

Ways of Improving Risk Management on Chicken Farms

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Abstract

Ways of improving risk management on broiler or egg chicken farms can be evaluated depending on the risk categories in emergency situations and on the components of risk management. Risks can generate biological, natural, social and technological emergency situations. A risk element is any element that can deviate from the strategies, plans and programmes of a chicken farm and allows predicting reality and confronting true achievements with expected results. Achieving the goals of any broiler or egg chicken farm supposes knowing and assuming multiple risks: risk management covers both risk identification and risk reaction. Risk analysis supposes measures for the increase of transparency regarding chicken health safety, supply of experiences and protection within international trade with broiler chickens and eggs or even live chicken. Risk analysis stipulates the improvement of phyto-sanitary measures and it aim at collecting, evaluating and recording information that lead to recommendations, positions, approaches and actions as a response to an identified risk or danger; it is not meant to supply decisions but to support decision-making.

Keywords: chicken farm, risk, analysis, decision, management.

1. Introduction

Risks on poultry farms can result in biological, social, fire, and technological emergency situations. The analysis of these risks, in general, and of biological risks, in particular, should contain references regarding the inventory and analysis of the potential sources of incidence of some zoonosis after accidental pollution. To analyse fire risks, we need to take analysis and differentiation measures for the main risks taking into account the study of existing at the level of public bodies in the localities within farm perimeters and on farms, following the existing statistics of fires and emergency situations. In case of natural risks, we need to analyse geological phenomena identifying the features of the built fund, statistical data regarding the damage and victims of earth quakes, and the identification of

buildings that could be damaged by making up a macro- and micro- seismic zoning of the area. We need an analysis of meteorological phenomena and of fires that might generate them [1-3].

To analyse technological risks that can affect poultry farms, we need to monitor the risk of atmospheric object falling by inventorying the places where such phenomena occurred, the risk of polluting water sources, and the areas that could be affected by zoonoses. We need to analyse the risk of old buildings and equipment falling apart, the risk generated by transporting and storing products. In case of social risks, we need to focus on analysing events occurring during events or meetings [4,5]. The elements taken into account in the establishment of high risk areas are technological equipment on poultry farms, the activity areas along the network of communication; in case of zoonoses, we can take into account risk classifications on poultry farms: peri-urban risk areas close to poultry farms, rural risk areas around poultry farms, urban risk areas

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around slaughtering (piecing, processing, and storing) houses [6-11].

2. Material and Method

To improve risk management, the authors of this paper studied the case of a poultry farm and analysed risks in the peri-urban and rural areas around it, and the urban area where the farm products are distributed. We did all this to analyse risk in emergency situations determined by biological, fire, natural, social, and technological factors, and to develop measures for the improvement of risk management on poultry farms.

3. Results and Discussion

Risk management covers issues associated to risk management, to the prevention of dysfunctions and to the efficiency of risk management in emergency situations on poultry farms. Risk elements have a measurable probability and can, therefore, deviate from the action plan in case of calamities. The strategies, plans and programmes of a poultry farm are elements that allow the configuration of the reality and the confrontation of the results obtained with the results expected. In order to reach the goals of a poultry farm and to avoid emergency situations, we suggest a set of activities that contribute to the improvement of risk management. Reaching the goals of any broiler chicken or egg-laying chicken farm supposes knowing the risks of risk management, i.e. following three main steps: risk identification, risk analysis, and response to risk.

Risk identification on broiler chicken and egg-laying chicken can be done by analysing the documents existing in the farm archives, by listing poultry health control steps, by identifying risks, and by training the personnel about the measures to take in case of any disease.

To analyse risk on a poultry farm, we need to use methods for the measurement of expected value based on decisional trees and on the Monte Carlo Method; as far as risk response is concerned, we need to take measures and actions meant to diminish and eliminate risk. Identifying risk needs to be done on a regular basis by studying internal risks that the management team can control or

influence by monitoring the poultry health and welfare state. External risks cannot be controlled by the management team because emergency situations can occur because of the imports of biological materials that can carry diseases. From this perspective, we believe that the risk can be identified by using the following methods: analysis of archived documents at the farm to identify the issues, identification of external risks, of late technology, of legislation, and of economic changes, by designating people to take part in training activities and study publications specialised in risk management. We need to list controls that cover potential risk sources such as microclimate conditions, carrier agents, errors and omissions in the design and execution of buildings, changes of farm goals, and expected results. When some disease occurs, we need to analyse documents available in the archives of the farm, use the expertise of the directly productive personnel, list control actions, and identify external risks.

Response to risk is a second step in risk management that aims at eliminating the risks that allow the management team to improve the offer by employing specialists and avoid transactions with poultry from calamity areas. Risk analysis thus becomes a systematic model that aims at collecting, evaluating and recording information that can determine decisions as recommendations, positions and actions as a response to risk. Risk analysis does not aim at supplying decisions but at supporting decisions. The decision on whether a risk can be acknowledged or not and on what should be done to reduce or eliminate risk can be made by the management team that need to cooperated with the administration – local, regional. Risk analysis supplies mechanisms for risk evaluation and for the development of recommendations that underlie decisions.

4. Conclusions

The risks that can generate emergency situations on poultry farms are biological, social, technological, or natural. No matter their type, we need to inventory and analyse risks and potential sources that trigger such risks.

The component parts of risk management are issues associated with risk management on poultry farms and consist in preventing risks and in

efficiently managing risk in emergency situations. The strategies, plans and programmes of poultry farms are elements that allow predictions on reality and then confrontation of achievements and expected results. A risk management process should cover three steps: risk identification, risk analysis, and risk response.

Risk analysis is a process made up of three elements meant to improve risk management on poultry farms. We need to enforce such measures as increasing transparency regarding the poultry health state, supplying expertise regarding poultry health state, and protecting poultry health within an international context.

References

1. Petroman I., Managementul sistemelor de creștere și exploatare a animalelor, Editura Eurostampa, Timișoara, 2007;
2. Petroman I., Culea C., Sisteme de creștere a animalelor, Editura Mirton, Timișoara, 1998;
3. Ghosh B., Cops and Livestock Farming, New Delhi, Gene-Tech Books, 2007;
4. Ivașcu G., Petroman I., Petroman C., Pirvulescu L., Merce I., Marin D., Fraiu G., Pîrvu M., Bio food in Timis county a possible means to ensure balanced nutrition, *Lucrări științifice Management Agricol*, 2010, vol. XII (3);
5. Friend, M., Franson, J. C., Field manual of Wildlife diseases. General field procedures and diseases of birds. U.S. Department of the interior and U.S. Geological Survey, 1999
6. Petroman C., Procesarea produselor agroalimentare, Editura Eurostampa, Timisoara, 2007;
7. Marin D., Păcală N., Petroman I., Petroman C., Untaru R., Ciolac R., Influence of age and weight at slaughter over meat quality in conditions of optimum ambient temperature, *Lucrări științifice Management Agricol, Seria 1*, 2012, vol. XIV (4), pg. 453-458;
8. Bela A., Petroman C., Munteanu St., Petroman I., Sucan Moisina F., Avramescu D., Souca L., Impact of GMOS and additives on human health, *Lucrari știintifice Management Agricol*, 2012, Vol. XIV (1);
9. Șucan Moisina F., Petroman C., Petroman I., Negruț V., Untaru R., Avramescu D., Research on animal agro alimentary produce consumption in the Timiș county *Lucrări științifice Management Agricol*, 2012, vol. XIV (2);
10. Rachiciu D., Sâmbotin L., Blaga R., Quality assessment of the animals bred for meat, *Lucrări Științifice Management Agricol, Seria I*, 2007, vol IX (2);
11. Nuthall, P. L., Farm Business Management: The Human Factor. Wallingford – Cambridge: CABI, 2010.