Special issue—organic pig production in Europe—animal health, welfare and production challenges

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Background

Within Europe, organic pigs are produced in many different ways according to local environment, national standards and farm-specific facilities and preferences. However, all herds must adhere to the minimum standards for organic production set out in European Directives and, in consequence, face some common challenges in the management of health and welfare. Since the use of antibiotics and antiparasitic drugs is undesirable in organic pig production, the main focus of health management is on developing herd management strategies that prevent diseases and parasites. It is therefore important to understand the relationships between housing and management practice and disease incidence in organic pig production and to convert this knowledge

into tools that the individual farmer can use to improve livestock health on the farm.

Between 2007 and 2010, a pan-European project on organic pig production focussed on the ‘Prevention of selected diseases and parasites in organic pig herds – by means of a HACCP based management and surveillance programme’ (COREPIG). The overall objective of the COREPIG project was to promote animal health and welfare in organic pig herds in Europe. The project had three main components: (i) to conduct an international knowledge synthesis to establish future needs for research into disease and parasite prevention in organic pig production; (ii) to estimate risk factors for selected diseases and parasites in European organic pig herds and (iii) to develop and evaluate a management and surveillance system for organic pig herds based on a hazard analysis, critical control points (HACCP) concept. More details of the project can be found at www.coreorganic.org/research/projects/corepig.

This special issue of Organic Agriculture draws together the knowledge synthesis work carried out as part of the COREPIG project. The review papers presented here describe the diversity of current organic pig production systems and then analyse the available information on health and welfare issues associated with the following: (i) pregnant and lactating sows, (ii) suckling piglets, (iii) weaners and (iv) fattening pigs, to provide an important critical reflection on the current status of, and challenges facing, the pig production sector. In addition, experimental papers are included which report work carried out within the project on (v) the use of animal-based measures in the assessment of health and

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welfare status of organic pigs and (vi) the characteristics of organic pig farms which might influence litter size and piglet mortality.

Defining health and welfare in organic pig production

According to the International Federation of Organic Agriculture Movements, organic agriculture is based on four ethical principles—health, ecology, fairness and care (International Federation of Organic Agriculture Movements (IFOAM), undated, http://www.ifoam.org/sites/default/files/ifoam_poa.pdf). Organic farming therefore has an explicit goal of improved animal health and welfare compared with conventional systems of production. In conventional agricultural systems, health and disease, whether of animals or crops, are often considered to be value free concepts. Disease is considered to be a dysfunctional state for the affected organism which can be assessed with reference to the occurrence of particular physiological signs (symptoms) or the presence of disease causing organisms (e.g. viruses, bacteria, parasites). Therefore, health is often defined by the absence of disease, or more completely by the presence of a state of ‘normal function’ in the animal allowing high production performance. This definition of health then requires a set of referential norms against which function is assessed, usually by giving a typical range for key indicator parameters (e.g. growth rate, metabolic markers etc.). Assessing health in this way still however requires some value-based judgements to decide (i) which parameters should be measured and included in the reference set of health indicators and (ii) which groups of organisms and in which environments are considered as normal, so that this population can be used as the baseline for the determination of the indicator norms.

The IFOAM Principle of Health states that ‘Organic agriculture should sustain and enhance the health of soil, plant, animal, human and planet as one and indivisible’. Health, in this context, is defined in a very broad manner emphasising ‘the wholeness and integrity of living systems’ and being ‘not simply the absence of illness, but the maintenance of physical, mental, social and ecological well-being’. Overall, therefore, health and welfare of organic animals are highly interrelated concepts including both mental and physical aspects.

Unlike health, animal welfare is clearly a normative concept, requiring value-based judgements when applied to any farming system. The Farm Animal Welfare Council suggests that an animal’s welfare, whether on farm, in transit, at market or at a place of slaughter should be considered in terms of ‘five freedoms’ representing ideal states (www.fawc.org.uk/freedoms.htm):

1. Freedom from hunger and thirst
2. Freedom from discomfort
3. Freedom from pain, injury or disease
4. Freedom to express normal behaviour
5. Freedom from fear and distress.

In organic farming systems, the concept of animal welfare also includes the concept of naturalness. The third IFOAM principle (fairness) stipulates that ‘animals should be provided with the conditions and opportunities of life that accord with their physiology, natural behaviour and well-being’. This gives rise to the requirements in organic standards of livestock access to outdoor areas, provision of roughage and freedom of choice that allows each animal to express its individual preference, coupled with the requirement for human care-giving within livestock systems (Leeb 2011). Whilst the five freedoms place the focus on avoiding poor welfare, the IFOAM principles more closely align to Quality of Life approaches in also placing emphasis on promotion of positive affective states.

Vaarst and Alrøe (2012) further stress the importance of considering homeostasis as an integral part of the organic concept of health, i.e. a healthy organism has ‘the ability to withstand shocks and adjust or react to changing environments’. Consequently, health management approaches within well-developed organic farming systems are not solely addressed towards disease prevention and are likely to include actions (e.g. diet management, living conditions, social interactions) that may be more commonly regarded as part of animal welfare management in conventional systems.

Within the COREPIG project, and hence within the papers presented in this special issue, the focus of the work was on identifying farm management practices that reduced disease and parasite risks. When the work began, there was relatively limited data available even on the disease and production challenges facing organic pig production systems in Europe. Consequently, even though the authors have been able to include a

consideration of wider issues regarded as animal welfare in conventional farming systems, e.g. behavioural problems related to lack of space, lack of enrichment material or social stress, in addition to the presence of disease, the project was not able to draw on data that would allow the full and broad definitions of health and welfare that underpin the principles of organic agriculture to be considered in full. The scientific tools that would enable on-farm assessment of positive affective state and animal resilience have yet to be widely validated and applied. The work presented here is not designed to compare health and welfare in organic and conventional production systems, but to provide the information needed to develop and evaluate tools for health management and surveillance in organic pig herds.

However, there remains a challenge for those who will continue this work in the future to critically evaluate how the term ‘welfare’ is understood within farm practice and how such understanding influences human interventions and interactions within organic pig production systems.

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