Nutrition of Colts and Aged Horses

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Central Wisconsin Agricultural Specialization

- Waushara
- Green Lake
- Marquette
- Adams
- Juneau
- Wood
- Portage
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Wisconsin

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Wisconsin
Nutrient requirements vary for your horse?

- Stage of Production
  - Maintenance
  - Work
  - Lactation
  - Pregnancy
  - Early growth
- Age
- Mature Size
- Activity Level
Equine Digestive System

- Mouth to anus = 100 ft
Equine Digestive System

- Mouth, esophagus, stomach = 3-4 feet
- Stomach Capacity = 8-15 quarts
Equine Digestive System

- Small intestine = 70 feet long
- Small intestine capacity = 48 quarts
Equine Digestive System

- Large intestine = 20 feet long
- Large intestine capacity = 130 quarts
• Mouth breaks down food
• Wets feed with saliva—3 gallons per day
Equine Digestive System

- Stomach has 10% of the digestive system capacity
- Therefore horses are constant grazers
In the small intestine we break down carbohydrates to glucose, proteins to amino acids, fats to free fatty acids, and add bicarbonate.
DIGESTION

- Total process = 65 hours
- 15 minutes in the stomach
- 1 hour in small intestine
- 63 hours in large intestine
NUTRIENT REQUIREMENTS

- Maintenance
- Work
- Aged Horses
- Early growth

Based on 1100 lb mature horse
Nutrient Requirements

Set by National Research Council

• Established to support maintenance and allow growth
CONSUMPTION REQUIREMENTS

Suckling—birth to six months when the foals are on the mare

Weanling—period from weaning to 11 months of age when foal receives no milk from mare

Short Yearling—12-17 months of age

Two-year-old—24-36 months of age
## CONSUMPTION REQUIREMENTS

<table>
<thead>
<tr>
<th>% BODY WEIGHT CONSUMPTION</th>
<th>Forage</th>
<th>Concentrate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mature Horse Maintenance</td>
<td>1.5-2.0</td>
<td>0-0.5</td>
<td>1/5-2.0</td>
</tr>
<tr>
<td>Young Horses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing foal, 3 months</td>
<td>0</td>
<td>1.0-2.0</td>
<td>2.5-3.5</td>
</tr>
<tr>
<td>Weaning foal, 6 months</td>
<td>0.5-1.0</td>
<td>1.5-3.0</td>
<td>2.0-3.5</td>
</tr>
<tr>
<td>Yearling foal, 12 months</td>
<td>1.0-1.5</td>
<td>1.0-2.0</td>
<td>2.0-3.0</td>
</tr>
<tr>
<td>Long Yearling, 18 months</td>
<td>1.0-1.5</td>
<td>1.0-1.5</td>
<td>2.0-2.5</td>
</tr>
<tr>
<td>Two Year old, 24 months</td>
<td>1.0-1.5</td>
<td>1.0-1.5</td>
<td>2.0-2.5</td>
</tr>
</tbody>
</table>
Growing Horse Requirements

Mcal/day
• Yearling-19
• 2 yr. old-22

Protein/day
• Yearling-14 %
• 2 yr. old 10 %
## COMMON FEEDSTUFF

<table>
<thead>
<tr>
<th>Feedstuff</th>
<th>% DM</th>
<th>Mcal/#</th>
<th>% Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>90</td>
<td>.94</td>
<td>18</td>
</tr>
<tr>
<td>Brome</td>
<td>89</td>
<td>.80</td>
<td>11</td>
</tr>
<tr>
<td>Orchard</td>
<td>88</td>
<td>.85</td>
<td>11</td>
</tr>
<tr>
<td>Straw</td>
<td>91</td>
<td>.70</td>
<td>4</td>
</tr>
<tr>
<td>Oats</td>
<td>89</td>
<td>1.3</td>
<td>12</td>
</tr>
<tr>
<td>Corn</td>
<td>88</td>
<td>1.5</td>
<td>9</td>
</tr>
</tbody>
</table>
MEETING THE NUTRIENT REQUIREMENTS

- Maintenance
- Work
- Lactation
- Pregnancy
- Early growth
Maintenance Requirements

Meal/day
• 16.4

Protein/day
• 1.4 pounds

Suggested Ration:

Alfalfa hay = 18 lbs.
Or
Orchard grass = 20 lbs.
Growing Horse Requirements

Mcal/day
• Yearling-19
• 2 yr. old-22

Protein/day
• Yearling-14 %
• 2 yr. old 10 %

Suggested Ration: Alfalfa= 21 lbs
Balancing a Ration worksheet meeting requirements

<table>
<thead>
<tr>
<th>Needs:</th>
<th>MC</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working Horse</td>
<td>28</td>
<td>2.8</td>
</tr>
<tr>
<td>Brome Hay (feed 15 lbs)</td>
<td>.80</td>
<td>.11</td>
</tr>
<tr>
<td>NEEDED</td>
<td>16 Mc</td>
<td>1.6 lbs</td>
</tr>
</tbody>
</table>
Balancing A Ration
Grain Mix (50% corn x 50% Oat)

Needs  16Mc  1.6 lbs

Ration  1.4/lb  10.5%

Amount = 16/1.4 = 11.4 lbs  11.4 x 10.5 = 1.2

Balancing  0  Short .4

Need .4 lbs protein
Source 1 lb of Soybean meal

Increase amounts fed by 10% of DM
MINERALS

• Calcium -- major source from roughage
• Phosphorus -- major source from grains

• We want the calcium to phosphorus ratio at 1.5

• May consider for the area supplementing with Selenium
VITAMINS

• Vitamin A--from green grass and green hay
• Vitamin D--from forage
• Vitamin E--from forage
• Vitamin K--from forage

• SALT should be fed free choice
Aged Horses

• Common Problems
  – Dentition (teeth)
  – Vision
  – Gastrointestinal Conditions
  – Immune Weakness
  – Lameness
  – Parasitism
  Reproductive
  Respiratory
  Tumor
  Kidney
  Liver
Geriatric Horse Care

• Changes
  – Arthritis
  – Anemia
  – Decreased digestibility of protein, fiber and phosphorus
  – Decreased intestinal motility
  – Decreased hepatic, renal and large intestine function
Geriatric Horse

- Physiological Changes
  - Tumors: common with increasing age
    - Adrenal
    - Melanoma (dark pigmented tumors)
    - Mesenteric
    - Pituitary
    - Squamous
Geriatric Horse

• Nutrition and Feeding Recommendations:
  – Protein: 10-14 %
  – Energy: Increase soluble carbohydrates, fats and oils in diet
  – Fiber: Total fiber should be less than 30%
  – Minerals: Supplement macro and microminerals
  – Vitamins: Supplement the dietary fat-soluble
Aged Horses

- Usually Need to Make Special Allowances
- Older horses consume less feed
  - Less efficient Digestive system
  - Teeth do not breakdown feed as well
- Not as aggressive in feeding with others
- Appetite is less than younger horses
Aged Horse Options

• Increase Concentrate in Ration
  – More corn, oats, sweet feed
  – Feed less but better quality hay

• Replace hay with Shredded Beet Pulp
  – Highly digestible fiber and is better absorbed than hay
  – Best if you feed it soaked, or fed as pellets
  – Soak in water or as “Sweet Feed” in molasses
  – Good for horses Chronic Obstructive Pulmonary Disease or “Heaves”, no dust or spores like hay
Geriatric Horse Care

• Provide annual dental care
• Monitor Body Condition every 6-8 weeks
• Avoid too fat or too thin conditions
• Provide appropriate exercise
• Provide adequate shelter
• Maintain health and worming program
• Provide regular foot care
Thank you for attending…

FOR ADDITIONAL INFORMATION
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