

Management and results of small-scale organic laying hens in Southern Brazil. Case report.

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Abstract

Due to increasing consumption and the payment of a differentiated price, organic eggs have been a good option to improve the income of small farmers. However, since the organic production system is new and lacking in research and technical guidance, there is still no consolidated methodology to guide farmers. In order to contribute to this, we report on the management of 100 laying hens over 18 months on an organic farm in Brazil. Parasites were controlled by the rotation of the animals to interfere in the cycle of the parasites and by the use of bioactive and medicinal plants. In this period the mortality was 2% and between 40 and 66 weeks the mean posture was 84.21% and the mean weight of the eggs was 66.19 g. The good results are an indicative of the success of the adopted management. The farmers also declared that they are satisfied. Accordingly, such methodology should be further studied and detailed to obtain more consistent results and thus serve as a guiding basis for organic laying hen breeders.

Introduction

The production and demand for organic eggs has been growing impressively in Brazil, however the productive sector still does not have a consolidated methodology of production according to organic production regulations. Several studies report attempts to find substitutes of restricted chemical inputs for permitted inputs such as medicinal plants with varying results (Guidotti 2011; Escosteguy 2014). Considering that the organic system is preventive, the whole context must be re-evaluated and adjusted and not simply regarded as a substitution of inputs (Escosteguy 2007).

Case presentation

We report on the management of 100 laying hens of the Isa Brown line from June 2015 to December 2016 on a traditional small family farm in Viamão / RS. The farm has been organically certified for seven years. We describe the hygiene management adopted and the results achieved where the animal, the environment and prevention were taken into account when establishing a management system.

1. Feeding

The animals receive a balanced feed based on certified corn and soybeans, supplemented with forage peanut pasture (*Arachispintoi*) and fermented corn. Fermented grains reinforce or reestablish the probiosis of the intestinal tract, consequently, improving the formation of a healthy and balanced microbiota. This may protect the hens against the development of pathogenic microorganisms as *Salmonella* spp (Silva, 2000, Figueiredo, 2016).

2. Animal welfare

After the age of 45 days the pullets have free access to grassland during the day. The total area used is one hectare divided in five pickets. The henhouse with an internal area of 30 m² has five direct exits for each picket. The hens have a comfortable environment as in addition to adequate space, the pickets have several trees, providing shade and shelter from strong winds as well as a sensation of protection. The pastures, based on peanut pasture, are well-managed and kept in good condition with the rotation of the animals.

3. Sanitary management

The animals rotate in the pickets observing the principle of decontamination of the pastures through a minimum rest of 40 days. This interferes in the life cycle of both internal and external parasites.

4. Use of bioactive and medicinal plants

The farmers also use herbs to help in the control internal and external parasites.

To control the red mite (*Dermanyssus gallinae*) they spray an alcoholic solution of 5% citronella (*Cymbopogon spp.*) by volume in the nests, once a week. It acts as a repellent.

To reinforce the control of internal parasites they use the following (for the 100 hens) once a week

- 5 ml of a cereal alcohol solution of 5% thyme (*Thymus vulgaris*) by volume mixed in the fermented food;
- 5 ml of a cereal alcohol solution of 5% oregano (*Origanum vulgare*) by volume mixed in the fermented food;
- Leaves and stem of one banana tree (*Musa spp*) offered directly for free consumption.

Results

The proposed management resulted in good animal health, good productivity and economic return. In the reported period the mortality of the laying hens was 2% and between 40 and 66 weeks old the mean posture was 84.21% and the mean weight of the eggs was 66.19 g. The owners declare that they are satisfied with the results because although the organic ration is expensive, productivity is high and economic return is satisfactory.

Discussion and conclusions

The good results are indicative of the success of the adopted management. We consider that it is fundamental to consider the entire production system and to take prophylactic measures correcting any errors mainly related to environmental infestation by parasites and animal welfare. The use of medicinal plants in animals should also be further studied and encouraged, considering the good results and low cost.

Such methodology should be further studied and detailed to obtain more consistent results and thus serve as a guiding basis for organic breeders.

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