

Evaluation of three family farms producing organic eggs in southern Brazil on animal welfare and biosecurity

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Abstract

Three family farms producing organic eggs with 5,000, 250 and 100 birds, of the species Gallus gallus domesticus, have been studied. The farms are located in southern Brazil. The study was aimed at evaluating aspects of animal welfare and biosecurity due to the increasing importance that these issues are taking on in the society today. The farms with fewer animals (250 and 100) showed better results, as far as animal welfare is concerned, than that property with 5,000 chickens, but the three farms showed medium to low level of biosecurity.

Introduction

Animal husbandry organic systems have characteristics that make their management more complex than plant systems. They are: (1) each animal species has characteristics that must be maintained to ensure their welfare; (2) considering that animals have the potential to spread diseases that can infect humans, or even other animals, causing epidemics, farms must take specific measures to minimize these risks (biosafety); (3) animal foods are more perishable than foods of plant origin and, therefore, they require official inspection and hygiene and health care during processing, storage and transportation to maintain their quality and avoid the possibility of conveying pathogens.

The importance of welfare in strengthening the immune system and the health of animals has been thoroughly proven by science. (3) In addition, concern for the welfare of animals is taking on increasing importance in public opinion and therefore governments have been put under pressure to interfere with animal raising practices. Currently, this issue has been raised in international food trade, in which Brazil is a major supplier. This year, the European Community published the EconWelfare (8) Project Report, with the aim of evaluating the socio-economic welfare in cattle ranches, in socio-commercial countries, including Brazil.

Another issue of growing importance in our society is the concern for biosecurity in farms, specifically concerning the establishment of practices and standardized routines that minimize the risk of contamination among animals, the environment and man himself, as well as the dissemination of potentially infectious agents.

This subject has been increasingly important insofar as it grows the cases of epidemics in animals with the possibility of contaminating humans, as in the case of bovine spongiform encephalopathy (mad cow disease), avian influenza and more recently the swine influenza. Therefore, governments, technicians and large-scale ranchers have shown growing concern over biosafety. As a matter of fact, family animal husbandry, either organic or not, have already been accused of being a potential risk for large industrial animal husbandry.

Therefore, it is crucial to carry out a thorough evaluation to see how the procedures are, in practice, related to these two themes in organic animal husbandry.

Methods

The criteria used to evaluate animal welfare were: compliance or not with the requirements established by Brazilian legislation (Instruction N° 64, of Dec 28, 2008), points considered as important in the EconWelfare Report (8) and the aspects cited in the literature as relevant (2,4,7,8,9)

The biosafety criteria were: comply with the recommendations made in Guide for the Prevention and Control of Avian Flu in Small-Scale Poultry, prepared by UN (5).

The three farms were visited in the fall of 2010. Non-evident data were supplied by the owners. The characteristics of each property are summarized in Table 1. and information about welfare and biosecurity measures are in Tables 2 and 3. In the farm with 5,000 hens, a batch of 2,000 hens was assessed.

Tables

Table 1 – CHARACTERISTICS OF THE FARMS

FARM	A	B	C
Animals per flock	2.000	250	200
Balanced organic food	Yes	Yes	Yes
Synthetic amino acids in diet	No	Yes	Yes
Productivity	60%	65%	91%
Lineage	Dekalb Brown	Isa Brown	Isa Brown
Age	56 weeks	48 weeks	48 weeks
% of birds with feather pecking	50%	20%	20%
Cannibalism	No	No	No
Veterinary orientation	Yes	Yes	Yes

Table 2 - BIOSECURITY INDICATORS

FARM	A	B	C
Animals perfectly controled	Yes	No	Yes
Uniform for workers	No	No	No
Control entrance of visitors and domestic animals (dogs, cats, etc) in the farm	No	No	No
Protection for feed or foot bath	Sneaker	No	Partially (lime at henhouse entrance)
Store the manure	No	No	No

Table 3 – WELFARE INDICATORS

FARM	A	B	C
1. Minimal outdoor space (3m ² /hen)	No	No	Yes
2. Maximum indoor density (6 hens/ m ²)	Yes	Yes	Yes
3. Litter with straw	No	Yes	Yes
4. Roosters	No	Yes (1/15)	Yes (1/15)
5. Age at first access outdoor area	18 weeks	3 weeks	3 weeks
6. Duration of access outdoor area	4-5h /day; confined at rainy days	6h/day	8h/day
7. Birds in outdoor run	Maximum 50%	100%	100%
8. Pasture conditions	Regular	Good	Good
9. Shading outdoor run	Yes	Yes	Yes
10. Rotation of paddocks	No	Yes	Yes
11. Possibility of sand or dust bathing	Yes, after 18 weeks of age	Yes	Yes
12. Beak trimming	Yes	No	No

1, 2, 5, 8, 9, 12 – Requerements Brazilian organic legislation (Instruction N° 64/ Dec 28, 2008)

1, 2, 11 e 12 - Aspect considered as particular important by the EconWelfare experts (8)

Discussion

1. Regarding biosafety, data analysis reveals that two farms (A and C) met the most important points mentioned in the UN Manual - birds in quite limited areas - but most of the other aspects shown in Table 3 were not met by any of the three farms. One farm (B) did not fulfil any of the aspects.
2. Only one of the three evaluated farms (C) met all the aspects consulted in relation to animal welfare.
3. It has been shown the importance that proper management takes on for the welfare of the birds, which reflects in production, since the farm that best met these aspects was the one showing the highest productivity (91%).
4. Concerning animal welfare, the results confirmed what had been previously reported in literature (2,4): increased feather pecking is related to (1) higher density of animals, (2) larger lots, (3) absence of the rooster and (4) poor environment.
5. At the same time, it is clear the relation between welfare, aggression and productivity, since the property which was less careful concerning the welfare of the birds showed a higher rate of feather pecking and lower productivity.
6. Literature (2,4,9) also mentions that the conditions of grazing, the presence of the male and the age in which the first access to the external environment takes place influence the amount of animals coming out of the coop. The collected data substantiate these claims, since the farm with late access to the external environment, worse pasture and without the presence of males was the one that showed the smallest number of birds spontaneously in the external environment and a higher rate of feather pecking.

Conclusions

Given the importance of these issues and their little demonstrated practical application, and in order to avoid pressure from big conglomerates in conventional systems (6), it is recommended that investments are made in the development and dissemination of informative materials like: Guide for improving Biosafety and also an Animal Welfare Manual for organic poultry.

We also believe that the way we choose to meet all these requirements poses a great challenge for organic husbandry: maintaining the health of the animals, meet the sanitary-hygienic issues and ensure the biosecurity of the herds, without compromising the requirements of animal welfare, which is one of the pillars of this preventive system..

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