Veterinary Science
Preparatory Training for the Veterinary Assistant
Floron C. Faries, Jr., DVM, MS
Nutrition & Management of Livestock

Floron C. Faries, Jr., DVM, MS
Objectives

- Discuss sources of forages, concentrates and supplements
- Discuss the reasons for feeding concentrates and supplements
- Discuss feeding recommendations that enhance the health of livestock
- Discuss feeding recommendations that enhance production and reproduction of livestock
Forages – Roughages: needed for maintenance

- Normal diet
- High fiber
- Low energy

Grasses
- Bermuda
- Timothy
- Buffalo
- Johnson

Grain plants
- Wheat
- Oats
- Ryegrass
- Sorghum

Legumes
- Alfalfa
- Clover
- Vetch
- Soybeans
Concentrates

- Low in fiber
- High in carbohydrates (starches)
- High digestibility
- High energy
  - 40-60% more energy than forages
- Grains
  - Corn
  - Oats
  - Sorghum
  - Rice
  - Wheat
  - Millet
- Not needed for maintenance
- Needed for work, growth, lactation, cold weather
Supplements

- Not needed for maintenance
- Additional protein, energy, minerals, vitamins for work, growth, pregnancy, lactation
  - Mixed in concentrates or
  - Fed free-choice
- Protein increases roughage intake
- Protein nitrogen increases microbes

- Protein – SBM, CSM, urea, chicken litter
- Energy – Molasses, fat, oil
- Minerals – Mineral/salt mix, mineral/salt block
- Vitamins – Vitamin mix
Nutrition Management: to enhance health, increase production

- Proper nutrition: feed and water
  - Aids in prevention of diseases
    - Infectious: viruses, bacteria, parasites
    - Non-infectious: dietary deficiencies, digestive and reproductive disorders

- Improper nutrition: inadequate, malnutrition, starvation
  - Weight loss
  - Reduced weight gain, growth, milk
  - Increased susceptibility to infectious diseases
  - Increased susceptibility to non-infectious diseases
  - Death
Ruminants – Hay/Grass

- Normal Diet
- Protein and Energy
- Normal Digestion – Bulk, Long Fiber
  - Microbes – Rumen
  - Motility – Rumen
  - Chewing – Saliva, Satisfaction
  - Chewing Cud
- Appetite
Cattle Diet

- April – August (5 mos)
  - Summer Pastures

- September – March (7 mos)
  - Winter Pastures
  - Hay
  - Supplements
Feeding Hay

- Plenty/Good Hay
  - Protein/Energy Provided

- Plenty/Poor Hay
  - Protein Def.
  - Protein Suppl. – increases appetite for hay
  - Not eating enough poor hay – leads to energy def.
Feeding Hay

- Short/Good Hay
  - Energy Def.
  - Energy Suppl.

- Short/Poor Hay
  - Protein/Energy Def.
  - Protein/Energy Suppl.
Feeding Hay/Supplements

- Hay/Protein Suppl.
  - CS Meal, 40% Cubes, Syrup, Blocks, Broiler Litter
- Hay/Energy Suppl.
  - Grain
- Hay/Protein/Energy Suppl.
  - Whole CS, Range Meal, 20% Cubes, Broiler Litter + Grain
Too late in feeding supplements

- Lose wt., lose cud
- Thin, bottle jaw
- Weak, abortion, downer
- Black stacked manure, profuse diarrhea
Won’t eat hay - Protein def.
- Won’t eat protein suppl.
- Will eat grain
- Need amino acids oral/IV
Won’t eat grain - Energy def.
- Will eat hay, protein suppl.
- Need glucose IV
## Amount to Feed Daily to Meet Protein Requirements

<table>
<thead>
<tr>
<th>Class</th>
<th>Required</th>
<th>#10% Hay (10# = 0.3# DP)</th>
<th>#40% Supplement (Cubes, Blocks, Meal, Syrup) (1# = 0.3# DP)</th>
<th>#10% Grain (5# = 0.3# DP)</th>
<th>50# Bale Hay</th>
<th>1000# Bale Hay</th>
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</thead>
<tbody>
<tr>
<td><strong>Class I</strong></td>
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<tr>
<td>Early Pregnant Cows and Heifers (1st 6 mos)</td>
<td>0.6#</td>
<td>20#</td>
<td>2#</td>
<td>10#</td>
<td>2/5 cows</td>
<td>1/50 cows</td>
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<tr>
<td>Weaned Calves</td>
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<td>Dry Cows</td>
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<td>Replacement Heifers</td>
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<tr>
<td>100 Days (Nov-Jan)</td>
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<td>40</td>
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<tr>
<td>200 Days (Oct-Mar)</td>
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<td>Late Pregnant Cows and Heifers (last 3 mos)</td>
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<td>Wet Cows</td>
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<tr>
<td>Bulls</td>
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<td>200 Days (Oct-Mar)</td>
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<td>160</td>
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Horses – Hay/Grass Ration

- Normal Diet
- Nutrition – Protein, Energy
- Normal Digestion – Bulk, Long Fiber
  - Microbes
  - Motility
  - Chewing
  - Salivation
Grain Ration

- Adult – Idle
- Pregnant Mare
- Lactating Mare
- Weanling
- Yearling – Idle
- Two Year Old – Idle
SUMMER
- Sweet Feed: 45%
- Oats: 45%
- Bran: 10%

WINTER
- Sweet Feed: 90%
- Bran: 10%
Grain Ration

- Adult – Work
- Yearling – Training
- Two Year Old – Training
- Stallion – In Breeding
SUMMER
- Sweet Feed 45%
- Oats 35%
- Bran 10%
- Corn 10%

WINTER
- Sweet Feed 80%
- Bran 10%
- Corn 10%
<table>
<thead>
<tr>
<th>Class</th>
<th>%Protein</th>
<th>#Grain/100# BW</th>
<th>#Hay/100# BW</th>
<th>Pasture Only</th>
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<tbody>
<tr>
<td>Adult-Idle</td>
<td>10</td>
<td>10</td>
<td>1.5</td>
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<tr>
<td>Adult-Light Work</td>
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<td>(1-3 hrs/day)</td>
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<td>Adult-Medium Work</td>
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<td>(3-5 hrs/day)</td>
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<td>Adult-Hard Work</td>
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<tr>
<td>(5-8 hrs/day)</td>
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<tr>
<td>Class</td>
<td>%Protein</td>
<td>#Grain/100# BW</td>
<td>#Hay/100# BW</td>
<td>Pasture Only</td>
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<tr>
<td>Pregnant Mare</td>
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<tr>
<td>(Last 3 mos)</td>
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<tr>
<td>Lactating Mare</td>
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<td>Lactating Mare</td>
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<tr>
<td>(Peak 2-3 mos after foaling)</td>
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<tr>
<td>Class</td>
<td>%Protein</td>
<td>#Grain/100# BW</td>
<td>#Hay/100# BW</td>
<td>Pasture Only</td>
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<td>Nursing Foal</td>
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<td>Weanling</td>
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<td>Yearling-Idle</td>
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<td>Yearling-Training</td>
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<td>2 Year Old-Idle</td>
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<td>2 Year Old-Training</td>
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<tr>
<td>Stallion</td>
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<tr>
<td>(In breeding)</td>
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</tbody>
</table>
Swine - Concentrates

- Do not need as much fiber
- Concentrate rations
  - High-energy corn
  - Protein grains