

Biosecurity Measurements in Poultry Farming System in Kuwait

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ABSTRACT: The poultry industry in Kuwait is one of the most important animal production industries and its sales value exceeds \$ 70 million annually. Poultry is highly susceptible to disease outbreaks that may cause irreversible economical losses to the poultry industry. It is extremely important that poultry industry in Kuwait implement a comprehensive biosecurity program in their farms to ensure better quality production. Most of the poultry industries in the world have developed biosecurity measures to maintain the safety of poultry from biological hazards and be used for protection and disease control of the poultry. However, in many cases, these program measures including vaccination are not applied or followed properly because a comprehensive program usually is not in effect. During this one year study, a comprehensive biosecurity program was established. This program included international regulations related to biosecurity measures for poultry farms. One of the major poultry company was considered as a case study for the project. The results indicated that the company is implementing a biosecurity program in all farms. However, the company's program was modified and improved using the update regulations and measures related to biosecurity program worldwide. In addition to the isolation, traffic control, and sanitation procedures, the biosecurity program contained recommendations of poultry biosecurity. These recommendations were divided into two sections. Section 1: step-by-step follow tips, and Section 2: educational and warning biosecurity signs. It is important to follow all regulations recommended by the biosecurity program and implement them carefully in the farm to succeed in the protection from diseases.

Keywords: Biosecurity, Poultry, Kuwait, Farming systems

INTRODUCTION

Biosecurity is a term created out of a need to protect poultry from an intentional or unintentional threat of a biological agent. In other words, it means keeping the germs away from poultry and keeping the poultry away from germs. In addition, Cardona and Kuney (2001) and Woodger (2005) defined biosecurity as a set of practices designed to prevent disease causing organisms from coming in contact with resident birds on the farm. These practices, when followed correctly, will reduce the potential for the introduction and spread of disease causing organisms in the sites. Biosecurity is even more important today because of the crisis of the avian flu disease, which has been in the global news lately because of its seriousness. It has been reported that the financial loss in only one farm in Pennsylvania, USA, in 1997, due to the outbreak of avian influenza exceeded \$344,000 (Davison *et al.*, 1999). Furthermore, Winkel (1997) reported that the financial losses because of the lack of biosecurity is due to costs related to mortality, costs related to reduced production, costs of poor feed conversion and costs of treatment.

It is therefore clear that establishing a biosecurity program in any poultry farm is a must for the potential success and profitability of the poultry operation. It is the purpose of the present project to provide a detailed biosecurity program to be implemented first at KUPCO as a case study and based on the favored outcome of the program; the program can then be implemented in other poultry companies in Kuwait.

MATERIAL AND METHODS

The current project was implemented in cooperation with Kuwait Poultry Farm Company. The company participated in the project in an in-kind support in the form of facilities needed for the project implementation and some manpower assistance such as farm managers. The project consisted of mainly two tasks. The first task was assessment of the existing biosecurity in the company and the second task was on the development and application of a new company biosecurity program. The assignment included biosecurity rules and regulations available at the company, the status of isolations at the company, availability of security procedures for the different facilities, management procedures at Poultry Company, rodents and pest management control at the company, and sanitation and disinfection procedures. In addition the company's records on diseases, poultry losses, and productivities were revived, different assessment and evaluation forms were developed for the broiler and hen-laying farms as for the hatcheries, slaughter house and other farm sites (Al-Saffar *et al.*, 2006).

RESULT AND DISCUSSION

Based upon findings of task 1 and also on the fact that any general biosecurity program should include three major elements including isolation, traffic control, and sanitation (Cardona and Kuney, 2001; and Vaillancourt, 2001), a new biosecurity program was designed and developed specifically for poultry company with the cooperation of the decision makers of the company as well as with the company's veterinarians to ensure the success of the program. This program included the establishment of rules and regulations for the following: farm management procedures including all practices related to poultry houses biosecurity, procedures established for the preparation of receiving new flocks, the use of all-in all-out practice, the staff management of people working in the poultry houses and other production facilities. In addition, isolation procedures including the confinement of the birds within a controlled environment, isolation of buildings by fencing, isolation of birds by age, were established. Traffic control procedures included the establishment of check-points for the visitors and the rules and regulations that must be applied by visitors who are allowed to visit any of the company's facilities, control of any traffic into the farm and traffic patterns within the farm including movement of staff and workers. Sanitation and disinfection procedures included the measures used, the time and frequency of its use, disinfection of materials, people, and equipment in the farm and the cleanliness of the personnel on the farm.

Several meetings were held between the project leaders and the farm managers to discuss the application of the updated biosecurity program in the poultry company. In addition, a lecture was given to the general manger and production manager to discuss the biosecurity program at Poultry Company. Finally, in order to meet the objective of monitoring the applications of the development and modified biosecurity program, meetings with the poultry company management will be conducted to ensure the implementation of the new program.

CONCLUSIONS

Biosecurity program is an important practice to be used in all poultry farms in Kuwait for protection and disease control. As a result of the current project, a modified, improved and advanced biosecurity program was developed to be used at poultry company as well as at all poultry farms and poultry companies in Kuwait. In addition to the isolation, traffic control, and sanitation procedures, the biosecurity program contained recommendations of the poultry biosecurity.

Recommendations

These recommendations were divided into two sections. Section 1: step-by-step follow tips, and Section 2: educational and warning biosecurity signs. It is important to follow all regulations recommended by the biosecurity program and implement them carefully in the farm in order

to protect the farm from diseases. Biosecurity level should be strengthened in breeder farms and during disease outbreak. Finally, farm workers should be educated on the importance of the biosecurity programs and should be trained on the implementation of the program regulations.

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