

From a standard to an output oriented approach in organic livestock farming

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Abstract – Although standards of organic livestock production clearly exceed the legal minimum requirements in many areas, the current performance in relation to animal health and product quality often does not surpass the level of conventional production and does not always meet the self-proclaimed aims and the expectations of the consumers.

Thus, the standards lack efficiency in the implementation of organic principles. Taking the system approach of organic farming into account, the implementation of feed back mechanisms is required to correspond to the teleological behaviour of open systems. Moreover, there is a need for a change in the paradigm from a standard to an output oriented approach to improve the level of animal health and of product quality.¹

INTRODUCTION

Standards are a characteristic feature of organic farming since 1954. The starting point for the standards was the trademark legislation that required clear criteria to identify organically produced goods (Schaumann, 2002). Because the variety of production sites and the resulting product properties did not allow the identification to be linked to products in terms of quality that could be described exactly and understood analytically, the production method itself became the identifying criterion. This fundamental principle has also been adopted by the legislators in the EU (EEC Regulation 2092/91). The EU-Regulation was introduced to harmonise the rules of organic farming across member states and to make all organic systems across EU members subject to minimum standards. One of the main objectives of the Regulation is to protect consumers from unjustified claims and to avoid unfair competition between those who label their products as being organic.

For the external perception of organic farming, it is of high importance whether compliance with the standards generate effects that correspond to the self-proclaimed claims and to the expectations of the consumers.

INCONSISTENCIES

Organic livestock production being not as well developed as crop production both in relation to the farm practice and research has to face various challenges. The production method has to deal with a huge diversity in the availability of relevant resources (high quality feedstuffs, litter, outdoor area etc.) between regions of Europe and a huge variability with regard to the perception of problems and to the expertise to deal with these problems. It is by and

large indisputable that the standards especially in the field of animal behaviour and environmentally friendly production clearly exceed the legal minimum requirements. There is, however, no general advantage of organic compared to conventional farming in relation to animal health and food safety (Sundrum, 2001; Hovi et al., 2003). Meta-analysis of the literature showed that the variation regarding diseases is bigger within than between the production methods. Thus, standards per se do not assure a high level of animal health and product quality. The most important source of variation in relation to animal health and product quality is the farm management. Moreover, standards in their current form appear to have a weakness in relation to fair competition between those that produce according to organic principles and those that make use of the derogations and mainly focus on quantitative traits and low production costs. The latter benefit in relation to the wider availability and productivity of conventional resources, and because of the lower prices of conventional resources relative to organic resources which gives them competitive advantage. In contrast, producers that strive for improvements with regard to product- and process-related quality are at a disadvantage due to the increased competition from producers that only strive for low production costs. In view of these inconsistencies, various questions arise:

- Due to limited resources within the farm system (labour time, nutrients, investments etc.) and corresponding conflicts of aims in relation to the decision where to set priorities, how to make sure that the issue of animal health and product quality obtain a high priority.
- As consumers are very interested in healthy products from healthy animals and especially expect organic products to derive from healthy animals (Verbeke and Viaene, 2000), how to make sure that organic products of animals' origin belong to a basic entirety, which is different in relation to animal health from that in conventional production.
- As the implementation of minimal standards is not an appropriate criteria to predict the level of animal health and product quality, the question arises, whether on-farm control and the direct assessments of product- and process-related qualities are necessary to meet the demands of consumers.
- As the implementation of a high level of product- and process-related quality often requires additional efforts and the use of additional resources

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(labour time, investments, etc.), the question arises, how those farmers that strive for a high animal health status in their flock can be honoured by premium prices to cover the additional costs.

SYSTEM APPROACH

Dealing with complex interactions when striving for a high level of quality it is reasonable to clarify whether the system approach might provide support to overcome the most relevant inconsistencies. To define the farm as an agricultural system has become commonplace in organic farming (Lockeretz and Boehncke, 2000). This might be due to the intention to grasp the farm as a whole system in order to explain the dynamic process within the farm. A theoretical framework for observing and analysing a farm as an entity has been recently reviewed and outlined by Noe and Alroe (2003). The authors pursue the idea of a farm as a self-organizing system in a complex of heterogeneous socio-technical networks of food, supply, knowledge, technology, etc. that must produce and reproduce itself through demarcation from the surrounding world by selection of meaning. The meaning of the system is expressed through the goals, values, and logic of the farming process. Consequently, boundaries and processes of self-organising systems are not only dependent on the decisions of the farmers or external stakeholders, but on the self-reference of the system.

Systems are a human conceptualisation as they do not exist independently on the observer, but depend on an inter-subjective consensus about the definition of the system (Hodson, 2002). An organic farm is by definition an open system based on specific principles. Within the system, single parts are related to each other and generate emergent properties. In the context of organic livestock production, animal health and food safety can be seen and defined as properties of a farm system. They do not belong to any of its constituent parts, but emerge from the relationships or interactions of its constituent parts. While in any closed system, the final state is unequivocally determined by the initial conditions, the final state in open systems can be reached from different initial conditions and in different ways (Bertalanffy, 1968). The primary regulation within open systems is based upon dynamic interactions and circular causal chains and mechanisms monitoring back information on deviations from the state to be maintained or the goal to be reached. These mechanisms of a feedback nature are the base of teleological or purposeful behaviour in open systems. In relation to product- and process related quality in organic livestock production farm gate feed balance sheets, diet calculations and animal health precaution plans could be developed as tools for feedback mechanisms within the farm system. The current standards lack any mechanisms of feedback as the base for purposeful management. The relevance of feedback mechanisms in relation to purposeful behaviour is illustrated in figure 1.

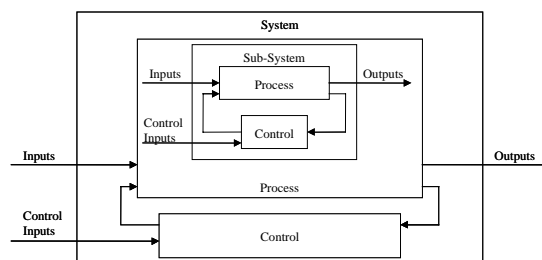


Figure 1. Feedback as a main principle of open systems (Hodson, 2002).

CONCLUSIONS

From an overriding perspective there is reason to conclude that the lack of feedback and control mechanism within the farm system is one of the main reasons for the huge variation in relation to animal health and product quality in organic livestock production. The use of feedback mechanisms, however, requires a clear definition of the expected results of measures and of the output of the system. Consequently, there is a need for a change in the paradigm from a standard oriented to a result and output oriented approach to correspond to the teleological behaviour of open systems and to improve the level of product- and process-related quality.

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