

# Journal of the Hellenic Veterinary Medical Society

Vol 76, No 2 (2025)



Comments on EU legislation governing organic animal production and the role of values in agriculture

PE Zoiopoulos, PI Natskoulis

doi: [10.12681/jhvms.39158](https://doi.org/10.12681/jhvms.39158)

Copyright © 2025, PE Zoiopoulos, PI Natskoulis



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0](https://creativecommons.org/licenses/by-nc/4.0/).

## To cite this article:

Zoiopoulos, P., & Natskoulis, P. (2025). Comments on EU legislation governing organic animal production and the role of values in agriculture. *Journal of the Hellenic Veterinary Medical Society*, 76(2), 8999–9008.  
<https://doi.org/10.12681/jhvms.39158>

## Comments on EU legislation governing organic animal production and the role of values in agriculture

P. E. Zoiopoulos,<sup>1\*</sup> P. I. Natskouli<sup>2</sup>

<sup>1</sup>*Laboratory of Animal Science, School of Management of Natural Resources and Enterprises, University of Ioannina, Ioannina 42010, Greece.*

<sup>2</sup>*Institute of Technology of Agricultural Products, Hellenic Agricultural Organisation (ELGO) – DIMITRA, Likovrisi 14123, Greece.*

**ABSTRACT:** It was the food crises in the second half of '90s such as the BSE (Bovine Spongiform Encephalopathy) scandal, the dioxin episode, the GMOs (Genetically Modified Organisms) issue, the rBGH (recombinant Bovine Growth Hormone) as well as the cross-resistance case of antibiotics used as anabolics in animal feed, that accelerated the adoption of ECC (European Economic Community) Regulation 1804/1999, on the marketing of organic animal products. This piece of legislation included provisions such as conversion of animals and land from conventional to organic, feeding, hygiene with emphasis on preventing diseases, keeping of animals, animal excretions (faeces and urine) handling, housing, and free-range areas. However, because of the prohibited use of chemically synthesised allopathic veterinary medicines, the organic livestock system contains a greater element of weakness, vulnerability, risk and cost in tackling epidemic problems. Issuing of EEC Regulation 1804/1999 was done with an element of haste. In a spirit of compromise between Member States and an attempt to reach consensus, legal tools were used to solve technical problems so that a great number of derogations (exceptions) were introduced. These allowed the use of certain additives, as well as tethered animals and castration of newborn piglets, although welfare is a central component of the system. However, derogations should be avoided in legislation where harmonization is pursued since they bring distortion to the market. The validity of these derogations had expiry dates, but EU (European Union) appeared to be hesitant to lift some of these derogations. In the present article, the authors attempt to identify the main derogations of the relevant EU law for organic animal production and comment on their role and implications on the purity of this alternative system as it is applied in practice. Furthermore, the article focuses on the issue of derogations of the law through the prism of the principles of animal science. The more recent EU Regulations 834/2007 and 889/2008, which repealed among others the initial Regulation 1804/1999, are also commented upon. Mention is also made to geographical issues arising from the exception questions posed again with the new Regulations. Attention is also paid to the definition of what is meant by "organic product". Reference is also made to the "conventionalisation" phenomenon. Finally, certain conclusions are drawn concerning the relationship between setting standards and the role of values in agriculture, social aspects, pursued policy, and future research in the field.

**Keyword:** EU Legislation; organic animal production; agricultural policy; derogations; product quality.

*Correspondence author:*

P. E. Zoiopoulos  
Laboratory of Animal Science, School of Management of  
Natural Resources and Enterprises,  
University of Ioannina, Ioannina 42010, Greece  
pantelis.zoiopoulos@gmail.com

*Date of initial submission: 21-10-2024*

*Date of acceptance: 10-2-2025*

## INTRODUCTION

Opposite to the world population increase, agricultural science as research and technology responded to the challenge for improving production by inventing new materials and application methods. However, the wrong use of these materials i.e., fertilizers and pesticides for plants, as well as additives and drugs for animal production, includes an element of risk for animals, men as consumers of their products, but also for the environment. These risks have generated the interest of the public, which in its turn calls for a “cleaner” agriculture (Brandt and Molgaard, 2001; Sundrum, 2001). In this respect the term “organic product” has emerged.

However, in the nucleus of organic agriculture, standards of production exist, which they distinguish it from other types of agriculture. The examination of the evolution of policy for the organic sector focuses mainly on regulatory means (Greer, 2002). It is apparent that the technological barriers depend on how the “organic product” is defined, and so the importance of organic rules shapes organic production practices.

In addition, the role of derogations introduced to solve technical problems and speed up the procedure for the adoption of regulation is stressed. Derogation is a legal term meaning a lessening or impairment of power or authority. Furthermore, the paper focuses on the confusion brought about by derogations in interpreting various provisions of the legislation, pointing out at the same time to the hesitance noticed by the side of the EEC (European Economic Community) in lifting derogations when expiring dates had been reached.

It should be underlined also that organic standards offer additional credibility to organic products in the eyes of the consumer (Allen and Kovack, 2000). Even if the latter may not be able to understand what a regulation is, however, a central component for the success of organic production is the reliability of the market.

## EVOLUTION OF COMMUNITY LEGISLATION FOR ORGANIC PRODUCTS

We will proceed with a historical retrospection, at the outset of community regulation 2092/1991 for organic plant production (EU, 1991), which was the first piece of legislation for organic agriculture. This piece of Community legislation which was issued

in 1991, foresaw that the Council had to present proposal in four years i.e., before June 1995, which would concern the principles and specific measures of inspections to cover organic animal production as well. However, more four years passed (eight in total) for issuing Council Regulation 1804/1999 for organic animal production (EU, 1999). Nevertheless, at the final stage, it is the authors view that the text was agreed rather hastily, to satisfy the public concern, because that era certain adverse incidents took place in human food chain which were associated with foods of animal origin and had been rendered front page stories in the press. This was mirrored in the preamble of this legislation, but also in other parts of the text i.e. feeding and prevention of diseases. Regulations 2092/1991 and 1804/1999 constituted the basis for the agro-food sector as an answer to the increasing demands of the public for organically produced foods throughout Europe.

Based on certain guidelines organic agriculture aims at the establishment of a sustainable production friendly to the environment keeping animals in good health, achieving high quality standards for welfare, and production of products of high quality. However, there is something qualitatively different in relation to organic animal production, which differentiates it from the case of plant production. In fact, it has different characteristics that render its Regulation more difficult and correspond to different policy and care issues. In other words, animal production without the use of feed additives and drugs is a much more difficult matter compared to that of organic plant production i.e., production without the use of fertilizers and pesticides, since the term “chemical” in the former case constitutes a more critical and delicate issue (Zoiopoulos and Drosinos, 2010).

In addition, organic animal production due to the prohibition of use of allopathic veterinary medicine products from chemical industry or antibiotics for preventive reasons, it includes a greater element of weakness, risk, and cost of confronting epidemic problems. In the middle of '90s, the International Federation of Organic Agriculture Movements (IFOAM) published the basic principles which should govern the system of organic animal production. Among them, these principles included provisions on the conversion of land and animals from conventional to organic, feeding, prevention of diseases, handling of animals and manure, space for free grazing, and housing. Community legislation for organic animal production, which was issued a few

years later, was based on similar principles. But the great differences between IFOAM and EU is that, while IFOAM principles are mere recommendations and it is entrusted to the good will of the countries around our planet to obey them, on the contrary the provisions of the Community Regulations constitute Community Law, which takes precedence over the National Laws of individual Member States (IFOAM, 2000).

EU delayed adopting legislation for organic animal production, compared to that of plants, and only due to the incidents and big food crises which occurred at the end of '90s, adoption procedures started being accelerated, but this was done with an element of haste at the final stage. These incidents which had their origin in animal feed sector, included the BSE (Bovine Spongiform Encephalopathy) Scandal with the infected meat meals (Zoiopoulos and Drosinos, 2010) as well as the dioxin episode with the contaminated fats and oils in animal diets (Natskoulis and Zoiopoulos, 2014). In addition, the incidents included the issue of recombinant bovine growth hormone (rBGH) (DuPuis, 2000), and that dispute over the resistance of microbes to antibiotics (microbial resistance). The latter led to the banning of use of a series of antibiotics in animal feeding. Finally, a relevant issue was that of opinion dichotomy on GMOs (Genetically Modified Organisms) given that most of them fall within the area of animal production as raw materials destined for animal diets i.e. (maize and soya bean) (Costa-Font, 2007; Toke and Marsh, 2003; Zoiopoulos, 1998a, 1998b; Zoiopoulos and Natskoulis P, 2013).

Due to the pressure from the aforementioned adverse incidents, the finally approved text of Council Directive 1804/1999 was the result of various compromises between EU Member States. To understand one the need for compromise, should realize that there were "apparent" targets of Community legislation for organic animal production: 1) the achievement of the safety of the consumer and farm animals and 2) the protection of the environment. However, there were more two "hidden" targets of the relevant legislation: a) the avoidance of discouraging breeders who would enter for first time organic animal production because of the strict character of the initial wording of it, and b) the satisfaction of the interests of the Member States which had different practices of animal production in their territory, with ensuring that every Member State will secure a good share of the international market of organic products.

In fact, when the US Ministry of Agriculture released the second draft plan of the National Organic Standards some of the supporters of organic agriculture thought that the standards were very strict, and it was possible to discourage rather than encourage the farmers to cultivate organic crops (Allen and Kovach, 2000).

## THE DEROGATION ELEMENT

In a way, EU acting under public pressure, with a view to achieving the aforementioned targets, needed to introduce a large number of derogations, particularly in the area of bee keeping. Derogation is a legal term which means the decrease or impairment of a power or an authority. In other words, it is an exemption from an obligation. Derogation is something which has to be avoided in legislation since it undermines the harmonization and could create problems in practice. To give an example of derogation, we can quote that in the most critical part of the Regulation 1804/1999, that of "feeding", paragraph 4.2 stated that "animals must be fed with organically produced foods". Particularly, the use of additives in the case of organic animal production was not expected. However, paragraphs 4.4, 4.7, 4.8, 4.13, 4.14, 4.15, and 4.16, through derogations, allowed under certain conditions the use of feeds at the conversion stage and conventional feeds in certain quantities and certain additives.

Other weak points of Regulation 1804/1999 included statements such as "vitamins are permitted if authorized according to Council Directive 70/524/ EEC (the directive for additives in conventional feeding of animals at that time) preferably derived from materials occurring naturally in feeding stuff" or "livestock must be reared preferably using feed from the unit" or "livestock must be fed predominantly with self-produced feeds". The words "preferably" and "predominantly" admit more than one interpretation and constitute vulnerable points in a legislation, since they lead to non-quantifiable and so non-uniform situation in applying legislation in agricultural practice.

Another suggestion of Regulation 1804/1999 quoted: "operations such as dehorning... must not be carried out systematically in organic agriculture". However, how the words "not systematically" can be applied uniformly in practice? Furthermore, another provision states: "physical castration is allowed in order to maintain the quality of products and traditional production practices, but only under

the conditions of paragraph 6.12 (which states the operations should be done at an appropriate age, by qualified personnel and any suffering to animals must be reduced to a minimum). Although welfare issues may exist if you do not castrate animals i.e., intact males may be more aggressive, and there is a risk of immature females being mated, what about permission of castration with organic livestock for traditional product quality (non-presence of taint in meat) when welfare is a central component of organic animal production?

In addition, the importance and the problems of such a large number of derogations in legislation should be stressed. Some authors have hinted problems from certain vague provisions in legislation for organic animal production (Hermansen, 2003; Wilson, 2001). It appears that controversy exists between ideas and practice, in other words a loosening of organic standards. Standards of organic agriculture contain a number of contradictions and inconsistencies, and many of them arise because of the nature of standards, which inevitably cannot capture perfectly the idea which are destined to represent. Over the years, these controversies could be exploited to weaken standards and undermine arguments about the benefits of organic methods.

The push towards increasing market sales resulted to a continuous pressure to the certification community to loosen standards with a view to maintaining members but also in reluctance to publicly implement enforcement measures. In addition, USDA (United States Department of Agriculture) in 1997 suggested standards that directly contradicted current organic practice, to weaken the standards to break down barriers to entry the large agribusiness firms and increase opportunities for profits. USDA concluded that deeper changes in social, scientific, political, and economic relations are required to overcome these contradictions. In that case, many organic farmers protested the USDA's loosening of standards (Allen and Kovach, 2000).

Derogations in Council Regulation 1804/1999 had expiry dates. In substance, they transferred the solution of the problems to the future. However, when the time was approaching for lifting the derogation, the EU appeared to be hesitant to introduce the necessary changes to organic livestock legislation. Some examples of the inconsistency were given in the past (Zoiopoulos and Hadjigeorgiou, 2013). These refer to extensions given to feed manufacturers so that operations may take place for organic feeds using the same equipment with conventional ones, provided that separation in terms of time and cleaning before use is guaranteed. Also, the initial provision for poultry that formula used in fattening stage should contain at least 65% cereals was deleted. In addition, permission was given to use additives such as sodium nitrite and potassium nitrate in the preparation of organically produced meat products. Obviously, we cannot talk of organic sausages in this case but only for sausages prepared from organically produced meat. A small Table 1 is added with indicative derogations and the corresponding legislative vehicles in this issue. For further derogations the reader is directed to the work of Zoiopoulos and Drosinos (2010).

It appears that with all these derogations and the interests involved, the purpose of community legislation for organic animal production causes rather confusion. A number of provisions are vague, while the overall impression from a technical point of view is that clarity which one would expect from the EU legislation for organic animal production is lost. In addition, it causes confusion the fact that feed additives like vitamins which are manufactured from chemical synthesis or biotechnologically are allowed in a system of organic animal production.

The nucleus of claim of the present article is that the need for an intergovernmental compromise in relation to the derogations weakened the purity of the standards which one would expect from EU Regulation 1804/1999. In fact, EU legislation for

**Table 1.** Indicative cases of derogations in organic animal production legislation and the corresponding legislative vehicles

Derogation	Legislative vehicle
Permission of use of conventional feeds	Council Reg. 1804/1999
Castration is allowed to maintain quality of traditional products	Council Reg. 1804/1999
Synthetic vitamins are given to monogastric animals and A, D and E to ruminants	Comm. Reg. 1916/2005
Use of additives such as Sodium nitrite and Potassium nitrate is permitted in preparation of organically produced meat products	Comm. Reg. 780/2006

organic animal production was characterized by a “veil” of strict provisions and prohibitions, but on the other hand, with the introduction of a “loop-hole” through a significant number of derogations, in that way the whole concept of organic agriculture is weakened. Therefore, a dilemma emerges from the human factor involved, in other words scientists, breeders, and above all the consumer and society broadly, in relation to the purity of the character of organic animal production under the EU legislation. The moral and ethical dimensions of a pure organic agriculture are stressed, particularly in the case of animal production (Vos, 2000).

Over the years, the basic problem is that animal product industry operates under pressure by the society, and because of the recent food crises we cannot reject this as unfair (Hodges, 2001). Apart from technical, the problem of animal production has also a social character. It has been reported that, in relation to the standards, it is in the interest of the farmers to round corners, in order to increase profits at the expense of the ecological correctness. Also, there are cases that this manner of rounding up corners cuts the line which separates rational application of science from fraud, and in certain cases a struggle takes place in the production arena, which involves policies of farmers, and consumers as regards the definition of “organic product” (Allen and Kovach, 2000; Papakonstantinou et al., 2023).

As it was mentioned above, it was unexpected one to see the use of certain feed additives to be approved in EU legislation for organic animal production specifically, it is the author’s view that it was the enzymes that opened the loophole for the entrance of other additives. But what was the reason for the use of enzymes to be permitted in the organic feeding of animals? Between food quality and environmental protection, it seems that the most critical issue for the majority of EU Member States was the environment. Animal feed apart from supplying animals with nutrients, it is also an indirect pollutant of the environment through the indigestible and non-metabolizable part of the feed, faeces, and urine in fact. The most severe pollutants from animal excretions are nitrogen and phosphorus. One of the most promising solutions to this problem is the use of enzymes in animal feed. In general, the biggest part of phosphorus in feeds of plant origin is in the form of insoluble salts of phytic acid, and it seems that the use of industrially produced enzyme “phytase” in non-ruminant animals could have opened the door for other industrially or chemically produced feed

additives to enter to the system of organic animal production.

It is important to know that several derogations in EU legislation are allowed only after the permission of the competent authorities of each Member State. Medicines, for example, could be used under certain conditions. The length of transition period is very critical. For example, article 18, paragraph 2, of Regulation 889/2007 states that “physical castration is allowed in order to maintain quality of products and traditional practices”, but it also states that “any suffering of the animals should be reduced to a minimum by applying adequate anaesthesia and/or analgesia”. Surprisingly, in article 19, paragraph 3 of the same Regulation is mentioned that “the castration of piglets may be carried out without the application of anaesthesia and/or analgesia during a transition period expiring on 31 December 2011”. However, the thinker of the science of the organic system, should take into account the question of competent authorities. The latter have to control situations where they should apply certain vague provisions. For example, a critical case in Regulation 1804/1995 referred to an exception relating to “tethering” of animals – this beyond any sense of welfare – which was based on a provision expiring on 31/12/2010. However, this exception would continue to be valid beyond the above date for “the small farms” and the certifying bodies should give a clear definition for what it is meant by the term “small farms”, something which was not defined in the legislation. In general, the great number of derogations in the EU law for organic animal production disturbs the unanimous application to the agricultural practice leading to distortion of the marketing of farm products. This necessitates the study of the relationship between politics, regulatory bodies, certifying agents, and the definition of the “organic”.

## MORE RECENT PIECES OF EU ORGANIC LEGISLATION

Two new fundamental pieces of EU legislation on organic agriculture, the animal production included, were issued to come into force from 1/1/2009. First, Council Regulation 834/2007 (EU, 2007a) on organic product production and labelling, which repeals Council Regulation 2092/1991 and 1804/1999. This, beyond crops and animal production covers also fish farming, something had not been done with the Regulation 1804/1999. In addition, it takes measures for risk assessment wherever this is necessary. Furthermore, it includes a restricted catalogue of

products and substances, like nonorganic animal feeds, additives, processing aids, and disinfectants approved by the Commission which could be used in organic agriculture. It also contains provisions which refer to the production of processed feeds and foods, as well as criteria which regard products and substances used in processing. It also includes a critical chapter titled: "Flexibility" which refers to exceptional rules of production, while there are extensive chapters on labelling and the control system as well as on marketing between EU and third countries. Finally, it establishes a Regulatory Committee on organic production to assist the Commission. Regarding the second Regulation valid from 1/1/2009 i.e., 889/2007 (EU, 2007b), this lays down detailed rules for applying the previous Regulation 834/2007 including the introduction of a new logo of EU for organic products.

However, despite the detailed rules they were supposed to introduce, the new Regulations, did not lift the aforementioned derogations existed in Regulation 1804/1999, as this had been supplemented. In fact, in the new Regulation, the term "derogation" had been changed to "exception". The new Regulation appears to move far from the initial expectations of the consumer for a genuine practice of organic agriculture (Allen and Kovack, 2000). In this sense, because differences exist in local climatic and geographical conditions, specific animal husbandry practices and stages of development of certain areas, the competent authorities of Member States can continue the authorization for the tethering of cattle, as well as exceptions granted to livestock producing holdings up to 31 December 2013, for housing conditions and stocking density, expiring otherwise on 31 December 2010.

Based on the new Regulations, beyond adult cattle, the fattening phase of sheep and pigs for meat production, can take place indoors, until 31/12/2010. Also, while Regulation 1804/1999 stated that "mutilations should not be carried out systematically", this phrase has been reworded in a similar one "they should not be carried out routinely". Furthermore, article 18, paragraph 2 of the Regulation 889/2007 states that "physical castration is permitted with a view to maintain the quality of products and traditional practices, but also it states that every pain in the animal must be reduced to the minimum with the application of adequate anaesthesia and/or tranquillizers. However, unexpectedly in article 95, paragraph 3 of the same Regulation is mentioned

that "castration of piglets can be carried out without the application of anaesthesia and/or tranquilizers, during a transition period which expires on 31/12/2011". Finally, under certain conditions feed additives can be used which are chemically produced substances, analogue to natural vitamins, and unexpectedly, substances which are produced from GMOs – the latter when such organic substances are not available in the market but only those made by genetic modification (apparently refers to the case of vaccine production for immunity).

The most recent EU Basic Organic Regulation (EU) 2018/848 was published in June 2018 and entered into application on 1 January 2022 (EU, 2018). It is not the intention of the authors of the present study to record all the amendments occurred. Those who are interested in can find the answers at the relevant sites. However, it should be mentioned at this point that further tribunes have appeared for publishing work on organic farming (Diconcetto, 2024).

## RELATED IMPORTANT ASPECTS

### Geographical implications

Some considerations related to the geographical origin of organic products emerge within the field of organic animal production. In fact, Southern Europe constitutes a distinct environment for rearing farm animals compared with that of the rest of the European continent (central or northern). The question of keeping animals, especially sheep and goats in countries around the Mediterranean basin, was studied some years ago (Boyazoglou and Morand-Fehr, 2001; de Rancour et al., 2006). The potential contribution of organic agriculture to increase sustainability of the systematic keeping of small ruminants of the Mediterranean area has also been reviewed (Ronchi and Nardone, 2003). As regards the issue of exceptions which was posed again by the newer organic Regulations 884/2007 and 889/2007, it should be stressed that these, in a way, affect the competition which exists for animal husbandry between Mediterranean and countries of the central and Northern Europe.

It is apparent that areas that make use of permitted, more loose provisions of the law, which refer to the use of housing of "heavy" constructions, special (more intensive) husbandry practices, can produce quantitatively more, cheaper and in less time animal products with better feed conversion efficiency (Zoiopoulos and Drosinos, 2010). The derogation for

the “tethering” of animals, which with Regulation 889/2007 had been extended until 31/12/2013, it was from the beginning the result of a political compromise between Northern and Southern European countries. The latter supported the avoidance of any form of restriction of animal movement in organic animal production units. Areas of Northern Europe need heavier housing constructions (stables) to face problems from adverse climatic conditions in winter.

Community organic law, which contains plethora of exceptions, seems to favour a rather “intensive” animal production system while organic production by definition corresponds to an “extensive” system. Small ruminants in Mediterranean countries are kept extensively even under the conventional system (Masouras et al., 2018; Volanis et al., 2007), which lays very close to being organic. The same is valid for the extensive conventional system of keeping cattle and pigs of free range, in Mediterranean countries. Also, traditional beekeeping in this area, is very close to being organic. Therefore, there is always the risk that Northern countries, making use of exceptions in the EU’s organic law, to produce animal organic products cheaper than the Mediterranean countries, so that can flood the latter with organic products even if these are charged with the cost of transportation. The issue of the differences in sheep milk characteristics between conventional and organic farming systems was studied recently (Masouras et al., 2018).

Apart from the non-favourable effects of exceptions of EU organic legislation, Mediterranean countries should take into account some other provisions of the EU law. In this sense, the availability of organic crops which are destined for animal feed stuff is a very crucial issue for the area. The maximum use of grassland and pastures should be pursued, as well as grown forages especially those of higher quality lucerne (Laffi and Pasini, 2001), as well as alternative sources of nutrients from those of common feeds (Scerra et al., 2001; Volanis et al., 2006; Zoiopoulos et al., 2008).

An interesting provision of the organic law is the one which prohibits in the organic feeding of animals, the use of oil seed meals which have been extracted with the use of chemical solvents. The dominant source of protein in the area, particularly for the non-ruminant animals, is the solvent-extracted soya bean meal. The problem is enhanced from the fact that the majority of available soya beans are a product of genetic modification which also is

prohibited by EU organic animal production. The critical position of GM feeds in animal feeding has been established. This makes apparent the need for research in discovering alternative protein sources compared to conventional ones. In general, the two pylons which support the conventional animal production, in fact the type of the animal and its feed, are the same which will be critical in organic agriculture as well, and this has been studied experimentally with poultry, especially in broiler production, where two genotypes were compared (Katogianni et al., 2008a) while chickpea seeds were evaluated as substitutes for soya bean meal (Christodoulou et al., 2006; Katogianni et al., 2008b).

### **The “conventionalization” parameter**

A recent publication proceeded with a mapping of the current knowledge on health and welfare in organic agriculture (Åkerfeldt et al., 2001), whereas more recently other researchers talked about problems associated with various aspects related to practicing of organic animal production of various places throughout Europe as in Poland (Gorsca-Warsewicz et al., 2021), Greece (Papakonstantinou et al., 2023) and in the Mediterranean district (Lopez-i-Gelats and Filella, 2019). A further one (Ramos-Garcia et al., 2018) focusing initially to the area of Andalusia in Spain turned the discussion towards the “conventionalization case”.

The First time to open the conventionalization debate was in 1997 (Buck et al., 1997) following a study at California organic sector. Various researchers worldwide took part and placed themselves on this debate. A review of the conventionalization hypothesis appeared in the literature a decade ago (Zoiopoulos and Hadjigeorgiou, 2013). According to that review, researchers before (Darnhofer et al., 2010) produced an excellent and comprehensive study on the critical issue of conventionalization of organic farming practices. These authors analysing the subject, mentioned that according to the conventionalization hypothesis, organic farming is becoming a slightly modified version of modern conventional agriculture, replicating of the same history, resulting in many of the same social, technical, and economic characteristics. Other people (Lockie et al., 2000) reviewed the issue of case studies carried out to test conventionalization hypothesis throughout the world.

In this way, in Europe or elsewhere, some organic farms employ practices that may not be sustainable but are not explicitly prohibited by the standards

(Padel et al., 2009). In this sense, other researchers (Darnhofer et al., 2010) suggested the planning of assessment based on the principles and values which constitute the foundation of the system to check the level of conventionalization and define various indicators and criteria to capture the changes.

## THE SOCIAL COMPONENT AND THE ROLE OF VALUES IN AGRICULTURE

The social component presents particular interest, and its effects constitute a challenge for agricultural sciences. There is also a need one to rethink the general methodology of agricultural research as well as to reconsider the role of values, since values play, and owe to play, an important role in science. Furthermore, the role of values is particularly apparent as regards the organic agriculture, because special values and purposes play an obvious and decisive role in this case, and because these values are clearly different than the values of conventional agriculture (Alroe and Kristensen, 2002; Kaltoft, 1999). We should not ignore the role of Legislative Bodies which lay the standards and that there is a relationship between standards and values. It is important one to realize that, in the eyes of organic farmers, organic agriculture is based on fundamental values which refer to nature, environment, food production, agriculture and society. The basic guidelines or standards are, in this way, attempts to find the means which can help in the understanding of these values. Thus, it is reasonable that guidelines, should change from time to time, allowing the basic ideas of values to fulfil the purpose in a better way (Hermansen, 2003). It is important to acknowledge the value of organic agriculture.

It is significant to be stressed that the increasing organic enterprises can be a source of capital for activities like agricultural research (Allen and Kovach, 2000). Furthermore, for everyone who is involved in organic agriculture, the possibility should exist for a quality of life which to satisfy his basic needs, the adequate income and satisfactory and safe environment of work (Hermansen, 2003). It should be also underlined that the adoption of organic animal production as a purpose it is a political choice. However, the achievement of this target in practice includes in addition a technical component. Due to the conditions prevailing, the EU policy for a "cleaner" animal production, i.e. the aforementioned interests and the compromises involved resulted in a legislation that lost its initial character. In order this situation to be remedied, the most important role belongs equally to consumers, farmers, scientists and politicians. As

regards the changes and improvements needed to achieve progress, it should be underlined that development of policy in the organic sector focuses mainly on a regulatory sorting out (Greer, 2002), including food hygiene and HACCP (Hazard Analysis and Critical Control Points) application (EU, 2004; Milius et al., 2012). Things change but they need bold actions. The banning from the part of EU of antibiotics which were used as anabolics in animal nutrition and the moratorium which concerned the circulation of GMOs within the EU territory some years ago can constitute useful examples.

Without homogeneous organic standards, confusion will prevail on the definition of "organic product" in organic markets, which will affect consumer confidence. The organic sector appears to be a field of disagreement over values. Standards are not merely of a technical nature or neutral of values, but embody specific values of those who compile them, either politicians or specialists. Compromise through intergovernmental negotiations has weakened the "pure" organic position, especially from governments with great interest to develop organic market by any means.

Organic animal production is a challenge not only for farmers but also for agricultural research and the cooperation between the various branches of activities. In this sense they should be explored the socio-economic aspects which concern the acceptance of organic animal production and the implications of the different agricultural strategies (Sundrum, 2001). Due to the objective aims and the complexity of organic agriculture, it is necessary to focus on the need for appropriate research development and the extension services devoted to this.

It should be stressed that there is a need for a better interaction between agricultural research in conventional type and research groups specializing in the area of organic agriculture. However, it constitutes a matter of discussion to which extent research devoted to the problems of organic agriculture, it should be incorporated in existing research bodies of the conventional or to be executed by separate groups specialized in organic agriculture (Hermansen, 2003). In any case, epidemic studies should be pursued for the evaluation of risk factors, as well as socio-economic research which concerns the acceptance of organic animal products. In addition, it should be attempted the study of objective methods and indicators for the assessment of welfare of animals on farms.

## CONCLUSIONS

The initial community legislation for the organic animal production (1804/1999) was adopted after relatively long delay. Food crises of that time played a decisive role, and under pressure of the public, adoption of this piece of legislation took place in an element of haste at the final stage. In that way, even if we consider the organic keeping of animals as an “extensive” system of animal production, the EU had legislated for a certain rather “intensive” system which diverts much from the expectations of the public for a “clean” agriculture. It was the result of intergovernmental negotiations and debate as well as the pressure of the interests for securing a share in the market of organic products with a view the breeders not to be discouraged to join this alternative type of production at the outset, the road of exceptions was selected mainly through tactics

which use legal tools (derogations). Derogations had days of expiring. However, the future showed that EU in several cases was not hesitant to extend the expiring date of the derogation granted. The initial Regulation was repealed by the newer ones 834/2007 and 889/2007 which did not solve the problems since they changed the term of derogation to exception and further extended the expiry dates. It seems that with the aforementioned compromises of the last minute some deviation from the initial spirit of organic animal production took place, based on the interests of countries involved. The present review’s purpose is not merely to criticize but to improve the purity of organic animal production under the EU legislation.

## CONFLICT OF INTEREST

None declared

## REFERENCES

Åkerfeldt M, Gunnarson S, Bernes G, Blanco-Penedo I (2001) Health and welfare in organic livestock production systems-a systematic mapping of current knowledge: *Org Agric* 11:105-132. doi: 10.1007/s13165-020-00334-Y

Allen P, Kovach M (2000) The capitalistic composition of organic: The potential of markets in fulfilling the promise of organic agriculture. *Agric Human Values* 17:221-232. doi: 10.1023/A:1007640506965

Alroe H, Kristensen E (2002) Towards a systemic research methodology in agriculture: rethinking the role of values in science. *Agric Human Values* 19:3-23. doi: 10.1023/A:1015040009300

Boyazoglu J, Morand-Fehr P (2001) Mediterranean dairy sheep and goat products and their quality. A critical review. *Small Rumin Res* 40:1-11. doi: 10.1016/S0921-4488(00)00203-0

Brandt K, Molgaard JP (2001) Organic agriculture: Does it enhance or reduce the nutrition value of plant foods? *J Sci Food Agric* 81:924-931. doi: 10.1002/jsfa.903

Buck D, Getz C, Guthman J (1997) From farm to table: the organic vegetable commodity chain of Northern California. *Sociol Ruralis* 37:3-20. doi: 10.1111/1467-9523.00033

Caneschi A, Bardhi A, Barbarossa A, Zagħini A (2023) The Use of Antibiotics and Antimicrobial Resistance in Veterinary Medicine, a Complex Phenomenon: A Narrative Review. *Antibiotics* 12(3):487. doi: 10.3390/antibiotics12030487

Christodoulou V, Bambidis V, Hucko B, Iliadis C, Mudrik Z (2006) Nutritional value of chickpeas in rations of broiler chicken. *Eur Poult Sci (Arch Geflügelk)* 70:112-118.

Costa-Font M., Gil JM, Trail WB (2007) Consumer acceptance, valuation of and attitudes towards genetically modified food: review and implication for food policy. *Food Policy* 33:99-111. doi: 10.1016/j.foodpol.2007.07.002

Darnhofer I, Lindenthal T, Bartel-Kratochvil R, Zollitsch W (2010) Conventionalisation of organic farming practices: from structural criteria towards an assessment based on organic principles. A review. *Agron Sustain Dev* 30:67-81. doi: 10.1007/978-94-007-0394-0\_18

de Rancour M, Fois M, Lowin M, Thakerian E, Vallerand F (2006) Mediterranean sheep and goats production: an uncertain future. *Small Rumin Res* 62:167-179. doi: 10.1016/S0921-4488(00)00203-0

Diconcetto A. (2024) Farm animal welfare and food information for European Union consumers: Harmonising the regulatory framework for more policy coherence. *Eur J Risk Regul* 15:122-136. doi: 10.1017/err.2022.46

DuPuis E (2000) Not in my body: rBGH and the rise of organic milk. *Agric Human Values* 17:285-295. doi: 10.1023/A:1007604704026

EU (1991) Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs. *OJ L198:1-15*. Available online: <https://eur-lex.europa.eu/eli/reg/1991/2092/oj> (accessed on 18 September 2024).

EU (1999) Council Regulation (EC) No 1804/1999 of 19 July 1999 supplementing Regulation (EEC) No 2092/91 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs to include livestock production. *OJ L222:1-28*. Available online: <https://eur-lex.europa.eu/eli/reg/1999/1804/oj> (accessed on 18 September 2024).

EU (2004) Commission Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs. *OJ L139:1-54*. Available online: <https://eur-lex.europa.eu/eli/reg/2004/852/oj> (accessed on 18 September 2024).

EU (2005) Commission Regulation (EC) No 1916/2005 of 24 November 2005 amending Annex II to Regulation (EC) No 2092/1991/EEC on organic production. *OJ L307:1-10*. Available online: <http://data.europa.eu/eli/reg/2005/1916/oj> (accessed on 10 December 2024).

EU (2006) Commission Regulation (EC) No 780/2006 of 24 May 2006 amending Annex VI to Council Regulation (EEC) No 2092/91 on organic production. *OJ L137: 9-14*. Available online: <http://data.europa.eu/eli/reg/2006/780/oj> (10 December 2024).

EU (2007a) Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91. *OJ L189:1-23*. Available online: <https://eur-lex.europa.eu/eli/reg/2007/834/oj> (accessed on 18 September 2024).

EU (2007b) Commission Regulation (EC) No 889/2007 of 26 July 2007 fixing the export refunds on products processed from cereals and rice. *OJ L195:19-21*. Available online: <https://eur-lex.europa.eu/eli/reg/2007/889/oj> (accessed on 18 September 2024).

EU (2018) Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007. *OJ L150:1-92*. Available online: <http://data.europa.eu/eli/reg/2018/848/oj> (accessed on 18 September 2024).

Gorska-Warsewicz H, Zakowska-Biemans S, Stangierska D, Świątkowska M, Bobola A, Szlachciuk J, Czeczotko M, Krajewski K, Świątkowicz E (2021) Factors limiting the development of the organic food sector-perspective of processors, distributors and retailers. *Agriculture* 11:882. doi: 10.3390/agriculture11090882

Greer A (2002) Policy networks and policy change in organic agriculture:

a comparative analysis of UK and Ireland. *Public Adm* 80:453-473. doi: 10.1111/1467-9299.00313

Hermansen JE (2003) Organic livestock production systems and appropriate development in relation to public expectations. *Livest Prod Sci* 80:3-15. doi: 10.1016/S0301-6226(02)00313-5

Hodges J (2001) The role of EAAP (European Association of Animal Production) in changing European society. *Livest Prod Sci* 70:241-279. doi: 10.1016/S0301-6226(01)00258-5

IFOAM (2000) Principles of organic agriculture. Available online: [https://www.ifoam.bio/sites/default/files/2020-03/poa\\_english\\_web.pdf](https://www.ifoam.bio/sites/default/files/2020-03/poa_english_web.pdf) (accessed on 18 September 2024)

Kaltoft P (1999) Values about nature in organic farming practice and knowledge. *Sociol Ruralis* 39:39-53. doi: 10.1111/1467-9523.00092

Katogianni I, Zoiopoulos P, Adamidis C, Fegeros C (2008a) Comparison of two broiler genotypes grown under the provisions of EU organic legislation. *Eur Poult Sci (Arch Geflügelk)* 72:116-120.

Katogianni I, Zoiopoulos P, Adamidis C, Fegeros C (2008b) Substitution of chickpeas for soya beans in diets for broilers fattened according to the Community organic regime. *Eur Poult Sci (Arch Geflügelk)* 72:152-156.

Laffi G, Pasini P (2001) Traceability with alfalfa dehydration chain. In: I. Delgado, G. Lloveras (Eds), *Quality in Lucerne and Medics for animal production*, Cahiers Options Méditerranéennes 45:219-223. (e-book) Available online: [http://om.cieham.org/article.php?ID\\_PDF=1600087](http://om.cieham.org/article.php?ID_PDF=1600087) (accessed on 18 September 2024)

Lockie S, Lyons K, Lawrence G (2000) Constructing "green" foods: corporate capital risk and organic farming in Australia and New Zealand. *Agric Human Values* 17:315-322. doi: 10.1023/A:1026547102757

Lopez-i-Gelata F, Filella J (2019) Examining the role of organic production schemes in Mediterranean pastoralism. *J Environ Sustain* 22:5771-5792. doi: 10.1007/s10668-019-00450-0

Masouras Th, Maragoudakis S, Hadjigeorgiou I (2018) Differences in sheep milk characteristics focusing on fatty acid profile between conventional and organic farming system. *Arch Diary Res Technol* 1:1-12. doi: 102901/ADRT-104.100004.

Milos K, Drosinos E, Zoiopoulos P (2012) Factors influencing HAC-CP implementation in the food industry. *J Hellenic Vet Med Soc* 63(4):283-290.

Natskouli P, Zoiopoulos P (2014) Feed undesirable substances as food contaminants. Part 2: Dioxins. *AgroFood Industry Hi-Tech* 25(5):49-52.

Padel S, Rocklinsberg H, Schmid H (2009) The implementation of organic principles and values in the European Regulation for organic food. *Food Policy* 34:245-251. doi: 10.1016/j.foodpol.2009.03.008

Papakonstantinou G, Arsenakis I, Pourlis A, Papatsiros G (2023) Animal health and productivity of organic Greek pig farms: the current situation and prospects for sustainability. *Animals* 13:2834. doi: 10.3390/ani13182834

Ramos-Garcia M, Guzman G, De Molina M (2018) Dynamics of organic agriculture in Andalusia: moving towards conventionalization. *Agroecol Sust Food* 42:328-359. doi: 10.1080/21683565.2017.1394415

Ronchi B, Nardone A (2003) Contribution of organic farming to increase sustainability of Mediterranean small ruminant livestock systems. *Lives Prod Sci* 80:17-31. doi: 10.1016/S0301-6226(02)00316-0

Scerra V, Cappara P, Foti F, Lanza M, Priolo A (2001) Citrus pulp and wheat straw silage as an ingredient in lamb diets: effect on growth and carcass and meat quality. *Small Rumin Res* 40:51-56. doi: 10.1016/s0921-4488(00)00208-x

Sundrum A (2001) Organic livestock farming: a critical review. *Livest Prod Sci* 67:207-215. doi: 10.1016/S0301-6226(00)00188-3

Toke D, Marsh D (2003) Policy networks and GM crops issue: assessing the utility of a dialectical model of policy networks. *Public Adm* 81:229-251. doi: 10.1111/1467-9299.00344

Volanis M, Stefanakis A, Hadjigeorgiou I, Zoiopoulos P (2007) Supporting the extensive dairy sheep small holders of the semi-arid region of Crete through technical intervention. *Trop Anim Health Prod* 39:325-334. doi: 10.1007/s11250-007-9019-z

Volanis M, Zoiopoulos P, Panagou E, Tzerakis C (2006) Utilization of an ensiled citrus pulp mixture in the feeding of lactating dairy ewes. *Small Rumin Res* 64:190-195. doi: 10.1016/j.smallruminres.2005.04.013

Vos T (2000) Visions of the middle landscape: organic farming and the politics of nature. *Agric Human Values* 17:245-256. doi: 10.1023/A:1007623832251

Wilson S (2001) Feeding animals organically—the practicalities of applying organic animal feed. In: P. Garnsworthy, J. Wiseman (Eds), *Recent Advances in Animal nutrition*. Nottingham University Press, Nottingham: pp 161-172.

Zoiopoulos P (1998a) Keep it clean: biotech companies should pay for independent research. *New Scientist* 2161:2159.

Zoiopoulos P (1998b) Modified animal feeds must be put to the test. *Nature* 394:823.

Zoiopoulos P, Drosinos E (2010) The animal feed question in the shadow of contemporary food crises: The European challenge. Nova Science Publishers, NY: p 222.

Zoiopoulos P, Hadjigeorgiou I (2013) Critical overview on organic legislation for animal production. Towards conventionalization of the system? *Sustainability* 5:3077-3094. doi: 10.3390/su507377

Zoiopoulos P, Natskouli P (2013) Foreign dietary DNA in animals and safety evaluation of genetically modified feeds. *J Hellenic Vet Med Soc* 64:69-83. doi: 10.12681/jhvms.15481 (In Greek, English summary).

Zoiopoulos P, Volanis M, Natskouli P (2008) Investigation into the use of citrus by-products as animal feeds in Greece. *Tree For Sci Biotechnol* 2:98-101.