2024

SEYF

Horse Skill-A-Thon

Study Guide

2024 Horse Skill-A-Thon

Juniors will answer 10 multiple choice question on the following topics.

- Parts of the horse
- Markings
- Basic Tack and grooming supplies

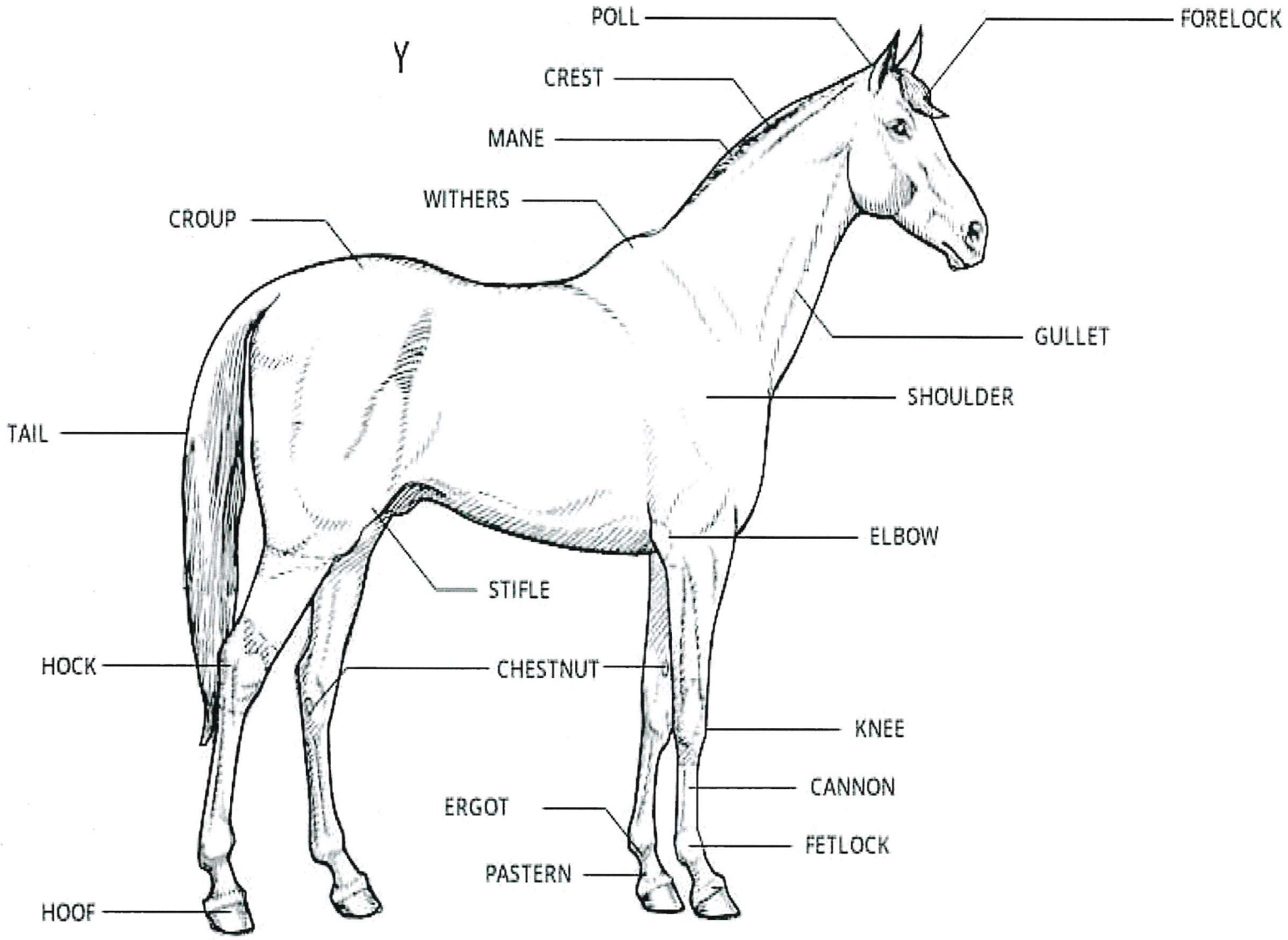
Intermediates will answer all junior questions plus 10 additional multiple-choice questions on the following topics.

- Hoof Anatomy & Care
- Nutrition Basics

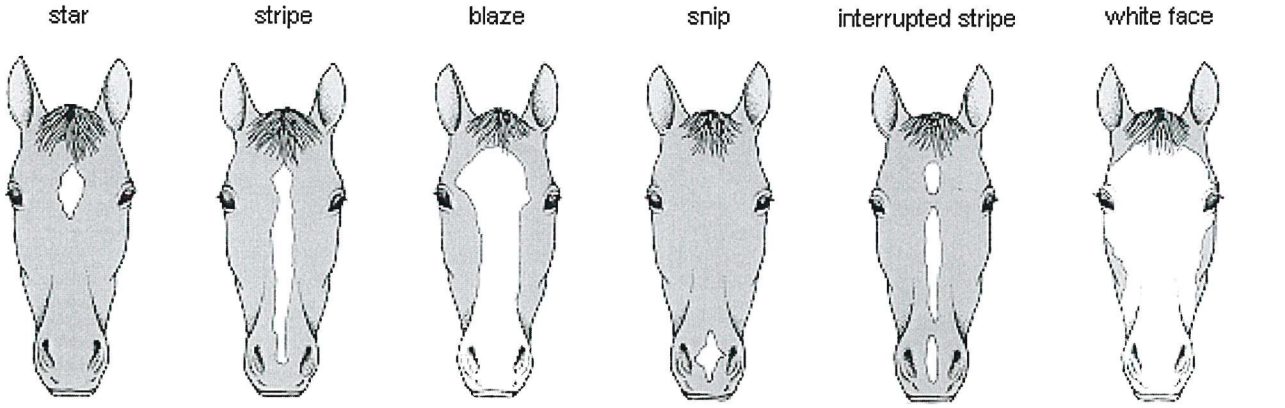
Seniors will answer all junior & intermediate questions plus an additional 10 questions on

- Body Condition Scoring
- Horse breed types

Parts of the Horse

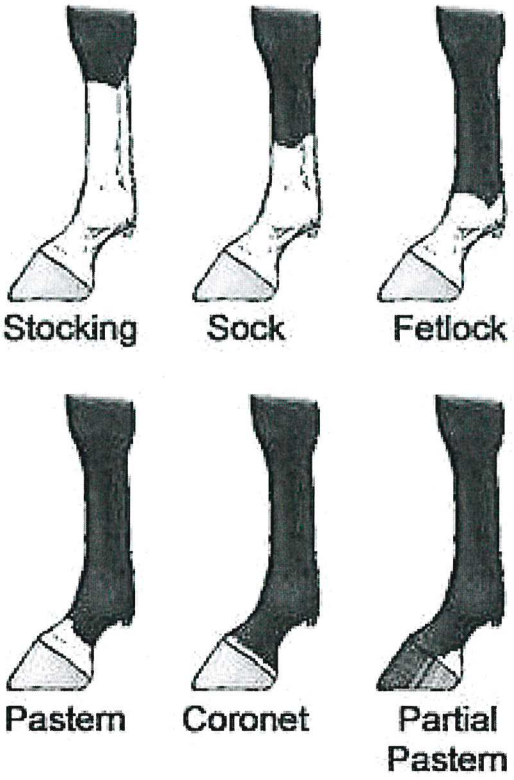


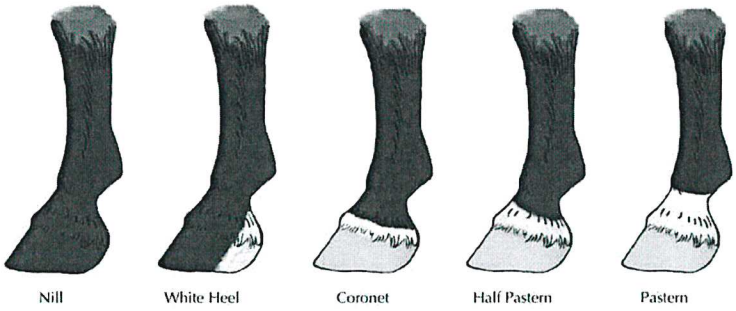
Face Markings

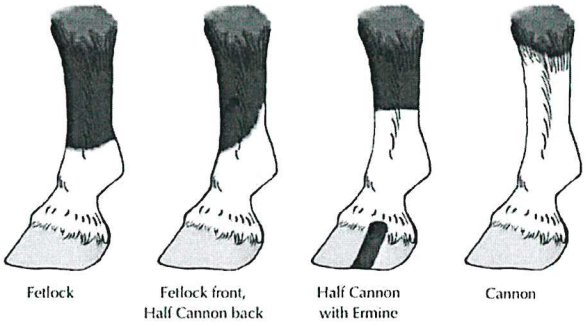


Also known as bald face

Leg Markings

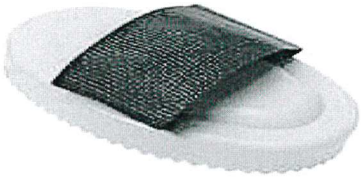




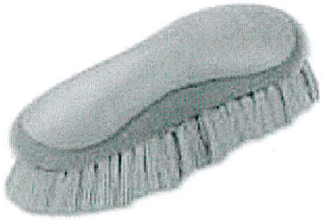


Grooming is a very important part of your horse's health. A good work over with a curry comb and brush will remove unsightly dandruff and dirt which causes saddle sores. Grooming also gives your horse's coat a shine and makes your horse feel good.

Hoofpick – Used to remove dirt, rocks and manure from the horse's hooves. The hoofpick is held in the palm of the hand with the point away from the body. Always clean the hoof working away from yourself.



Curry Comb – Used on horse's body in a circular motion to bring the dirt to the surface. Curry comb should not be used on the face, legs, or any body area on the horse.



Soft Brush – Used on the face and body to remove surface dirt and put a shine on the horse's coat.

Mane and Tail Comb – Used on the mane and tail to remove tangles. Start at the bottom and work towards the top, removing tangles as you go.

Hoof Level – Used to determine the correct angle of the hoof.

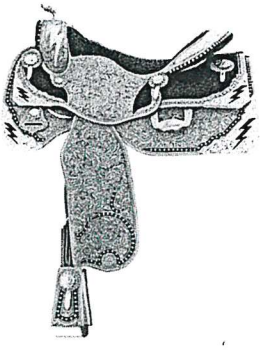
Hoof Tester – Used by farriers and veterinarians to test for a pain response, usually indicated by the horse as a withdrawal of the limb. Additional information about the tissues of the hoof, and hoof texture can be determined.

TACK

Western Saddle

Reining Saddle

Show Saddle

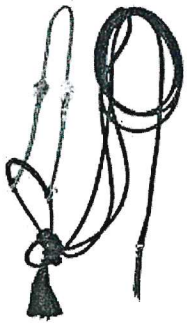


Work Saddle/Rough-out Training Saddle

Western Bridle

Double Loop Show Bridle

Bosal and Mecate



Work Bridle

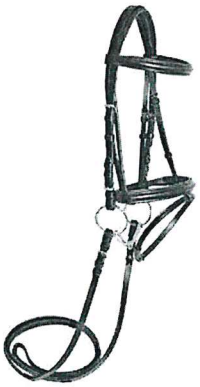
Cavesson

English Saddle

English Bridle

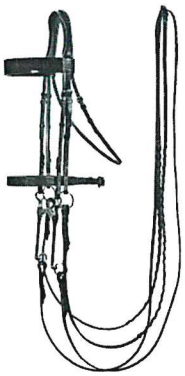
Dressage Saddle

Dressage Bridle



Cutback Saddle

Double Show Bridle



Snaffle Bit

Loose Ring

Twisted

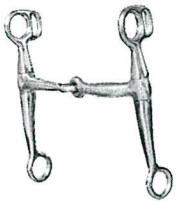
D-Ring

Eggbutt

Ported Snaffle

Curb Bit

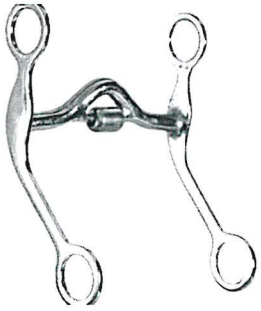
Tom Thumb



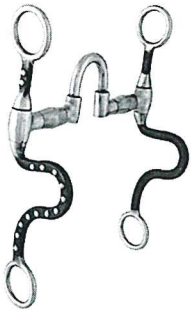
Correction

Grazing Curb

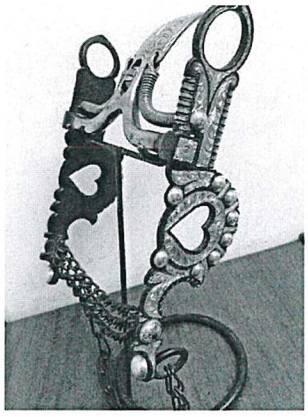
Roller Port



S-Shank



Spade



Reins

Western

Split Reins

Romal Reins

Barrel Reins

English

Rubber

Braided Leather

Martingale

Running Martingale

Training Fork

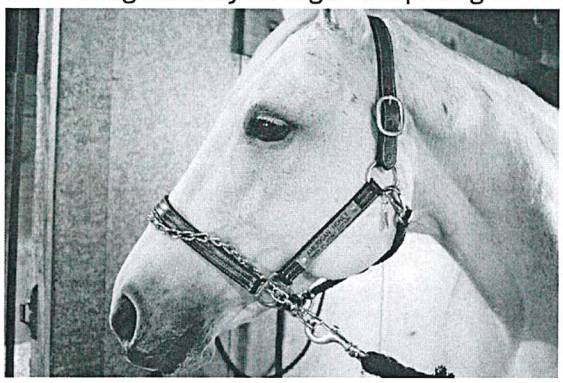
German Martingale and Reins

Multi-Ring Martingale

MANUAL RESTRAINTS

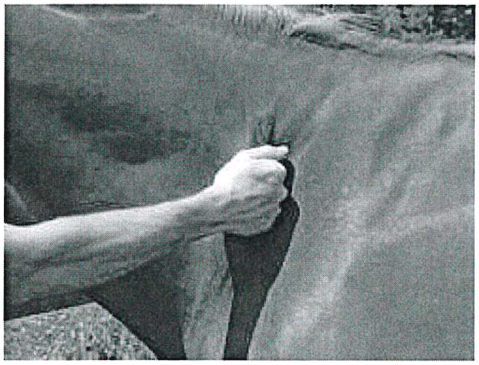
Chain Over the Nose

This is used as an aid for leading horses that can be hot or have a hard time showing respect when lead on the ground. The chain can be run through the halter from the left side, and attached on the right side ring closest to the horse's eye. Always loop the chain around the noseband to avoid extreme pressure that may break the horse's nasal bones. As in all cases, if the horse pulls back when leading, just walk with the horse and avoid pulling. The horse is significantly stronger and pulling on him or her will only make the pullback situation worse.



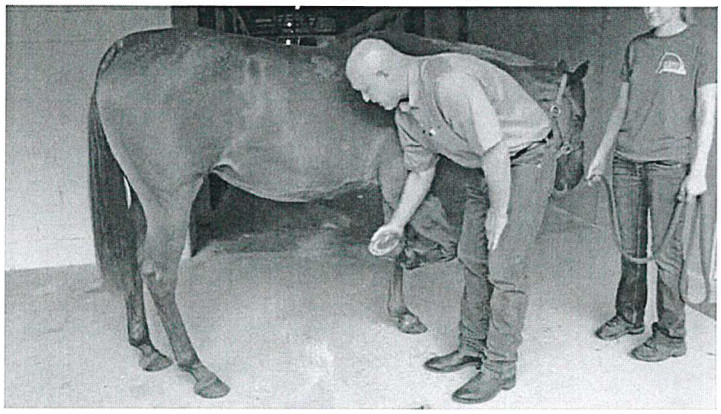
Shoulder Roll

This is a quick distraction to only be used for a grabbing the attention of the horse for small exams. Not meant for long periods of time.



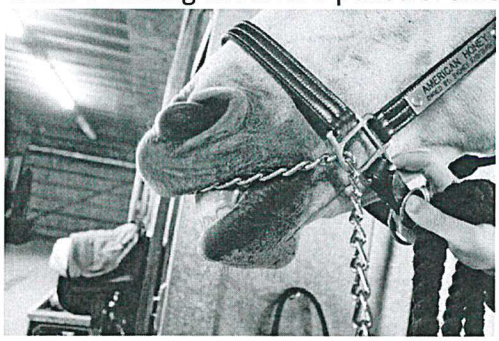
Leg Lift

Commonly used to aid with leg clipping or dressing a wound. Handlers should only hold front legs as hind legs can be dangerous. If working on a hind leg, have a helper lift the front leg on the same side. The handler must not let leg go until the individual working on the leg is finished to avoid injury.



Lip Chain/Twine

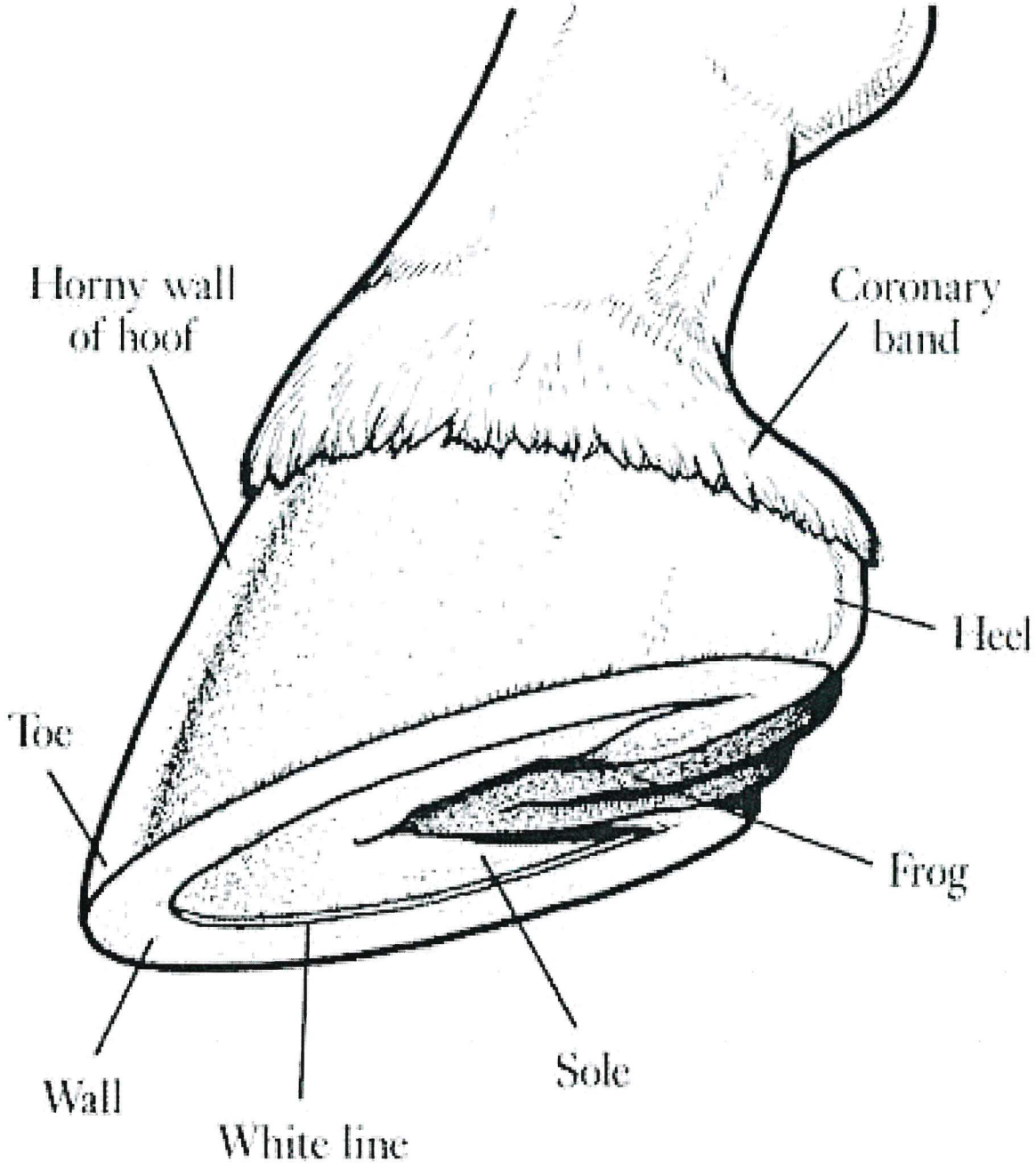
Can be used as a distraction for vet examinations, or clipping. Can be used with twine instead of a chain. Feed the chain or twin through the halter, allowing the chain or twine to hang below the horses chin in order to secure on the right side of the halter. Once secured, gently place over the top gums and apply downward pressure on the end of the chain/twine, using the leverage of the halter to aid with the pressure. This will release endorphins that will create a calming effect for a period of time. As soon as the exam/clip job is done, release pressure.



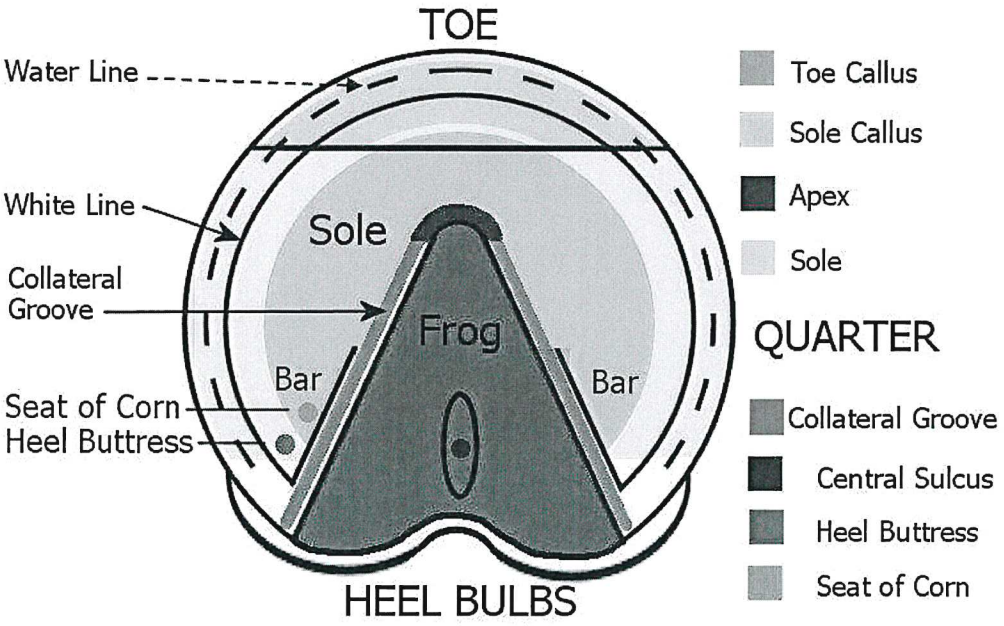
Humane Twitch

A humane twitch can be used by one person to aid in clipping. To use, approach the horse slowly, making sure to let it know you will be working around its head. Slowly reach out to pet the horses nose before taking hold of it and placing the humane twitch over the nose. Use the attached string to secure the handle, and then clip to the halter. There is a 12 minute window in which endorphins will be released to cause a quieting reaction in the horses. DO NOT USE LONGER THAN 12 MINUTES! There comes a moment when the endorphins stop distracting the horse, and the twitch simply becomes painful. Remove twitch and gently rub nose.

Parts of the Hoof



PARTS OF A HOOF



- Your horse's feet continue to grow in width until they are about 6 years old. After that they continue to grow, but in height like a fingernail would. On average it will grow about ¼ to ½ an inch a month, with new growth originating at the coronary band, which is why farriers should come to trim horse's feet about every 6-8 weeks. Seasons can affect growth rates as well.
- When being ridden horse's hooves sometimes wear down or need support in other ways so they get various types of horseshoes.
- Horses' hoof walls are about 25% water, the sole is 33% water, and the frog (the most sensitive part) is about 50% water.
- Horse hooves act as shock absorbers absorbing about 70-80% of the impact when doing Work.
- Horses' feet expand and contract as they place and take weight off of them.

Farrier/Shoeing Equipment

Professional Farrier Tools kit

Equine Nutrition: Basics

The horse is:

- An herbivore
- A monogastric (single stomach)
- Non-ruminant
- Hindgut fermenter

Nutrients needed:

- Water
- Carbohydrates
- Fat
- Protein
- Vitamins
- Minerals

The MOST important nutrient is WATER. A horse needs 10-12 gallons per day.

Feedstuffs

To meet ***ENERGY*** requirements of the horse: **Carbs & fats**

Sugar & Starches, Grain meals, Oils

- Cracked corn
- Oats
- Barley
- Molasses
- Wheat bran
- Soybean hulls
- Sugar beet pulp

To meet ***PROTEIN*** requirements of the horse

Forage (pasture grass & hay) & Concentrate feeds

- Bahiagrass
- Bermuda grass
- Alfalfa
- Orchardgrass
- Timothy
- Cottonseed meal
- Linseed meal
- Soybean meal
- Canola meal

- Casein

To meet ***VITAMIN*** requirements of the horse

There are two types of vitamins: fat-soluble and water-soluble.

- Fat-soluble vitamins: A, D, E, and K - Fat soluble vitamins must be provided through good quality diets.
- Water-soluble vitamins: C & B- Water soluble vitamins are capable of being produced by the horse and are not needed in large quantities through the diet.

Mineral requirements of the horse are easily met by feeding a fortified diet of forage and concentrate feeds at the recommended level for the horse in question. Horse's in heavy work may require additional supplementation.

Nutrition

There are five distinct classes of nutrients supporting particular body functions: water, energy, protein, vitamins, and minerals. The nutritive value of any ration is determined not by the feedstuffs included, but by the palatability of the diet and the nutrients that the feedstuffs supply to the horse.

Water intake is essential to body temperature regulation. A mature horse will drink at least one gallon of water per 100 pounds of body weight per day or about 10 gallons a day for an 1000-pound horse. Many horses are managed adequately with fresh, clean, water offered twice each day. Without adequate water, horses have increased chances of colic and will decrease food intake.

Energy is derived from carbohydrates, fats, and even protein; but, because of their abundance in plant feeds, carbohydrates are the horse's major source of energy. The sugars and starches are easily digested and cellulose very poorly digested, but the ability to digest cellulose increases as the animal matures, when the bacterial population in the digestive tract increases.

Fats are an excellent source of energy for the animal and can be added up to 10% of the diet to increase energy and make the feed more palatable. The body uses energy as fuel for all physical activity, growth, milk production, and repair. A deficiency of energy will cause slow growth, sluggish activity, and general weakness. Excess energy will become body fat, and a weight problem can follow. In a good, well-balanced ration, carbohydrates and fats should be the only source of energy; they are expressed in requirement tables together as energy.

Protein is needed by the horse for growth, muscle development, reproduction, lactation, repair of body tissues, and skin and hair development. If energy in the diet is low, protein can also be converted to energy.

Feeding excessive protein to horses with the belief that it will increase muscle development is not valid and is very expensive. Excess protein (that fed above the requirement) is broken down into energy (calories) and a nitrogen by-product called urea, which is excreted in the urine causing the horse to urinate and drink more.

Vitamins play a variety of roles in the body. While only a minute amount of each may be needed, a deficiency can cause severe side effects or illness once the reserves are depleted. In general, a good, balanced diet of green hay, grain, and sunlight will provide adequate amounts of vitamins for the horse unless under a large degree of stress.

Mineral content of a horse's diet is determined by the soil and water in the area, the quality of feed, and the proportion of grain to hay in the diet.

Nutrients and Common Feed Sources for Horses

Jan 20, 2020 | Feeds, Horses

Feeding the horse is not difficult, but to do it properly, it takes knowledge and consistent attention. Nutritionists and owners must constantly evaluate their feeding program to ensure that their horses are receiving proper nutrition.

Nutrients

A nutrient is defined as any feed constituent that is necessary to support life. The following is a list of functions that nutrients perform in the horse's body:

- source of energy
- component of body structure
- involved in or enhance chemical reactions in the body
- transport substances
- regulate body temperature
- affect feed palatability/consumption.

There are six general classes of nutrients needed in the horse's diet:

- water
- carbohydrates
- fats
- protein
- minerals
- vitamins.

Feedstuffs consumed by the horse contain most of these nutrients in varying amounts. For the horse to utilize these nutrients, the ingested feed must be broken down by digestion and absorbed from the digestive tract.

Water

Horses need a constant supply of good quality, palatable water. The only exception would be immediately after exercise. Especially after intense work, a horse's water consumption should be limited to prevent over-drinking, which can cause digestive upset and other metabolic problems.

The amount of water a horse should consume is determined by the amount lost in the feces, urine, and sweat, and is dependent on a number of factors: environmental temperature and humidity, feed quality, type and amount of feed, physical activity level, and health. As a general rule, horses need 1 to 2 quarts (2 to 4 liters per kilogram) of water per pound of dry matter consumed. This amount will change with increasing activity level and temperature. A mature horse at maintenance (not being worked, not pregnant, and/or not lactating) under normal environmental conditions will consume approximately 1 gallon (3.78 liters) of water per 100 pounds (45 kg) body weight per day. Therefore, an 1,100-pound (500 kg) Thoroughbred at maintenance would drink about 11 gallons (42 liters) of water per day. If that same Thoroughbred were training intensely for a Three-Day Event, this amount could increase 300 percent, up to 33 gallons (125 liters) of water per day! Mares in lactation will increase their water consumption about 50 to 80 percent for milk production.

In all horses, but most importantly in the performance horse, the amount of water required per day is dependent on the amount lost through sweat during exercise. Sweating is an important function in maintaining the core temperature of the horse. Horses can lose up to 3 gallons (12 liters) of sweat per hour. Therefore, that same Thoroughbred competing in the Three-Day Event would require more water after completing the cross-country course than it would after the dressage test because it worked harder for a longer period of time, causing it to sweat more. Temperature and humidity will also affect water loss from the horse. Horses generally drink more and eat less when the temperature is high. In an environment with high relative humidity (over 80 percent), sweating does not efficiently cool the horse, so it is at a risk for overheating.

Carbohydrates

Carbohydrates provide the majority of a horse's energy. Non-structural carbohydrates, such as starch and glucose from grains and gums and pectins from fiber, are readily utilized as energy sources for the horse. The enzyme amylase breaks down non-structural carbohydrates into glucose and simple sugars, which are absorbed in the small intestine.

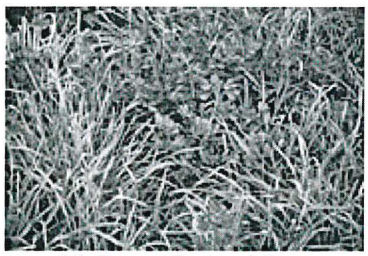
Structural carbohydrates, such as cellulose and hemicellulose in plants, can only be broken down by bacterial enzymes in the cecum and colon. The microorganisms convert these carbohydrates to volatile fatty acids (acetate, propionate, butyrate), which can provide 30 to 70 percent of the horse's energy requirement.

Fats

Fats are a concentrated source of energy (2.25 times that of carbohydrates) and are readily utilized by the horse. They can be provided as either animal fat (tallow) or more commonly as vegetable fat, such as corn oil. All fats exist in the form of triglycerides, which are broken down to three fatty acids and one glycerol molecule by digestive enzymes before being absorbed by the small intestine.

Fats are necessary in the equine diet to absorb fat-soluble vitamins and provide linoleic acid, the essential fatty acid. In addition, the use of fats in the horse's diet improves hair coat, is an effective way to increase the energy density of the diet without increasing the amount of feed, and has been shown to have an effect on reproduction.

Proteins



Alfalfa and Orchard Grass
Mixed Pasture

Proteins are made up of linked amino acids. They serve as structural components for muscle and ligaments in the body and are a source of energy. There are 22 amino acids that are needed by the horse, but not all of them have to be provided in the feed (table below). The non-essential amino acids are produced in the body tissues and therefore not needed in the diet. However, the essential amino acids must be provided in the diet or synthesized by the microorganisms in the intestine.

A protein is quantified by the nitrogen content of the feed and is classified as high quality if it contains a high amount of essential amino acids. The amount of protein required in the horse's diet depends on the digestibility of the diet and the individual

horse's protein needs. In growing horses, the only essential amino acid that may be limited in normal diets is lysine. It must be provided as 5 to 6 percent of the total protein in the diet.

Amino Acids

Essential Amino Acids	Nonessential Amino Acids
arginine histidine isoleucine leucine lysine methionine phenylalanine threonine tryptophan valine	alanine arginine asparagine aspartic acid cysteine glutamic acid glutamine glycine histidine proline serine tyrosine

Minerals

Minerals are involved in many physiological functions in the horse. They function in the development and maintenance of structural components (muscle, bone, ligament), play roles as enzymatic cofactors in many biochemical pathways, and are integrally involved in energy transfer. Minerals also function in conjunction with vitamins and in concert with hormones and amino acids. Horses are able to obtain a large portion of their mineral requirements from the feed, but the concentration and availability varies with soil mineral concentration, plant species, and stage of maturity.

There are seven macrominerals required in the diet: calcium, phosphorous, sodium, potassium, chloride, magnesium, and sulfur. These are expressed as a percent of the total diet. The horse's requirements for the eight microminerals are expressed as parts per million and are cobalt, copper, fluorine, iodine, iron, manganese, selenium, and zinc.

Minerals

Macrominerals	Microminerals
calcium (Ca) phosphorous (P) sodium (Na)	cobalt (Co) copper (Cu) fluorine (F)

potassium (K) chloride (Cl) magnesium (Mg) sulfur (S)	iodine (I) iron (Fe) manganese (Mn) selenium (Se) zinc (Zn)

Vitamins

Vitamins play a role in regulating many physiological functions in the horse. There are two types of vitamins: fat-soluble and water-soluble (table below).

Fat-soluble vitamins need absorbable fat in the diet to be absorbed in the small intestine. These vitamins, sometimes referred to as lipid-soluble, are A, D, E, and K. The horse synthesizes two of these lipid-soluble vitamins. Vitamin D synthesis in the horse is activated by sunlight. The microbes in the cecum and large intestine are capable of producing vitamin K. Vitamin A is provided in sufficient quantities by green forages and can be stored in the liver. Vitamin E is present in sufficient quantities in most good quality diets, especially those that include grains.

The wwater-soluble vitamins are capable of being produced by the horse and are conserved by efficient recycling mechanisms. Therefore, they are not required in large quantities in the diet. Vitamin C and all the B-complex vitamins (thiamin, niacin, riboflavin, biotin, etc.) are all water-soluble vitamins.

Vitamins

Fat-Soluble Vitamins	Water-Soluble Vitamins
Vitamin A/Carotenes	Vitamin C
Vitamin D	B Vitamins: thiamin, niacin, riboflavin
Vitamin E	Panthothenic acid, B6, B12, Biotin
Vitamin K	Folacin, ascorbic acid, choline

Fiber

Horses evolved as natural grazers and, therefore, have to consume fibrous feeds. Fibrous feeds are a very important part of the horse's diet. They provide nutrients for both the horse and microbes in the hindgut as well as stimulate muscle tone and activity of the gastrointestinal tract.

There are many different fiber types that can be utilized in the equine diet, but not all of them are as efficient to use. Fiber quality varies widely across fiber types and is due to plant species, soil fertility, and stage of maturity at the time of harvest. Common fiber sources are pasture and hay.

Pasture

Alfalfa and orchard grass mixed pasture

The most common type of fiber fed to horses is pasture. There are two types of pasture: legumes and grasses. The legume pastures include alfalfa and clovers (red and white) and are usually mixed with grasses. Grasses are subdivided by their growing characteristics into cool-season and warm-season grasses.

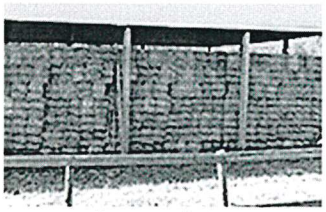
Cool-season grasses grow best in temperatures of 60° – 80° F (15.5°-26.6° C) and include Kentucky bluegrass, orchardgrass, timothy, brome, and tall fescue. Warm-season grasses grow best in temperatures greater than 70° F (21° C) and include bermudagrass, bluestems, and bahiagrass. Although spring pasture growth provides horses with an

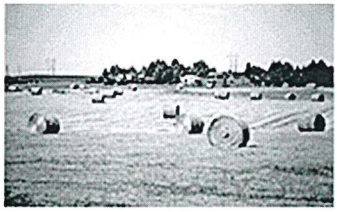
abundance of nutrients, nutrient content decreases as the grasses mature. The table shows an example with Bluegrass. A similar decline in quality occurs with all types of forages as they mature.

Nutrient content at different stages of maturity Bluegrass pasture

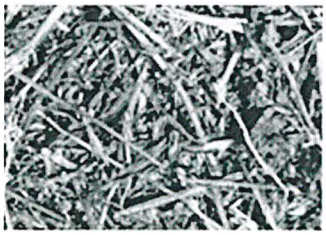
Maturity Level	% Crude Fiber	% Crude Protein
immature	25.1	17.3
early boot	27.8	14.8
midhead	29.3	12
full head (flower)	32.3	8.9

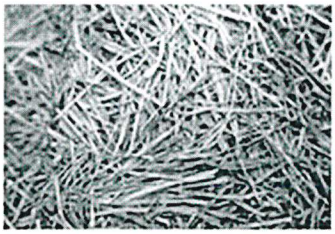
Hays


Square Bales


Round Bales


Alfalfa Cubes and Pellets


Alfalfa Hay


Orchardgrass Hay


Oat Hay

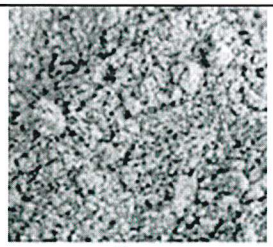
Hay is the most popular and one of the least expensive forms of fiber. Hay may be processed as round bales, square bales, cubes, or pellets. There are three major types of hays: legumes, grasses, and cereal. The major legume hay fed to horses in the United States is alfalfa. It can be mixed with grass to form an alfalfa-grass combination. Alfalfa, if processed correctly, has the highest nutritional value when compared to other hays. The second major type of hay is grass hay. Grass hays include timothy, orchardgrass, bluegrass, brome, and bermudagrass. The third major type of hay is cereal hay. Cereal hay is hay made from grain crops that have not been harvested for grain, such as oat hay.

The leaves of all hays contain two-thirds of the total energy and the majority of the total protein in the plant. Therefore, leaf loss decreases the nutritional value and quality of the hay.

Ensiled hay, commonly known as haylage or silage, is another source of fiber that can be fed to horses. Haylage is not a popular feed for a couple of reasons. First, there is an increased risk of the horse consuming spoiled haylage that contains botulism, a mold that grows in hot, moist conditions. Second, haylage is not readily available in heavily horse-populated areas.

Nutrient content of common hays

Hay Type	DE (Mcal/kg)	% Crude Protein	% Calcium	% Phosphorus
alfalfa, midbloom	2.07	17	1.24	0.22
burmudagrass	1.96	10.9	0.3	0.19
orchardgrass, early bloom	1.94	11.4	0.24	0.3
timothy, midbloom	1.77	8.6	0.43	0.2
oat hay	1.75	8.6	0.29	0.23
Values adapted from *Nutrient Requirements for Horses*, 1989				



Bran

Sugar Beet Pulp

ByProducts

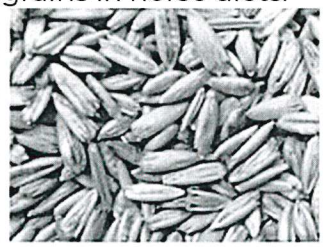
The by-products of grain production can be used in horse diets. By-products are made up of the fibrous stems or hulls of a plant. Bran, straw, soybean hulls, almond hulls, and sunflower hulls are all examples of by-product feeds. Some by-products provide little nutritional value to the horse but can be used as a source of fiber, or "bulk," in the diet. Sugar beet pulp is a popular by-product feed used in horse diets because it provides fiber similar to the fiber in hay and has a digestible energy content similar to oats.

Concentrates

Certain classes of horses, such as growing or working horses, require more energy or protein than can be provided by hay or pasture alone. Therefore, it is necessary to provide horses with concentrates. Grains are the harvested seed portions of cereal crops that serve as a high nutrient store. Cereal grains can be fed to horses as the whole grain or processed by cracking, rolling, crimping, steam flaking, or extruding. Grains are very palatable, dense, and usually low in fiber if processed correctly. Concentrates should be fed to horses as a supplement to the forage portion of their diet and should not be

greater than 50 to 60 percent of the total diet. The pictures shown here are examples of commonly used cereal grains in horse diets.


Cracked Corn


Crimped Oats

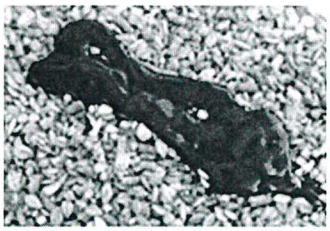

Steam Flaked Barley

Energy Feeds


Cracked Corn


Crimped Oats


Steam Flaked Barley


Molasses on Sweet Feed

Feedstuffs that contain less than 20 percent crude protein are considered to be energy feeds. These include oats, corn, barley, wheat, sorghum, and rye. Certain by-product feeds can be used for energy as well, such as wheat bran, wheat middlings, soybean hulls, and sugar beet pulp. Fats/oils (animal or vegetable) and molasses are also used to increase the palatability and energy density of the diet without increasing the amount of feed.

Protein Supplements


Soybean Meal

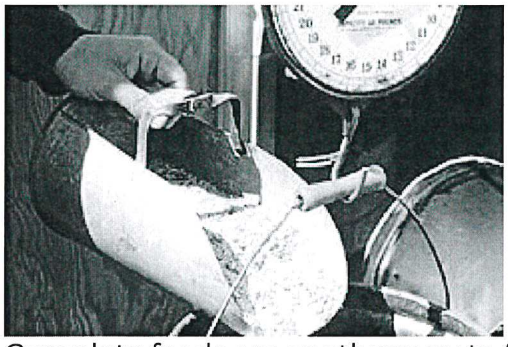
Feedstuffs that contain more than 20 percent crude protein are considered to be protein supplements. The most common plant protein supplements are soybean meal, canola meal, cottonseed meal, and linseed meal. The animal protein supplements that may also be used in horse feeds include casein and dried skim milk. Both are good sources of the limiting amino acid lysine and, therefore, are good for growing horses.

Vitamin and Mineral Supplements

Mineral supplements are usually required in the horse's diet. Macrominerals are added to a horse's diet to balance the ration to meet mineral requirements. Athletic horses lose a lot of sodium chloride in sweat and may need to be provided a salt block. Many horse rations are deficient in either calcium or phosphorous and in some cases both. Ground limestone is a good source of calcium when additional calcium is required in the diet. A good source of phosphorous can be provided by using either monosodium or disodium phosphate. Dicalcium phosphate is the most common supplement used to provide both calcium and phosphorous. Trace mineral blocks are the most common way to meet trace mineral requirements.

Although there are plenty of vitamin supplements available on the market today, vitamin supplementation is not necessary unless a low-quality forage is being fed or the horse is in strenuous exercise.

Complete Feed



Complete feeds are another way to feed the horse. They contain all the concentrates (both energy and protein feeds), vitamins, and minerals that a certain class of horse will need. The advantage to feeding this kind of feed is that the owner doesn't have to measure out each ingredient at every feeding, which can be time consuming for a large horse farm.

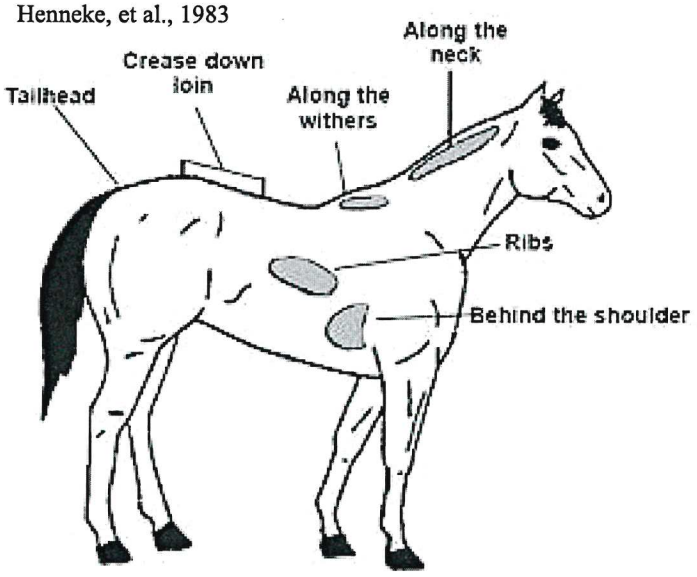
Body Condition Score

The Body Condition Score or BCS is a method of estimating the amount of fat on a horse's body. The method was developed at Texas A&M University as a way for nutritionists, veterinarians, horse farm managers, and horse owners to evaluate nutritional status. The degree of condition is rated on a scale of one to nine (see Table on next page). The rating is based on handling (palpation) and visual assessments of fat deposits. The areas evaluated are illustrated on the next page.

The ideal BCS for a given horse will depend on the stage of production and should range between four and seven. A BCS of four would be expected in horses in heavy race training. A BCS of five is recommended for growing and riding horses. The BCS of six is ideal for mares going into the breeding season. Before foaling, mares should have ample body fat reserves with a BCS of seven.

Body Condition Score

Henneke, et al., 1983

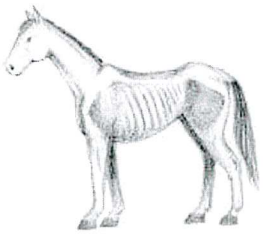


Condition	Neck	Withers	Shoulder	Ribs	Loin	Tailhead
1 Poor	Bone structure easily noticeable	Bone structure easily noticeable	Bone structure easily noticeable	Ribs protruding prominently	Spinous processes projecting prominently	Tailhead, pinbones, and hook bones projecting prominently
2 Very Thin	Bone structure faintly discernible	Bone structure faintly discernible	Bone structure faintly discernible	Ribs prominent	Slight fat covering over base of spinous processes. Transverse processes of lumbar vertebrae feel rounded. Spinous processes are prominent	Tailhead prominent
3 Thin	Neck accentuated	Withers accentuated	Shoulder accentuated	Slight fat over ribs. Ribs easily discernible	Fat buildup halfway on spinous processes, but easily discernible. Traverse processes cannot be felt	Tailhead prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded, but are still easily discernible. Pin bones not distinguishable
4 Moderately Thin	Neck not obviously thin	Withers not obviously thin	Shoulder not obviously thin	Faint outline of ribs discernible	Negative crease (peaked appearance) along back	Prominence depends on conformation. Fat can be felt. Hook bones not discernible
5 Moderate (Ideal Weight)	Neck blends smoothly into body	Withers rounded over spinous processes	Shoulder blends smoothly into body	Ribs cannot be visually distinguished, but can be easily felt	Back is level	Fat around tailhead beginning to feel soft
6 Moderately Fleshy	Fat beginning to be deposited	Fat beginning to be deposited	Fat beginning to be deposited	Fat over ribs feels spongy	May have a slight positive crease (a groove) down back	Fat around tailhead feels soft
7 Fleshy	Fat deposited along neck	Fat deposited along withers	Fat deposited behind shoulder	Individual ribs can be felt with pressure, but noticeable fat filling between ribs	May have a positive crease down the back	Fat around tailhead is soft
8 Fat	Noticeable thickening of neck	Area along withers filled with fat	Area behind shoulder filled in flush with body	Difficult to feel ribs	Positive crease down the back	Fat around tailhead very soft
9 Extremely Fat	Bulging fat	Bulging fat	Bulging fat	Patchy fat appearing over ribs	Obvious crease down the back	Bulging fat around tailhead

Body Condition Score

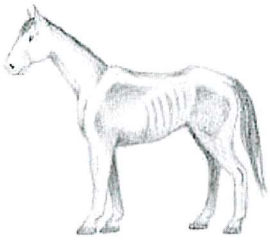
Henneke, et al., 1983

Poor: Horse extremely emaciated. Spinous processes, ribs, tailhead, tuber coxae and ischii projecting prominently. Bone structure of withers, shoulders and neck easily noticeable. No fatty tissue can be felt.



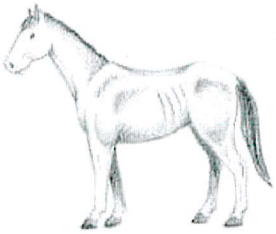
1

Very Thin: Horse emaciated. Slight fat covering over base of spinous processes, transverse processes of lumbar vertebrae feel rounded. Spinous processes, ribs, tailhead, tuber coxae and ischii prominent. Withers, shoulders, and neck structures faintly discernible.



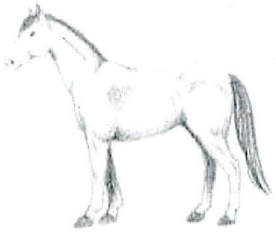
2

Thin: Fat build up about halfway on spinous processes, transverse processes cannot be felt. Slight fat cover over ribs. Spinous processes and ribs easily discernable. Tailhead prominent, but individual vertebrae cannot be visually identified. Tuber coxae appear rounded, but easily discernible. Tuber ischia not distinguishable. Withers, shoulders and neck accentuated.



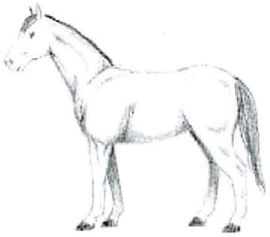
3

Moderately Thin: Negative crease along back. Faint outline of ribs discernible. Tailhead prominence depends on conformation, fat can be felt around it. Tuber coxae not discernible. Withers, shoulders and neck not obviously thin.



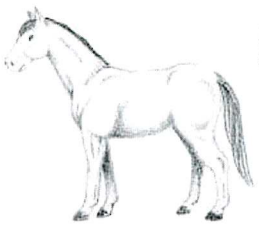
4

Moderate: Back level. Ribs cannot be visually distinguished but can be easily felt. Fat around tailhead beginning to feel spongy. Withers appear rounded over spinous processes. Shoulders and neck blend smoothly into body.



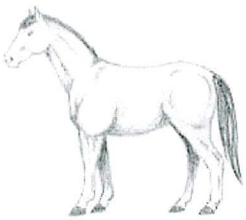
5

Moderately Fleshy: May have slight crease down back. Fat over ribs feels spongy. Fat around tailhead feels soft. Fat beginning to be deposited along the side of the withers, behind the shoulders and along the sides of the neck.



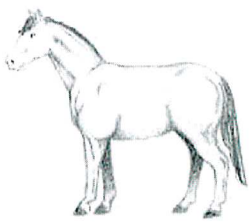
6

Fleshy: May have crease down back. Individual ribs can be felt, but noticeable filling between ribs with fat. Fat around tailhead is soft. Fat deposited along withers, behind shoulders and along neck.



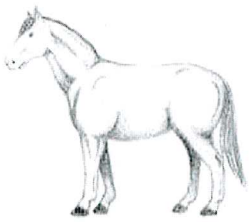
7

Fat: Crease down back. Difficult to feel ribs. Fat around tailhead very soft. Area along withers filled with fat. Area behind shoulder filled with fat. Noticeable thickening of neck. Fat deposited along inner thigh.



8

Extremely Fat: Obvious crease down back. Patchy fat appearing over ribs. Bulging fat around tailhead, along withers, behind shoulders and along neck. Fat along inner thighs may rub together. Flank filled with fat.



9

Steps for Increasing BCS

- **Weight gain is a slow process.** For a horse 15 to 15 hands tall, a single body condition increase may be approximately 100-165 lbs of body weight and take 8 weeks or more to increase depending on consistency of calories fed above maintenance.

- **Changes should be made gradually.** The digestive system of the horse is sensitive to changes in the diet. Horses are prone to colic or founder when abrupt changes are made

- **Maximize forage.** Early maturity hay with a high leaf-to-stem ratio can promote weight gain. Increasing the intake of good quality hay is preferred over adding carbohydrate-based grains and concentrates. Providing free choice access to good quality hay is the cornerstone for healthy weight gain.

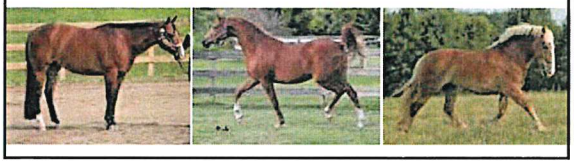
- **Adding alfalfa**, either as loose hay, cubes or pellets can be beneficial in adding weight.

- **Fats** such as oil contain a more concentrated way to provide calories in the diet. Flaxseed oil, such as Platinum Healthy Weight, is rich in omega -3 fatty acids and is an excellent source of anti-inflammatory calories and antioxidants.

- **Probiotics** are an extremely useful tool for digestive health as they nurture the beneficial microflora in the gastrointestinal tract.

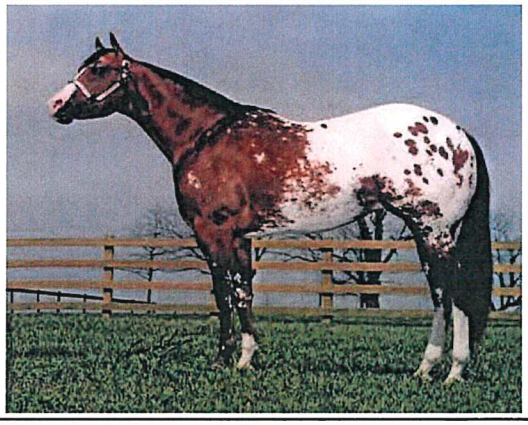
- **Weight:** An equine scale is best for measuring equine weight. However, a simple weight tape can also give a good estimate of the horse's weight. Taking pictures of the horse in the same background can also be a good visual of progress. Try taking pictures from different angles such as from the front, from behind and a side angle. As it is a slow process, re-assess weight every 3-4 weeks to monitor progress.

Horse Breeds

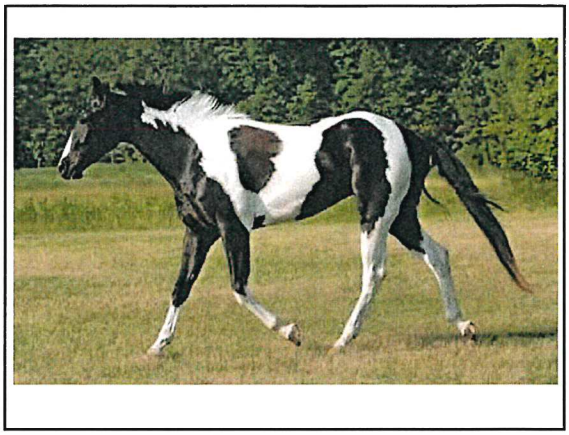


Stock-Type Breeds

Appaloosa



Paint



Quarter Horse

Hunter-Type Breeds

Thoroughbred

Standardbred

Warmbloods

Dutch Warmblood

German Warmblood (Hanoverian)

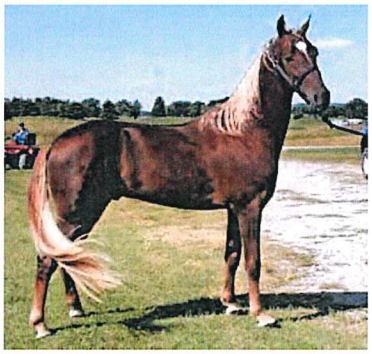
Saddle-Type Breeds

Arabian

Morgan

Saddlebred

Tennessee Walking Horse



Draft Breeds

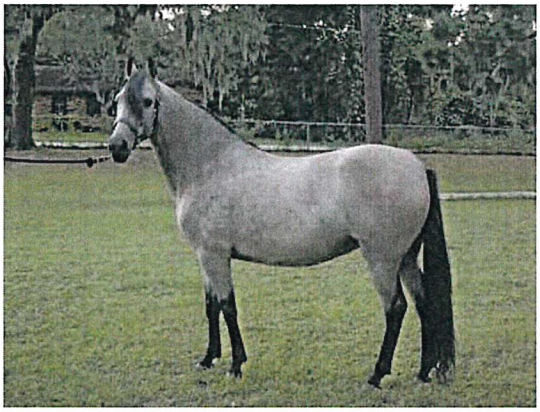
Belgian

Clydesdale

Percheron

Other Breeds

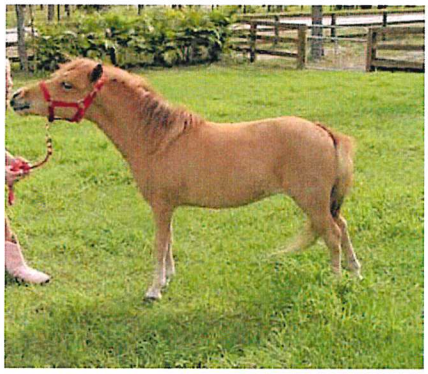
Paso Fino



Florida Cracker Horse

Shetland Pony

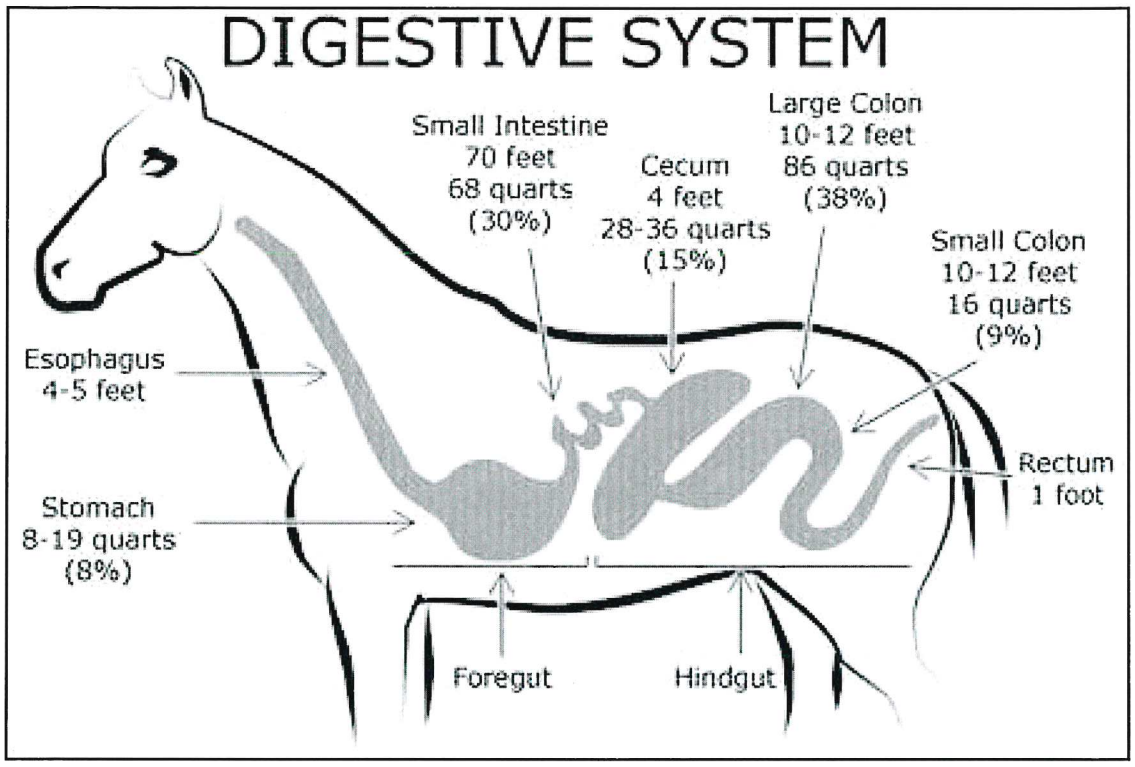
Miniature Horse



Long Ears

- Donkeys
- Mules

Digestive System



Movement through Digestive System

From the mouth, the forage travels down the esophagus. The esophagus has one-way peristaltic action which means that horses cannot regurgitate their food and therefore can't "chew their cud". They also cannot burp or pass gas through their esophagus.

From the esophagus, forage travels to the stomach. A horse's stomach is approximately 4 gallons and is the smallest in relation to its size of any other livestock species. The stomach secretes acid (stomach acid) and specific enzymes.

In the small intestine, some nutrients are absorbed and bile is secreted directly from the liver into the first part of the small intestine. The horse's large intestine accounts for 60% of the total volume of the digestive tract. The cecum contains active bacteria similar to the microbes of the rumen. Bacterial breakdown of cellulose and other carbohydrates result in the production of volatile fatty acids (VFAs). VFAs are a source of energy similar to glucose and other sugars. The small colon is the primary site of water absorption and the rectum is where manure is expelled.

Equine Dentistry

Horses evolved as grazing animals and their teeth are perfectly adapted for that purpose.

Incisors - These are the front teeth. They function to shear off grass.

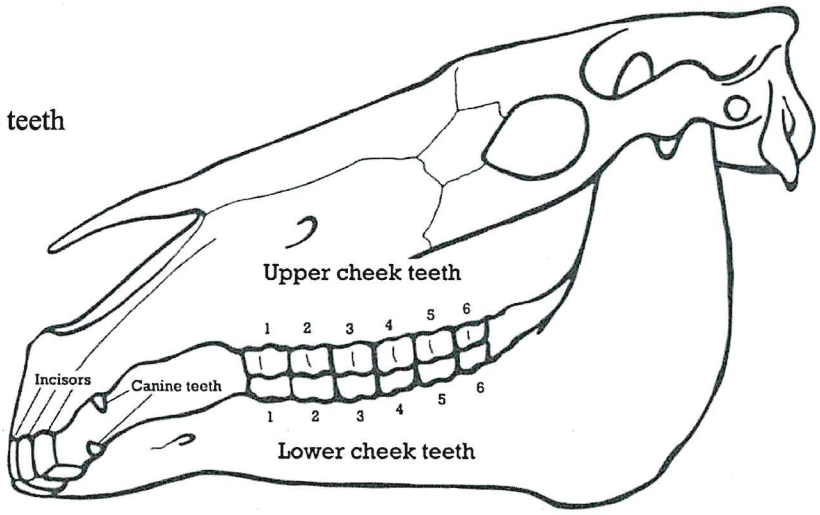
Cheek teeth - These have wide, flat graveled surfaces that grind the feed to a mash before swallowing.

Like humans, horses get 2 sets of teeth in their lifetime. The first baby teeth may erupt before a foal is born. The last baby teeth erupt at around 8 months of age. The baby teeth begin to be replaced by adult teeth at around 2.5 years. By age 5, most horses have all of their permanent teeth. An adult male horse has 40 permanent teeth. A mare may have between 36-40 teeth because mares are less likely to have canines.

How many teeth?

Adult male - 40 teeth

Adult female - 36 to 40 teeth



Equine Dental Care

Floating is the process of smoothing or removing sharp points on the outer edge of upper cheek teeth and inner edge of lower cheek teeth (see diagram on previous page).

How Horses Chew

The anatomy of the horse's teeth is unusual in that the upper cheek teeth are wider apart than the lower cheek teeth. There would be little contact with the chewing surfaces if the horse chewed up and down. However, horses chew side-to-side, resulting in good occlusion or contact with upper and lower cheek teeth. This position of the teeth combined with the side-to-side chewing causes the surface of the teeth to wear at an angle and leave sharp points. This can eventually impede optimum chewing and result in tooth or mouth pain.

Continuous Growth

One interesting fact about horses is that, unlike humans, their teeth continue to grow throughout their lives. The condition of their teeth is dynamic, constantly changing due to diet and age. Younger horses change faster, especially since most baby teeth are lost and get replaced by adult teeth between the ages of 3–5 years. This is why regular dental procedures are needed—float your 3-year-old's teeth today, in 6 months some baby teeth are lost, new adult teeth have erupted, and they may need some work.

Maintaining good dental care is the responsibility of the horse owner and the horse rider. If you lease a horse, notify the owner immediately when issues arise.