

Poultry Science

VI Semester B.Sc. Zoology –
Elective Course XV

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FOOD AND FEEDING

NUTRIENTS

- Water
- Carbohydrates
- Proteins
- Fats
- Minerals
- Vitamins
- Feed additives

WATER

- Maintain health
- promote growth, meat & egg production
- Helps digestion, nutrient assimilation, regulates temp., elimination of wastes
- Softens the feed

CARBOHYDRATES

- Provides energy
- Deficiency leads to retarded growth, loss of body wt and decreased egg production
- 75-85% bird's ration

PROTEINS

- Body builders
- Essential for growth and egg production
- 21% body wt
- 12% eggs
- 15-20% in poultry ration
- Deficiency effects growth of birds

FATS

- Additional source of heat and energy
- Feed contains 2-5% of fats –supply essential fatty acids
- Deficiency - Small egg production

MINERALS

- 3-4% of live wt of chicken and 10% of eggs
- Development of bones and other tissues and egg shell
- Ca, Ph, Na, Cl, Fe, Cu, Mn, Mg, K, I, S
- Common mineral supplements-lime stone, bone meal, oyster shell, NaCl, Dicalcium Phosphate, Manganese Sulphate & Sulphur Phosphate

VITAMINS

- Effects on growth, reproduction, and maintenance of health
- Act as coenzymes and regulators of metabolism
- 11 essential vitamins- A,D,E,K,B₁,B₆,B₁₂, Pantothenic acid, Biotin, Riboflavin & Choline

FEED ADDITIVES

- Ensure stability and quality of dietary nutrients
- Facilitate proper intake of nutrients
- Increase shelf life and increase flavour of feed



WHAT TO FEED YOUR CHICKENS

POULTRY RATIONS

- Grains
 - Mash feeds
 - Feed formulations
 - Liquids
 - Minerals
 - Grit
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GRAINS

- Provides bulk of carbohydrates and fats needed
 - Grains cracked or whole fed
 - Mixed types are used
 - Local available grains fed
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MASH FEED

- ❑ Mixture of ground grains, oil cakes, minerals and animal by-products
- ❑ Green feeds also added in poultry rations uncooked to stimulate appetite, easy digestion, etc



FEED FORMULATIONS

- 30 parts of yellow maize
 - 20 parts of rice polish
 - 10 parts of barley/oats
 - 10 parts of wheat bran
 - 15 parts ground nut cake
 - 4.5 corn meal
 - 4 parts steamed fish
 - 3 parts steamed meat
 - One part bone meal
 - 2 parts Ca powder
 - 0.5 % Common salt
 - To 100 kg of this Mash
 - 4.4gm of Vit B₁₂
 - 0.6gm Vit D
 - 22 gm MnSO₄
 - Green feed sufficient amount
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Principal points for feed

- All essential nutrients in right amounts and proportion
 - Varies with age
 - Nutritional value of each ingredients evaluated
 - Palatable
 - Crushed into proper size
 - Micronutrients & non nutrient feed additives carefully added
 - Cheap ingredients to reduce cost
 - Optimum levels of carbohydrates and proteins
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Liquids, Minerals & Grit

- ❑ Liquids- maintaining life processes and body temp
 - ❑ Minerals- mineral stock of body & egg shell
 - ❑ Grit- proper utilization of feed
 - ❑ Aids in crushing of food in gizzard
 - ❑ Crushed rocks and pebbles
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FEEDING METHODS

1. ALL GRAIN METHOD
2. GRAIN & MASH METHOD
3. ALL MASH METHOD
4. PELLET METHOD





EQUIPMENTS FOR FEEDING

- FEED HOPPERS
- WATER DEVICES
- GRIT & SHELL CONTAINERS
- GREEN FEED RACKS



FEED HOPPERS

- Avoid wastage of feed
- Prevent avoid getting their feet in feed
- Easy to clean
- Easy for birds eat

SIMPLE SELF FEEDER



SINGLE SIDED SELF FEEDER



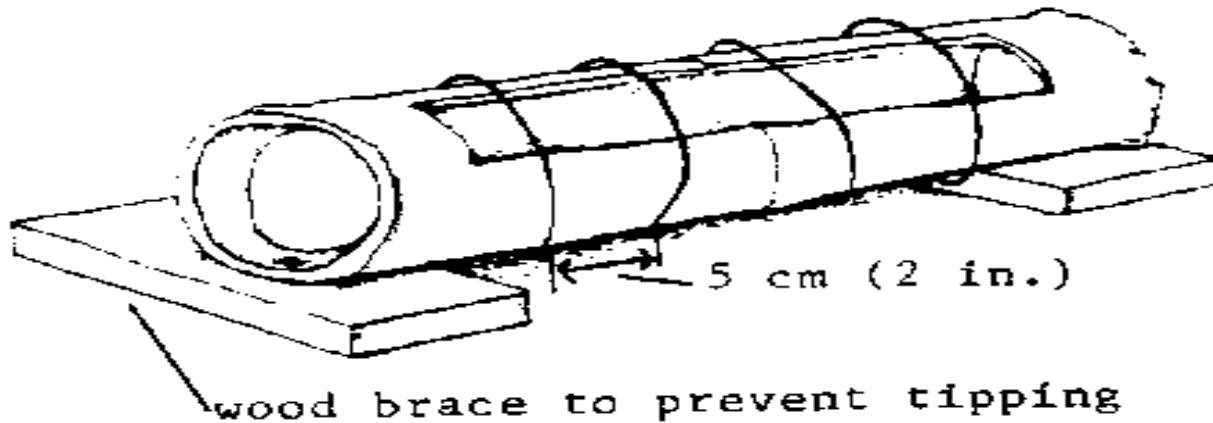
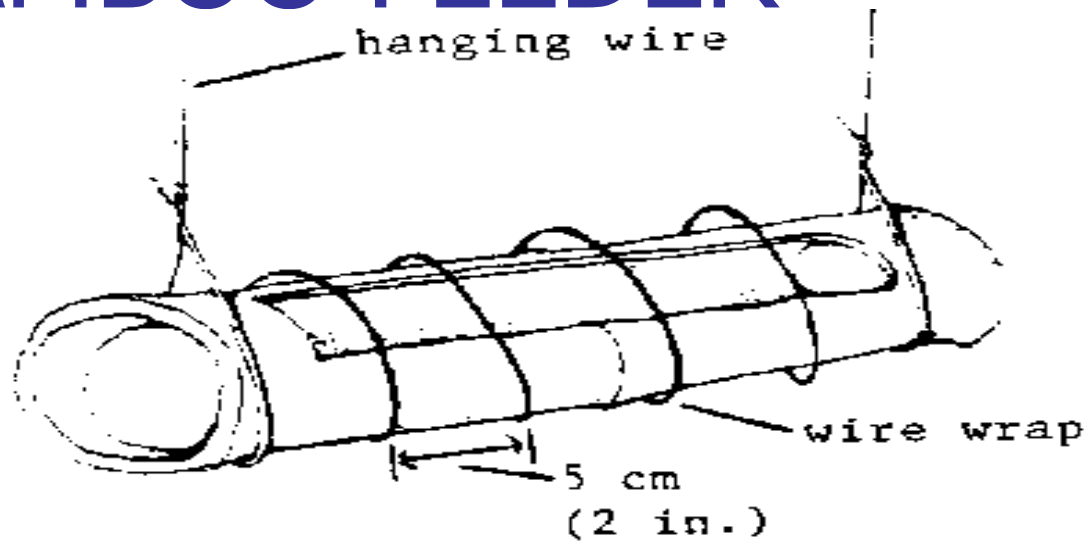
LINEAR CHICK FEEDER



LINEAR CHICK FEEDER



BAMBOO FEEDER



WATER DEVICES

HANGING TYPE FEEDER



FOUNTAIN TYPE WATERER



COVERED TYPE



GREEN FEED RACK





From baby to adult:
What should
chickens eat?



Raising Happy Chickens

FEEDING CHICKENS AT DIFFERENT AGES



- Chicken at different stages of development require different feed formulations
- Starter feed
- Grow feed
- Layer feed
- Limit treats
- Scratch



Starter feed

- Day 1 – 8 weeks old chick
- Contains 20% protein.
- Highest percentage of protein given – for high growth rate in first few months of life
- Medicated and non-medicated varieties – build up immunity
- Dissolves with chick saliva and needs no other help for digestion
- Accompanied with grit



Grow feed

- 8 weeks to 18 weeks (Teenagers)
- High protein content – crush young pullet's developing body to egg-laying before it's ready
- 16-18% protein
- Never feed them with layer feed as it contains calcium
- Grit should be made available

Layer feed

- 18 weeks and older
- Mash(smallest), crumble or pellet(largest) forms
- 16-18% protein plus added calcium – egg shell production
- Additional calcium source – crushed oyster shells, clean egg shells in separate dish
- If not given will utilize their own body calcium



Crumble



Mash

www.Sahs.in



Pellet



Scratch Grain



Limit treats

- Commercial layer feed provides all of the daily nutritional elements a chicken requires.
- Snacks, treats, table scraps – additional feeds – interferes balanced diet
- Limit snacks and treats ensures avoiding problems like obesity, feather picking, egg binding, reduced egg production



Scratch

- Vary with country and region
- Cracked corn and other grains
- Source of energy
- Scratch fed sparingly

Thank you!

