The implementation of organic principles and values in the European Regulation for organic food

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Abstract: *The paper is based on selected findings of the Research project EEC 2092/91 (Organic) Revision. It contributes to an improved understanding of the core ethical values associated with and principles of organic farming, analyses reference to such values in the European Regulation (EEC) 2092/91 and its ongoing revision, and contrasts them with current practice of organic agriculture. An analysis of differences in the implementation of the Regulation by national governments and private standards is presented. Ethical values are* per se *in need of interpretation, so the final section sets out procedural issues arguing for a deliberative model of decision-making, when aiming to achieve a coherent integration in the structure of a regulation.*

Keywords: Organic farming, European Union, regulation, ethical dialogue, principles of organic agriculture

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1 Introduction

Since 1991, Organic farming in the EU has been governed by the Regulation (EEC) 2092/91 (EC, 1991) setting out the rules for labelling a food product as 'organic' or the equivalent terms 'biological' or 'ecological' in other languages. The Regulation was developed in response to growing consumer demand, building on the experience of standards setting in several member states (Austria, Denmark, Spain, Finland, and France) and in the private sector.

The result was a legally enforceable and officially recognized common standard for organic crop production, certification, and labelling in the EU, which all member states had to implement. The regulation paved the way for organic management options to be included in the EU agri-environment policy support programmes (EC, 1992) and, through its provisions for imports from non-EU countries, affected standards for organic farming worldwide. The Regulation (EEC) 2092/91 mainly covers rules for labelling, production, permitted inputs and inspection (in the annexes). It defines organic farming by the practices rather than the principles and ethical values. Since its introduction, more than 25 amendments to the regulation have been passed. Production rules for livestock (Annex IB) and a prohibition of GMOs were introduced in 1999 (EC, 1999) alongside a flexibility clause allowing member states to maintain stricter rules. The production rules are similar to the Basic Norms of the International Federation of Organic Agriculture Movements (IFOAM, 2005a), which aim to guide worldwide standard setting in most areas.

The regulation for organic agriculture differs from other environmental or animal welfare regulations that implement certain ethical or moral norms by specifying minimum rules for all operators in so far as the regulation for organic production only has to be followed by those producers that choose to be organic. By following the practices set out in the standards, they give a promise to the consumer to deliver on additional ethical values, beyond the legal minimum standards for conventional agriculture and food.

Private standard-setting organisations and some governments have long-established standards for organic production that are more detailed and/or more demanding than the EU regulation in certain areas. Stricter rules may also be seen as a way to differentiate products in a growing market. This and the flexibility in relation to livestock have resulted in differences in the implementation of Regulation (EEC) 2092/91 which raises concerns about unfair competition and about barriers to trade.

The growing and globalised organic market and the involvement of large companies have resulted in renewed interest in the values and principles of organic farming. Guthman (2004) reported on the increasing involvement of agri-business creating a lighter version of 'organic' vegetable growing in California through influencing rule setting and agronomic practice. The 'conventionalisation' hypothesis, first referred to by Buck et al. (1991), suggested that organic farming is in danger of becoming more intensive and industrialised and would no longer function effectively as a more sustainable alternative (Reed, 2005).

The European Action Plan for Organic Food and Farming (EC, 2004) called for a review of the legal framework for organic farming with the aim being to ensure simplification and overall coherence, to establish principles that encourage harmonisation of standards and, where possible, reduce the level of detail. Following this, the Regulation (EEC) 2092/91 has been reviewed and the new Regulation (EC) 834/ 2007 agreed by EU Council will come into force on 1 January 2009 (EC, 2007). The revised regulation aims to ensure fair competition, a proper functioning of the internal market in line with production, and to maintain consumer confidence in products labelled as organic.

The aim of the EU funded research project EEC 2092/91 (Organic) Revision was to provide recommendations for the revision and further development of the EU Regulation 2092/91 and other standards for organic agriculture. After a brief description of the research approach this paper presents selected findings in relation to core values of and analysing difference in the implementation of the Regulation. It further explores procedural challenges arising from the integration of ethical values in a regulation. The new European Regulation on organic food production that was debated during duration of this project has also been considered.

2 Research approach

Specific objectives of the EEC 2092/91 (Organic) Revision project included (a) identifying ethical values of organic agriculture in Europe and developing a procedure for integrating them in the EU Regulation 2092/91, and (b) comparing the organic standards from national and private organisations with this regulation. The project also analysed dependency of organic farming on non-organic inputs in relation to feed and seed inputs.

A focus group study was conducted with organic producers in five EU countries with the aim to identify the range of values associated with organic farming and their importance (Padel, 2005).

Ethical values of organic farming were identified in a number of ways (see Padel et al., 2007 for further details). Two members of the project team were involved in the IFOAM process of formulating core Principles of Organic Agriculture, based on expert and stakeholder consultation, and resulting in four Principles of Health, Ecology, Fairness and Care (Box 1) that were democratically accepted by IFOAM's members in 2005 (IFOAM, 2005, Luttikholt, 2007). Value elements that are referred to in the explanations of the principles were identified (see Table 1 below) and compared with six recent publications identifying ethical principles of organic farming, with the Regulation (EEC) 2092/91 and with the new Regulation (EC) 834/2007 on organic food (EC, 2007). The practices of organic farms in Europe as described in various statistics, survey results and case descriptions were contrasted with these values.

Insert Box 1

The analysis of differences in the implementation of EU Regulation 2092/91 and other standards is based on a database tool that was specifically developed for the project (www.organicrules.org). Standards experts submitted items about private, governmental and international standards from 17 countries, consisting of a brief summary of requirements in a particular area, a description of the differences to Regulation 2092/91 and a justification. Implementation and inspection rules that are

not in the public domain could not be covered. The analysis considered the number of differences in each main area of the regulation, and in related areas that are not covered by it. Based on the justifications and wider literature, the potential impact on consumers, on trade, and for conflicts with organic principles were analysed and recommendations for areas of harmonisation developed (Schmid et al., 2007).

Finally, building on procedural ethics and experience with ethical dialogue the question of what implications arise from the aim of integrating basic organic values in the Organic Regulation in relation to decision-making was examined.

3 The core ethical values of organic agriculture

3.1 Identifying core ethical values

In identifying ethical values, it is important to distinguish between descriptive and normative studies. The former are directed towards the discovery and description of the range of 'values' or 'motives' that represent any basic conviction potentially leading to certain behaviour. Many descriptive studies cluster the participants based on value differences. Whilst it is concluded that organic operators cannot be perceived as one homogenous group with identical beliefs, several publications refer to a shared understanding of 'organic' among certain groups of participants (Alrøe et al., 2008, Darnhofer et al., 2005, Meeusen et al., 2003). However, this is not sufficient for providing guidance as to how certain developments should be judged, for example increased input use. Descriptive studies do not have, and could not have, such a normative aim.

Since 2000, a number of publications have specifically aimed at identifying ethical values or principles of organic farming that can guide practice. They have a normative aim stating what is a 'right' or 'good' organic system. This is comparable to deontological ethics, in which certain principles are formulated to assure respect for a range of fundamental values (or virtues, for example respect for others). Such ethical principles can function both as a source of inspiration, and as boundaries for certain activities. Of particular importance are the 'Principles of Organic Agriculture' of International Federation of Organic Agriculture Movements (IFOAM, 2005).

According to the preamble they represent a vision to improve agriculture in a global context, i.e. identified as ethical principles in the sense of deontological ethics (IFOAM, 2005). The value elements covered by these principles including the integrative values of sustainability, naturalness and a systems approach have been compared with the following publications with a normative aim (Table 1).

Niggli (2000) and Vogt (2000) studied the ethical values that the pioneers of organic farming referred to. Niggli (2000) summarised them as follows: respecting and enhancing production processes in closed cycles; stimulating and enhancing self-regulatory processes through system or habitat diversity; using strictly naturally derived compounds, renewable resources and physical methods for direct interventions and control (with only few and listed exceptions) and considering the wider social, ethical and ecological impacts of farming. Vogt (2000) summarised their main values as a biological understanding of soil fertility, the intensification and maintenance of the agro-ecosystem with 'biological' and 'ecological' tools, the production of high quality food for a healthy diet and visions of alternative living and organising of society.

The Danish Research Institute proposed three main ethical principles for further discussion: the cyclical, the precautionary and the nearness principles. These reflected the assumptions that man is an integral part of nature but does not know the full consequences of his actions (DARCOF, 2000). The Dutch Louis Bolk Institute studied the meaning of 'nature' and 'natural' and distinguished three different approaches (Verhoog et al., 2007): the no-chemicals approach based on the principles of living nature; the agro-ecological approach that sees man as part of a self-organising nature; and the integrity approach that respects other living entities as partners with intrinsic value. Alrøe et al. (2006) elaborated specifically on the concept of 'ecological justice' that extends the idea of justice to other organisms and to the common environment. According to Lund and Röcklinsberg (2001) the core values of organic farming aim for a holistic perspective, for sustainability and for respecting nature.

The values were also compared with two empirical and descriptive studies of the importance of values to organic stakeholders. Padel (2005, see Section 2) found food

quality, environmental protection, limiting resource use, health, independence and sustainability to be the most important values to organic producers. Fomsgaard *et al*. (2006) carried out a survey of 21 key individuals of the organic movement and grouped the core values found according to those related to the farming method, to other humans and to non- humans.

Adding a normative level, the comparison in Table 1 shows that most value elements of the IFOAM principles are mentioned by several other sources as important principles or values for guiding action. Exceptions are the value of resilience (Principle of Health) that is introduced in the context of a broad definition of health. The value of food sovereignty (Fairness) and tacit (or practical and indigenous) knowledge (Care) are related to the intended global relevance of these principles. The value of transparency (Fairness) was mentioned only by DARCOF, but transparency and the exclusion of GMOs (Care) are established through standards.

Insert Table 1: Comparison of value elements in the IFOAM principles with the literature and with some international guidelines and the European Regulation

It can be concluded that the core value basis of organic agriculture, as described in the four IFOAM Principles of Health, Ecology, Fairness and Care, is well founded in the literature. Breaking down the principles into their values elements facilitates comparison with other documents, such as standards and regulations.

3.2 Comparing core ethical values with the EU Regulation

There is widespread concern that core organic values of organic agriculture are not well represented in standards and especially in governmental regulations that set minimum standards for all organic producers. Many organic standards do not clearly state the underlying value base. The production rules focus on areas easy to codify and audit, such as what inputs are permitted or excluded (Lockie *et al* 2006; van der Grijp 2006). Values that are more difficult to operationalise are not translated into rules. This includes agro-ecological systems values (bio-diversity and nutrient recycling) expressed in the Principle of Ecology. Lockie *et al*. (2006) also comment

on the paucity of social considerations in most organic standards, again because of difficulties in developing auditing mechanisms that refer to them.

The EU Regulation 2092/91 makes reference to some values and principles throughout the text. Table 2 shows how the references in the preamble, in Articles 5 and 6 and in Annex I (A&B) relate to the value elements of POA. The Codex Alimentarius Guidelines for Organically Produced Food of 2004 refer to value elements of all four IFOAM Principles.

The absence of certain core values in current standards does not mean that they are less important to organic stakeholders. This is likely to be one reason for the demand in the EU Organic Action Plan (EC-COM, 2004) that objectives and basic principles should be stated more clearly so that rules could be better harmonised and simplified. To fulfil the function of strengthening consumer trust in organic labels, values stated in this context should reflect those of organic stakeholders. Harmonisation should already take place at the level of values and basic principles as the basis for harmonisation in the rules.

This is partly realised in the new council regulation (EC/834/2007) on organic food adopted in June 2007 that states Objectives (in Article 3) and Principles (Articles 4 and 5) of organic farming (EC, 2007). Table 1 shows how the text refers to value elements of the POA including the integrative values. Avoiding pollution is strongly reflected in the principles in Article 4. Other value elements of the Health principle are mentioned in Articles 3 (Objectives), 4 (Principles), and 5 (Principles applicable to farming), but the reference is less broad. Most value elements of the Principle of Ecology are well represented in the Articles 3, 4 and 5 and 6 (Principles applicable to processing) except for self regulation which is not directly referred to. Fairness and transparency are mentioned in the recitals and in Article 3 (Objectives). Risk assessment and GMO prohibition are stated in Article 4, but like most organic standards the new Council Regulation (EC/834/2007) does not cover other social values.

3.3 Comparing core values with current practice

Organic Regulations focus on the origin of inputs from organic or from conventional sources, but the comparison of core organic values with the current EU regulation 2092/91 showed discrepancies in relation to agro-ecological systems values. The practices of organic farms in Europe were evaluated in a qualitative case study approach in relation to intensification that is characterized by a high use of production factors, such as external inputs and resources.

Specialisation is an indirect indicator of intensification, but is also influenced by location, and personal skills and goals. Nieberg et al. (2005) found that only 16% of organic farmers classified themselves as mixed, i.e. were deriving their income from several enterprise categories. The majority of 550 survey farms (in 11 EU countries) generated their income mainly from one category of enterprise, such as grazing livestock (50%), arable crops (20%), permanent crops (7%), horticulture (3%) or intensive livestock (3%).

European statistics show that organic livestock production is mainly concentrated in Italy, Sweden, Germany, UK, France, Austria and Spain (EC DG Agriculture 2005). Several countries experienced problems with the supply of organic feed in 2006/07 because of imbalances between the cropping and livestock sector. This was exacerbated by a growing demand resulting from the stepwise reduction of non-organic feeds, to achieve 100% organic rations in 2011, that was introduced in the EU in 2005.

Within a country livestock and crop production can be located in different regions. For example, organic animal production in Denmark is concentrated on the mainland, crop production on the island. Organic livestock farms rely on non-organic straw and organic arable farms use non-organic manure, because of the distance between the regions (Kyed et al., 2006). Dutch organic arable producers use up to 75% of total Nitrogen (N) from non-organic sources (Prins, 2005). The limit of 170 kg N/ha/year in Regulation 2092/91 applies to N from livestock manures but other fertilisers can be added.

Many pig and poultry producers in the Netherlands rely on external feed materials that have to be transported to the farm both from organic and non-organic sources (Prins, 2005, de Wit et al., 2007, Bos, 2006). This can result in high nutrient concentration in the range, particularly close to the stable, that is considered an environmental problem (Aarink et al., 2005). Rivera-Ferre (2006) concluded that organic pig production in the Netherlands in its current form cannot be considered as land-based or sustainable.

This very limited evaluation shows that some organic farming systems could be considered intensive in the sense of high reliance on both organic inputs (e.g. pig and poultry producers) and non-organic ones (arable and horticulture). Standards have restricted the use of many but not all non-organic inputs, but have focused less on restricting the use of organic inputs. However, because organic inputs are expensive their use is discouraged by costs, but this can lead to unfair competition if derogations are in place. Practice in many cases contradicts some of the core values, such as recycling of nutrients, the agro-ecological systems approach and environmental protection.

4 Analysis of differences between private and national standards and the EU regulation 2092/91

Difference between EEC Regulation 2092/91 and other organic standards were analysed using a specially developed database (see Section 2). Some standards contain additional requirements and differ from the EU Regulation in the degrees of detail. Because Regulation 2092/91 is the legal framework, other European standards cannot be less restrictive. Many differences (>30) were found in standards from countries that have a long tradition of organic farming such as Austria, Germany, Sweden, Switzerland or the UK.

The analysis revealed that most differences are of a technical nature in a specific area (Table 2). Of the 206 submissions relating to crop production, the highest number covered input use and crop rotation requirements. Differences referred to fertilisation in general (70) and in particular to permitted fertilisers and soil conditioners (31) and substances for pest and disease control (25). Of the 294 submissions relating to

livestock, most were related to feeding, followed by animal housing and livestock husbandry. Processing is also an area with a considerable number of differences (28), in particular relating to specific processing rules (22) and processing inputs (16).

Insert Table 2

The analysis showed that many differences relate to limiting the intensification of organic in relation to fertilisation and animal feeding (see Table 2) and this should be considered for harmonisation. Harmonising fertilisation rules should follow the overall aims of reducing environmental impact. Limits should apply to all external fertilisers and not only manure and should also consider special production systems (e.g. protected cropping). In the area of feeding, setting a requirement for home grown feeds for all livestock species in addition to the 50% for ruminants could encourage greater balance between stock and crop production. In both cases, there might be a need for some regional flexibility to enable adaptation to local conditions and where a lack of availability within reasonable distance can be proven. In any case, decisions on what inputs are permitted or not permitted should be transparent and based on clear criteria that are related to the principles of organic production.

Of the areas currently not regulated, environmental protection and ecosystem management should be considered for harmonisation (for example by specifying a certain share of natural land as habitat, and the use of non-renewable resources (soil, energy and water) in protected cropping systems and rules for biodiversity protection). The area of social values could not be analysed in the data-base as very few private standards and none of the national standards implement such values.

5 Discussion of procedural issues in relation to integrating values

The final section of the paper examines the question of procedure in relation to integrating basic organic values in a regulation. The organic agriculture movement is by tradition value based and core values influence both, the thinking (theory) and the action (practice). Harmonisation of standards and regulation should be based as far as

possible on a harmonisation of values behind the rules, building on the four Principles of Health, Ecology, Fairness and Care and the values they cover. An explication of basic values and principles in a regulation based on the core organic values is likely to be met with higher acceptance and adherence than any other set of principles.

The integration of the core values into governmental rules is difficult because a single unambiguous interpretation of the core values does not exist, and thus no single ethical norm for how to act can be drawn. However, the value base of organic farming does not only extend to the way food is produced but also to how decisions about organic standards are taken. The organic movement has a tradition of dealing with different value interpretations in a constructive manner: fairness, respect and participation are considered important.

When values are integrated and explicated in regulations and standards (i.e. the implication for practises are setting out) procedural issues should be considered in relation:
I) specific general rules for decision-making,
(II) a normative reconstruction of the value base for the specific structure of a regulation (or standard) and
(III) detailed implementation rules (the Annexes of the EU regulation) that require further interpretation of the value base.
All three are important in relation to the ongoing revision process of the EU Regulation and have relevance to the private sector.

With respect to (I) it is important to find a model for decision-making that is coherent with the traditions of organic agriculture i.e. aiming at broad participation, respect and democracy. Deliberative democracy or discourse ethics is relevant because it presents certain procedural rules for a democratic process in order to arrive at an ethically justified decision, rather than following certain ethical principles (Benhabib, 1996, Habermas, 1983, Habermas, 1991, Gutmann et al., 1996) and could be applied to value harmonisation as well as integration into rules and regulations.

Röcklinsberg (2006) suggested five important elements of ethical dialogues in a participative and deliberative democratic process: 1) equal respect for each discussion partner, 2) respect for arguments and emotions, 3) context sensitivity, 4) developing a

common understanding, and 5) relating theory (values) to practice. In addition, core values or organic agriculture should be considered in order to mirror essential organic perspectives.

This model implies that it is necessary to communicate more widely about the principles of organic agriculture and to develop a common understanding by reflecting more widely how the differences in conditions and in practices of organic farmers across Europe interact with shared principles. Organic stakeholders' experience and expertise is necessary to relate values to practice, and to evaluate the feasibility of any proposed new rule.

With respect to II) ethical values will function most effectively in regulations, if they are stated in one place where they can easily be identified. This is largely realised in the text for a new EU regulation, where most values are mentioned in the articles 1-6 (objectives and principles), but there is a need for interpretation as to how these core values act in the structure of the regulation. The proposed new EU Regulation for organic production has a hierarchical structure moving from aims, objectives and general principles to specific principles and rules (see Figure 2). Like in an organic perspective, values and principles are the point of departure for all other decisions on a more detailed level. A deliberative procedure would offer important tools for a normative reconstruction to determine at which level a certain value element is important. Involving affected stakeholders could improve the coherence of the integration of core values in the regulation, and contribute to context sensitivity and to coherence between theory/values and practice.

Insert Figure 2

With respect to (III) the present decision-making structure in relation to European Agriculture Regulations involves the European Commission, and the Council of Ministers (of the Member States) – the opinion of the European Parliament has to be heard. National experts of the ministries are members of a regulatory committee that is involved in decisions about the implementation rules (Annexes). The Commission can seek the advice of an Advisory Group on Organic Farming, but the current decision-making structure lacks transparency and participation from organic organisations.

The decision-making structures should facilitate a coherent interpretation of the objectives and principles for the development of the implementation rules. Apart from the procedural traits mentioned here, the report by Padel et al. (2007) recommended that the Commission should consult affected stakeholders and involve the Expert Panel mentioned in the European Action Plan (EC-COM, 2004, Action 11) in the development of implementation rules that could help identify potential value conflicts before the rules become law.

6 Conclusions

Organic farming is value based and our analysis has shows that there is a general agreement as to the concept and core values of organic agriculture in Europe in the literature. However, not all of these core values of organic farming are covered by the minimum regulatory standards. There is concern that in a growing, more anonymous and globalised market these might be forgotten.

The Principles of Organic Agriculture, elaborated by IFOAM of Health, Ecology, Fairness and Care as well as the value elements underlying them describe the basic ethical values of organic agriculture.

The European Union has considered these ethical values to a large extent in the revision of the Regulation for Organic Food (EC, 2007) by referring to all four principles in the objectives and principles (although less far reaching in relation to some values such as fairness). The new European regulation therefore has the potential to better reflect the 'movement's' own value consensus, if they are also explicated clearly in developing the detailed implementing rules that will accompany the regulation. Otherwise, some operators will, under economic pressure, continue to find less coherent solutions.

The Regulation (EEC) 2092/91 permitted some farm types to rely to a large extent on external inputs. The high number of differences between the EU Regulation and governmental and private standards in relation to input use indicates that this area should be considered for harmonisation of values and rules. This would address many concerns of the 'conventionalisation' hypothesis and could reduce the discrepancy

between value expectations and the guarantee systems. The rules should consider and limit the use of all types of permitted inputs (organic and non-organic) in support of the core value of a balanced system. Future implementing rules to the European Regulation could also build on the experience of several private and national standards in setting standards for the care of the environment.

It is more difficult to include values in a regulation, for which only very limited experience with implementation exists. Like most existing organic standards the new European regulation does not cover most social values. This area should be of particular interest to the private sector to develop new standards that allow product differentiation, building on the experience with other ethical standards, for example from the fair trade movement.

One of the main intentions in stating principles and objectives in the new Council Regulation is to protect the integrity of organic food farming as defined by its principles rather than by the rules. This implies the consideration of procedural issues, because ethical values are ambiguous and *per se* in need of interpretation. It is likely that for example conflicting interpretation of the value of site-specific organic production would become apparent, when decisions about limiting feed ingredients are taken. The experience in other areas of ethical dialogue suggests that developing rules based on a coherent interpretation of core organic values would require broad communication about these principles and values with all organic stakeholders.

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Box 1: The four Principles of Organic Agriculture

Principle of health

Organic Agriculture should sustain and enhance the health of soil, plant, animal and human as one and indivisible.

Principle of ecology

Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them.

Principle of fairness

Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities

Principle of care

Organic Agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment.

Source: IFOAM (2005b)

Table 1: Values expressed in the IFOAM Principles compared with publications about core organic values and regulations

Source	Niggli	Vogt	DARCOF	Lund	LBI	Alroe	Forms gaard	Padel	EEC/ 2092/91	Codex	EC/834
Year	2000	2000	2000	2001	2002	2006	2006	2005	2004*	2004	2007
HEALTH (well-being)											(✓)
System health		✓			✓		✓	✓		✓	✓
Soil health		✓			✓	✓		✓	(✓)	✓	✓
Animal health					✓		✓	✓	(✓)	✓	✓
Plant health	✓				✓				(✓)	✓	✓
Integrity				✓	✓					✓	(✓)
Resilience										(✓)	(✓)
Food quality		✓						✓		✓	✓
Non-polluting		✓			✓		✓		✓	✓	✓
ECOLOGY											
Ecological systems	✓	✓	✓		✓	✓			✓	✓	✓
Closing cycles	✓	✓	✓	✓						✓	✓
Site specific	✓		✓	✓				✓	✓	✓	✓
Reduced inputs	✓				✓			✓	✓	✓	✓
Self-regulation	✓		✓	✓	✓		✓			(✓)	(✓)
Bio- diversity	✓						✓	✓	(✓)	(✓)	✓
Environmental protection						✓		✓		✓	✓
FAIRNESS									(✓)	✓	✓
Fairness		✓				✓	✓				
Equity		✓	✓			✓					
Respect	✓			✓	✓	✓	✓				
Justice	✓	✓				✓	✓				(✓)
Food sovereignty										✓	✓
Animal welfare				✓	✓	✓	✓	✓			
Stewardship				✓	✓				✓	✓	✓
Transparency			✓							✓	✓
CARE									✓	✓	✓
Precaution/prevention			✓			✓		✓	✓	✓	✓
Exclude GMO					✓						
Responsibility			✓		✓					✓	✓
Future generations				✓		✓	✓	✓			

Tacid knowledge											
Main integrative values										✓	✓
Sustainability			✓	✓		✓	✓	✓	✓	✓	
Naturalness			✓	✓	✓		✓	✓	✓	✓	
System thinking		✓	✓	✓	✓	✓	✓				(✓)

✓ = value covered,;(✓) = value partly covered; *based on consolidated version of 2004.

Table 2: Analysis of differences between selected standards and EU Regulation 2092/91, their impact and potential for harmonisation, simplification and regionalisation

Main Areas	**Description**	**No of differences**	**No of countries**	**Main type**	**Impact on/ conflicts with:**		
		n=714	n=17		Consumers	Trade	Organic Principles
Labelling	No 70%-95 category; non-food labelling	20	7	Private	++	++	+
Conversion	Conversion periods; full farm conversion	37	11		+	++	+
Fertilising	Fertilisation intensity; manure use; crop rotation; permitted inputs	70	11	Private	+	++	++
Seeds and seedlings	Database, derogation system; no hybrids in cereals	12	3	Private	-	++	++
Pest and disease control	Restricted or forbidden substances; steam sterilisation	25	7	Private	++	++	++
Collection of wild plants	More detailed requirements	14	7	Private	++	+	++
Animal feeding,	Conventional feed; roughage; feed additives; Milk for offspring	70	12		++	++	++
Livestock housing and husbandry	physical operations; transport	58	10				
Origin of animals	Origin of animals	15	6		+	+	+

Processing	Methods and additives	28	10	Int,	++	++	+
Greenhouse and perennials	Use of energy; soil coverage, origin of stakes	54	7		-	++	+
Environmental impact	Soil and water conservation requirements	13	8		+	+	++
	Biodiversity and landscape	16	6		+	++	++
	Contamination	15	8		++	++	++
Aquaculture	Specific fish standards	12	8		+	+	+

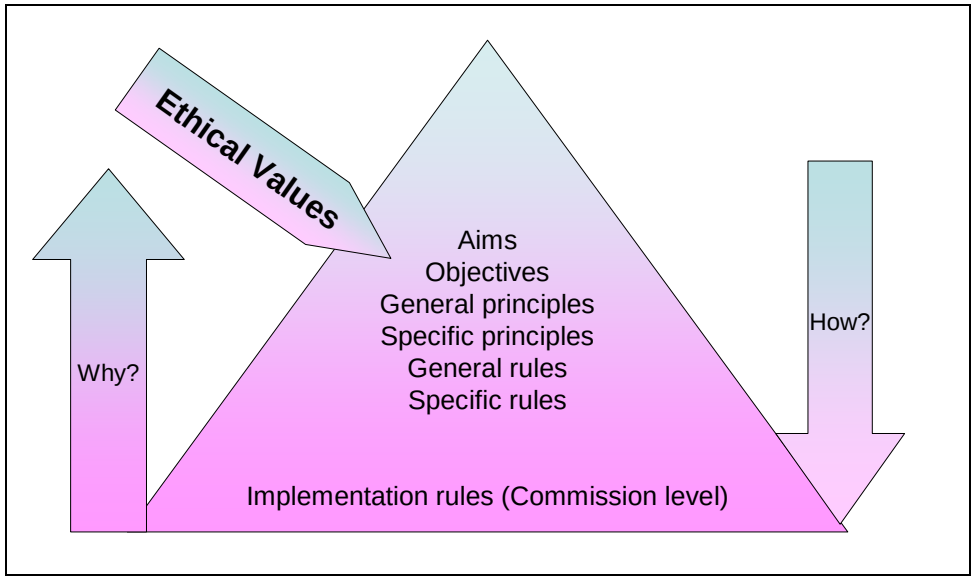

Figure 2: The pyramid structure of the proposal for new regulation