

# Chapter 2

## Ethics in the Organic Movement

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In the last two decades, several publications have addressed the ethical foundations of the organic movement.<sup>1</sup> Papers on the ethics in, and of the organic movement have been especially sensitive to human-nature interrelationships, and the equality of all living things. Many of these discussions of ethics are integrated into, or arise in the latest IFOAM Principles.<sup>2</sup> Other publications review the historical development of organic agriculture (e.g., Conford 1995; Vogt 2000; Heckman 2006; Lockeretz 2007).

Our aim in this chapter is to offer a review that lays the groundwork for the ethical discussions and development of ethics in the organic movement that are illustrated in the contributions to this volume. We begin with the development and introduction of the most recent version of the IFOAM Principles (IFOAM 2009). Then we discuss the relationship between ethical concepts and their significance in the IFOAM Principles. A comprehensive historical overview of the ethical roots

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<sup>1</sup>(e.g., Browne et al. 2000; Goodman 2000; McEachern and McClean 2002; Lund 2006; Padel and Gössinger 2008, p. 7).

<sup>2</sup>(e.g., Benbrook and Kirschenmann 1997, p. 1; Thompson and Nardone 1999, p. 112; DARCOF 2000, p. 12; Lund and Röcklinsberg 2001, pp. 391, 402; Alrøe and Kristensen 2002, p. 1; Taylor 2003, p. 75; Verhoog et al. 2003, p. 44, Verhoog et al. 2007; Alrøe et al. 2006; Padel et al. 2007; Padel and Gössinger 2008, p. 6).

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of the organic movement from the 1920s until the 1990s provides insights into the relevance of different ethical concepts that have arisen in the organic movement over the last century.<sup>3</sup> Our review does not claim to be exhaustive. Instead, we seek to integrate our understanding of the socio-political, cultural and agricultural background of the organic movement with the development of its values and ethics.

## 2.1 Implementation of the IFOAM Principles

In 1980, IFOAM formulated the first series of principles to serve as the ethical guidelines for organic practices (e.g., Lockeretz 2007, p. 117). The latest IFOAM Principles arose from an international consultative process established by the IFOAM World Board<sup>4</sup> from 2003 to 2005 (Luttikholt and Vijayalaksmi 2004). This worldwide stakeholder-based discourse embodied IFOAM's specific ethical commitment to develop the principles through a bottom-up participatory process.

The initiative to reformulate the principles stemmed from the decline of IFOAM's role in the organic movement and the need to assure the application of its Basic Standards in an increasingly globalized organic market. "The [consultative] process aimed to bridge the values from the pioneers of organic agriculture to the present time of globalization and to extend growth of the organic sector" (Luttikholt 2007, p. 347).

As a result of this process, the four IFOAM Principles—Health, Ecology, Fairness and Care—were established as the pillars of the ethical framework to support and guide organic agriculture and the global organic movement (long version see annex) (IFOAM 2012):

- **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.

As the IFOAM Norms state, these principles are the foundation for writing separate national standards and regulations (IFOAM 2012).<sup>5</sup> The Principles:

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<sup>3</sup>An overview of the latest development is discussed in the Chap. 13.

<sup>4</sup>[http://www.ifoam.org/about\\_ifoam/principles/history\\_of\\_principles.html](http://www.ifoam.org/about_ifoam/principles/history_of_principles.html)

<sup>5</sup>The IFOAM Norms (IFOAM 2012) are composed of three documents, which are the Common Objectives and Requirements of Organic Standards (COROS) – IFOAM Standards Requirements; the IFOAM Standard for Organic Production and Processing; and the IFOAM Accreditation Requirements for Bodies Certifying Organic Production and Processing.

- express the potential contribution that organic agriculture can make in the world and they inspire a vision for improving all dimensions of the organic agrofood chain in a global context (IFOAM 2012);
- are meant to be universal and are proposed for those outside of, as well as those within the organic movement (Alrøe and Kristensen 2004);
- are intended to be applied *in toto* and with attention to their interdependence (Luttikholt 2007; IFOAM 2009); and,
- combine a strong focus on nature, and the human-nature relationship through the coexistence of humans and the well-being of humans and communities (Freyer 2008, p. 395; IFOAM 2009). They can be broadly applied, addressing social relations as well as those with other living beings. They stress that organic agriculture should maintain and conduct these relationships in a manner that ensures health, ecology, fairness and care, and that includes equity, respect, and stewardship for future generations and the environment as a whole.

Given these features, the Principles offer a basis for examining broader ecological, social, economic and political relationships (Table 2.1). Compared to earlier versions, they are more sensitive to social issues such as the idea of justice, mutual respect, quality of life, fair salaries and prices etc. (Kristiansen and Merfield 2006, p. 16; IFOAM 2009).

The application of these principles to decision-making processes and to guiding further innovations in the organic system is quite controversial (Schmid and Lockeretz 2007, p. 167). At least two positions on this issue are obvious in the

**Table 2.1** Five common human-nature relationships and how they may be practiced in agriculture

<b>Views of Human-Nature Relationship</b>	
Anthropocentric	Humans take hierarchical precedence over nature; the value of nature is mainly instrumental (Nash 1989; Elmore 1996)
Theocentric	Nature, and all that lies within, is God's creation, and humans are to act as stewards of those creations (Schaefer 2009; Gudorf 2012)
Pathocentric	All living things can experience suffering (Bentham 1978; Birnbacher cited in Fenner 2010)
Biocentric	Non-human value of nature is recognized in plants, animals and soils (Nash 1989; Kirchmann and Thorvaldsson 2000)
Ecocentric/holistic	A non-anthropocentric belief, which blends ecocentrism and holism in which the non-human value of nature is recognized as holistic systems i.e. ecosystems and the benefits for soils and minerals have in such systems, as well as the intrinsic value of nature (Nash 1989; Sterba 2003; Hay 2010)
<b>Practices of Human-Nature Relationship in Farming (examples)</b>	
Anthropocentric	Health, benefits of subsidies and price premiums
Theocentric	Farmers need to manage God's creation, to use but not abuse
Pathocentric	Animal welfare and pesticide free plant production
Biocentric	Closing the cycle by producing own inputs, care for soil fertility, animals and plants
Ecocentric/Holistic	Closed-cycle; farm seen as an organism; recognizing the importance of soils and diversity and integrating that in practices; using nature as a model to grow polyculture crops and healthy animals

discussions in this volume: (1) the principles provide an ethical orientation, to follow them is a question of individual choice (e.g., Steiner 1892; Piaget 1965); (2) the principles are worthless since they are not a binding part of a regulation and certification system.

With the continuing growth of the movement that leads to increasing anonymity among the partners along the agrofood chain, and thus the potential for a loss of mutual commitment, voluntary ethical acting might be one of the key challenges of the contemporary organic movement. Thus, it becomes critical to bring to the foreground a discussion of the ethics in the IFOAM Principles.

## **2.2 The Ethical Foundation of the IFOAM Principles**

This section identifies and discusses the embodied worldviews and normative ethics of the IFOAM Principles in order to help gain fresh insights into current challenges confronting, and issues raised by organic worldwide.

### ***2.2.1 Worldviews and IFOAM Principles***

We believe that it is useful to identify and discuss five different worldviews reflected by the Principles (Table 2.2). These worldviews are commonly not explicit or acknowledged by most actors in their different modes of organic practice. Nevertheless, we suggest that these worldviews, or elements of them, are embodied in most of the issues and controversies surrounding organic. Most actors hold a “core” worldview, but commonly draw upon elements of others to “round out” the grounds upon which they see the world, and more specifically think about organic. Making these worldviews explicit could help to: (1) improve the conversations and debates about organic; and, (2) help bring an explicit articulation of values back into the center of organic discourse.

#### **2.2.1.1 The Anthropocentric View**

It is no exaggeration to state that this worldview makes up the core of what we all think and believe. It is, by definition, human-centered, but covers a wide range of instrumentalist interpretations of the ways in which nature is subordinate to human interests and needs (Kirchhoff 2011). In this worldview, humans are “above” nature and are not accountable to “nature” or ecosystems for their actions. Here, nature does not have intrinsic value, and humans hold a privileged position in comparison to other species that have no more than instrumental importance (Daly et al. 1995).

Anthropocentrism underlies most utilitarian and instrumentalist perspectives on, as well as mainstream economic approaches to, organic (Peet 1996). With this view, being or practicing organic is a pragmatic matter of simply following sets

of stipulated technical practices defined as organic.<sup>6</sup> Perhaps the most egregious illustration of this instrumentalist organic, is seen with farmers who convert in order to capture high-premiums and government subsidies, as well as those consumers who purchase organic predominantly for personal health reasons (Magnusson et al. 2003; Gilg et al. 2005). The “conventionalization” of organic, and the seemingly endless controversy over specific cropping or animal husbandry practices—which are covered by the guidelines, yet copy conventional approaches—is a variant of instrumentalist organic (Best 2008).

Farmers, processors or traders who are interested in organic for purely instrumentalist (and economic) reasons are rarely, if ever, interested in discussions about organic and health, ecology, fairness or concerns for future generations. Furthermore, an Anthropocentric perspective overlooks the complex consequences of internationalization, commodification and industrialization of organic food and farming, including its critical social and environmental impacts (Raynolds 2004).<sup>7</sup>

Equally instrumentalist are actions or policies based on the notion of duty to future human generations or those based on valuing nature as a way to avoid ecological disaster, thus conserving for the future need of people. Many organic marketing strategies illustrate this approach in promoting a “feel good” rationale for buying organic without reference to specific crop production or livestock practices that would be important in terms of the IFOAM Principles (cf. Thompson 1998; Tanner and Wölfling Kast 2003; Ginsberg and Bloom 2004; Hamm and Gronefeld 2004).

### 2.2.1.2 The Theocentric View

This view of human-nature relationships was historically the foundation of organic thinking (see sections below on the Müllers and Lady Balfour), but is much less prominent in contemporary discussions (see Chap. 13). In this view, nature is seen as God’s creation and thus, is sacred. All human and non-human life, including the land and the earth, have value (Carruthers 2009, p. 302), and humans hold a moral responsibility to God to be faithful stewards for all of God’s creation

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<sup>6</sup>The discussion about (pragmatic) anthropocentrism in environmental ethics reminds us that there are multiple understandings of these ethics (cf. Minter and Manning 2005; Katz 2008; P. Thompson 2008), but also controversies about how they contrast with other ethical concepts (Jacob 1994; Johnson 1996; Norton 2008).

<sup>7</sup>This largely utilitarian position is in conflict with what we call “daily morals” (Alltagsmoral) (Daly et al. 1995); individuals who use this approach cannot prevent endangering individuals or minorities as they pursue their goals. In contrast, daily morals based on Christian traditions guarantee through a set of rules that the weakest in society enjoy legal and public protection (Fischer 2003).

(Kirchhoff 2011).<sup>8</sup> Human actors are responsible for balancing their actions between what is necessary for survival and the consequences for others.<sup>9</sup> Lochbühler argues that this exceptional relationship between human and the rest of creation divine reflects a “moderate anthropocentric in a theocentric context” (Lochbühler 1996, p. 117). For White, the Judaeo-Christian monotheism at the core of this anthropocentric perspective is the ideological source of the modern environmental crisis (White 1967). The IFOAM Principles represent an ethic that is independent of any religious association. While a relationship to a spiritual dimension is not excluded, it is not specifically indicated.

### 2.2.1.3 The Pathocentric View

Pathocentrism is a perspective that is fundamental in the IFOAM Principles. From this perspective, all living things, except plants (cf. Willemsen 2008), can suffer or feel pain (e.g., Bentham 1978; Fenner 2010). As Singer (1993) argues, since animals have both the capacity to suffer and an interest in avoiding pain, we have a moral obligation to respect this interest (see also Fenner 2010; Vaarst and Alrøe 2012). Having distinguished a difference between animals and plants, however, it is worth nothing that techniques advanced by Kirlian technology suggest that plants may also experience pain.<sup>10</sup> This adds a new element to this view that has not yet been thoroughly explored, yet may play an important role in the future.

### 2.2.1.4 The Biocentric View

From this perspective, all living organisms without distinction between humans, animals and plants, have intrinsic value (e.g., Taylor 1989; Schweitzer et al. 1999). “Being alive” (*lebendig sein*) is of value in and of itself, and it includes an interest in staying alive (Schweitzer 1976; Jonas 1979, 2004). In contrast, non-living things do not have moral value; they have instrumental value. This is at the core of concerns with living soils and efforts to nurture and protect soil fertility (Abaidoo and Dickinson 2002). The IFOAM Principles support the idea of intrinsic value, but there are different perspectives on the instrumental value of non-living things, that are rooted in individual belief patterns.

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<sup>8</sup>The relationship to nature in the tradition of Catholic Christianity, establishes a divine order of man and nature that is apart from human egoism and intentions (Hoffman and Sandelands 2005). It is God who is in charge of nature and the role of humans is that of faithful stewards of creation, a service for God, mandated through God (Elmore 1996).

<sup>9</sup>Vorster (2005, p. 882) argues that “thus stewardship implies kinship over and against kingship because a theocentric approach renders any anthropocentrism null and void. Real theocentrism can lead to only one attitude: responsibility to God that will be expressed in humankind’s care for its creation.” This rather positive picture of a nature-sensitive theocentrism is also under critique.

<sup>10</sup>[http://www.thesynergycompany.com/v/superfood\\_article10.html](http://www.thesynergycompany.com/v/superfood_article10.html)

### 2.2.1.5 The Ecocentric and Holistic View

An ecocentric/holistic perspective is central in the IFOAM Principles.<sup>11</sup> From this perspective, all non-living and living things have moral rights (Foster and Burkett 2000; Gilg et al. 2005; Schlüns and Voget 2008; Kings and Ilbery 2010) and human have a responsibility for all things animate and inanimate (Meyer-Abich 2006). In the definition of ecocentrism, humans and nature are connected, but ecosystems and nature have precedence over human interests (Hay 2010), a statement which might be discussed controversially in the organic movement. This perspective offers an individual and a socially oriented ethic for action by individual, organizational and institutional, including corporate and other types of collective organizations (cf. Schroth 2009). Within this context, “the Principles concern the way people interact with living landscapes, relate to one another and shape the legacy of future generations” (IFOAM 2012, p. 9).<sup>12</sup>

The IFOAM Principles are close to what can be called pluralistic holism. They assume a holistic and systemic understanding of the farm as an organism in which all objects (organic, non-organic) deserve respect and enjoy the right to exist, while serving a purpose on the farm. Humans neither dominate nor control nature, but are integral to it so that human activities are as much as part of “nature”.

The concept of conviviality (*Gastlichkeit*) offers an additional idea for interpreting human-nature-relationship in an organic context. This idea specifies that human action should avoid bringing about suffering, damage or destruction to other living things (Littig and Griebler 2004). As Illich (1973) suggests, conviviality, defined as an understanding of friendship or playfulness in interpersonal relationships, replaces a technological value with an ethical value based on the realization of individual freedom among different actors in the production process.<sup>13</sup>

<sup>11</sup>(Lund and Röcklinsberg 2001; Lammerts Van Bueren et al. 2003; Verhoog et al. 2003, Verhoog et al. 2007; Padel and Gössinger 2008); It should be noted that the concept ecocentric/ecocentrism is not named in the IFOAM Principles. Holistic/holism is only mentioned directly within the context of breeding (IFOAM 2012, p. 9).

<sup>12</sup>The more holistic interpretation draws from the idea that ecosystems co-evolved and that their existence is a result of reciprocal dependency, similar to the organs of an individual organism (Kirchhoff 2011, p. 18). All things have moral value and rights: humans have responsibility for all living and non-living things including soils, minerals and other natural resources (Callicott 1989). Some also criticize that humans are seen as part of the problem (Tokar 1990). American author, farmer and forester Aldo Leopold’s land ethic highlights an aesthetic dimension of ecocentrism (Callicott 2008). For Leopold, “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (Leopold 1949, pp. 224, 225; Wenz 2003).

See also Gorke (2006) who incorporates individuals into a holistic perspective by arguing that individuals and superior entities have both the same intrinsic moral status. With Norton (1987 in Gorke 2006, p. 261) this ethical approach is categorized as a pluralistic holism.

<sup>13</sup>The concept of conviviality includes also a technological perspective: A convivial technology is oriented towards cooperation and not domination of technology so long as technology meets three requirements: (1) an increase in personal capabilities; (2) situations free of either slave or master relationships; and, (3) creates economic benefits without destroying personal autonomy (Illich 1975, p. 32).

### 2.2.1.6 Final Observations on Worldviews and the IFOAM Principles

As expressed in the IFOAM Principles, these diverse views appeal to actors in the organic movement to weigh their actions in terms of their lives, but also for human generations and nature now and in the future. They focus on ecological dimensions and invite respect for the needs of all others, without regard to religious or spiritual persuasion. Consistent with this, and even though not specifically acknowledged, they do not preclude more radical positions that subordinate the individual to ecosystems (Stenmark 2004, p. 104) such as deep ecology (Naess 1973, 1989), eco-feminism, new age movements (Krebs 1977, p. 362), or cosmological interpretations (Siep cited in Fenner 2010, p. 169).

The ethical message of the Principles that captures an ecocentric/holistic perspective is best expressed with: “Fairness is characterized by equity, respect, justice and stewardship of the shared world, both among people and in their relations to other living beings” (IFOAM 2012, p. 10). In this way, the IFOAM Principles represent what Alrøe and Kristensen (2003) call a “systemic ethic”. This perspective offers considerable freedom in designing alternative/organic agrofood systems.<sup>14</sup> Moreover, the IFOAM Principles offer an ethically based structure for evaluating the organic agrofood chain as a whole (Comstock 1995).<sup>15</sup>

### 2.2.2 Beyond Organic as a Moral Obligation

In addition to reflecting these worldviews, the IFOAM Principles stand as a moral guide for all actors along the organic agrofood chain (IFOAM 2009). They offer a deontological ethic (duty, obligation) that stipulates what is “right” and what is “wrong” (Mephram 2001; Barnett et al. 2005; Padel and Gössinger 2008; Padel et al. 2009) in different environments. Understanding the Principles exclusively as deontological would not offer much room for a flexible interpretation of standards and certifications schemes, or for addressing unforeseen situations in daily practice.

In this section, we therefore broaden the ethical perspective through a discussion of four relevant ethical positions (deontology, consequentialism, moderate deontology and virtue ethics) (Carruthers 2009, p. 296) in organic.<sup>16</sup> This will help us to deepen our understanding of the IFOAM Principles and how they might be applied in organic decision making processes.

<sup>14</sup>The ecocentric view is founded on the belief that ‘our deepest moral guidance comes from understanding nature and our ‘natural’ place in it’ (Armstrong and Botzler 1993, p. 54, cited in Carruthers 2009, p. 297).

<sup>15</sup>In contrast, the definition of sustainable development in the Brundtland report (1987) is explicitly anthropocentric (Shearman 1990; Rennings and Wiggner 1997), while others also identify partly biocentric characteristics (Weinschenk 1994).

<sup>16</sup>see also Alrøe and Kristensen’s approach toward a systemic ethic (Alrøe and Kristensen 2003).



### 2.2.2.1 The Deontological Perspective of Organic

IFOAM offers “principles to guide behavior in order that such behavior becomes ‘normal’” (Vardi and Grosch 1999, p. 109). They call for a personal obligation and serve as moral norms to be respected (cf. Pettit 1993; Barnett et al. 2005, p. 1). In the ethical tradition of deontology, an act is moral, if the acting is done based on a morally oriented decision (cf. McNaughton and Rawling 2007) and conforms to a moral norm or rule. It asks about the inner nature of an act, and the rightness of the act (cf. Barnett et al. 2005, p. 5). It orients decisions along “what one should do” / (“*Was man tun soll*”) (Fenner 2010, p. 34), independent of their consequences; it does not automatically include a moral future oriented decision. Fulfilling the norms is fundamental for those who hold the organic ecocentric/holistic approach—the IFOAM Principles express this ideal.<sup>17</sup>

### 2.2.2.2 The Consequentialism Perspective of Organic

The consequentialist or teleological perspective argues, “the purpose sanctifies the means” (“*Der Zweck heiligt die Mittel*”) (Schroth 2009). Consequentialism declares the rightness of the outcome or the good result of the action as the moral instance of their acting (Barnett et al. 2005, p. 5). It is also clear that a growing number of actors apply the IFOAM Standards because they are mandatory and not from a sense of duty or moral obligation. This utilitarian orientation favors the individual and consumer perspective rather than a community- and citizen based approach (Carruthers 2009, p. 299). Such approaches arise in organic practices that are followed primarily to maximize profit, with little or no attention to social and economic justice or ecological concerns. This position essentially disregards the IFOAM Principles.

### 2.2.2.3 Moderate Deontology as a Step Forward

Both approaches, the deontological and the consequential (teleological) alone are critical for several reasons (Alrøe and Kristensen 2003, pp. 62, 63; Clarke et al. 2008, p. 221). First, a pure deontological approach ignores that in practice we often do not know what might be a deontological-based decision. This is because farming is always a process-oriented decision between short-term and long-term perspectives in a complex environment. Second, the teleological oriented approach contradicts the IFOAM Principles, by focusing only on the result but not on the process, and might ignore minorities (Fenner 2010, p. 34).

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<sup>17</sup> As introduced above, ecocentrism can also be seen as a form of deontological contractarianism (Carruthers 2009, 299). The IFOAM Principles are not of a legal contract, but they do offer a type of voluntary social contract (cf. Clark 2012) that “provides a rationale for individuals to act morally and for governments to create and maintain a just and ordered society” (cf. Carruthers 2009, p. 297).

A third concept that is described with the term “weak” or moderate deontology combines both perspectives (Hunt and Vasquez-Parraga 1993, pp. 80, 81, 87; cf. Harel and Sharon 2008). The right acting depends not only but also on their consequences.<sup>18</sup> This duty includes how to act now and with attention to the long-term effects of decisions. This is, for example, an important perspective in organic breeding (Alrøe et al. 2001, p. 12; Lammerts Van Bueren and Struik 2005, p. 484). The Principles claim both a responsibility to act in an ethical way now and with respect to the consequences for future generations. The IFOAM Principle of Care embodies this position: “Organic agriculture is managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment” (IFOAM 2012). In other words: in organic, we must address both current and future needs.

#### 2.2.2.4 Organic as Virtue

This type of normative ethics brings in a perspective that puts the actor in the center (Borchers 2001). While deontological ethics focuses on the kind of activity and instrumental values (first order moral), virtue ethics is about the inner disposition and attitude of a person or non-instrumental values (second order moral) (cf. Alrøe and Kristensen 2003; Carruthers 2009, p. 299).

Virtue ethics specifically defines a moral life in the context of social relationships, community, traditions, socially established co-operative human activities, a strong relation in places and on the land and human flourishing (Carruthers 2009, p. 299). This has been illustrated by many, including: Aldo Leopold’s land ethics (Hull 2005; Minter 2006; Frasz 2008; Shaw 2008); Rachel Carson’s critique on the environmental destruction; Henry David Thoreau’s lifestyle (Sandler 2007; Cafaro 2008); and, Arne Naess’s deep ecology (Hursthouse 2007). Virtue ethics have several commonalities with the IFOAM Principles of Fairness and Care. The holistic ethic of the Principles is sensitive to the ecological and human needs beyond a purely economic perspective.

#### 2.2.2.5 Thoughts on Re-conceptualizing Organic Ethics

The ethical perspective of IFOAM Principles can be described with an ecocentric/holistic ethic, the concept of conviviality and in the tradition of normative ethics as a moderate type of deontology, as well as with virtue ethics. It embodies a culture of life similar to what Wendell Berry and others have referred to as agrarian stewardship that is diametrically opposed to industrial approaches, or thinking about

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<sup>18</sup>The more deontological perspective is also evident in an organic economy that is in contrast to a consequentialist approach, integrating values such as autonomy, basic liberties, truth-telling, and promise-keeping over the promotion of good outcomes (Zamir and Medina 2010).

the “farm as a factory” (Wirzba 2003). Similar to the concept of agrarian stewardship (cf. Thompson and Hilde 2000; Thompson 2001, 2007; Wirzba 2002), the IFOAM Principles also refer to humanness, community, place and stewardship.

However, whether from a perspective of systemic or agrarian ethics (see Alrøe et al. 2001), we suggest that most interpretations of the IFOAM Principles are too narrow, and are not sensitive enough to the organic agrofood chain as a whole. Several discussions in agricultural ethics address the importance of reconnecting food producers and consumers (e.g., Carruthers 2009, pp. 303, 304). To honor the ethical promise of the Principles, the perspectives and conditions of the consumers must be strengthened to become relevant in the daily lives of consumers. Moreover, there is a need for more critical ethical discussion of corporate commercial activities and approaches (Williams and Murphy 1990). It is time to address issues of compassion, fairness, loyalty and openness. All are emphasized by the IFOAM Principles of Fairness and Care, but are not addressed in the context of commercial marketing. Finally, both the agrarian stewardship and the IFOAM Principles need to be extended toward “urban” stewardship that integrates the urban realities of citizens and markets. The challenge is then how to think about an “urban ethic” in an industrialized and globalized society.

## **2.3 Diversification of Ethics in the Organic Movement – A Historical Perspective**

What has been the role and development of diverse ethics in the history of the organic movement (see also Constance et al., Hunt et al. and Jones, Chaps. 9, 10 and 11)? In this section we discuss the history behind the organic ethics in order to make explicit that the ethical foundation has changed over time, but include several contributions that continue to be of relevance in the IFOAM Principles.

We start our journey with the second half of the eighteenth century, long before organic was established as a movement and before there was a differentiation between organic and conventional. We conclude in the late 1980s, when organic had become progressively well-known and well-established in society. Later, in Chap. 13 we discuss the significance of these ethics for different organic farming groups.

### ***2.3.1 Framing the Organic Roots: Agriculture in the Nineteenth and Early Twentieth Century – A European Perspective***

In the eighteenth century, theocentric perspectives about agriculture were central. There was a strong belief in a “God” who understood that even weeds served some higher purpose (see Becker 1788/1980 in Dirlinger et al. 1998).

Early theological literature draws a picture of a good world in which one finds harmony between nature and society and in which all parts intertwine. This is very much a bourgeois, aesthetic perception of nature removed from the notion of the natural world as hostile (Dirlinger et al. 1998, p. 28). As such, this world was not to be destroyed by human beings; its harmony would be guaranteed through “Devine” balance (cf. Sieferle 1990, p. 53, cited in Dirlinger et al. 1998, p. 29). Trust in the everlasting use of nature, with its fertility and its imperishability is given by providential precaution (ibid). From this theocentric perspective, agricultural practices needed to reduce risks to nature and to God’s creations. The IFOAM Principles still express elements of this type of theological thinking and an holistic ethic, however without religious beliefs (cf. Mohr cited in Vieth 2008, p. 166).

Starting in the nineteenth century, animal manure and crop rotation became central tools for increasing production, and in doing so expressed the strong relationship between soil fertility and animal husbandry/livestock production. Interestingly, the idea of crop rotation during this time was described as a type of “division of labor.” Similarly, leguminous fodder plants were used to fertilize the soil and recycle minerals, while other plants served as subsistence food or as cash crops (Thaer, cited in Dirlinger et al. 1998, pp. 32–34). These farming systems were built on the idea of continuous humus production through fodder legumes, which also offered nitrogen to the whole cropping system and provided the basis for protein fodder for animal feed. In this relationship, humus was both the result of life and the condition for it. The human-nature-relationship was “place-based”. These production practices relied on limited inputs, a principle that would be later incorporated into the IFOAM Principle of Ecology.

With the ideas of Albrecht Thaer, a techno-economic oriented agricultural understanding was set into place that marked the turning point to an industrialized form of agriculture, and the phasing out of an organic based agriculture. Nineteenth-century industrialization and early agricultural research led to a new profit-driven paradigm. This era marked a transition from a fairly closed agricultural system, including animals and the recycling of nutrients, to a system that was increasingly open or reliant on external inputs of nutrients and feedstuff. Maximizing profits became more important than maximizing production (Dirlinger et al. 1998, pp. 32, 33). This conceptualization of agriculture was limited to capital intensive and market-oriented farms. The majority of family farms participated in the use of only some elements of modernized agriculture, and continued to rely largely on organically driven crop rotation.

At the turn of the twentieth century, Fritz Haber created the basis for the development of industrially produced nitrogen and thereby tremendously changing agriculture and the world<sup>19</sup> (Smil 2004). From this point on, the legumes and animal manure became markedly less important as a source of nitrogen and other minerals. Farming had taken the first steps toward becoming an industry-produced nitrogen driven system.

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<sup>19</sup>Fritz Haber’s invention did not only change agriculture fundamentally, it also became the driving factor for war activities—enabling the destruction of both nature and societies (Dirlinger et al. 1998, p. 29).

The change from a humus based cropping system fundamentally endangered soils. Because fodder legumes were no longer needed for crop rotation, the other contributions of legumes to the soil disappeared, including the production of humus through high amounts of carbon from root biomass, and the capacity to protect and to store nutrients and water. Instead of being fed through a diversity of plants and microorganisms, as well as green manure and compost from animals, feeding the soil became dependent on industrial produced nitrogen.

The human-nature relationship was moving towards a new paradigm. This marked the beginning of thinking about farming with more industrial-type language and images: ideas related increasingly to economic oriented input-output regimes (cf. Ropohl 1978) and a shift in thinking about the relationship between the farm and its environment.

The extensive production and dissemination of industrially produced mineral fertilizer started after World War II (Charles 2005). These industrialization processes also came to symbolize the societal division of labor between farms and industries. This phase marked a turning point from a holistic religious-oriented understanding of agriculture and nature toward an anthropocentric and egocentric business-oriented organization of farming.

To summarize: before the beginning of the use of industrially produced fertilizer, farmers applied a fairly holistic-theocentric, closed, site-specific practice. This new type tend to ignore the need to invest in the sustainable production of soil fertility. More broadly, through this process, the farmer became less responsible for the sustainable production of food from the farm's internal resources. From an ethical perspective, it might be said that more anthropocentric oriented values replaced a holistic and religious orientation. Some nineteenth century elements and ethics of agriculture survived until the 1950s, for example, as documented in Jean Giono's novel "Harvest" (Giono 1978). This type of farming is still found among small farms in mountainous or abandoned regions in Eastern European countries and in religious movements all around the world.

### 2.3.2 *Pioneers of the Organic Movement*

The organic movement developed in the early 1900s during a period of politically oriented counter-movements in both the German and English speaking world. At the beginning of the twentieth century, the German Ewald Könemanns (1899–1976) established the natural farming (*Natürlicher Landbau*) or "back to nature" movement that emerged from the life-reform movement. The educated middle class, laborers and artists shared in the counter-movement and partly supported these new lifestyles.<sup>20</sup>

This back to nature movement was composed mainly of vegetarians who believed in agriculture without animals and a self-subsistence form of gardening

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<sup>20</sup>(see Krabbe 1974; Linse 1983, 1986; Rothsuh 1983; Huerkamp 1986; von Loesch 1986; Rollins 1997; Hotaka 2000).

focused primarily on fruit and vegetable production. They refused to use mineral fertilizers and synthetic pesticides, just as today's organic farmers. They recycled and composted organic materials (including composting human and urban waste), established green manure, mulch and used minimal tillage methods, as well as low soluble mineral fertilizers and stone meals. In general, those following the back to nature approach established a low-input system, based on the continual recycling of organic materials found on the farm (Vogt and Lockeretz 2007).

These organic practices were accompanied by an ethically oriented lifestyle. For example, in the life-reform movement, participants refer to an understanding and respect of animals (Biocentrism), and of ecosystems (ecocentrism). Specifically, the movement political origins led the life reformers to focus on fairness and care. Clearly, some of the IFOAM Principles have their roots in this movement.

In the early 1920s, the introduction of larger machinery and the use of mineral fertilizers on large farms led to soil compaction, the loss of soil fertility and a serious decline in yields. In response, a delegation of big landowners in Germany asked the philosopher Rudolf Steiner (1861–1925), who was neither a farmer nor an agricultural scientist, to advise on how to reduce the negative effects of these changes on the soil (Vogt 2000; Patzel 2009; Patzel and Lindenthal 2009). Steiner, founder of anthroposophy, emphasized the humanistic fundamentals of and biodynamic farming (Steiner 1984), which included ideas about the role of the individual and society instead of the dominate natural science perspective (Steiner 1984, pp. 48, 76). "It is infinitely important that agriculture should be closely related to the social life" (Steiner 1973, p. 249). Steiner's intention was not to offer a complete description of agricultural practices, but to present a perspective that farmers could put into practice. Steiner's idea for a biodynamic agriculture was the "*Verlebendigung der Erde*" (roughly the 'vitalization of the earth') through organic fertilizers. According to Steiner, living soils, animals and compost are key to the system. In Steiner's biodynamic approach, each farm is seen as an organism, and field practices must account for cosmic forces (Steiner 1984, p. 169). For Steiner, bio-dynamic farmers need to develop their individual farm identity that accounts for the evolution of nature, society, humankind and the cosmos.

Steiner's perspective does not fundamentally contradict the ethical standpoints of Könemann's back to nature approach, yet Steiner's ethics and spiritual individualism goes much further. For Steiner (1892) " [...] ethical human life, in a real sense, only begins where justification by utilitarian principles ends. [...] *das im eigentlichen Sinne ethische Leben des Menschen fängt aber da erst an, wo diese auf Nützlichkeit begründeten Gesetze aufhören*" (p. 170). Steiner held that rules, principles or norms alone do not make an ethical society. To act ethically in a deeper sense, he argues, is what an individual has to arrange with him/herself (Steiner 1892, p. 172). Steiner also put the individual's role in society more in the foreground. Steiner's contributions to the ethical roots of organic were profound and comprehensive. We find them today in the IFOAM Principles, however less emphatic than he did, e.g., in seeing the farm as an organism as a whole.

In the 1950s, the British agriculturalist working in India, Sir Albert Howard (1873–1947), and the British farmer and educator Lady Eve Balfour (1898–1990), engaged into organic farming with contributions that are relevant until today. Both pioneers underlined the significance of the soil. To them, the increase and maintenance of humus, or organic matter, was essential for assuring overall soil health and soil fertility. Howard focused on a more scientific argument and the composition of composting: cow dung (known as Indore compost); urban waste; the addition of micro-organisms to the soils and compost; and, the integration of leguminous fodder crops and green manure (Howard 1946). Balfour concentrated on the close relation between soil, animal and human health and the organic cycle (Balfour 1948, pp. 16, 23). Following Steiner, both understood the necessary contribution of animals to the farming system (Howard 1946). It should be noted that both Howard and Balfour were familiar with, and were seeking to adapt long-standing agricultural practices from China, East Asia and India, as documented by King (1911), to the definition of organic farming in Europe.

Balfour and Howard shared an ecocentric ethic that was sensitive to living and non-living organisms. In addition, Howard is recognized for bringing ecological and health related values into the organic movement, while Balfour valued Christian social ethics as a foundation for agriculture (Balfour 1948, pp. 184–190). She focused on the social fairness and care, and she was highly critical of capitalist economic relations and materialism that she saw as responsible for the economic exploitation of nature. Balfour specifically underlined Christian values and social justice in agriculture and food systems that reflected combined ecocentric – theocentric ethics. She argued that, “we cannot escape from the ethical and spiritual values of life for they are part of wholeness” (Patzel 2010, p. 271). Overall, she demanded the holistic necessity of “service to God, service to our soil, service to each other, and, through each other, to the community and the world” (Balfour 1948, p. 188; Patzel 2010). Clearly, her holistic environmental and social philosophy is at the core of the IFOAM Principles.

In 1949, the Swiss couple Hans (1891–1988) and Maria Müller (1894–1969) established an approach called organic-biologic agriculture (Moser 1994 cited in Patzel and Lindenthal 2009, p. 6). During the 1930s, Hans Müller was engaged in public policy concerning soil and economy. He argued that since the soil was essential for farmers, it should not be considered as a commodity. Based on extensive scientific reading and their own experiences, the Müllers created the ‘organic-biologic agriculture and gardening method.’ This method drew upon Sir Albert Howard’s ideas as well as those from Rudolf Steiner and his biodynamic attention to humus, soil organisms, composting and the cycling of systems. The Müller’s approach to compost, in contrast to Howard’s use of the Indore method, focused on promoting a system of surface composting and mulching.

The Müllers also sought to secure independence for farmers from trade and agricultural inputs. They were committed to the economic survival of small family farms, respecting tradition, assuring fair prices, producing high quality healthy food, knowledgeable consumers and close relationships between farmers and consumers through regional and cooperative markets (Vogt 2001). Hans Müller’s



journal, entitled “Culture and Policy (Kultur und Politik),” publicized his political convictions, and he led the Swiss farmer-home-movement that was founded on Christian-based responsibility for nature and consumers (Vogt 2001). In summary, the Müllers contributed to the ecological and health related ethics in the current organic movement, as well as to the initial thinking about the value of fairness and care in agriculture.

The natural scientist and medical doctor, Hans Peter Rusch (1906–1977), provided the scientific evidence for the Müller’s organic-biological agriculture approach. He highlighted the use of organisms for their contribution to the cycle of living substances, including soil and compost organisms, and the microbiological activity of soils (Rusch 1968). Rusch understood biology as a holistic guiding science, expressing what he called the “biological reason” or “the result of processes which include all of which comprises our entire being; not only logic, but our cognitive, mental and bodily being, our character, as well as instinct and intuition” (Patzel 2010, p. 271). In short, Rusch provided the ethical background for the ecological and health related principles of today’s organic movement. From an ecological perspective, he comment that, “life is a unified whole, where every part is of equal value and given equal rights, regardless if it is a simple organisms or humans” (Rusch 1968, p. 34) illustrating his contribution to the IFOAM Principle of Fairness.

Aldo Leopold (1884–1948), a US ecologist and forester, introduced the concept of a land ethic to capture the idea that all beings are interdependent parts of “ecological communities” (Callicott 1992). He highlighted the community, not the individual, as a value of the common good.<sup>21</sup> To realize such a society, Leopold identified the importance of a rational and sensitive process based on changing our “land ethic” from one of conqueror, to one of being a mutually respectful community member and citizen (Thompson 1988). Leopold’s land ethic enlarges the boundaries of community to include soil, water, plants and animals, or collectively – the land. To Leopold, land was a community and the basic concept of ecology. The land ethic was to love and respect the land (Leopold 1949).

A land ethic in Leopold’s eyes could not be forced. Society needed to realize that it possesses a land ethic. According to Leopold, this ethic should reflect the existence of an ecological conscience that, in turn would reflect a conviction of individual responsibility for the health of the land (Leopold 1949). Such an ethic could be promoted through higher education and governmental support.

The land ethic has been predominantly embraced by the environmental movement, and is tied logically to agrarianism.<sup>22</sup> Leopold’s ecological perspective contributed to understanding the human-nature relationship. His ethic went beyond

<sup>21</sup> This contrasts with Steiner’s view of individuality as a precondition for community.

<sup>22</sup> “Agrarianism—the celebration of agriculture and rural life for the positive impact thereof on the individual and society...” (Danbom 1991, p.1) (see also: Oren 1973; Flinn and Johnson 1974; Chase 1988; Montmarquet 1989; Dalecki and Coughenour 1992).



the borders of a farm to the landscape (Principle of Ecology) and a community (Principle of Fairness and Care). For Leopold, the land is a common good and not the property of an individual (cf. Foster 1995; Freyfogle 2003). It is important to note that Leopold sheds light on the relevance of individual freedom and responsibility while identifying the need for a place-based education within a governmental framework (see Knapp 2005).

Organic farmer and author, Jerome Irving Rodale (1898–1970), was first inspired by Albert Howard's experiments and observations (Jerome Irving Rodale 1971). In 1930 he established his own experimental farm for organic agriculture in Pennsylvania. His book "The Organic Front" (1948), presents his thinking about organic agriculture, soils and health, including the interaction of organic fertilizer, soil health and human health. Rodale's approach was very techno-ecological oriented, and he advocated innovation and a more modernized type of organic agriculture. As such, he therefore contributed a strong ecological and health oriented perspective to the current organic movement.

Each of these organic pioneers influenced the development of ethics and value that undergird organic production and consumption today. Although they were very aware that food production inevitably required human intervention with nature, each one understood that this intervention must respect nature. In summary, each pioneer contributed to promoting the need for ethics or values which are documented today in the IFOAM Principles of Health, Ecology, Fairness and Care.

### 2.3.3 *Organic and Environmentalism*

In the early 1960s, a time in which diverse groups of ranging values and objectives already comprised the organic movement, Rachel Carson's (Carson 2002) critique of pesticide use launched a new phase for the organic movement. Even though the British Soil Association had already given environmental issues attention in the '50s (Conford and Dimbleby 2001), Carson was able to broaden attention to the organic movement and to organic as an environmental friendly agricultural practice. This coincided with the rise of the counter-cultural movements in which many started organic farming (back to the land movement) as a protest against the 'industrial-military complex' (Sligh and Cierpka 2007, p. 33). The discourse that economic profits and self-interest should be less important than more holistic oriented values was important during this time.

In addition to the traditional organic practitioners, who followed many of the pioneers and the back to the land movement in the 1920s, many family farmers wanting to avoid the trend of 'get big or get out' turned to organic agriculture. During this time, there was also a growing movement of food cooperatives that promoted the value of healthy, local, and locally processed food (Allen et al. 2003). These diverse motives and values illustrated the ways in which the organic movement had

broadened and had become much more than an agricultural movement, but also a societal movement of ‘organic activism’ (Sligh and Cierpka 2007, p. 34).

In the 1990ties, in the US organic has been called a counter-culture movement (Tovey 1997, 2002; Reed 2002; Allen et al. 2003, pp. 63, 65). With the increase of farmers’ markets, community supported agriculture, urban farming and food cooperatives, today many such social activities for producing and procuring food have taken a ‘stand’ against corporate organics, and have actively included values associated with such innovations (Tovey 2002), closely linked to the IFOAM Principles. In North America, these activities have been popularized by well known farmers, authors and activists today such as Wendell Berry (2002), Wes Jackson (1980), Joe Salatin (2013), Barbara Kingsolver (Kingsolver et al. 2009) and Michael Pollan (2007). In Europe, on the other hand, organic simply became part of its long tradition of farmers’ markets, and introduced in supermarkets, while food coops played a minor role, and community supported agriculture and urban farming were unheard of (Seyfang 2006).

### ***2.3.4 Organic Principles and Standards***

Between the 1970s and 1980s there was a fundamental shift that profoundly affected the reflection and practices of ethics in the organic movement – the “institutionalization of organic farming” (Michelsen et al. 2001). In 1972, the International Federation of Organic Agriculture Movements (IFOAM) was created to improve communication and trade for organic. In 1980, IFOAM formulated the first set of principles to serve as the ethical guidelines for organic and then codified as the Basic Standards (Schmid and Lockeretz 2007, p. 154). During the early stages of organic, rules, norms or standards were formulated largely on a private and informal basis. IFOAM was the first organization that initiated a worldwide formalization process of organic.

From an ethical standpoint, this was a remarkable change. While in the pioneer days, the “control” of production was part of a personal relationship between farmers and consumers, among farmers and within farmer associations, the IFOAM Standards transferred the “verification of organic” to a separate certification and inspection system. Additionally, the focus on what was relevant for organic farming changed, for example, processing and animal welfare began to be of interest (Schmid and Lockeretz 2007, p. 152). Originally, “in the pioneer phase the standards brought organic farmers together, whereas later the standards seemed to divide them” (ibid 2007, 158). Additionally, there became increased competition between different rules and labels. While this stimulated the development of organic, it contributed to confusion about what constituted an organic product.

The popularization of the organic movement has also led to a measure of detachment or weakening of former values and their substitution by a new understanding of organic agriculture (Vogt 2001; Patzel 2009, p. 9). The earlier organic values were shaped by small farmers and Christian attitudes about life yet the environmental movement, and often intellectuals from outside agriculture, drove

this newest redefinition of organic. However, this redefinition has also opened the door for new coalitions within society and more specifically to the movement’s political acceptance (see Patzel 2009, p. 10). These new coalitions also include technical, ecological and market oriented practices with a rising environmental-political consciousness. Perhaps this new approach may be a starting point for several societal changes: rural development (Libery and Kneafsey 1998; Darnhofer 2005), the emergence of “agri”-culture (Parrott et al. 2002) and (in an urban context) new lifestyles (Gilg et al. 2005; Pellegrini and Farinello 2009).

Without question, the first set of IFOAM Principles was obviously necessary for a growing movement as a foundation for coming together and for communicating a common understanding of the meaning of organic agriculture. In contrast to the time of the organic pioneers, urban organic consumers have brought new perspectives into the organic movement. Now, a wide range of views—from anti-militarist, to back to the land, to alternative energy movements, to development work, and the European green parties—have introduced many important issues related to social justice, fair trade and relationships between farmers and consumers. All of these influence the continuing development of the organic movement and its ethical foundations and contribute to the ethical differentiation of the organic approach.

Annex

Table 2.2 IFOAM Principles

IFOAM Principles (2009)
<b>Background</b>
The IFOAM Principles arose from an international consultation process from 2003 to 2005; of a task force and a consulting group formed by the IFOAM World Board. They consist of ethical principles organized to inspire action in all dimensions of the organic agro-food chain. This worldwide stakeholder-based consultation process embodied a specific ethical position to develop ethical guidelines through a participatory process. The four Principles – Health, Ecology, Fairness and Care – “serve to inspire the organic movement in its full diversity. They guide IFOAM’s development of positions, programs and standards” (IFOAM 2009)
<b>The Principle of Health</b>
Organic Agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible. This principle points out that the health of individuals and communities cannot be separated from the health of ecosystems – healthy soils produce healthy crops that foster the health of animals and people
Health is the wholeness and integrity of living systems. It is not simply the absence of illness, but the maintenance of physical, mental, social and ecological well-being. Immunity, resilience and regeneration are key characteristics of health
The role of organic agriculture, whether in farming, processing, distribution, or consumption, is to sustain and enhance the health of ecosystems and organisms from the smallest in the soil to human beings. In particular, organic agriculture is intended to produce high quality, nutritious food that contributes to preventive health care and well-being. In view of this it should avoid the use of fertilizers, pesticides, animal drugs and food additives that may have adverse health effects

(continued)

**Table 2.2** (continued)

IFOAM Principles (2009)
<b>The Principle of Ecology</b>
Organic Agriculture should be based on living ecological systems and cycles, work with them, emulate them and help sustain them
This principle roots organic agriculture within living ecological systems. It states that production is to be based on ecological processes, and recycling. Nourishment and well-being are achieved through the ecology of the specific production environment. For example, in the case of crops this is the living soil; for animals it is the farm ecosystem; for fish and marine organisms, the aquatic environment
Organic farming, pastoral and wild harvest systems should fit the cycles and ecological balances in nature. These cycles are universal but their operation is site- specific. Organic management must be adapted to local conditions, ecology, culture and scale. Inputs should be reduced by reuse, recycling and efficient management of materials and energy in order to maintain and improve environmental quality and conserve resources
Organic agriculture should attain ecological balance through the design of farming systems, establishment of habitats and maintenance of genetic and agricultural diversity. Those who produce, process, trade, or consume organic products should protect and benefit the common environment including landscapes, climate, habitats, biodiversity, air and water
<b>The Principle of Fairness</b>
Organic Agriculture should build on relationships that ensure fairness with regard to the common environment and life opportunities
Fairness is characterized by equity, respect, justice and stewardship of the shared world, both among people and in their relations to other living beings
This principle emphasizes that those involved in organic agriculture should conduct human relationships in a manner that ensures fairness at all levels and to all parties – farmers, workers, processors, distributors, traders and consumers. Organic agriculture should provide everyone involved with a good quality of life, and contribute to food sovereignty and reduction of poverty. It aims to produce a sufficient supply of good quality food and other products
This principle insists that animals should be provided with the conditions and opportunities of life that accord with their physiology, natural behavior and well-being.
<b>The Principle of Care</b>
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
Organic agriculture is a living and dynamic system that responds to internal and external demands and conditions. Practitioners of organic agriculture can enhance efficiency and increase productivity, but this should not be at the risk of jeopardizing health and well-being. Consequently, new technologies need to be assessed and existing methods reviewed. Given the incomplete understanding of ecosystems and agriculture, care must be taken
This principle states that precaution and responsibility are the key concerns in management, development and technology choices in organic agriculture. Science is necessary to ensure that organic agriculture is healthy, safe and ecologically sound. However, scientific knowledge alone is not sufficient. Practical experience, accumulated wisdom and traditional and indigenous knowledge offer valid solutions, tested by time. Organic agriculture should prevent significant risks by adopting appropriate technologies and rejecting unpredictable ones, such as genetic engineering. Decisions should reflect the values and needs of all who might be affected, through transparent and participatory processes

Source: IFOAM (2009)

[http://www.ifoam.org/about\\_ifoam/principles/history\\_of\\_principles.html](http://www.ifoam.org/about_ifoam/principles/history_of_principles.html)

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