Animal Nutrition

UNIT-IV (NON-RUMINANT NUTRITION)

UG Lecture: 1

Feeding of Ducks

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Objective

- Learn about the nutrition and feeding management of ducks.
Duck rearing in India

- Feeding practices of ducks will depend on the population of ducks raised.
- If few ducks are reared & access for foraging, ducks survive, grow & lay eggs by consuming available food (plants, insects, snails, frogs & table scraps).
- In above conditions, duck grow slowly and produce small number of eggs.
- In India ducks are mostly managed in the free range system.
- Ducks mostly forage and feed on small insects, snails & certain plants.
Differences between duck & chicken

- The digestive system of duck is slightly different from chicken;
  - They do not have crop
  - Their proventriculus is cylindrical which make the feed passage rate quicker than that of chicken.
  - Also possess a bill in place of a beak
  - Bills are capable of separating feed mixed in water.
  - Ducks bill is not well adapted for dry mash feeding as dry mash sticks on to the bill & duck tries to remove it by shaking or washing out in water.
- Ducks food must contain all the nutrients needed for maintenance, growth & reproduction.
## NUTRIENT REQUIREMENT OF DUCK

<table>
<thead>
<tr>
<th>Nutrients</th>
<th>Starter (0-8 weeks)</th>
<th>Grower (9-20 weeks)</th>
<th>Breeder Laying period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein (%)</td>
<td>20</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Energy (kcal/kg)</td>
<td>2850</td>
<td>2850</td>
<td>2650</td>
</tr>
<tr>
<td>Calcium (%)</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Fat (%)</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Methionine (%)</td>
<td>0.35</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Phosphorus (%)</td>
<td>0.45</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Manganese (mg/kg)</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Niacin (mg/kg)</td>
<td>55</td>
<td>40</td>
<td>55</td>
</tr>
<tr>
<td>Pantothenic acid (mg/kg)</td>
<td>15</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Pyridoxine (mg/kg)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Riboflavin (mg/kg)</td>
<td>10</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Vitamin A (mg/kg)</td>
<td>3100</td>
<td>1720</td>
<td>4130</td>
</tr>
<tr>
<td>Vitamin D3 (mg/kg)</td>
<td>300</td>
<td>22.5</td>
<td>62.5</td>
</tr>
<tr>
<td>Vitamin K (mg/kg)</td>
<td>2.5</td>
<td>2</td>
<td>2.5</td>
</tr>
</tbody>
</table>
Feedstuffs for duck ration

- Feed ingredients commonly used for chicken ration can be used for preparing duck feed ration.
- Some feed ingredients contain toxic substances should not be used for duck rations.
- Groundnut meal (peanut meal) is more susceptible with aflatoxin & ducks are highly sensitive to this, so, GN meal should be avoided unless proven it is to be free of aflatoxin.
- Ducks can tolerate only 0.03 ppm of aflatoxin compared to chicken, tolerate upto 0.2 ppm.
- Rapeseed meal is also potentially toxic to ducks due to erucic acid & goitrogens.
- Ducks are much more sensitive to erucic acid than chickens & turkeys.
Feeding of meat type breeder ducks

- Meat-type ducks, such as Pekins, when kept as breeders will become fatty if access *ad libitum* feed during their development prior to lay.
- Therefore, necessary to limit their daily intake of feed to an amount that will supply all the necessary nutrients.
- Spreading of the feed will prevent overconsumption and all ducks will get their share of feed.
- Feed can be spread out in long food troughs, or on the ground if the area is dry and clean.
Feeding of laying breeder ducks

- Layer rations contain a higher level of calcium than other duck rations.
- @ 3.0% of the diet is adequate for most breeds of ducks including high egg producing breeds.
- When enough calcium is included in the ration, it is not necessary to feed oyster shells in addition.
Watering to ducks

- Clean drinking water should be available to ducks at least 8-12 hrs per day.
- Avoid watering at night, helps to maintain litter in a dry condition & applies to breeder ducks or market ducks over 3 weeks of age.
- Such practice is not harmful & has no effect on performance during periods of moderate temperatures.
- When temperatures are above 90°F, drinking water should be available in the evening until the temperature has dropped below 80°F, or else made available all night.
- Providing some water for wading or swimming can be beneficial, especially in hot climates.
### Average feed consumption of ducks

<table>
<thead>
<tr>
<th>Age (weeks)</th>
<th>Cumulative feed (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>0.15</td>
</tr>
<tr>
<td>1</td>
<td>0.55</td>
</tr>
<tr>
<td>2</td>
<td>1.30</td>
</tr>
<tr>
<td>3</td>
<td>2.25</td>
</tr>
<tr>
<td>4</td>
<td>3.25</td>
</tr>
<tr>
<td>5</td>
<td>4.55</td>
</tr>
</tbody>
</table>
PREPARATION OF DUCK FEED

Mash or Pellet Feed

- Ducks grow faster and utilize their feed more efficiently, when fed pelleted rations than in mash form.
- Pelleting of duck feed is common practice in commercial duck production.
- Feeding ducks with dry mash is not recommended as it forms a sticky paste when mixed with saliva & form cakes which accumulates on the outer ridges of the mouth.
- So, to free their bills of caked feed, ducks make frequent trips to water to wash their bills, causing feed wastage.
- Feeding mash also reduces feed intake & growth rate.
- For small flock owners, wet mash feed can be fed & water is mixed with the mash just before feeding.
- Enough water is added to form a thick mush without making it watery.
Pellet size

- It is important to avoid feeding pellets that are too large in diameter or too long for ducklings to swallow.

- For newly hatched ducklings, pellets should not have more than 4.0 mm diameter & 7.9 mm length.

- After two weeks of age, ducklings can consume pellets of 4.8 mm in diameter and 12.7 mm in length.
Discussions

Questions, if any

THANKS