1**

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To avoid or to prevent health problems, you should:

- control the level and flow of water into ponds
- let ponds dry out and remove excessive mud where necessary
- carefully rake part of the pond substrate and treat with hydrated lime where possible.

### **35.5.2**

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You may use:

- hydrated lime ( $\text{Ca}(\text{OH})_2$ ) at 200 kg per hectare
- calciferous lime ( $\text{CaCO}_3$ ), and
- dolomite ( $\text{Mg CO}_3$ ).

### **35.5.3**

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With our approval, you may use:

- quick lime ( $\text{CaO}$ ) at 150 kg per hectare, and
- hypochlorite.

## **35.6 *Harvesting***

### **35.6.1**

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With our approval, you may sell additional fish species that you rear in the pond as organic. You must rear them to the relevant parts of these carp standards.

### **35.6.2**

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You may only crowd stock, when necessary, for harvest, capture or treatment.