

## EU REGULATIONS FOR ORGANIC AQUACULTURE – A KEY FOR PRODUCING ORGANIC FOOD

Carmen Georgeta NICOLAE<sup>1</sup>, Alexandru POPESCU<sup>1</sup>, Magda Ioana NENCIU<sup>2</sup>,  
Mioara COSTACHE<sup>3</sup>

<sup>1</sup>University of Agronomic Sciences and Veterinary Medicine of Bucharest, 59 Mărăști Blvd,  
011464, District 1, Bucharest, Romania

<sup>2</sup>National Institute for Marine Research and Development „Grigore Antipa” Constanța,  
300 Mamaia Blvd, Constanta 3, RO-900581, Romania

<sup>3</sup>The Fish Culture Research and Development Station of Nucet, 549 Main Street, Dâmbovița  
County, Nucet, 137335, Romania

Corresponding author email: popescu.alexandru@ansvsa.ro

### Abstract

*As a result of applying conventional agriculture that involves synthesis medicines, pesticides and GMO's, the quality of food gave rise to concerns for the world population. In these circumstances organic agriculture has massively developed in the last decades. The features of this new type of agriculture were also used in aquaculture. Therefore, the European decision makers have issued the following legal acts: Regulations (EC) No 834/2007, 889/2008, 1254/2008, 710/2009 and 537/2009. As regulations they shall apply directly in the national legislation. These regulations cover the fields of pounds for aquaculture, specific organic feed and reproduction methods by organic genetic material. Another target of the regulations is the production of an important source of organic feed – seaweed - intended for the feeding of organic farm animals. In Romania the targeted species are the carp and the Asian carp varieties. There is a great potential for the seaweed organic feed. The organic aquaculture interferes in the friendly way with the environment maintaining the natural characteristics of it and also a sustainable agriculture activity.*

**Key words:** organic farming, feed, food, legislation, sustainability.

### INTRODUCTION

In the past two decades, the interest of consumers for foods classified as "organic" or "bio" has grown exponentially. Among the factors that determined this trend are: computer bombardment, especially via the Internet; the promotion of risks of serious diseases (cancer, diabetes, allergies) presented as foods obtained by conventional means of cultivation, growth and processing; psychosis induced by the media in connection with the various accidents in the production chain (contamination with toxic substances, increased levels of preservatives in animal or plant products); aggressive media coverage of the conflict between supporters and opponents of G.M.O.'s use. In addition to this data, a growing population segment is aware of the health risks that can arise from the use of pesticides, herbicides, antibiotics and other synthetic substances in plant cultivation and animal husbandry (<http://ec.europa.eu/agriculture>

[/organic/files/consumer-confidence/inspection-certification/EU\\_control\\_bodies\\_authorities\\_en.pdf](http://ec.europa.eu/agriculture/organic/files/consumer-confidence/inspection-certification/EU_control_bodies_authorities_en.pdf)). As a result, major retail companies have restructured their marketing strategies, offering a wider range of products under the label "organic" or "bio".

This policy has also involved the aquaculture sector. The bodies responsible for EU food safety have responded to new consumer concerns and have developed a set of normative acts to regulate: the growth, processing and marketing of animals and algae obtained under strict conditions of exploitation, according to the rules of "bio" products ([http://ec.europa.eu/environment/ecolabel/documents/marketing\\_guide\\_en.pdf](http://ec.europa.eu/environment/ecolabel/documents/marketing_guide_en.pdf)).

According with legislation, food means any processed, partially processed or unprocessed product, designed for human consumption.

The aquaculture products have a high nutritional value, contain good quality proteins and lipids vitamins, and minerals (Nicolae et al., 2016).

## MATERIALS AND METHODS

The present study presents an overview of the literature and legal resources related to organic aquaculture production and legislation (printed and/or available online) that apply to organic food provide by aquaculture.

Organic production is regulated at EU level by: Regulation (EC) No 834/2007 on organic production and labeling of organic products and repealing Regulation (EEC) No 2092/91 (Official Journal of the European Union L 189, 2007). This is the basic normative act which in turn has undergone numerous amendments over the last ten years. They are in order: Commission Regulation (EC) No 889/2008 laying down detailed rules for the application of Council Regulation (EC) No 834/2007 on organic production and labeling of organic products as regards organic production, labeling and control (Official Journal of the European Union L 250, 2008); Regulation (EC) No 710/2009 amending Regulation (EC) No 889/2008 laying down detailed rules for the application of Council Regulation (EC) No 834/2007 as regards the establishment of detailed rules for organic production of aquaculture animals and seaweed (Official Journal of the European Union L 204, 2009); Regulation (EC) No 1254/2008 amending Regulation (EC) No 889/2008 laying down detailed rules for the application of Council Regulation (EC) No 834/2007 on organic production and labeling of organic products as regards organic production, labeling and control (Official Journal of the European Union L 337, 2008); Commission Regulation (EC) No 537/2009 amending Regulation (EC) No 1235/2008 as regards the list of third countries from which certain agricultural products produced by organic production methods must originate in order to be marketed in the Community (Official Journal of the European Union L 159, 2009).

In national legislation the definition of specific terms has been regulated by O.U.G. 34/2000, amended in 2006 (Official Gazette of Romania, Part I, no. 172, 2000). Another normative act this time a Community Directive: Directive 2006/88 on animal health conditions and applicable to aquaculture products and on the prevention of certain diseases and the measures

to combat them (Official Gazette of Romania, Part I, no. 172, 2000), transposed into national legislation by Order 170/2007 of the National Sanitary-Veterinary and Food Safety Authority under the title: „Order for the approval of the sanitary veterinary norm setting animal health requirements for aquaculture animals and their products, as well as for the prevention and control of certain aquatic animal diseases” (Official Gazette of Romania, Part I, no. 679, 2007). Veterinary bodies carry out official controls on the basis of Regulation 882/2004 (Official Journal of the European Union L 165, 2004). As regards the hygiene rules applicable to organic holdings and the processing of organic products, they must comply with the provisions of Regulations 853/2004 (Official Journal of the European Union L 285, 2017) and 854/2004 (Official Journal of the European Union L 323, 2015). The procedure for registration of organic farms is regulated by Order No 1253/2013 of Ministry of Agriculture and Rural Development (M.A.R.D.) (Official Gazette of Romania, Part I, no. 687, 2013). Delegated attributions of inspection and certification competencies by M.A.R.D. to private control bodies are the basis of Order No 895/2016 (Official Gazette of Romania, Part I, no. 669, 2016).

In this work, several carp farms have been studied which received organic certifications in previous years, as well as a culture of organic spirulina in Sinoe waters.

## RESULTS AND DISCUSSIONS

In this study we used the term organic or biological, respectively or ecological, whenever the term "ecological" appears in the Romanian official text. We have avoided this term for several reasons. In the linguistic nomenclature of the EU member states for agriculture, which respects the general principles and objectives of natural agriculture without artificial interference, three variants are used: biological, organic or ecological. Of the 24 official languages, six use two terms (pairs of words for the same term), eight only the term "biological", seven only use the term "organic", and the other three the term "organic". Although Romania has obtained from the European Commission the right to use the term

"ecological" it is appropriate to analyze this word from the perspective of the scientific approach. According to the opinions expressed by biologists (the term means connoisseurs of the living world as a whole), agriculture can be divided into three branches: 1. Chemistry agriculture; 2. Biological agriculture; 3. Ecological agriculture. If agriculture is defined by the phrase "conventional agriculture", organic farming refers to the "agricultural organism" (farm or household that only imports natural fertilizers - limestone, volcanic rocks, siliceous sand). Instead, the term ecological farming is coming from outside agriculture (Papacostea, 2016). It defines an agriculture that integrates into the whole of natural ecosystems, that do not pollute and as a result it is beneficial for the biotope. Ecology as a science has never developed specific technologies, but puts the label of integrated agriculture into the landscape. The final link is not man, but biotope, because the production is decreasing. For this reason, the name of ecological product is unfounded, being synonymous with the "healthy product" (Papacostea, 2009). Or all products placed on the market are considered to be healthy and good for human consumption (Simeanu, 2015). Under specific regulations, any farm producing fish or organic algae must meet the specific requirements of any organic farm. Genetic material should come from bio-sources, feed used as a feed substrate must also be organic feed, basins must be well delimited by other sources of water, to avoid possible contamination with substances used in conventional farms. In the case of fish, compliance with animal welfare rules is mandatory for any organic farm.

To obtain certificates specific to organic holdings, the farmer must draw up the veterinary registration dossier at the County Sanitary-Veterinary Directorate, which is the competent authority at local or regional level. In the next step, the National Agency for Fisheries and Aquaculture records the dossier and grants the aquaculture license. According to the term defined by Regulation 834/2007 as "competent authority" for organic production in Romania, this is the Ministry of Agriculture and Rural Development. Certification and control bodies are a third party, independent,

privately owned, carrying out inspection and certification activities in the field of organic production where the ultimate goal of production is the market. In 2017 a number of 13 control bodies were approved in Romania. Seven are native bodies, and six are branches of bodies from Italy, Germany and Austria. If the ultimate goal is to access Community funds in the specific field, the control is done by the Payment and Intervention Agency for Agriculture.

Over the last three years, Romania recorded a decrease of 23% in organic farming surface, a phenomenon reflected in the requests for organic aquaculture certificates ([http://ec.europa.eu/eurostat/statistics-explained/index.php/Organic\\_farming\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Organic_farming_statistics)).

Holdings benefiting from Community funds in previous years have not renewed their certification requests after the European Commission has suspended animal welfare subsidies. Because of the low carp price/kilo, farmers have not shown interest in this type of exploitation, the difference in price between conventional and organic products being small and therefore unattractive. Following a study started two years ago on the possibility of obtaining *Arthrospira platensis* organic spirulina crops in the Sinoe Saltwater, the results were encouraging, the alga rising in parameters similar to those in freshwater pools. At present, the physico-chemical characteristics of the Sinoe waters are within the requirements of organic aquaculture. The only biological limitation is the temperature of the environment; the algae develop only between May and October.

## CONCLUSIONS

1. Aquaculture offers a great potential in Romania, especially in the indoor water sector. So far, the number of species raised has been modest compared to other countries. In order to attract an economically significant segment of buyers, the diversity of the offer must increase. In this sense, farmers have to be stimulated by means of subsidies in the first years of production. Organic spirulina produced so far only in strictly controlled artificial environments, can be cultivated in accordance with the organic production rules in Sinoe

waters, the low production cost justifies enough the method.

2. In the certification and control mechanism so far the weak link has proved the methodology for the selection of certification and control bodies by the competent authority. Also, the number of controls and their frequency create uncertainty in the certification.

## ACKNOWLEDGEMENTS

This research work was carried out with the support of The National Sanitary Veterinary and Food Safety Authority.

## REFERENCES

- [http://ec.europa.eu/agriculture/organic/files/consumer-confidence/inspection-certification/EU\\_control\\_bodies\\_authorities\\_en.pdf](http://ec.europa.eu/agriculture/organic/files/consumer-confidence/inspection-certification/EU_control_bodies_authorities_en.pdf)  
[http://ec.europa.eu/environment/ecolabel/documents/marketing\\_guide\\_en.pdf](http://ec.europa.eu/environment/ecolabel/documents/marketing_guide_en.pdf)  
[http://ec.europa.eu/eurostat/statistics-explained/index.php/Organic\\_farming\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Organic_farming_statistics)
- Nicolae C.G., Bahaciu G.V., Elia E., Dumitrache F., Marin M.P., Pogurschi E., Bădulescu L. 2016. A review of the quality standards for frozen beef meat and fish. Scientific Papers. Series D. Animal Science, Vol. LIX, 302-310.
- Official Gazette of Romania, Part I, no. 172, April 21, 2000.
- Official Gazette of Romania, Part I, no. 679, October 5, 2007.
- Official Gazette of Romania, Part I, no. 687, November 8, 2013.
- Official Gazette of Romania, Part I, no. 669, August 31, 2016.
- Official Journal of the European Union L 165, 30.4.2004, p. 1–141, Regulation as last amended by Commission Regulation (EU) 2017/2460 (OJ L 348, 29.12.2017, p. 6).
- Official Journal of the European Union L 328, 24.11.2006, p. 14–56, Directive as last amended by Commission Implementing Directive 2014/22/EU (OJ L 44, 14.2.2014, p. 45).
- Official Journal of the European Union L 189, 20.7.2007, p. 1.
- Official Journal of the European Union L 250, 18.9.2008, p. 1–8.
- Official Journal of the European Union L 337, 16.12.2008, p. 80–82.
- Official Journal of the European Union L 159, 20.6.2009, p. 6–9.
- Official Journal of the European Union L 204, 6.8.2009, p. 15–34.
- Official Journal of the European Union L 323, 9.12.2015, p. 2.
- Official Journal of the European Union L 285, 1.11.2017, p. 10.
- Papacostea P., 2009. The truth about biodynamic organic agriculture. InfoTerapii 1/9 0:55:36.
- Papacostea P., 2016. Memories and teachings at ninety years old. Revista Formula As, 1224 (<http://www.formula-as.ro/2016/1224/lumea-romaneasca-24/dr-biolog-petre-papacostea-amintirisi-Invataturi-la-nouazeci-de-ani-20974>).
- Simeanu D., 2015. Human nutrition. Ion Ionescu de la Brad Publishing House, Iasi.