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# EXPERIMENT 2 PHYSICAL EXAMINATION AND JUDGING OF FEED QUALITY

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## 2.1 INTRODUCTION

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The economical production of eggs and poultry meat depends primarily on proper nutrition, quantity and quality of the feed. There are some factors that influence the feed quality such as: (a) presence of contaminants and adulterants - bran, chips, husk, silica or sand, weeds or seeds, etc. and (b) variations in nutrient contents - likely to be changed due to difference in variety, conditions, processing methods employed etc. The small feed manufacturers and farmers preparing their own feed cannot offer to have a laboratory of their own for testing their quality. However, they can also maintain good quality feed by following few simple field methods.

### Objectives

After performing this experiment, you will be able to:

- examine the physical status of feed ingredients; and
- judge the feed quality.

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## 2.2 EXPERIMENT

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### 2.2.1 Principle

The quality of feed ingredients depends on external and internal attributes. Examination of both the attributes is very much important and this practice should be carried out at regular interval and at the time of purchase of the ingredients from the retailer or wholesaler. The field methods are mainly based on organoleptic evaluation (using the sense of touch, taste, vision, smell and hearing).

### 2.2.2 Requirements

- Feed ingredients such as maize, soybean meal and wheat bran.

### 2.2.3 Procedure

- 1) Visit a feed godown or feed mixing plant. Observe and record the information given at Sl. No. 2.2.4.

- 2) First, examine the condition of packing materials such as bags of gunny/jute/paper/polythene etc. (Open bags should not be accepted as it may give chance for adulteration and weight loss).
- 3) Put your hand deep into a bag of grains. If the grains are fully dried, you will not feel any temperature difference between inside and outside the bag. If the moisture level is high, the grains inside the bag will be cooler during winter and hotter during summer than outside temperature.
- 4) Bite or chew the grain or oil cake. In this way, you can examine the freshness and storage period resulting rancidity of the feed.
- 5) Note the colour of the ingredients (Change in the colour of material gives an indication of the storage condition, maturity, sand-contamination, presence of toxins etc. Yellow coloured maize is always preferred over white variety for broilers and layers).
- 6) Record the size and wholesomeness of the grains. (The grains should be whole in nature, but not having broken grain, eaten or shrunk and weevil infested).
- 7) Check for presence of any undesirable items such as broken wooden parts, dirt, dust, feathers, husk, fungal contaminants, lumps, nails, plastic pieces, pesticide residue etc. in the feed and note it down.
- 8) Detect the odour or smell of the feed. (The raw ingredients should not smell bad otherwise this will cause damage to the finished product. Rancidity should also be thoroughly checked especially in fat).
- 9) Also check the feeds for homogeneity (uniform) of mixing and particle size, segregating tendency and texture etc. (Younger chicks may not be able to eat coarse particles, whereas the layers will prefer to eat granular and cracked cereals; Bulky and fibrous feeds though relatively cheap have low nutritive value).

#### **2.2.4 Observations**

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|--|-------|
| i) Condition of packing material                       | ..... |
| ii) Condition of the feed ingredient (Dry/moist/wet)   | ..... |
| iii) Freshness of feed ingredient (Fresh/old/very old) | ..... |
| iv) Colour of the feed ingredient                      | ..... |
| v) Size and wholesomeness of grain                     | ..... |
| vi) Presence of any foreign materials in given feed    | ..... |
| vii) Odour of the feed (smelling good or bad)          | ..... |

#### **2.2.5 Results**

Based on the physical examination, give your opinion about the quality of each ingredient you examined.

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## 2.3 PRECAUTIONS

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- Before going for practical prepare well on the theoretical part.
- Visit as many shops/godown/feed plants as possible in the market and collect the ingredients for physical examination.
- Collect the ingredients from your nearby market or farm.
- Mark the bags checked by you.