

Status quo of animal health of sows and piglets in organic farms

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Key words: Animal health, pigs, on-farm assessment

Abstract

In an ongoing study, which focuses on the implementation of animal health plans in organic pig production, the status quo of animal health of sows and piglets in 20 organic farms in Germany was assessed. Standard livestock data showed distinct variations. The on-farm assessment brought up weak-points in hygienic, nutritional and animal health management. Gathered data will be used to develop stock customized optimisation strategies with the aim to achieve superior health standards, including an assembly of cost- benefit relationships.

Introduction

Production diseases are a major problem in organic as well as in conventional livestock production. Inquiries performed in the past showed great variations in the health status on organic sow farms (Leeb 2001, Löser 2004). These data, however, do not provide comprehensive information about the main constraints and problems on organic farms to ensure a high animal health status.

When trying to achieve superior health standards in pig production numerous factors with direct impact on animal health have to be considered. These include improvement of management, husbandry and nutrition as well as optimised arrangements in disease prevention by hygiene and vaccination protocols. As a first step to a weak-point analysis, a detailed status quo data acquisition is required. Furthermore, animal health and performance data have to be monitored continuously by parameters to be suitable for the evaluation of the effectiveness of taken actions.

In an ongoing study focussing on the implementation of animal health plans for organic piglet producers, the results presented in the following are used to develop stock customized optimisation strategies.

Methods

In the present study 20 organic piglet producers in Germany with stock sizes between 24 and 170 sows are involved. The selected farms are representative of organic sow farms in Germany. Half of them operate in a closed system including fattening pigs. Detailed on-farm assessment based on a modified Critical Control Point (CCP) concept according to von Borell et al. (2001) was carried out as a first step. This includes acquisition of data from animal husbandry, hygiene- and animal health management as well as performance and nutrition parameters.

Weak-points are identified via data analysis and specified with further diagnostic methods such as blood, faeces and swab sampling to gather more information on animal health status. Nutritional parameters are concretised with feed analyses.

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Archived at <http://orgprints.org/9744/>

Results and discussion

Due to the fact that organic piglet farming in Germany currently underlies intense changes to fulfil the demands of the EC-Regulation, standard livestock data showed distinct variations. Computer-based programs to achieve precise data were used on 12 farms (see figure 1). Hence this can not be considered standard in organic piglet production. This goes along with results published by Bicker (1992). and Vaarst et al. (2000)

An extract of the accessible livestock data is shown in table 1. In comparison to conventional farming mean values of the results from organic farming are to explain by specific factors of organic animal husbandry (lower means of farrows / sow / year due to longer lactation periods). The increased losses demonstrated by organic sow farms compared to conventional pig farming must be seen as indicators for lower animal health status which is confirm with the results obtained in the studies by Leeb (2001) and Löser (2004).

Table 1: Livestock Data of organic sow farms in comparison to conventional data

Livestock Data	mean values	min	max	conventional mean values
live born piglets / farrow	11,4	9,8	14,5	11
weaned piglets / sow / year	19,6	17,1	23,1	23
farrows / sow / year	2,11	1,7	2,25	2,4
farrowing interval (days)	175,6	163,6	206	162
farrows / sow / life	5,7	3,5	8	4
losses / farrow in %	18	8,9	25	10
losses of weaned piglets in %	5,15	1,4	18,8	<3

Cleaning and disinfection measures taken in the barn, the run or open yard were performed in different, partly reproduction- or calendar-based intervals. Cleaning measures were performed by every farm; however disinfection was carried out by only 25% of the farms. Constructional or organisational handicaps and the lack of information of the necessity are wide spread reasons for the over all unsatisfactory hygienic conditions found. Animal husbandry following the "all in / all out" concept, enabling an effective hygiene regime, is established on only 25% of the farms often due to inadequate stable arrangement and stable size (no pen vacancies scheduled).

The proclaimed alternative medicine in organic farming was performed by 60% of the surveyed piglet producers or their veterinarians respectively. Basic health management measures are summarised in figure 1. The emphasised parasite burden (Leeb and Baumgartner 2000) was antagonised with deworming regimes performed by 90% of the surveyed farms. Unfortunately, a regular control via faeces-analysis or other parasitological diagnostics was established only on 40% of the assessed farms. Vaccination protocols were in use at 85% of the farms

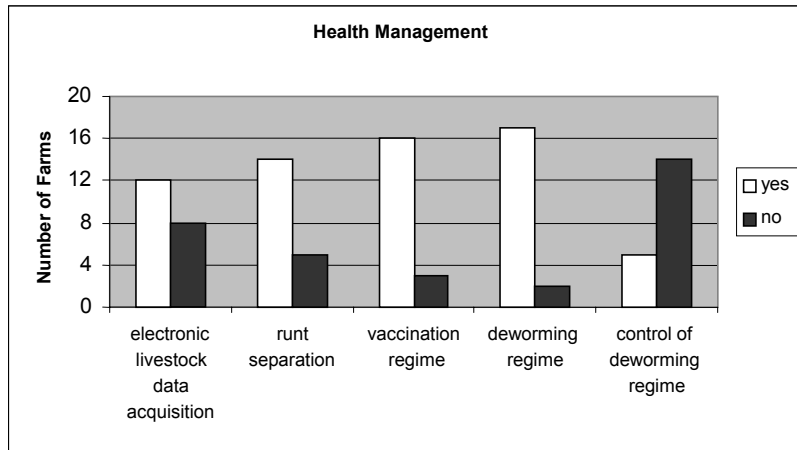


Figure 1: Basic health management measures performed on organic sow farms

Collected animal nutrition data (summarised in figure 2) showed that analysis of feed rations was not practised on a regular basis in most organic piglet producing farms. As a consequence, nutritional values often differed highly from calculated nutrient requirements of the respective animals. Since balanced diets are known to be a key to animal health in general, the necessity of precise demand-dependent feed is to be pointed out.

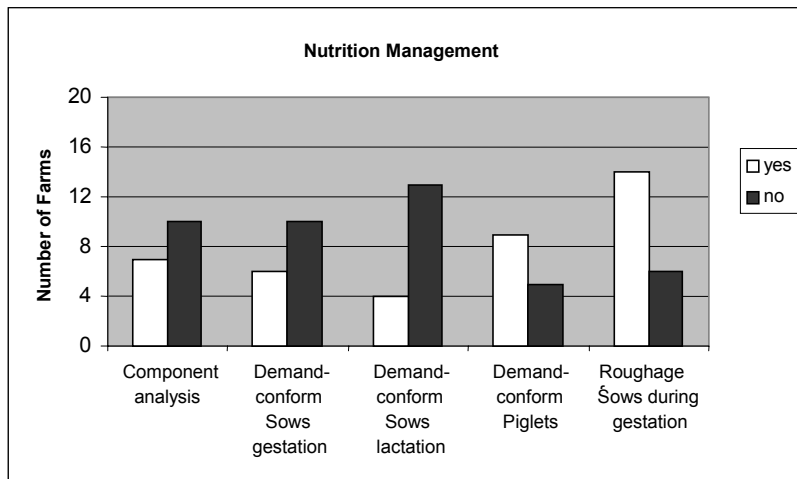


Figure 2: Nutrition management and feeding ration composition of organic sow farms

The nutritional values from the farm-derived feedstuffs were not in correspondence with the expected values. In consequence, adequate composition of the diet can only

be achieved when the diet formulation is based on derived from the analysis of the specific feed compounds used.

Conclusions

Results of the status quo analysis showed that a number of factors can be improved in the organic piglet production. Particularly hygiene conditions appeared far off from average reached in conventional farming. In the ongoing study different strategies and their suitability to achieve better health standards within an acceptable cost-benefit relation will be elaborated.

Acknowledgements

The presented study is funded by the Ministry of Consumer protection, Nutrition and Agriculture, Germany.

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