



**EUROPEAN COMMISSION**

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DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

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**Report:**

**Ad-hoc expert group on**

**"Use of certain fish feed additives and cleaning substances in organic aquaculture"**

**Brussels, 19 and 20 November 2008**

## **Report of the ad-hoc expert group on "Use of certain fish feed additives and cleaning substances in organic aquaculture"**

Upon invitation by the European Commission the following experts attended a meeting in Brussels on 19 and 20 November 2008.

Mr Tjorborn ASGARD, Norway  
Mr Alex BECK, Germany  
Ms Mary HENSEY, Ireland  
Mr Pino LEMBO, Italy  
Mr Michael NIELSEN, Denmark  
Ms Francoise MEDALE, France  
Mr Randolph RICHARDS, United Kingdom

The aim of the meeting was to elaborate recommendations to the Commission on the authorisation of certain

- Fish feed additives and processing aids, and
- Materials and substances for cleaning and disinfection

for the use in organic aquaculture, which is a new field covered by Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products.

In the meeting, the experts discussed considerations and recommendations for substances and use. The recommendations are based on the objectives, principles and criteria for organic production as set out in the named Regulation.

The report given on the following pages represents a full consensus position reached among all experts.

## **I. Article 15(1)(d)(iii) of Council Regulation (EC) No. 834/2007 regarding non-organic feed materials from plant origin, feed material from animal and mineral origin and certain substances used in animal nutrition**

### **1. Annex V and Annex VI of R 889/2008**

The named Annexes should also apply to aquatic animals.

Annex V.2.2, fourth indent should be amended:

Hydrolysate and proteolysates should be allowed for aquatic animals and young terrestrial animals.

The restrictive lists may be augmented by the following substances:

### **2. Astaxanthin**

#### **a. Observation:**

Astaxanthin is authorised as additive for use in feed as "Carotenoids and xanthophylls" as E 161j astaxanthin, as E 161y astaxanthin-rich *Phaffia rhodozyma* (ATCC SD-5340) by Reg. (EC) No 828/2007 of 13 July 2007 and as E 161z astaxanthin-rich *Phaffia Rhodozyma* (ATCC 74219) by Reg. (EC) No 1288/2004, with maximum levels and only for salmon and trout. Furthermore, the Commission authorised 2a(ii)165 astaxanthin dimethyldisuccinate by Regulation (EC) No 393/2008 for salmon and trout.

Only additives authorised at EU level can be marketed with characteristics, doses and effects derived from those authorisations. This is a general rule to authorise the use of additives in the EU in order to guarantee the safety of animals, consumers/users and the environment. Such authorisations are given following EFSA evaluation in which the applicants provide information relating to the safety for the target species and for consumers of the products derived from animals fed with this additive, as well as the environment. Demonstration of efficacy is also required.

Apart from being a colorant, astaxanthin should be regarded as an essential nutrient at all life stages of salmonids and other fish species so far examined. Potential activities are as anti-oxidants and as protectors of fish eggs against the effects of UV light. It also acts as a precursor of Vitamin A in some fish species. It has to be stressed that these actions have not been assessed with respect to safety and efficacy in the evaluation of astaxanthin products by EFSA.

Ideally, organically certified natural sources such as crustacean shells should be used (feed material). If unavailable, other natural organic sources, *Phaffia ssp.*, should be used in preference to non-organic natural sources.

Should neither of the above be available, synthetic sources may then be used.

#### **b. Recommendation:**

The use of astaxanthin is recommended in organic aquaculture (salmon and trout). The source of astaxanthin should follow the priority list given above.

### **3. Cholesterol**

a. Observation:

Cholesterol is necessary for the nutrition of crustaceans; it has a crucial role in the moulting process and it is important in maintaining the integrity and chemical permeability of cell walls.

A number of sources of cholesterol exist:

For preference, sustainable marine sources or organically certified sources such as highly purified cholesterol from sheep's wool should be used;

If unavailable, non-organic natural sources may be used.

b. Recommendation:

Cholesterol may be used in organic crustacean farming. The source of cholesterol should follow the priority list given above.

### **4. Lecithin**

a. Observation:

Lecithin is used as a phospholipid source and as an emulsifier. It is authorised as a feed additive under the functional group "emulsifying and stabilizing agents, thickeners and gelling agents".

b. Recommendation:

For preference, lecithin from organically certified sources such as organic soybean, may be used following mechanical extraction. If unavailable, non-organic natural sources may be used provided they are of non-GMO origin.

### **5. Antioxidant substances**

a. Observation:

Besides tocopherol-rich extracts of natural origin many natural antioxidant substances are currently commercially available.

b. Recommendation:

Preferably, substances of natural origin should be used to prevent oxidation of feed.

## **II. Article 15(1)(g) of Council Regulation (EC) No. 834/2007 cleaning and disinfection material**

### **Products for cleaning and disinfection**

Observations and recommendations:

Organic aquaculture needs to be carried out in accordance with the relevant current legislation. Where possible mechanical and physical means should be the preferred choice for cleaning and disinfection e.g. brushing, use of pressure or heat, UV, filtration. However, chemical products are allowed as listed below.

The products listed should be used in a manner which leads to no detrimental environmental effect. This will be controlled through, inter alia, the Water Framework Directive 2000/60 and the Marine Strategy Directive 2008/56.

As a key principle, it is emphasised that chemical treatments should not be used as a means of increasing stocking density. The chemicals listed should only be used when there is no appropriate husbandry alternative. Such chemicals used in the presence of aquatic animals must be for animal health concerns only and documentary records must be kept.

The use of rotenone in organic aquaculture is not allowed due to its broad negative impact on the aquatic ecosystem.

1. The following products may be used for cleaning and disinfection of equipment and facilities:

- ozone
- sodium chloride
- sodium hypochlorite
- calcium hypochlorite
- lime (CaO, calcium oxide)
- caustic soda
- alcohol
- hydrogen peroxide
- organic acids (e.g. acetic acid, lactic acid, citric acid)
- humic acid
- peroxyacetic acids
- formaldehyde
- glutaraldehyde
- quaternary ammonium compounds
- iodophores
- copper sulphate
- potassium permanganate
- peracetic and peroctanoic acids

2. The following may be used in the presence of aquatic organisms:

- ozone
- limestone (calcium carbonate) for pH control

3. Other substances listed below should be subject to health counselling plans and withdrawal periods when used as antiparasitic and antibacterial treatments.

- sodium chloride\*
- hydrogen peroxide\*
- quaternary ammonium compounds\*
- iodophores\*
- copper sulphate
- chloramine T
- peracetic and peroctanoic acids\*
- formaldehyde
- glutaraldehyde

\*) these substances are included in EU Regulation 2377/90 Annex II (not subject to maximum residue limits)

4. Products used in shrimp farming

- tea seed cake (made of natural camelia seed) for sterilisation of incompletely drained ponds.
- probiotics (provided naturally occurring bacterial strains of non-GMO origin are used).
- dolomite (natural rock product comprising at least 50% dolomite ( $\text{CaMg}(\text{CO}_3)_2$ ) for Ph correction and magnesium enrichment).

### **III. Article 19(2)(b) of Council Regulation (EC) No. 834/2007 processing aid**

#### **1. Metabisulphite**

a. Observation:

Sodium metabisulphite is used as a food additive to prevent blackening of the shell caused by post-mortem oxidation in crustaceans. At the moment no technical alternative is available for shell-on crustaceans. It is not considered to be an ideal food additive on account of well known adverse effects including allergic reactions. Therefore alternative treatments would be preferable.

b. Recommendation:

For organic shell-on product the use of sodium metabisulphite may be accepted for the time being. The development of alternative treatments needs to be addressed as soon as possible and not later than 31 December 2013. The maximum concentration of residue in the edible parts of the finished product (expressed as ppm of SO<sub>2</sub>) should not exceed 100 ppm for fresh and frozen product and 135 ppm for cooked product.