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2009 Extension Horse Short Course and Clinic Series

Offered by: North Carolina State University
Proudly co-sponsored by
The North Carolina Horse Council
“Your Referendum Dollars at Work”

January 8-10, 2009  AQHA Specialized Novice Judging Short Course**
Hampton Inn & Suites, Raleigh, NC

January 10-11, 2009  NCSU Advanced Level Horse Judging Short Course*
Hampton Inn & Suites, Raleigh, NC

January 17-18, 2009  NC Horse Management and REINS Conference
Contact Mike Yoder, Extension Horse Husbandry, Location TBA

January 24, 2009  NCSU Advanced Level Horse Breeding Short Course
Hampton Inn & Suites, Raleigh, NC

February 26, 2009  NCSU Horse Facility Short Course
Hampton Inn & Suites, Raleigh, NC

February 27, 2009  NCSU Business Management for Horse Farm Operators Short Course
Hampton Inn & Suites, Raleigh, NC

March 2, 2009  Introduction to Animal Cruelty Law
Contact Equine Education Alliance, Inc.
In Cooperation with Wake Technical Community College, Raleigh, NC

March 3-5, 2009  Equine Investigators Short Course
In Cooperation with Wake Technical Community College
Hampton Inn & Suites and Equine Educational Unit, Raleigh, NC

March 13--14, 2009  NCSU Equine Hoof Care and Shoeing Short Course
Hampton Inn & Suites, NCSU Equine Educational Unit, Raleigh, NC
Sponsored by Zin Pro Corporation and the NC Horse Shoers’ Association

April 3-5, 2009  VA/NC Volunteer Leaders Conference
W.E. Skelton 4-H Center on Smith Mountain Lake in Wirtz, VA.

May 6, 2009  Equine Ration Evaluation for Veterinarians Short Course
Hampton Inn & Suites, Raleigh, NC

May 7, 2009  NCSU Horse Feeding Short Course
Hampton Inn & Suites, Raleigh, NC

May 8, 2009  NCSU Horse Forage Management Short Course
Hampton Inn & Suites, Raleigh, NC

**Must complete application with AQHA Judges Department and receive approval to participate
*Must have completed the introductory level and/or currently be an active horse show judge or
judging team coach to participate.

Newsletter compiled and edited by:

Mario DeLuca, Extension Agent, Livestock, Agriculture
Secretarial support by: Cheryl Mitchell
Everyone needs a break now and again, even horses. This is particularly true if the horse has been under a lot of stress, perhaps by being on an intense showing or training schedule for several months. Winter is a perfect time to take a break, as frozen ground and sub-freezing temperatures don’t often make for enjoyable riding experiences.

Breaks in training and/or showing allows for both physical and mental benefits. Physically, the horse will have time to recover from minor injuries, including strains or muscle soreness, which may have built up over time. Some horses on heavy show circuits can develop behavioral issues associated with the stress of being on the road and visiting many different places. Allowing them time to just graze, loaf, and be a horse can result in dramatic improvements in both their attitude and performance. Additionally, taking the horse out of training for the winter allows you the option of letting them grow a winter coat, decreasing the time and expense involved in clipping and blanketing throughout the colder months. If the horse is still shaggy when the spring shows begin, they can always be clipped at that time.

If your horse will be taking a winter break, keep in mind a few management tips. First, take a couple weeks to slowly lighten the exercise schedule. Don’t just take the horse out of training and toss them in a field. Horses are creatures of habit; they will adapt more easily, both mentally and physically, to schedule changes that are made gradually. Also, make sure they continue to do at least a little activity, either appropriate turnout or light work. Self-exercise in a large pasture, particularly if it includes hills, will keep the horse appropriately conditioned throughout the winter months without extra work on your part.

Second, make the appropriate changes to the ration. Many show horses or those in heavy training are receiving a large amount of grain to provide the necessary calories. The decreased workload will lessen their need for excessive calories and thus the amount of grain fed should be cut back. Indeed, this may be a good time to help the overweight horse lose a few pounds. Increase the amount of hay offered, particularly if the pasture is overgrazed or sparse. Only supplement grain if calories from the hay aren’t enough for them to maintain an appropriate body condition.

Finally, when you’re ready to start preparing for the next show season, begin gradually increasing the horse’s exercise about 6 weeks before the first show. Horses do not lose condition nearly as quickly as humans do, but they still need some time to get back into the routine of training and showing. Your equine companion should be refreshed and ready to tackle the next season of training, trail riding, or showing!
Temporary Fencing for Horse Pastures

Kenny Burdine, Agricultural Economics; Bob Coleman, Animal and Food Sciences; and Traci Missun, Oldham County Extension Agent for Agriculture and Natural Resources

Rotational grazing has long been used by livestock producers as a way to use pasture more efficiently. By dividing large pastures into smaller paddocks, animals make better use of available forage. Horses especially tend to be selective grazers, and the use of smaller paddocks encourages them to eat more of what is available.

Improved pasture utilization means greater carrying capacity, or stocking rate, for the horse owner. This is important for limited acreage pastures as well as for boarding operations where stocking rates may exceed more than one horse per acre. Rotational grazing also stretches the length of the grazing season, resulting in decreased winter feeding costs.

Temporary electric fencing is often used to divide pastures for rotational grazing. Temporary fencing is also helpful in keeping horses off overgrazed or recently renovated areas until new forages are established. Another advantage of temporary fencing is that it is easy to install and move as needed.

This publication examines the use and safety of temporary fencing, as well as the costs and potential savings of rotational grazing using temporary fencing.

Safety

Existing perimeter fence should be strong enough to contain horses sufficiently. Horses should be trained to electric fencing by first putting them in a small fenced area. Using smaller areas decreases the risk of horses running through the fence. However, the area should not be so small that horses cannot get away from the fence if shocked. Keep in mind that electric fencing works as a psychological barrier, not a physical one. Fences must remain charged at all times in order for the psychology to work.

White polytape is the most visible fencing and therefore the best choice for horses. Choose a polytape that is at least 3/4-inch wide that contains at least five steel strands. Heavyweight plastic step-in posts are sturdy and usually the easiest to use. Metal fence posts are not recommended.

Paddock Layout

Figure 1 illustrates a sample pasture for this exercise. This pasture is six acres, roughly square, and three horses are permitted to continuously graze here. A water hydrant and tank are located in one corner of the pasture as shown in Figure 1. In this situation, horses are permitted to make their own grazing decisions and will tend to overgraze some areas and undergraze others.

To convert this continuously grazed pasture to intensively grazed paddocks, the horse owner would need to determine how to lay out paddocks and invest in internal fencing and a portable watering system. There are many ways to lay out new paddocks. Figure 2 illustrates a possible grazing system using three paddocks. Location of the water source usually dictates the most logical design. For a newly designed system where no water yet exists, a simple solution would be to lay out all three paddocks to intersect somewhere near the center of the field. This would allow use of just one water source.

continued on page 4
Temporary Fencing for Horse Pastures  continued from page 3

In situations where existing water systems are present, they are typically located along a perimeter fence, as in the sample layout in Figure 1. If this water source cannot be accessed from other paddocks, then water sources must be added. This is most easily done by purchasing a portable watering tank and some heavy-duty water hose. The tank should be positioned so that it can be shared between the other two paddocks.

Dotted lines drawn in Figure 2 show the placement of temporary electric fence. Two to three strands of tape would likely be sufficient. Use of three strands would require roughly 3,066 feet of tape. If a step-in post is placed every 15 feet, the horse owner will also need to purchase about 69 step-in posts. Finally, a portable salt/mineral feeder that can be moved from paddock to paddock with the horses may also be needed.

Managing Paddocks

The growth rate of forages and stocking rate per paddock will determine when horses should be moved to the next paddock. A good rule of thumb is to make sure that horses do not graze the forage below 3 inches. Paddocks should be monitored closely so that overgrazing does not occur.

During periods of fast forage growth, it may be necessary to mow one or more paddocks. If horses are not grazing forage, it should be mowed before the grass is allowed to produce seed heads. This helps keep forages actively growing and results in better quality.

Temporary fencing can also be used to keep horses off newly seeded paddocks. Allow new seedlings to get about 3 inches tall before letting horses on this pasture. Horses can graze very closely, so care must be taken that they do not overgraze or pull up new seedlings. It may be necessary to move horses after only a short time to prevent new seedling damage.

Initial Costs

Estimating the cost of this system depends on individual needs and the cost of supplies in different areas. Table 1 outlines cost estimates for this six-acre pasture example at the time of publication. Total cost of converting this pasture to a three-paddock rotation is estimated to be $1,067.30. If these costs are spread out over five years, the annual cost for this improvement is $213.46 (see Table 1).

Savings and Return on Investment

Horse owners would recoup these costs by feeding less hay during the winter. Assuming the horses are fed 25 pounds of good-quality (mixed alfalfa/grass) hay per head per day during the winter at a cost of $175/ton, the cost per day of feeding these three horses is $6.56. Based on the estimated annualized cost of $213.46 per year, this horse owner would need to get an additional 33 grazing days per year to recoup this investment. This amounts to an attainable goal of only one month of additional grazing per year.

Another way to recover investment costs is through boarding capabilities. Pasture leasing and boarding costs vary throughout the state. If one additional horse was boarded on pasture at $20 per month, this would easily offset the annualized investment of $213.46.

Needs of individual horse owners will vary, but the concept of rotational grazing will always be the same. By dividing large pastures into smaller paddocks and moving horses from paddock to paddock throughout the grazing season, better pasture utilization is possible. Utilizing a larger percentage of available forage means greater carrying capacity and less potential for overgrazing. Greater carrying capacity means that more horses can be grazed per acre, or, as in the preceding scenario, the grazing season can be extended in order to decrease winter hay needs.

### Table 1. Estimated additional cost of setting up a rotational grazing system.

<table>
<thead>
<tr>
<th>Item Purchased</th>
<th>Quantity Purchased</th>
<th>Cost per Unit</th>
<th>Total Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric fence charger (low impedance charger)</td>
<td>1 charger</td>
<td>$150</td>
<td>$150.00</td>
</tr>
<tr>
<td>Ground rods for charger</td>
<td>3 rods</td>
<td>$12</td>
<td>$36</td>
</tr>
<tr>
<td>Lightning arrestor</td>
<td>1 arrestor</td>
<td>$10</td>
<td>$10</td>
</tr>
<tr>
<td>Ground rods for arrestor</td>
<td>3 rods</td>
<td>$12</td>
<td>$36</td>
</tr>
<tr>
<td>Interior electric polytape (3/4&quot; minimum, white)</td>
<td>3,066</td>
<td>$0.05 per foot</td>
<td>$153.30</td>
</tr>
<tr>
<td>Step-in posts (heavyweight plastic)</td>
<td>69 posts</td>
<td>$3.00 per post</td>
<td>$207.00</td>
</tr>
<tr>
<td>60-gallon portable watering tank</td>
<td>1 tank</td>
<td>$150 each</td>
<td>$150.00</td>
</tr>
<tr>
<td>Heavy-duty water hose</td>
<td>350 feet</td>
<td>$0.50 per foot</td>
<td>$175.00</td>
</tr>
<tr>
<td>Portable mineral feeder</td>
<td>1 feeder</td>
<td>$150</td>
<td>$150.00</td>
</tr>
<tr>
<td>Total cost</td>
<td></td>
<td></td>
<td>$1,067.30</td>
</tr>
<tr>
<td>Annualized cost over 5 years</td>
<td></td>
<td></td>
<td>$213.46</td>
</tr>
</tbody>
</table>
As we gear up for the arrival of Old Man Winter, we are reminded of the challenges that winter horse care brings. The cold, snow, ice, rain, wind and any combination thereof, complicates barn chores and limits our riding time. For these reasons, we typically do not spend as much time in our barns or with our horses during the winter months. However, by keeping a few simple things in mind we can insure our horses are receiving adequate care this time of year.

Access to Water . . . With the cold weather brings the risk for frozen water buckets and troughs in our stalls and pastures. Free and continuous access to water is important to maintain healthy horses. Excessively cold water will decrease your horse’s water consumption. Ideally, water should be maintained at about 40°F – heated waterers are commonly used to assure the water source is not too cold or frozen over. When a horse’s water consumption decreases, feed intake also decreases, leaving less energy available to maintain body temperature and condition. Reduced water and feed intake also leave your horse at risk for a number of intestinal health issues, including dehydration and impaction colic.

Adequate Shelter . . . While horses will need some protection from the elements, it is not necessary to keep them in a closed barn throughout the winter. Horses have two natural defenses against the cold – a long winter coat and a layer of fat beneath the skin, providing an excellent source of insulation. Keep in mind that the insulating ability of a horse’s hair coat is lost when a horse is wet or covered in mud, so it is important to provide a dry shelter for them in cold, wet weather and regular grooming.

Proper Nutrition . . . Provided forage quality remains consistent, horses’ nutritional needs do not significantly change during the winter months. Older horses or horses with compromised health may have a more difficult time maintaining body condition in extreme cold weather. However, this is generally not an issue in this region. A horse should be fed according to their type, age, and use – letting body condition be your guide. Inactivity and overfeeding are probably a bigger concern this time of year, as they can lead to obesity and associated health problems in the spring.

Regular Hoof Care . . . The same amount of attention should be paid to your horse’s hooves, whether you are riding regularly or not. This is often one aspect of horse care that is overlooked in the winter. Horses’ hooves are still growing in the winter months and they are walking on frozen, uneven ground, so timely and appropriate farrier work is important. Also, remember to pick hooves regularly to remove dirt and debris.
CONDITION SCORING
FOR YOUR HORSE

Craig H. Wood
Department of Animal Sciences

In a world where millions of people are taking steps to improve their own physical condition in order to live healthier lives, it only stands to reason that this same concept would be applied to other aspects of their lives and businesses. In Kentucky where horses are a multi-billion dollar industry, the health and welfare (condition) of the horses are of utmost importance to their owners. The ability to accurately assess a horse's body condition, which is vital to its welfare, weighs heavily on the industry.

The old saying “Beauty is in the eye of the beholder” has never been more appropriate than in the body condition of horses. Beauty in one owner’s eye is fat in another’s. Hence the problem: What is the appropriate body condition of a horse, and what would be acceptable to the industry? A body conditioning scoring system developed by Dr. Don Henneke has served to provide a standard scoring system for the industry which can be used across breeds and by all horse people. The system assigns a score to a particular body condition (1 to 9) (Table 1) as opposed to vague words such as “good,” “fair,” “bad,” or “poor,” which leave differences in interpretation to the eye of the beholder.

The horse’s body condition measures the balance between intake and expenditure of energy. Body condition can be affected by a variety of factors such as: food availability, reproductive activities, weather, performance or work activities, parasites, dental problems, and feeding practices. The actual body condition of a horse can also affect its reproductive capability, performance ability, work function, health status, and endocrine status. Therefore, it is important to achieve and maintain proper body condition. In order to do this, one must evaluate body fat in relationship to body musculature.

Body Condition Scoring System

The system developed by Dr. Henneke assigns 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 in each of six areas. Horses accumulate fat in these areas in a set order. For instance, a horse that scores 7 will have the same amount of fat as any other horse that scores 7, whether he is a thoroughbred, quarter horse or Arabian.

Fat is assessed in the following areas: the loin, ribs, tailhead, withers, neck, and shoulders (Figure 1). A numerical value is assigned based on the cumulative fat in all six areas (Table 1).

Loin. An extremely thin horse will have a negative crease and a ridge down the back where the spinous processes projects up. No fat can be felt along the back of the horse. However, this is one of the first areas to fill in as a horse gains weight. Fat is first laid down around body organs, then along the base of the spinous processes. As the horse gets fatter, an obvious crease or depression forms down the back because of fat accumulation along the spinous processes.

Ribs. The next place to look is in the ribs. Visually assess the rib area, then run your fingers across the rib cage. A very thin horse will have prominent ribs, easily seen and felt, with no fat padding. As the horse begins to gain weight, a little padding can be felt around the ribs; by level 5 the ribs will no longer be visible, but can be easily palpated by passing a hand down the rib cage. Once the horse progresses towards obesity, feeling the ribs will be impossible.

Tailhead. In a very thin horse up to a number 3, the tailhead is prominent and easily discernible. Once the horse starts gaining weight, fat fills in around the tailhead. Fat can easily be palpated, and as the horse becomes obese, the fat will feel soft and begin to bulge.

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Condition Scoring for Your Horse

Withers. Conformation of the withers may affect your assessment of body condition. The prominence or sharpness of the withers may vary between breeds; a thoroughbred typically has more prominent withers than a quarter horse. However, if a horse is very thin, the underlying structure of the withers will be easily visible. At a level 5, the withers will appear rounded. At levels 6 through 8, varying degrees of fat deposits can be felt along the withers. In obese horses, the withers will be bulging with fat.

Neck. The neck allows for refining the assessment of body condition. In an extremely thin horse, you will be able to see the bone structure of the neck, and the throatlatch will be very trim. As the horse gains condition, fat will be deposited down the top of the neck. A body condition score of 8 is characterized by a neck that is thick all around with fat evident at the crest and the throatlatch.

Shoulder. The shoulder will also help you refine the condition score, especially if conformation factors have made some other criteria less helpful. As a horse gains weight, fat is deposited around the shoulder to help it blend smoothly with the body. At increasing condition scores, fat is deposited behind the shoulder, especially in the region behind the elbow.

Putting the system to work

Once body condition scores have been determined for your horses, how can you tell what is too fat or too thin? It has been suggested that the optimum score is a 5. This horse has some fat but has not yet reached the fleshy point. A horse below a 5 may have fat stores too low to maintain a healthy status if stressed. Body fat reserves are important to the overall health of a horse because fat represents energy reserves that can be used during periods of stress. Horses at a 3 or below have virtually no fat reserves; if more energy is needed, protein is broken down from muscle to meet energy requirements.

If a horse is exposed to extreme cold, lactation, or some other severe stress, a condition score of 6 or 7 would be desired. A horse can easily burn a great deal of fat in a short period of time in a high stress situation. Body fat also plays a role in reproduction. Mares with a body condition score of 3 or below develop endocrine imbalances and have difficulty conceiving.

Horses with high condition scores are also predisposed to problems, but the problems are less immediate than those of a horse in poor body condition. Fat horses tend to be less agile performers and tire more quickly than trimmer horses. Fat horses are also more prone to colic and laminitis. Extremely fat horses may also have endocrine problems, they may be hypothyroid and show a deficient metabolic rate, which most likely is one reason they are fat.

One more factor you should consider when assigning a body condition score is the basic body type of your horse. Some horses, usually the easy keepers, just tend to carry more body fat than others. A horse that always seems to score a 7 or 8, despite attempts to lower the horse’s weight, may be perfectly healthy at that score. Additionally, the horse may require more exercise to keep muscles in shape.

This body condition scoring system will by no means tell you how fit your horse is for performance. Although horses in training will have less fat due to their exercise intensity, the fat level has nothing to do with muscle tone, cardiovascular fitness, or any other measure of athletic conditioning. The scoring system also does not distinguish between types of fat deposited.

You Make the Call

Determine the body condition of the following three horses based on the system in Table 1.

HORSE 1

This horse would have a condition score of 3.5. The neck is thin, but not accentuated as required to be a 3. The withers are thin, there is fat buildup halfway on the spinous processes, and the tailhead is prominent but individual vertebrae cannot be visually identified. The ribs are easily discernible with no fat being deposited behind the shoulder.

HORSE 2

Horse 2 is a horse that is in proper body condition. His score would be a 5. His neck blends smoothly into his body, the withers are rounded over the spinous processes, and the back is level with no positive or negative crease. Ribs cannot be visually distinguished but can be easily felt and the shoulder blends smoothly into the body.

HORSE 3

This horse is obviously fleshy with a condition score of 7. Fat is beginning to be deposited along the top of the neck as well as in and around the withers. This mare is beginning to have a positive crease down her back. The individual ribs are not visible and are becoming increasingly difficult to feel. Fat has been deposited behind the shoulder, but the area behind the shoulder is not yet flush with the body.

continued on page 8
### Table 1. Characteristics of Individual Condition Scores

<table>
<thead>
<tr>
<th>Condition</th>
<th>Neck</th>
<th>Withers</th>
<th>Loin</th>
<th>Tailhead</th>
<th>Ribs</th>
<th>Shoulder</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Poor</td>
<td>Bone structure easily noticeable, animal extremely emaciated, no fatty tissue can be felt</td>
<td>Bone structure easily noticeable</td>
<td>Spinous processes project prominently</td>
<td>Spinous processes project prominently</td>
<td>Tailhead (pinbone) and hook bones project prominently</td>
<td>Bone structure easily noticeable</td>
</tr>
<tr>
<td>2 Very Thin</td>
<td>Faintly discernable, animal emaciated</td>
<td>Faintly discernable</td>
<td>Slight fat covering over base of spinous processes. Transverse processes of lumbar vertebrae feel rounded. Spinous processes are prominent.</td>
<td>Tailhead prominent</td>
<td>Slight fat cover over ribs. Ribs easily discernable.</td>
<td>Shoulder accentuated</td>
</tr>
<tr>
<td>3 Thin</td>
<td>Neck accentuated</td>
<td>Withers accentuated</td>
<td>Fat buildup halfway on spinous processes but easily discernable. Transverse processes cannot be felt.</td>
<td>Tailhead prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded but are still easily discernable. Pin bones not distinguishable.</td>
<td>Slight fat cover over ribs. Ribs easily discernable.</td>
<td>Shoulder accentuated</td>
</tr>
<tr>
<td>4 Moderately Thin</td>
<td>Neck not obviously thin</td>
<td>Withers not obviously thin</td>
<td>Negative crease along back</td>
<td>Prominence depends on conformation; fat can be felt. Hook bones not discernable.</td>
<td>Faint outline discernable</td>
<td>Shoulder not obviously thin</td>
</tr>
<tr>
<td>5 Moderate</td>
<td>Neck blends smoothly into body</td>
<td>Withers rounded over spinous processes</td>
<td>Back level</td>
<td>Fat around tailhead beginning to feel spongy</td>
<td>Ribs cannot be visually distinguished but can be easily felt</td>
<td>Shoulder blends smoothly into body</td>
</tr>
<tr>
<td>6 Moderately Fleshy</td>
<td>Fat beginning to be deposited</td>
<td>Fat beginning to be deposited</td>
<td>May have slight positive crease down back</td>
<td>Fat around tailhead feels soft</td>
<td>Fat over ribs feels spongy</td>
<td>Fat beginning to be deposited</td>
</tr>
<tr>
<td>7 Fleshy</td>
<td>Fat deposited along neck</td>
<td>Fat deposited along withers</td>
<td>May have positive crease down back</td>
<td>Fat around tailhead is soft</td>
<td>Individual ribs can be felt, but noticeable filling between ribs with fat</td>
<td>Fat deposited behind shoulder</td>
</tr>
<tr>
<td>8 Fat</td>
<td>Noticeable thickening of neck, fat deposited along inner buttocks</td>
<td>Area along withers filled with fat</td>
<td>Positive crease down back</td>
<td>Tailhead fat very soft</td>
<td>Difficult to feel ribs</td>
<td>Area behind shoulder filled in flush with body</td>
</tr>
<tr>
<td>9 Extremely Fat</td>
<td>Bulging fat. Fat along inner buttocks may rub together. Flank filled in flush</td>
<td>Bulging fat</td>
<td>Obvious positive crease down back</td>
<td>Building fat around tailhead</td>
<td>Patchy fat appearing over ribs</td>
<td>Bulging fat</td>
</tr>
</tbody>
</table>