

Standards for Horse Care in South Carolina



Version 1.0

Developed based on the recommendations of the following:



CONTENTS

Preface	3
Introduction	4
Frequently Used Terms.....	5
Water	7
Food	9
Health.....	13
Environment.....	15
Laws and Regulations.....	17
Minimum Standards Check List.....	18
References	19
Contact Information.....	20



The picture above features a gelding that is a product of the Clemson University Equine Center. The gelding appears to be at an ideal Body Condition Score or BCS.

PREFACE

The goal of this manual is to provide a source of reference for animal owners, animal care officers, and individuals who are interested in the general well-being of horses, ponies, mules, and donkeys. It is our intent to provide a useful and informative manual for those who are inexperienced as well as those who are experienced in caring for and evaluating the minimal standard of care for a horse in the state of South Carolina.

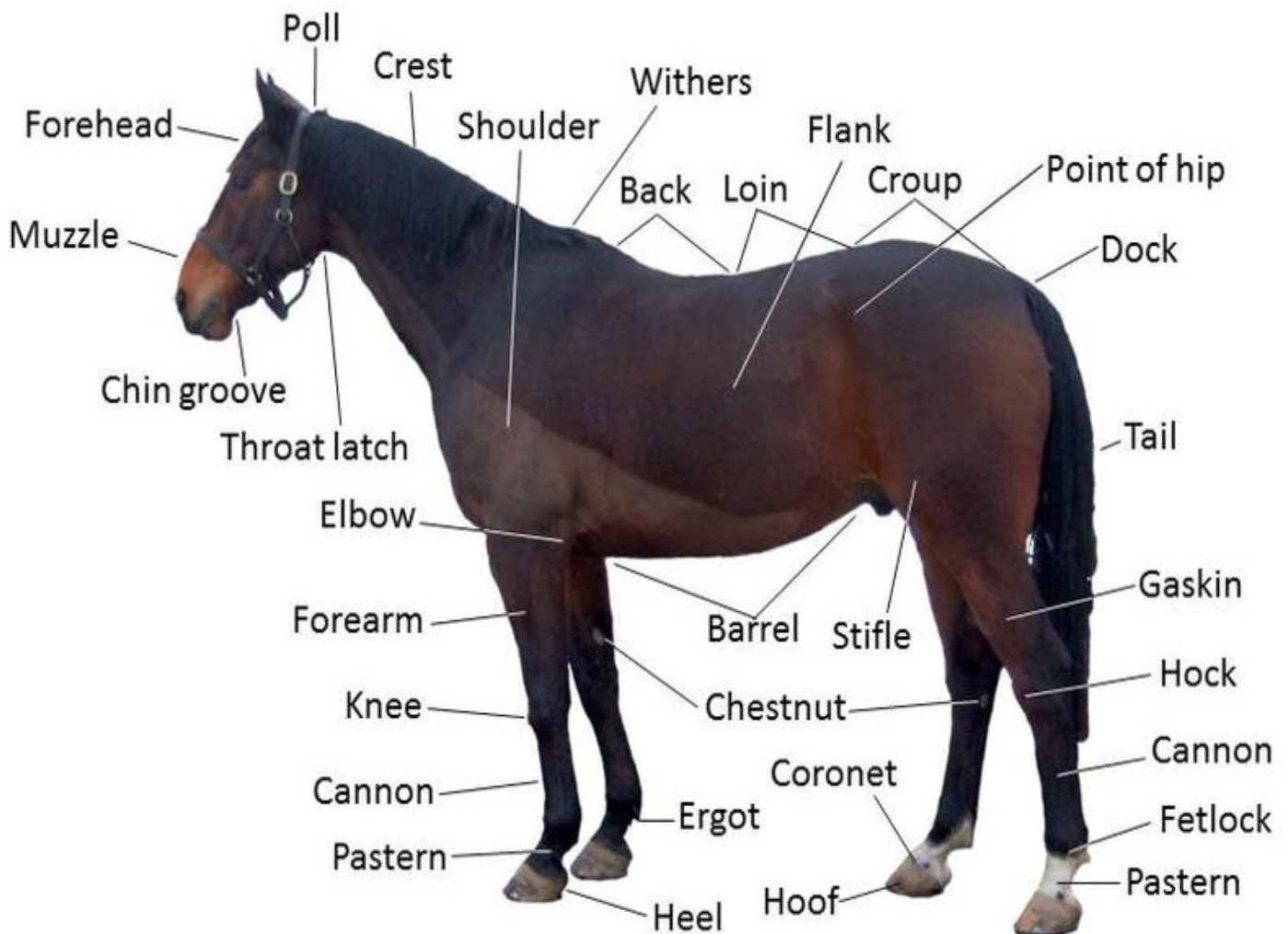
The manual is a source of information and facts that will provide an objective guide to assess the caretaking and well-being of all horses and more often a horse that is suspected to be suffering from neglect or mistreatment. This reference is to be used as an aid when assessing horses based on the recommendations of the SC Horse Council, SC Farm Bureau Equine Committee, Clemson University Extension, Clemson University Animal and Veterinary Sciences Department, and SC Association of Veterinarians

On The Cover – A special thanks to David Grant, South Carolina’s own Pee Dee Cowboy of the Television Show “Horse Tales” and his Marsh Tacky gelding Simpson proudly carry the State flag on the beach at Daufuskie Island, SC. The Marsh Tacky is South Carolina State Heritage Horse. Photo by Dwain Snyder of <http://www.equestrianimages.us/>

INTRODUCTION

The average horse is approximately 1100 pounds and stands 5 feet at the top of the shoulders, however, the weight and height can vary significantly between individual breeds and types of horses. The color of the horse is determined by genetics and age. Some horses may be multicolored while others are solid in color. The species reaches full adult development by age five, and has an average lifespan of between 25 and 30 years of age.

In South Carolina, we estimate that there are between 80,000-90,000 horses based on the 2004 SC Equine Census. Sixty percent of these horses are companion animals and are treated similar to dogs and cats. The owners of this group of horses treat them as members of the family, and they are often used for recreational activities such as trail riding. The remainder of the equine population is placed in a working group that is divided into many disciplines that include Cattle Herding, Racing, Polo, Eventing, Fox Hunting, and Rodeo to name a few.



The diagram above depicts the anatomical features and structures of the equine species.

FREQUENTLY USED TERMS

Body Condition Score (BCS)- A system designed to evaluate and assign a numerical value to fat deposition as it occurs in various places on the horse's body. The system works by assessing fat both visually and by palpation (examination by touch), in each of six body areas.

Colt- An intact or un-castrated male horse under four years of age. A common terminology error is to call any young horse a "colt," when the term actually only refers to young male horses.

Concentrates- Food for horses, also called grains (whole, rolled or cracked corn), sweet feed (grain mixed with molasses), and manufactured feeds (pellets, cubes, or extruded). You can buy bags of feed or concentrates specially formulated for every stage of a horse's life.

Farrier- A specialist in horse hoof care, including the trimming and balancing of horses' hooves and the placing of shoes onto the hooves.

Filly- A female horse under four years of age.

Foal- A horse of either sex less than one year old. A nursing foal is sometimes called a *suckling* and a foal that has been weaned is often called a *weanling*.

Gelding- A castrated male horse of any age.

Geriatric- The term geriatric refers to the aging process and the management of conditions associated with old age. The age when a horse is geriatric depends on several factors. The ages most often used to identify geriatric horses is 20 to 25 years and older.

Grain- Food for horses are also called concentrates, sweet feed (grain mixed with molasses), and manufactured feeds (pellets, cubes, or extruded). You can buy bags of grain specially formulated for every stage of a horse's life.

Hay- Grass, legumes or other plants that have been cut, dried, and often stored in the form of a square or round bale. Hay is stored for use as food for horses as well as cattle, goats, and sheep.

Hoof (plural hooves) - The horse's foot. The hoof consists of a hard or rubbery sole and a hard wall. Both the sole and the outer hoof wall should carry the weight of the horse. Hooves grow continuously, and are constantly worn down by use or regular trimming.

Horse- For the purpose of this manual a horse includes any horse, pony, mule, donkey, or zebra.

Mare- A female horse of four years of age or older.

Metabolic Condition- May include one or multiple disease problems that affect the normal body and hormone systems. Examples that may be frequently referenced are Cushing's disease, insulin resistance and/or metabolic syndrome.

Must- Term used in document as a necessity or requirement for any method or practice described or discussed.

Should- Term used in document as a strong recommendation but other methods or practices may be justified.

Stallion- A non-castrated male horse of four years of age or older.

Worms- Parasites are organisms that live in or on a horse (host) and gain an advantage at the expense of the horse by taking their food or blood. Internal parasites that are found in the horse are strongyles, ascarids, bots, tapeworms, and pinworms.

Yearling- A horse of either sex that is between one and two years old.



Above, the two mares are pictured in one of Clemson University Equine Center's pastures. Allowing time to graze on well-maintained pastures can be nutritionally beneficial to the equine species. Horses that are confined to a stall or horses that are not in an exercise regime will benefit from being turned out on pasture for a minimum of 30 minutes per day.

WATER

Minimum Standard of Care for Water: Must have access to clean water at least twice a day.

Water is the most important element that is essential for life. Water should be provided via automatic water machines (as a continuous source) or refilled at a minimum twice daily. The consumption of water will depend on numerous variables in South Carolina's variety of terrains, seasons, and continuously changing weather. Things to consider regarding water consumption include: water quality, amount of water, access to water, activity level, and time of year. In extreme temperatures of hot, cold, or freezing, effort must be made to ensure that a horse has access to water. In hot weather, the horse will consume more water to replenish increased loss. In freezing weather, water sources often freeze requiring that ice be removed, especially in morning hours allowing access to water.



Each of the examples pictured above are inadequate sources of water. The quality of the water pictured in the trough on the left is likely to decrease consumption as it is clearly unclean. The amount of water in the bucket on the right is visibly insufficient and is also soiled with what appears to be food particles or remnants of feces.

Minimum Daily Water Requirement (Gallons per Day)

Horses of Various Heights	<i>Resting/Normal Environmental Temperature (41-77° F)</i>	Heavy Workload (double to triple resting requirement)	Gestation/Lactation (add minimum of 30% to resting requirement)	High Heat and Humidity (double to triple resting requirement)
500-lb	3	6-9	4	6 - 9
1,000-lb	6	12-18	8	12 - 18
1,500-lb	9	18-27	12	18 - 27
2,000-lb	12	24-36	16	24 - 36

There are many different ways a horse can be provided with water. A list of acceptable water sources is provided below.

- Well Water
- Bucket
- Trough
- Creek
- City Water
- Automatic Waterer
- Pond

Water Quality

Horses may be discouraged from water consumption if the water source is dirty, smells, or is not easily accessed. It is important that the water be clean, and free of feces with no dead animals in the water. Some contaminants may lead to health problems. Cleaning of water troughs, water containers, or any automatic watering device is recommended. Locating troughs away from trees will minimize the leaves that collect in the trough in the fall of the year.



The quality of the water in the trough pictured above appears to be adequate. The water appears clean and free of debris, feces, etc. It is vital that water troughs or buckets be refilled at least twice daily to ensure availability for consumption.

FOOD

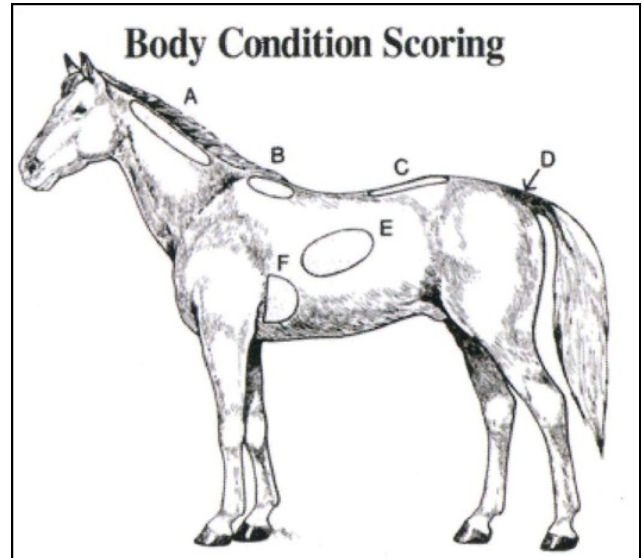
Minimum Standards for Food: An adequate diet must maintain the Body Condition Score of 3 on the Henneke Scale (see table below). Please note, geriatric horses and horses with metabolic conditions should be evaluated on an individual basis by a veterinarian.

The Henneke Body Condition Scoring System

Body condition, or the measure of fat cover, can be evaluated by visual exam and touching specific parts of the horse. A scoring system in horses uses six areas of the body to assign scores of 1 (extremely emaciated) to 9 (obese).

The six areas are: (A) along the neck; (B) withers; (C) crease down back; (D) tailhead; (E) ribs; and (F) behind the shoulder.

A score between 5 and 7 is considered ideal for healthy horses. Horses scoring in the 1 and 2 categories should be evaluated further for causes such as medical conditions, dental problems, or the lack of proper nutrition.



The diagram above indicates the areas of interest when evaluating a horse's BCS.

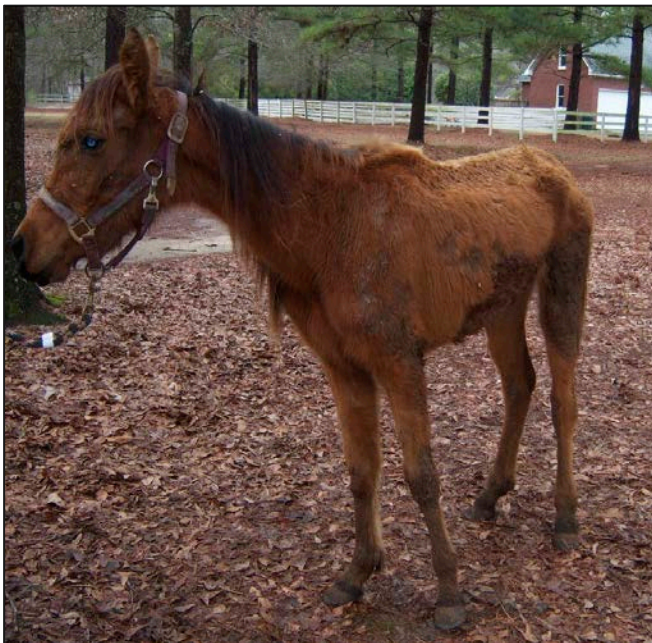


Based on the Henneke Body Condition Scoring System, the horse featured above appears to be at a Body Condition Score of approximately a 6. This BCS is in the ideal range for a healthy horse. One can note that the neck of the horse appears to blend smoothly into the body, the ribs of the horse are not visible and there appears to be adequate fat in the tailhead region.

Description of Individual Condition

Scores (1-9)

1-	Poor. Animal extremely emaciated spinous processes, ribs, tailhead, hip joints and lower pelvic bones projecting prominently; bone structure of withers, shoulders and back easily noticeable; no fatty tissue can be felt.
2-	Very Thin. Animal emaciated; slight fat covering over base of spinous processes; transverse processes, ribs, tailhead, hip joints and lower pelvic bones prominent; withers, shoulders and back structure faintly discernible.
3-	Thin. Fat buildup about halfway on spinous processes; transverse processes cannot be felt; slight fat cover over ribs; spinous processes and ribs easily discernible; tailhead prominent, but individual vertebrae cannot be identified visually; hip joints appear rounded but easily discernible; lower pelvic bones not distinguishable; withers, shoulders and neck accentuated.
4-	Moderately Thin. Slight ridge along back; faint outline of ribs discernible; tailhead prominence depends on conformation; fat can be felt around it; hip joints not discernible; withers, shoulders and neck not obviously thin.
5-	Moderate. Back is flat (no crease or ridge); ribs not visually distinguishable but easily felt; fat around tailhead beginning to feel spongy; withers appear rounded over spinous processes; shoulders and neck blend smoothly into body.
6-	Moderately Fleshy. May have slight crease down back; fat over ribs spongy, fat around tailhead soft; fat beginning to be deposited along the side of withers, behind shoulders and along sides of neck.
7-	Fleshy. May have crease down back; individual ribs can be felt, but noticeable filling between ribs with fat; fat around tailhead soft; fat deposited along withers, behind shoulders and along neck.
8-	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 thighs.
9-	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.



Each of the horses picture above appear to be in very poor body condition. Both animals are emaciated. The spine, ribs, and hip joints are clearly noticeable, as are the tailhead and the bone structure of the withers. Little to no fatty tissue appears to be present on either horse. These horses would receive a BCS of 1.

In South Carolina the feeding program for a horse can include a variety of dietary components of pasture, hay, grain (or concentrates), or any combination thereof. It is common for a horse to be fed grain, provided hay, and allowed access to a pasture for grazing. Horses can survive on a variety of diets, but the minimum intake must equal the metabolic demands in order for the horse not to lose body condition. A diet that provides 1.5 to 3% of their body weight per day will meet the demands to maintain body condition, with the percentage required depending on the production phase of the horse.

Example: For a 1,000 lb horse, this calculates to consuming between 15 and 30 lbs of high quality hay per day.

Horses that are pregnant, producing milk for a foal, in training, very active, geriatric, or having metabolic conditions may require more food to maintain their body condition.

Different food sources (grain, hay, and pasture) will offer a varied concentration of nutrients; therefore the amount will vary dependent on food. Food for a horse can be given in daily meals, multiple servings, or consumed throughout the entire day.



Hay and sources of forage should be stored in a covered area with minimal exposure to sunlight. Good quality hay should be free of mold, toxins, excess dust, and debris.

The most common type of hay fed in South Carolina is Coastal Bermuda hay. Other types of hay that can be found on horse farms and that are available from hay dealers are Fescue, Bahia, Alfalfa, Timothy, Orchard Grass, and combinations of each. Hay provided to horses should be free of molds, toxins, and excess dust and debris. A nutrient analysis of hay can be performed to determine the quality of the hay.

Grains, or concentrates, are often fed to horses to supply additional energy (calories), protein, vitamins and minerals. Common grains used in horse rations are oats, corn, barley, milo and wheat. There are many commercially available sweet feeds (mixed with molasses) or pelleted (ground and extruded) concentrate mixtures that are formulated for horses in different levels of activity, age, and metabolic conditions. Some horses such as working, pregnant, lactating,

young growing or old horses may require concentrates supplemented in addition to hay or pasture in their diet in order to maintain normal body condition or balance nutrients in their diet. A safe source of calories for the horse is to increase the fat content of the diet. Horse rations are typically low in fat due to the predominance of fibrous roughages (hays/pastures). Adding fat in the form of oils or other higher fat feed ingredients (i.e. corn, safflower, sunflower, soy oil or rice bran) increases calories without running metabolic or gastrointestinal upsets that are often associated with high starch grains. Additionally, effort should be made to meet caloric (energy) demands by feeding high quality roughages and then adding supplemental concentrate as needed. A minimum of 1% of the body weight is required to be fed in hay or pasture to maintain gut health in horses.

The corn in the picture on the right is an inadequate source of food or dietary component. The corn is noticeably unprocessed and could not be properly broken down in the digestive system of a horse. Corn fed in this fashion is not only unable to be consumed and provide nutrition, ingestion of the corncobs can also lead to other problems including choke and digestive issues. Corn should never be fed to a horse in this capacity.



Horse may also be supplemented with trace minerals (e.g., salt or mixed mineral blocks). These supplements are often provided in the form of a block in the stall or pasture, but may also be added to the grain or concentrate. Some commercially available concentrates use high quality mineral sources and thus if a high quality roughage is fed along with these grain preparations, trace mineral supplementation is not warranted.

A body condition score of 3 on the Henneke Scale is the minimum standard at which a horse can safely function. Horses with a body condition score of 3 or less should have an increase in food (nutrients) to increase their body condition or be evaluated by a veterinarian to determine other factors contributing to the decreased body condition. Geriatric horses and metabolic conditions may not be able to maintain body condition scores above 3, in which veterinary involvement and advice should be evaluated.

A body condition over 8 on the Henneke Scale is equally damaging to the horse. Obese horses have increased risks of metabolic dysfunction, colic, laminitis, organ failure and other health related issues.

HEALTH

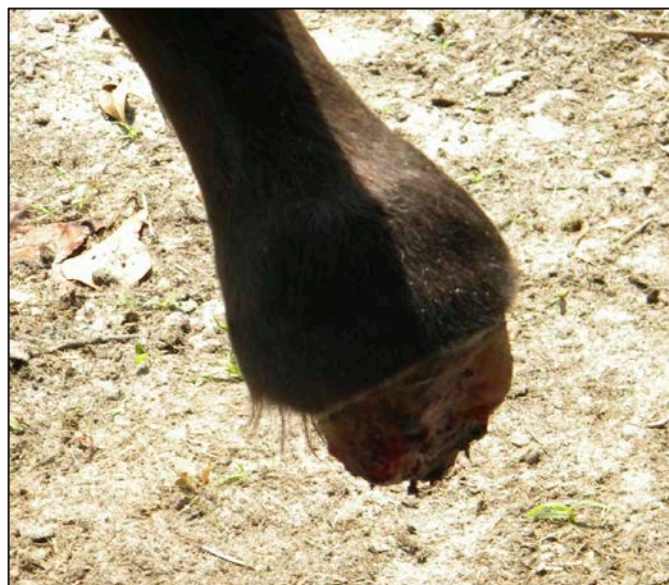
Minimum standards for Health: Horses that are showing signs of pain, suffering, or injury must receive care within an appropriate period of time. Areas to consider when evaluating a horse's health are general well-being, hoof and skin care, vaccinations for disease prevention, deworming, and dental care.

Medical conditions that may cause pain include but are not limited to: colic, eye injuries, skin infections, injury or condition where the horse cannot bear weight on all four limbs or where the horse is not able to move, or horses that cannot stand up. Medical conditions that are not being assessed or cared for should be evaluated by a veterinarian. If a horse is to be euthanized or "put down," a veterinarian should perform the procedure.

Proper hoof care is part of the basic care of all horses and should occur on a regular basis. Geriatrics, young horses, and those with feet and bone problems require more attention to hoof care. It is generally accepted that the hoof growth in the adult horse is 3/8th of an inch per month. A horse should be evaluated for hoof care regularly by the caretaker. A Farrier is a professional that can trim a horse's hoof or aid in the management of abnormalities and problems that deal with the horse's hoof. Hoof problems can include but are not limited to excessive length, cracking, and infections. A closer examination of the sole (bottom of the hoof) is performed by picking up the foot to look for abnormalities. Daily cleaning of the bottom of the hoof is necessary to prevent hoof diseases such as thrush or seedy toe, which can be induced by fungal infections prone to wet, dirty environments.



Above, one can observe the lack of a hoof on the back left hind leg of the pony. This is likely the result of a severe case of neglect.



The picture above provides a closer look at the limb ailment or missing hoof. Any horse with a severe injury or disease should be seen by a veterinarian immediately.

Skin problems that can be detrimental to horse health include but are not limited to: rain rot, ringworm, scratches or grease heel and girth galls. Most of these skin conditions are caused by fungal infections and require treatment with an antifungal medicated shampoo and salve. These conditions can become severe and lead to loss of hair coat, open wounds and maggot infestation. Prevention of these diseases includes keeping the coat clean and dry and early

treatment upon recognition of a problem is important. Early signs include flaking of the skin, loss of hair or characteristic circle patches on the coat or legs.

Vaccinations can be performed by both owners and veterinarians and aid in the prevention of infections from exposure to Rabies, Mosquito transmitted diseases (West Nile Virus and Sleeping Sickness), and Tetanus. Additionally, highly communicable diseases such as Influenza and Rhinopneumonitis are reduced through vaccination. Decisions on vaccinating horses are made by the owner.

Horses are exposed to internal parasites from their environment, eating habits, and normal activities. There are various management programs and products that will aid in minimizing infestation of internal parasites. To determine if a horse has a worm problem or if the current parasite management strategy is effective, a sample of fresh feces can be analyzed through a laboratory analysis that can determine the number of worm eggs. Ineffective deworming programs, lack of a program, and/or parasite overload are reasons a horse may have a low body condition score.

Dental care is important to maintain a proper grinding surface between the teeth that is a critical part of digestion. If the horse has abnormal teeth or problems in the mouth it may not be able eat and breakdown food appropriately. A unique feature of the horse is that the teeth continuously grow and require special dental care. A routine dental procedure to file the overgrowth and sharp edges is called "floating" the teeth. A horse that has abnormal teeth or mouth problems may result in a horse with a low body condition score. A horse should have their mouth examined if they have a low body condition score. Horses above age five should have their teeth checked by a knowledgeable person or veterinarian at least once a year.

ENVIRONMENT

Minimum Standard for the Environment: Horses must have free access to natural or constructed shelter to aid in protection from extreme temperatures (hot or cold) and elements (e.g., rain, snow, or sunlight). Any shelter or stable must be appropriate size, well ventilated, and free of hazards. Horses that are confined should be exercised daily.

Horses can adapt to a wide variety of environmental extremes if they are acclimated and have adequate feed and water. Horses with free access to shelter will often choose not to use it when it seems logical they would do so. Acceptable shelter may be natural, such as trees, or constructed, such as barns or sheds. In some circumstances, natural shelter offers advantages over constructed shelter.

Geriatrics and horses in poor body condition must be provided with shelter that is adequate to maintain their body temperature while protecting them from illness or injury. Horses can typically handle any two inclement weather conditions, but must have shelter or protection in the instance of all three winter conditions. These winter weather conditions are: precipitation, wind and cold temperatures.

Horses that are confined to a stall must have adequate room to lie down and stand up. This can be determined by multiplying the height of the horse at the withers in feet by 2.5. Although horses are said to “sleep standing up,” they do not rest standing up. In order to completely rest to obtain Rapid Eye Movement (REM) sleep, a horse must lie down to sleep. Mares with a foal require a larger area than the above recommendation. A typical horse stall is 12 feet by 12 feet. Larger horses, according to the above formula, would require a larger stall.

Example: A horse that is 4 and ½ feet at the point of the withers ($4.5 \times 2.5 = 11.25$) needs a stall that is 11.25 x 11.25 feet.

A shelter or stable should be tall enough so the horse’s ears do not touch the ceiling with the horse standing in a normal alert posture with eyes open and ears forward. A typical stall wall height should be a minimum of 8 feet tall. Higher stalls and ceiling improve air movement and ventilation and allow for improved health and fire safety.

Enclosures for confined horse(s) must:

- Be free of exposed fire or electrical hazards
- Provide flooring with traction so that horses can walk, and get up and down without injury

Ventilation in enclosed areas must be sufficient to control ambient temperatures and adequately ventilated to help prevent respiratory infection. Excessively high temperatures and poor ventilation in enclosed areas may impose stresses on the horse’s body leading to increased water intake, increased energy requirements, and/or body system dysfunction. Poorly ventilated housing in combination with poor sanitation (removal of feces and urine) can lead to decreased immune function, respiratory disease, and in extreme cases can lead to death.

Excessive feces (manure), urine, mud, and other waste products must not accumulate within confined housing enclosures. The excessive build-up of manure and feces in combination with water (i.e. urine or standing water in puddles or troughs) provides an optimal breeding ground for disease transmitting insects and for microbial contamination of the environment. Horses that are forced to stand in these environments are predisposed to foot infections and other infections of the lower limb.

Horses confined to stalls with minimal space should receive at least 30 minutes of free time daily in a larger space or pasture or 15 minutes of controlled exercise (e.g., hand walking, lungeing, riding, driving) unless directed otherwise by a veterinarian.

LAWS & REGULATIONS

Please reference the links below for article details.

SOUTH CAROLINA CODE OF LAWS TITLE 47: ANIMALS, LIVESTOCK, AND POULTRY

<http://www.scstatehouse.gov/code/title47.php>

EQUINE INFECTIOUS ANEMIA ARTICLE 13.SECTION 47-13-1310

<http://www.scstatehouse.gov/code/t47c013.php#47-13-1310>

USDA HORSE PROTECTION ACT

http://www.aphis.usda.gov/animal_welfare/hp/hp_act_regs.shtml

USDA HORSE PROTECTION ACT ANIMAL CARE SHEET

http://www.aphis.usda.gov/publications/animal_welfare/content/printable_version/FS-HorseProtectionAct-Final.pdf

USDA HORSE PROTECTION REGULATIONS

[http://www.ecfr.gov/cgi-bin/text-](http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=3e963cf120a1af9fe2fd6d98a20639ec&rgn=div5&view=text&node=9:1.0.1.1.5&idno=9)

[idx?c=ecfr&SID=3e963cf120a1af9fe2fd6d98a20639ec&rgn=div5&view=text&node=9:1.0.1.1.5&idno=9](http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=3e963cf120a1af9fe2fd6d98a20639ec&rgn=div5&view=text&node=9:1.0.1.1.5&idno=9)

STANDARDS CHECKLIST

The checklist below can be used during an on farm visit to evaluate a horse, the horse's overall well-being and quality of the horse's surroundings and environment.

Check List	Yes	No	Comments
Body Condition Score			
Water			
Food			
Hay			
Grain			
Pasture			
Evidence of Pain			
Standing			
Lying Down			
Walking			
Shelter			
Feces Present			
Odors			
Exercise			
Veterinarian			

REFERENCES

American Association of Equine Practitioners www.aaep.org

Clemson Livestock Poultry Health www.clemson.edu/lph

Kentucky Horse Council www.kentuckyhorse.org

North Carolina Horse Council www.nchorsecouncil.com

South Carolina Horse Council www.schorsecouncil.org

UC Davis Center for Equine Health www.vetmed.ucdavis.edu/ceh/sp_standards.cfm

University of Tennessee Extension <https://utextension.tennessee.edu/>

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South Carolina Association of Veterinarians

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South Carolina Horsemen's Council

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