
EXPERIMENT 8 FUMIGATION AND PEST CONTROL IN FEED MILLS/ GODOWNS

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8.1 INTRODUCTION

Feed plants and godowns are to be fumigated time to time in order to kill disease-producing organisms or to make them inactive. Fumigation procedures have been widely used for many years in the poultry industry. Natural disinfection agents, such as sunlight, heat, or just simply resting feed mills or godowns are considered to be of limited use. Increasing evidence of the prolonged survival time of a number of important disease-producing organisms together with an ever-increasing economic pressure for quicker re-stocking of feed has led to greater dependence on chemical disinfectants.

Objective

After performing this experiment, you will be able to:

- carry out the fumigation and pest control of feed mill or godowns.

8.2 EXPERIMENT

8.2.1 Principle

The feed milling and storage are two important components of poultry feed technology. Any negligence in these two operations will have a major impact on quality of finished feed and ultimately affect the production performance of the poultry. Several insects and pests usually pose serious problems in storing different feedstuffs in the godowns. Therefore, their timely preventive measures are very much required. Proper cleanliness and fumigation of feed mill and store houses are always useful to prevent losses on nutrients and feed quality. The most popular method of formaldehyde fumigation is to mix the 40% formaline onto potassium permanganate kept in an earthen pot to liberate the gas.

8.2.2 Requirements

- Formaldehyde (a gas sold commercially as a 40% solution (37% by weight) in water as formaline. It is also available in powder form called paraformaldehyde containing 91% of formaldehyde which is heated to 232°C liberate the gas).

- Potassium Permanganate
- Earthen pot or metal container
- Facilitator

8.2.3 Procedure

- 1) Make sure that the store or feed mill or godown to be fumigated is airtight by closing all doors, ventilators and windows by sealing with clothes and muds, whichever is convenient.
- 2) Take about 60-70 g of potassium permanganate and mix it with 120-150 ml of formalin in an earthen pot with closed lid.
- 3) Keep the earthen pot with its lid open in a feed godown for the fumes or gas to escape.
- 4) Allow the gas to remain for 20-30 minutes in the feed mill or godown.
- 5) Observe for proper fumigation.
- 6) If possible, practice for fumigation to kill the pests, insects etc. with Alphas or Celphos or Phosfume or Quickphos (aluminium phosphide) @ 1 tablet (3g) per tonne of grains or 7 tablets per 1000 cubic ft (28m³) space for an exposure period of 7 days only.

8.2.4 Observations

- i) Record the type of disinfectant used at feed mill or godown you visited.
- ii) Record the quantity of disinfectant used by you.
- iii) Record the types of fumigant used by you.
- iv) Record the quantity of fumigant used by you.

8.2.5 Results

Discuss in brief your opinion on fumigation of feed godown you visited.

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8.3 PRECAUTIONS

- Because of the heat generated by the chemical reaction, the glass containers should not be used.
- Take also steps to avoid risk of fire.
- Formaldehyde and Potassium Permanganate are poisonous. Therefore, both the compounds must be kept in accident-proof containers in a safe place.
- Though formaldehyde is a powerful disinfectant, it has many disadvantages. It is extremely irritating to the eyes, and some people are very sensitive to it. Therefore, precautions must be taken to prevent its escape into areas where people work. Operator should wear rubber gloves when handling formalin.
- Proper care and handling are required while using of fumigants.