

Nutrition of Colts and Aged Horses

Keith Vandervelde

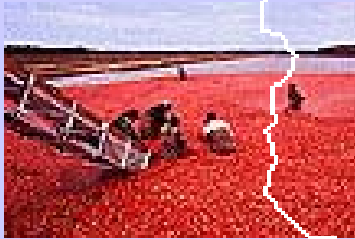
Marquette County Livestock Specialist



**UW
EXTENSION**

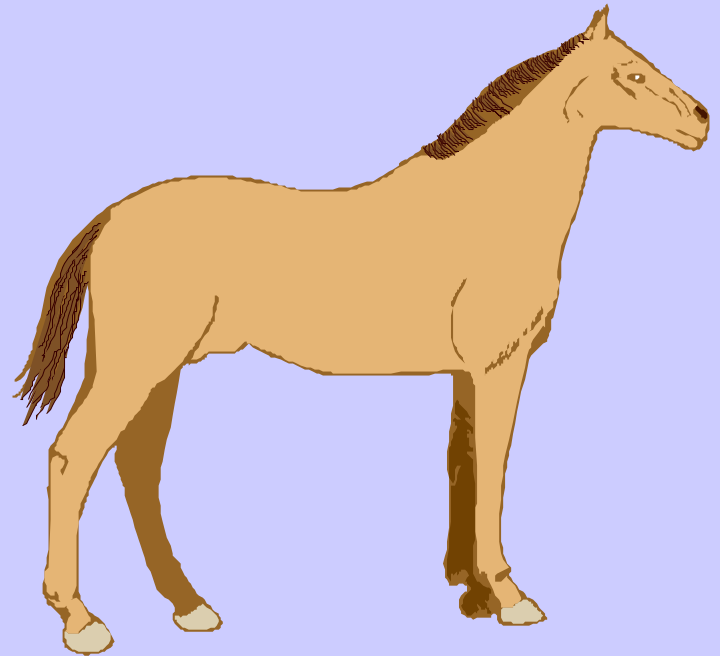
Central Wisconsin

Agricultural Specialization

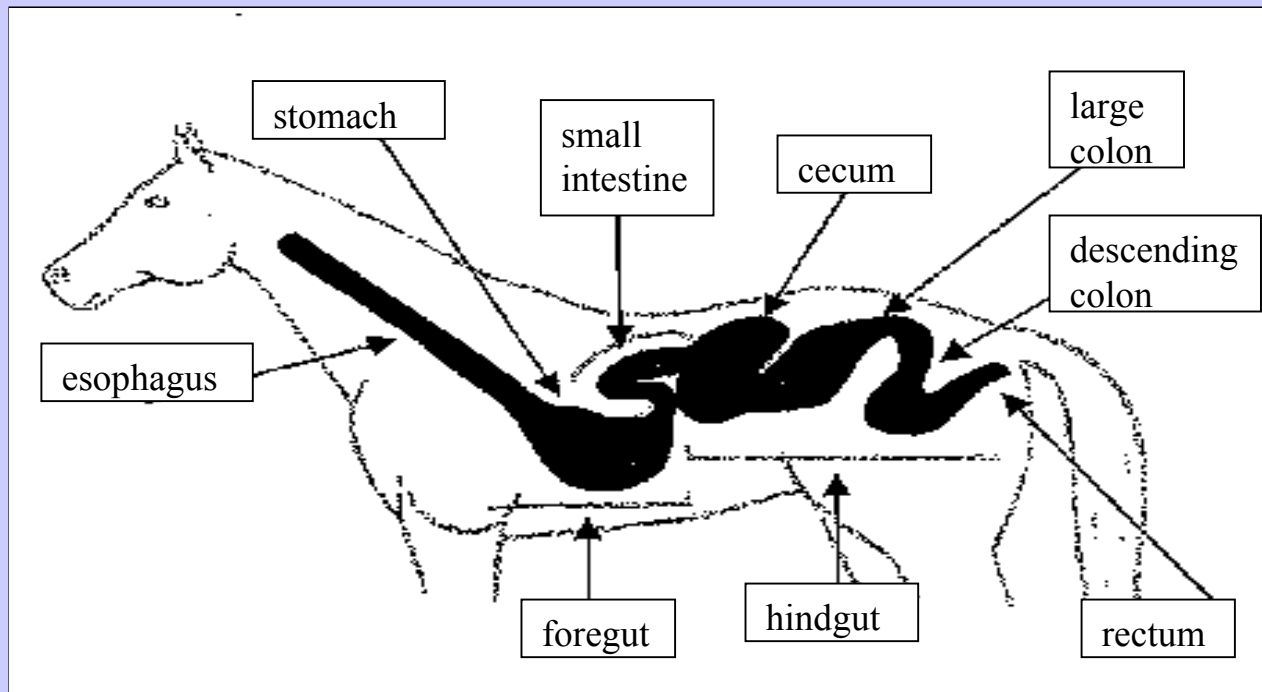


Nutrient requirements vary for your horse?

- **Stage of Production**
 - **Maintenance**
 - **Work**
 - **Lactation**
 - **Pregnancy**
 - **Early growth**
 - **Age**
- **Mature Size**
- **Activity Level**

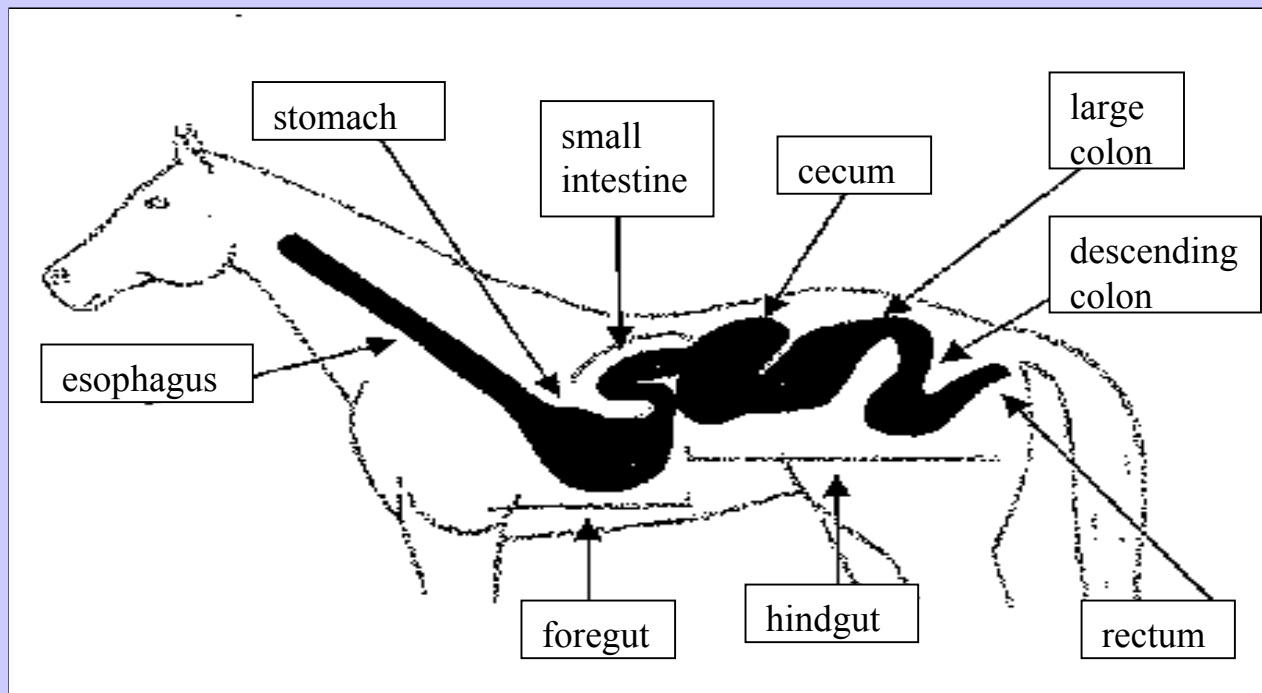


Equine Digestive System



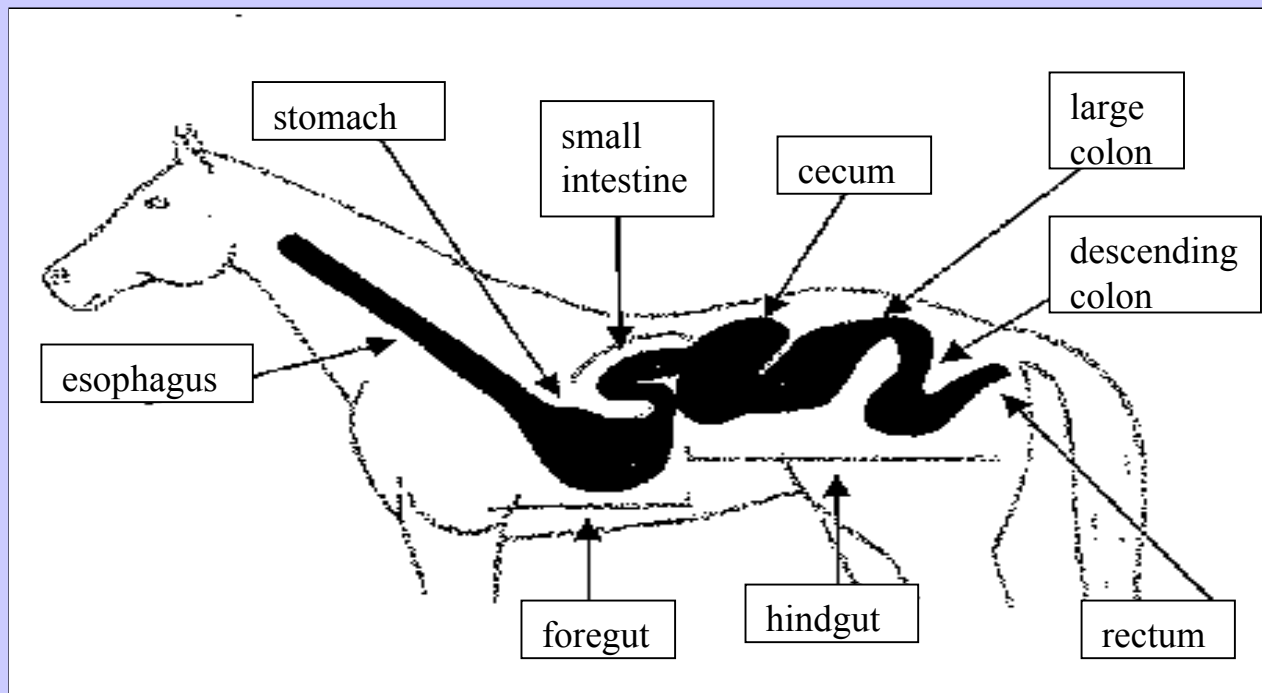
- Mouth to anus = 100ft

Equine Digestive System



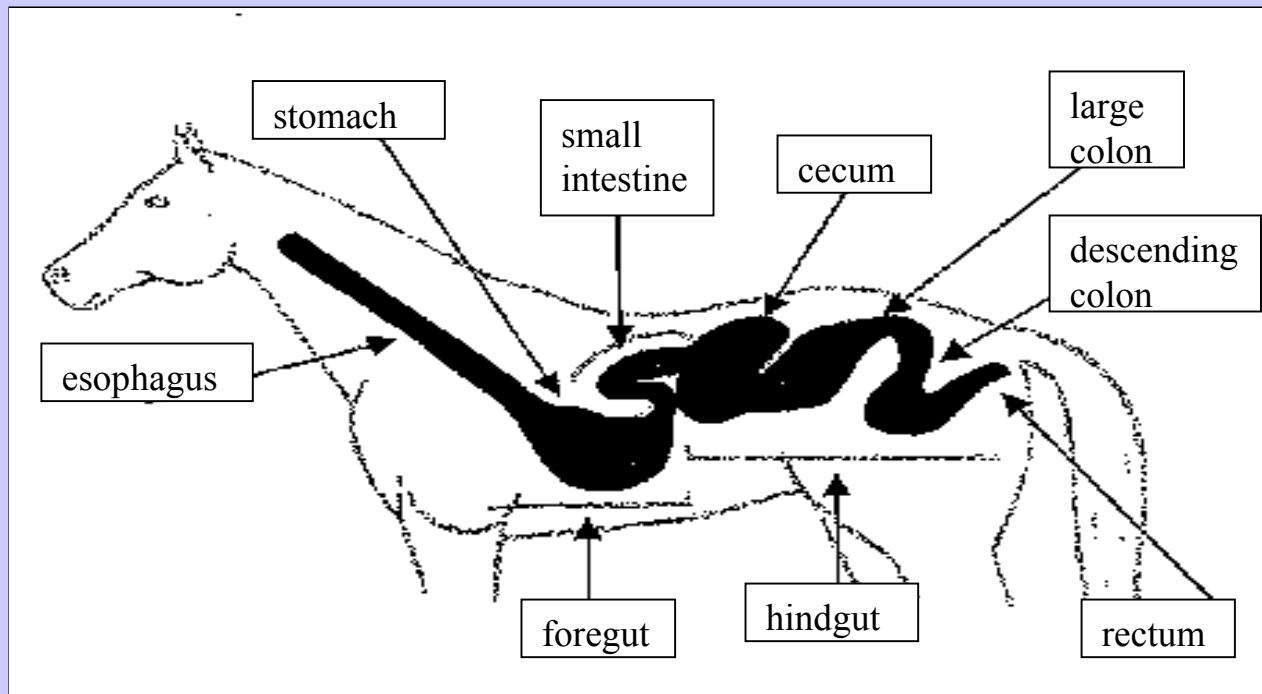
- Mouth, esophagus, stomach = 3-4 feet
- Stomach Capacity = 8-15 quarts

Equine Digestive System



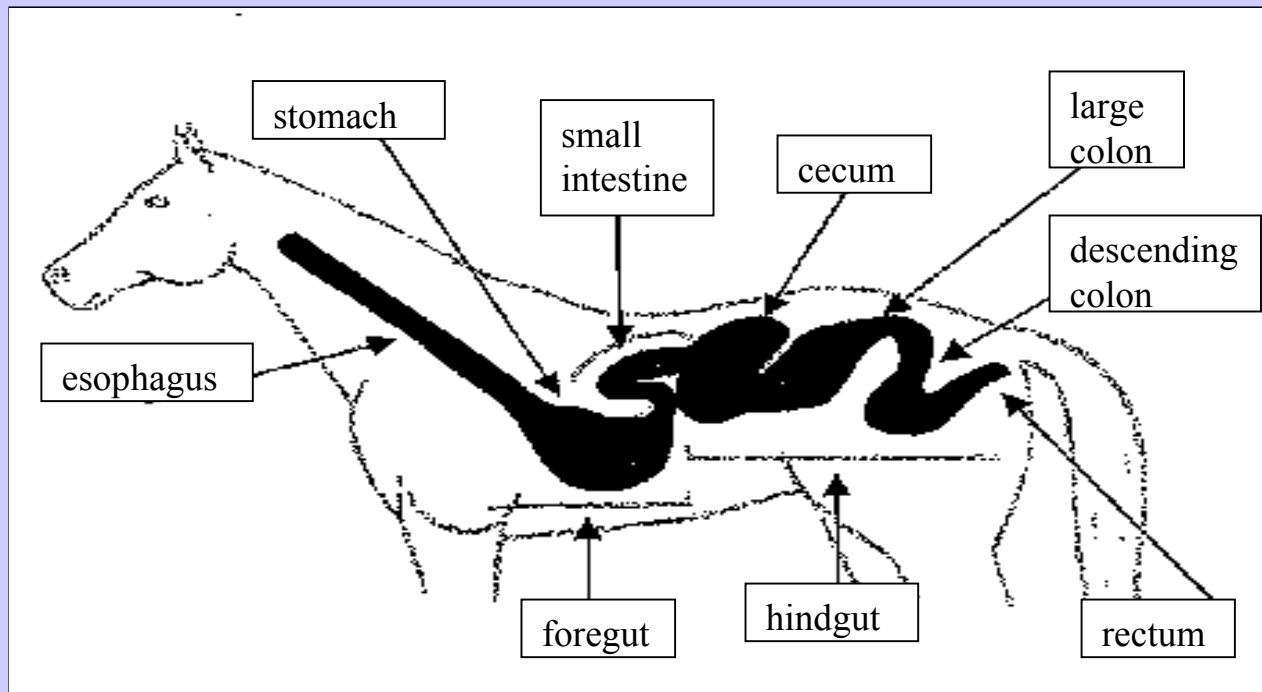
- Small intestine = 70 feet long
- Small intestine capacity = 48 quarts

Equine Digestive System



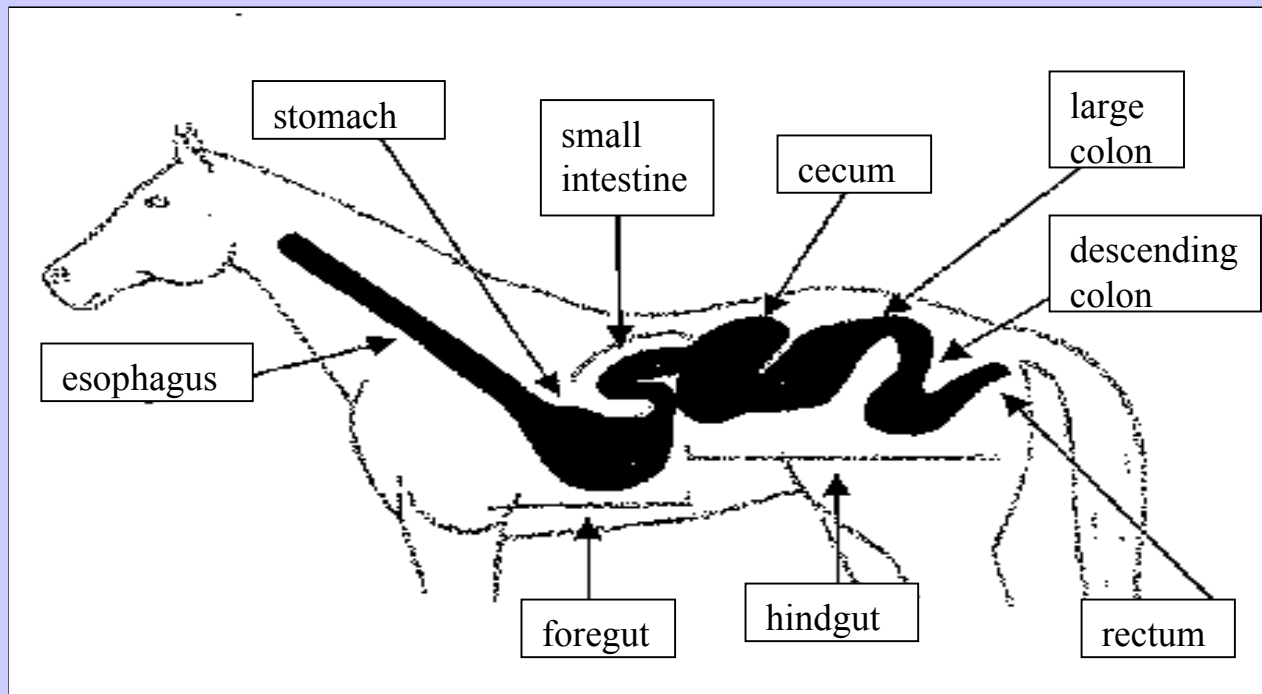
- Large intestine = 20 feet long
- Large intestine capacity = 130 quarts

Equine Digestive System



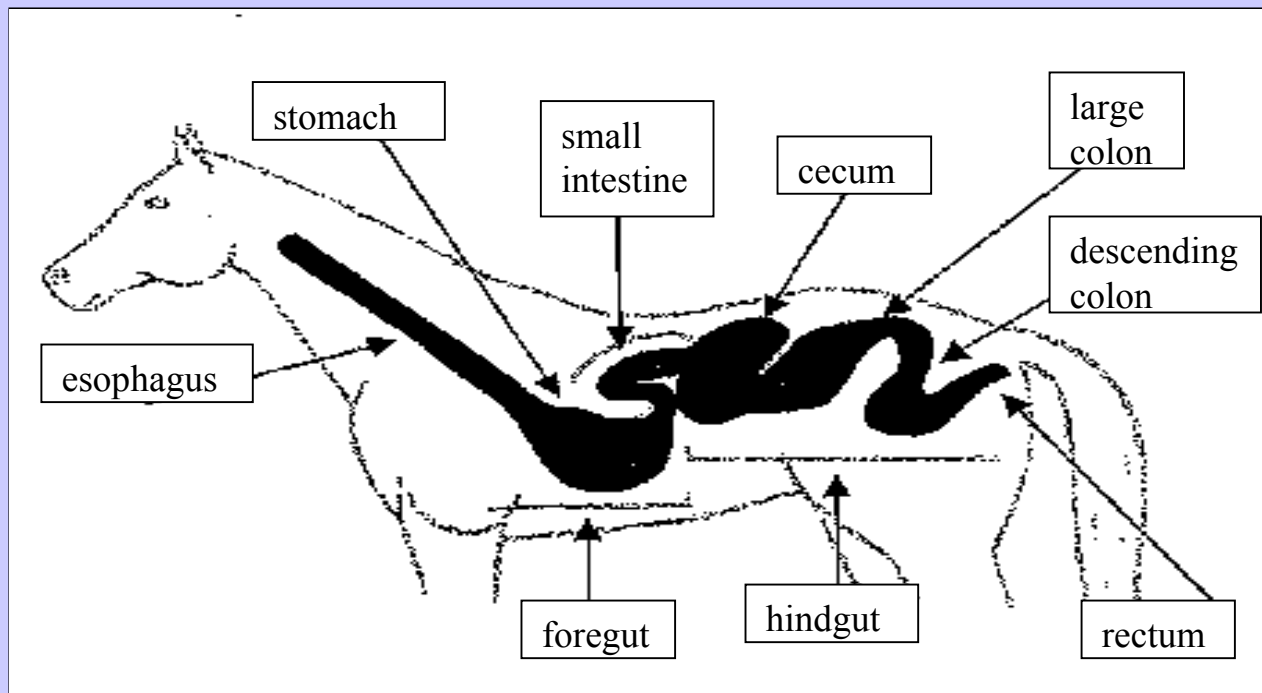
- Mouth breaks down food
- Wets feed with saliva--3 gallons per day

Equine Digestive System



- Stomach has 10% of the digestive system capacity
- Therefore horses are constant grazers

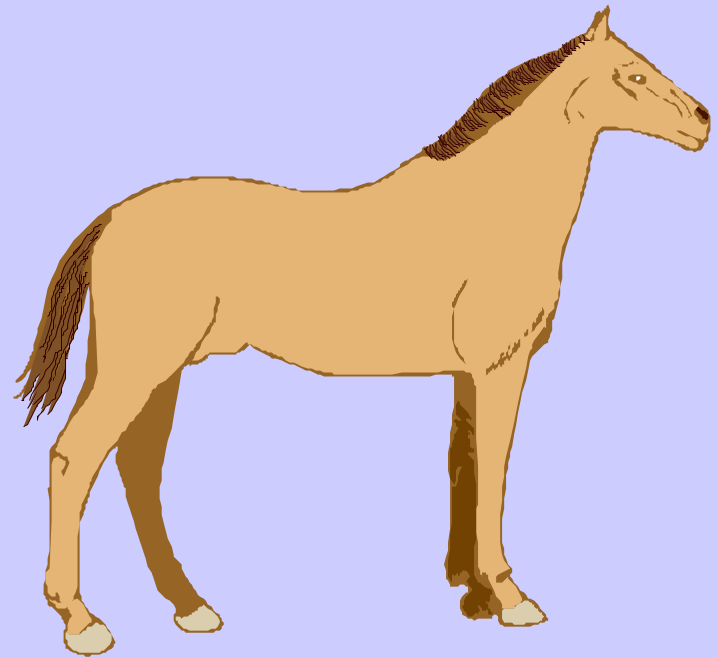
Equine Digestive System



- In the small intestine we: break down carbohydrates to glucose, proteins to amino acids, fats to free fatty acids, and add bicarbonate.

DIGESTION

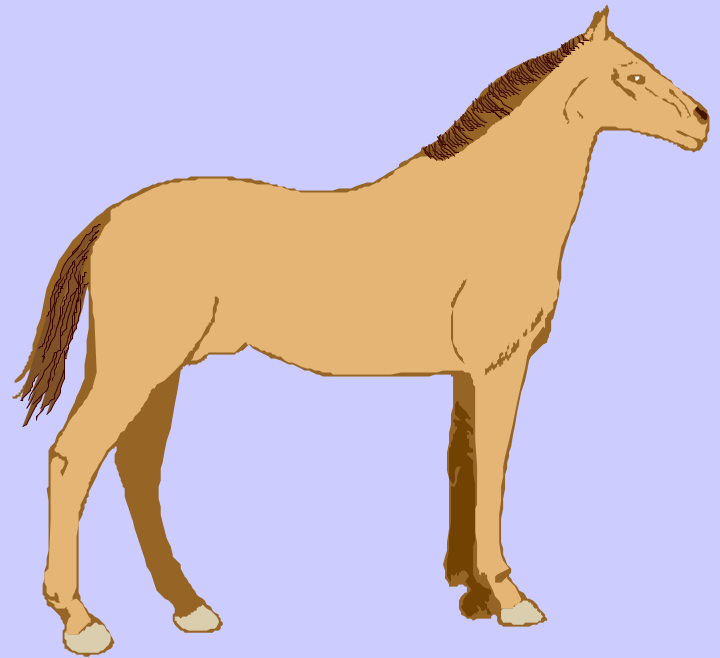
- Total process = 65 hours
- 15 minutes in the stomach
- 1 hour in small intestine
- 63 hours in large intestine



DIGESTION

NUTRIENT REQUIREMENTS

- **Maintenance**
- **Work**
- **Aged Horses**
- **Early growth**

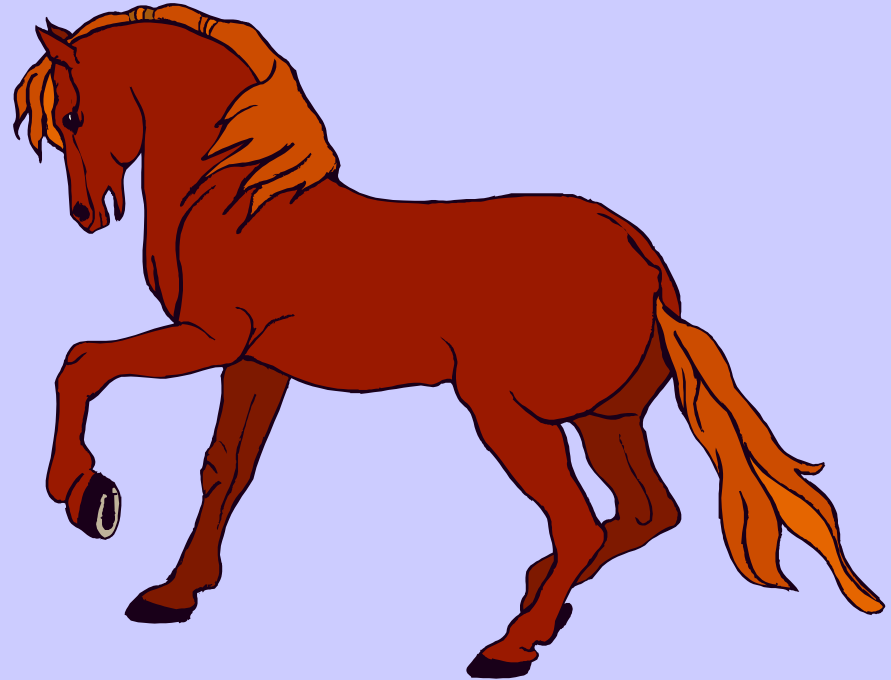


Based on 1100 lb.mature horse

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

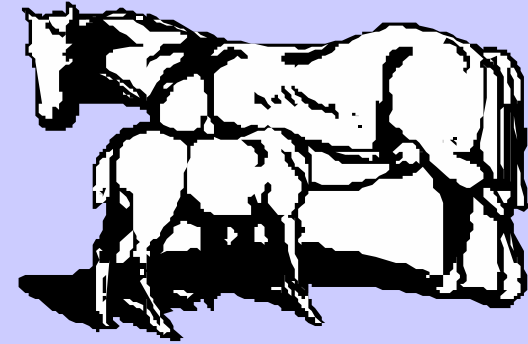
Weanling-period from
weaning to 11 months of age when
foal receives no milk from mare

Short Yearling-12-17 months
of age

Two-year-old- 24-36 months
of age



CONSUMPTION REQUIREMENTS



% BODY WEIGHT CONSUMPTION

	Forage	Concentrate	Total
Mature Horse			
Maintenance	1.5-2.0	0-0.5	1/5-2.0
Young Horses			
Nursing foal, 3 months	0	1.0-2.0	2.5-3.5
Weaning foal, 6 months	0.5-1.0	1.5-3.0	2.0-3.5
Yearling foal, 12 months	1.0-1.5	1.0-2.0	2.0-3.0
Long Yearling, 18 months	1.0-1.5	1.0-1.5	2.0-2.5
Two Year old, 24 months	1.0-1.5	1.0-1.5	2.0-2.5

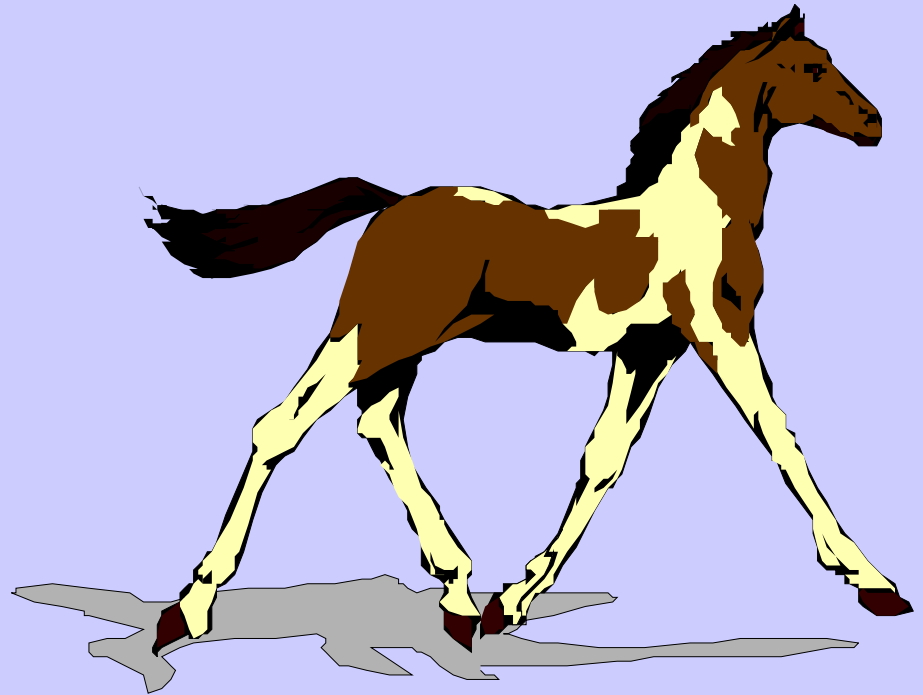
Growing Horse Requirements

Mcal/day

- Yearling-19
- 2 yr. old-22

Protein/day

- Yearling-14 %
- 2 yr. old 10 %

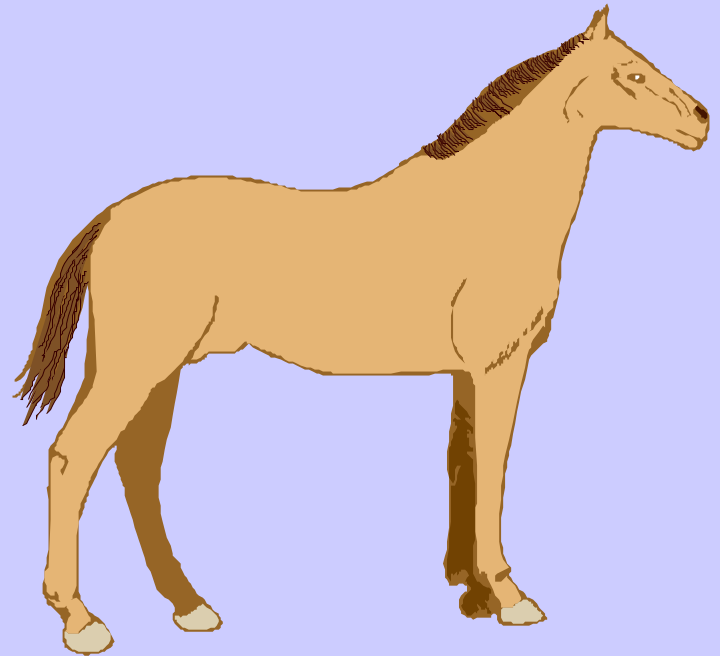


COMMON FEEDSTUFF

	<u>% DM</u>	<u>Mcal/#</u>	<u>% Protein</u>
<u>Alfalfa</u>	90	.94	18
<u>Brome</u>	89	.80	11
<u>Orchard</u>	88	.85	11
<u>Straw</u>	91	.70	4
<u>Oats</u>	89	1.3	12
<u>Corn</u>	88	1.5	9

MEETING THE NUTRIENT REQUIREMENTS

- **Maintenance**
- **Work**
- **Lactation**
- **Pregnancy**
- **Early growth**



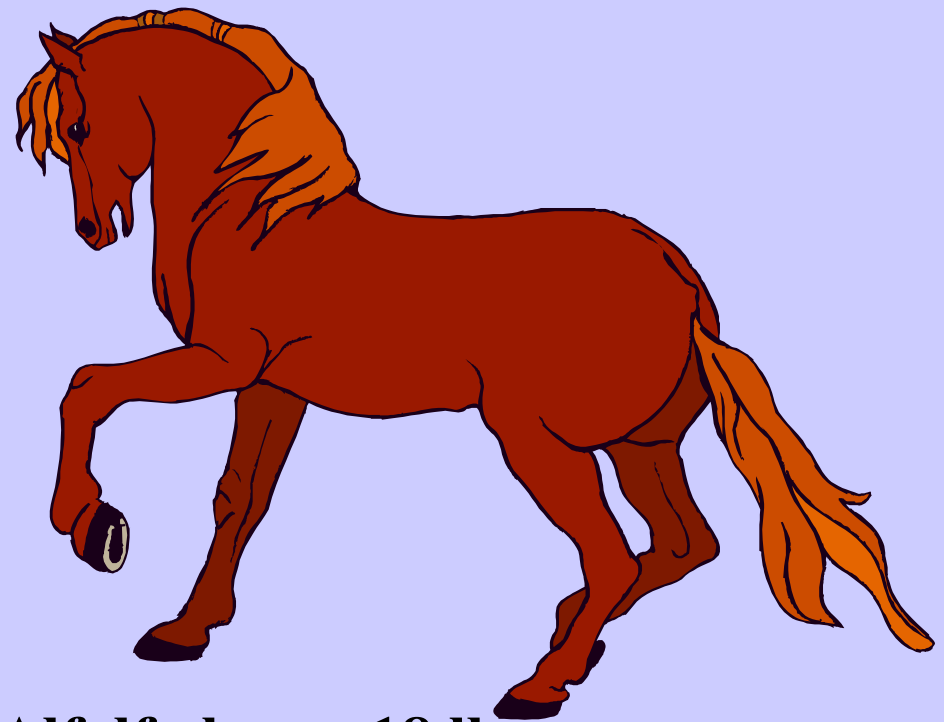
Maintenance Requirements

Mcal/day

•16.4

Protein/day

•1.4 pounds



Alfalfa hay = 18 lbs.

Or

Orchard grass = 20 lbs.

Suggested Ration:

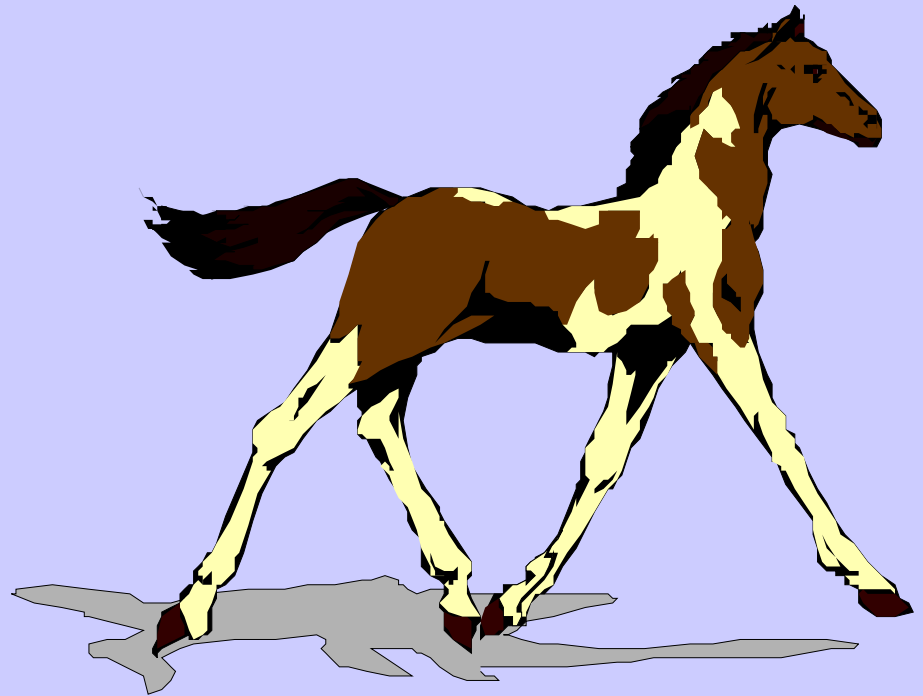
Growing Horse Requirements

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

<u>Needs:</u>	<u>MC</u>	<u>Protein</u>
Working Horse	28	2.8
Brome Hay (feed 15 lbs)	.80 12 Mc	.11 1.2 lbs
NEEDED	16 Mc	1.6 lbs

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** **11.4x10.5=1.2**

Balancing **0** **Short .4**

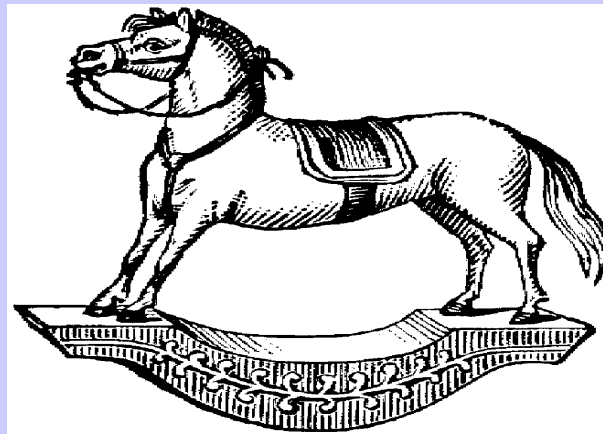
Need .4 lbs protein

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**



1877
Extension

Thank you for attending...

FOR ADDITIONAL INFORMATION
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