

Livestock Links

A Statewide Newsletter for Alabamians

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Jimmy Smitherman, County

Extension Coordinator, Montgomery

Anna Shaw is not your typical horse owner, stable owner, or enthusiast. Yes, Ms. Shaw owns Seven Oaks Equestrian Center just outside Montgomery, Ala. She also owns about 30 horses. Most of the activities that Shaw is involved in are related to horses. She is also a 4-H Horse Club advisor, leader, volunteer, coach, mentor, and many other things to the youth enrolled in the Regal Riders 4-H Horse Club of Montgomery County.

Shaw first got started with 4-H in 1989 when her seven-year-old daughter joined a 4-H Horse Club in Kohler, Wisconsin. When the family moved to Lexington, Kentucky, she became an advisor to the local 4-H Horse Club. When Shaw returned to her home state of Mississippi, she started a 4-H Horse Club in Gulfport, Mississippi, which had an active membership of 52 youths. When she moved to Alabama in 1997, 4-H was still a part of the family. In 2000, Shaw's daughter, Jennifer, was old enough to be a volunteer in the 4-H Horse Project and started a horse club in Montgomery.

When Jennifer moved on to college, Shaw kept the club active and involved in the community. Today, she is still very active with the club as an advisor, teacher, mentor, sponsor, and employer to area 4-H'ers and the members of Regal Riders 4-H Horse Club. The youth meet at Seven Oaks on a regular basis to work on mounted riding lessons, horsemanship, and good stewardship. Several of the local youth board horses at the stables, and some youth even work there. Shaw has a real interest in teaching lifelong skills and career development. Dr. Cindy McCall has

Seven Oaks Equestrian Center – All About the Kids and Horses

recognized Anna Shaw's role as a knowledgeable horse business operator by inviting her to be a guest lecturer at the horse science classes at Auburn University. Through the years, Shaw has worked with over 500 youth through the 4-H program in numerous states.

Shaw is always interested in the well-being of the horse and the rider at her facility and in the community. Seven Oaks requires that all riders wear a hard hat or helmet when mounted. The Regal Riders 4-H Club adopted this policy even before the state 4-H office required the policy for 4-H events. Her care for the horse is evident through her service to the community as the horse abuse investigator for Montgomery County. When she receives a complaint that a horse is in danger, she goes to the aid of that horse, which may include subsequent rehabilitation. Once the horse has recovered, it may be eligible for adoption by a new owner through the Humane Society of Montgomery. All the care for the horse is provided by Anna Shaw.

Speaking of care, Dr. Sean Custard, DVM, who has been the Seven Oaks veterinarian for ten years, says that this facility has one of the most progressive health programs for horses. There is a planned management program and a lot of care for the horses, and Shaw knows her horses and their personalities. Dr. Custard is amazed at her ability to get the horse to respond or cooperate with treatment.

Shaw's care for horses was even shown after Hurricanes Ivan and Katrina when she opened her facility to displaced horses from Florida and participated in hay and feed relief for horses in Harrison County, Mississippi. Her experience with these disasters has emphasized the importance of permanent identification for a horse. Several horses from Louisiana were returned home as a result of proper animal IDs. Shaw has hosted a microchip implantation event with Stolen Horse International to help Alabama horse owners get their horses identified and registered with a database. She also has registered her facility with a premise ID to help with the effort to control foreign and exotic animal diseases.

Shaw's many other activities include being the Montgomery County representative of the Alabama Horse Council, a member of the Board of Directors of the Montgomery Area Dressage and Event Association, a certified equine sports massage therapist, a mentor



Anna Shaw and Twist

with the wild horse and burro program, as well as training animal control officers to conduct horse abuse investigations. In addition, she was one of the first graduates of the Regional Equine Information Network program that began at Auburn in October 2006.

Shaw sees dealing with manure as a major challenge confronting the future of the horse industry. With over sixty horses at Seven Oaks, she knows the challenge of dealing with a large pile of manure and keeping the environment clean. Shaw has researched various kinds of bedding material to help with composting manure and improving the comfort level of the horses under her care. For more information, contact Anna Shaw through her Web site at www.seven-oaks.org.

Feeding Fat to Horses

Dr. Betsy Wagner, Assistant Professor,
Department of Animal Science

A 4-H all-around horse could use a little help getting some extra shine on its coat. A pregnant mare needs to gain more weight before she foals in a few months, but she is already receiving a large amount of grain. A competitive trail rider is concerned about managing thermal stress during the long rides in the summer season. A working cow horse seems to “run out of gas” and not turn the cow as hard toward the end of the performance. While these horses seem to have different nutrition-related concerns, adding fat to the diet may be the solution for each of their problems.

Feeding small amounts of corn or vegetable oil has long been used as a way to help improve coat condition for show and pleasure horses alike, but the addition of fat has many more potential benefits. Fats and oils are very energy-dense, containing about twice the amount of calories of grain starch on a weight basis. For this reason, adding fat to the horse's diet can replace some, but not all, of the calories the horse would normally receive from grain. It also can be used to increase a horse's caloric intake, especially if it cannot consume enough forage and concentrate to meet its energy needs.

Fat is digested and used by the horse's body in a different manner than soluble carbohydrates such as glucose and starch. Fats and soluble carbohydrates are digested and absorbed in the small intestine of the horse. Feeding large amounts of highly soluble carbohydrates may provide more carbohydrates than the small intestine can absorb. The extra carbohydrates are then fermented in the cecum and large colon, increasing the potential for gas colic and other digestive disorders. Replacing some of the soluble carbohydrates with fat helps reduce this risk. Feeding fat also can help manage a horse's thermal load in hot weather. Horses fed fat-enhanced diets produce less heat from digestion and metabolism and are better able to handle hot weather than those fed conventional concentrates. This is especially important for working horses during summer months in Alabama.

Adding fat to the horse's diet also can affect how the muscles use energy to perform. Muscles use both fat and glycogen, a glucose storage molecule, to produce energy for work. While glycogen can be used for almost any type of activity, a horse accustomed to a

fat-enhanced diet will usually use fat as its main energy source at slower speeds (i.e., when trotting and slowly cantering). This results in the glycogen being “spared” for use at higher intensities of work, such as galloping, jump take-offs and hard stops and turns. It generally takes three to four weeks for a horse's muscles to adapt to using fat as an energy source.

Among the most digestible and palatable forms of supplemental fat are corn, vegetable and canola oils. Other plant-based products, including soy and linseed oils and rice bran, also are gaining popularity. Rendered animal fat and tallow can be added to concentrates in the manufacturing process, though they tend to be less digestible than plant-derived fats and oils. Horses typically consume both animal and plant-based fats without issue, as long as the feed or fat is not allowed to go rancid. To help prevent feed from spoiling, it is best to purchase no more than a two-week supply of concentrate at a time, especially in the warm summer months.

Because fat is so energy dense, it is recommended to feed concentrate or grain mixes with no more than 10% additional fat. However, it also is important to read the feed tag before adding oil to the horse's feed because many manufactured feeds already contain small amounts of added fat. A conventional grain mix typically contains 3% fat. If the feed tag lists a fat content of 8%, it can be assumed that 4 to 5% additional fat already has been included. In this example, a horse receiving ten pounds of a conventional concentrate can be fed up to one additional pound of oil, but a horse receiving ten pounds of the 8% fat concentrate should not receive more than 1/2 pound of oil. When using commercially formulated fat supplements, be sure to read the labels and carefully follow feeding instructions to avoid overfeeding fat and, subsequently, creating other nutrient imbalances in the horse.

As with any change in a horse's diet, begin with a small amount of fat and slowly increase. To maintain body condition, it may be necessary to feed less overall once the horse adjusts to the fat-supplemented diet. It is important to measure feeds and fats by weight rather than by the scoop to ensure that the horse is receiving the proper amount. Be sure to reassess the horse's total dietary nutrient balance when feeding large amounts of fat because it may be necessary to increase protein or mineral intake to match the horse's caloric intake.

Whether adding 1/4 cup of oil to improve hair coat or feeding a carefully formulated, commercially produced fat-enhanced feed to a performance horse, horses and their owners can receive a variety of benefits from feeding fat.

Biological Risk Management

Dr. Soren Rodning, Extension Veterinarian

Biological risk management (BRM) is an innovative approach to managing the risk of disease introduction and spread on your horse farm. BRM is designed to help livestock owners identify disease risks and manage them through practical measures for common,

everyday infectious diseases, as well as new or unexpected ones. Risk assessment and management recommendations focus on a “routes of disease transmission” approach rather than focusing on specific diseases. The advantage of this approach is that control measures for one route of transmission can minimize the risk and impact of a number of diseases.

The horse industry is strong and growing in Alabama, contributing nearly \$2.4 billion annually in direct and indirect economic impacts. Alabama’s horse population is approximately 187,000, and one in every 20 households owns or leases at least one horse. We need to protect our horses and our investment. BRM is a common sense approach to minimizing disease risks.

A BRM plan manages disease by evaluating and addressing the primary routes of disease transmission, therefore controlling several diseases at one time. Common infectious diseases such as strangles, as well as new or unexpected diseases (i.e., vesicular stomatitis), are minimized by assessing disease risks and implementing management steps. Therefore, with an effective BRM plan, there is less need for detailed knowledge about individual diseases. Instead, understanding disease transmission is critical.

There are five primary routes of disease transmission: **aerosol, direct contact, fomite or traffic, oral** and **vector-borne** transmission.

1) Aerosol transmission occurs when disease agents contained in droplets pass through the air from one animal to another. Close proximity of infected and susceptible animals is typically required for disease transmission.

2) Direct contact transmission of disease agents occurs when a susceptible animal directly touches an infected animal or its open wounds, mucous membranes, blood or saliva or experiences nose-to-nose contact, rubbing or biting with the infected animal.

3) Fomite transmission occurs when a disease pathogen is carried or spread from one animal to another by an inanimate object (i.e., boots, buckets, grooming equipment, etc.). Vehicles, trailers and even humans also can be considered fomites and spread disease through **traffic transmission**.

4) Disease agents also can be spread through **oral transmission**, such as when an animal licks or chews contaminated environmental objects or consumes contaminated feed or water.

5) Vector-borne transmission involves the spread of disease through an insect. Ticks and mosquitoes are biological vectors, commonly spreading disease after becoming infected from a diseased animal and then injecting the disease agent into another animal. Flies also are common mechanical vectors, simply carrying the disease agent on their bodies and passing it from animal to animal.

Biological risk management involves multiple components but results in practical measures for implementation. The first step involves understanding your own perception and tolerance of risk. Start by asking yourself, “What do I perceive as the biggest risk on my horse farm?” Then, risk areas on the farm can be assessed based on a “routes of disease transmission” approach. Once risk areas are identified, disease management measures can be determined, prioritized

and started. The success of any BRM plan involves communicating the importance of the plan to all people involved with the horse farm.

The following are just a few examples of biological risk management practices that will greatly minimize the risk of disease transmission:

- 1) Do not intentionally commingle horses from different farms.
- 2) Provide a buffer between adjoining herds so that no fence-line contact is available.
- 3) Isolate new horses and test for appropriate diseases before allowing new animals to commingle with your herd. Identify isolation areas prior to purchase.
- 4) Keep show animals away from the rest of the herd, especially broodmares.
- 5) Apply appropriate insect control.

Hay Alternatives Horses

Cindy McCall, Ph.D., Extension Horse Specialist,

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Adverse summer grass growing or harvesting conditions or excessively long, cold winter weather can make it difficult to find or afford horse hay. These problems may tempt horse owners to feed their horses an all-concentrate diet. However, horse owners should remember that a diet without roughage can be detrimental to the horse. A constant fiber source is needed to maintain the “good” bacteria in the horse’s hindgut that break down plant fibers to provide energy for the horse. The bulk provided by fiber keeps the horse’s digestive tract functioning smoothly, which decreases incidence of colic. Also, horses with adequate fiber exhibit less behavioral problems (i.e., wood chewing and stall walking) than horses without enough fiber in the diet. Remember that each day, the horse needs a *minimum* of 1 pound of long roughage (hay or pasture) per 100 pounds of body weight. There are feeds other than hay or pasture that can provide roughage for the horse. Although many of these feeds can substitute for hay, it is more beneficial to maintain the minimum roughage requirement with hay or pasture and to use these feeds to boost the amount of roughage in the horse’s diet.

Complete feeds are pellet feeds that have ground hay (usually alfalfa) combined in the pellet. They increase the fiber content of the diet but do not provide the bulk necessary to keep the horse’s digestive tract functioning smoothly.

Alfalfa cubes or pellets are similar to complete feeds. They provide fiber but do not provide the needed bulk. However, alfalfa cubes are long fiber hay pressed into cubes, and these cubes will give the horse needed bulk in its intestines. There have been infrequent reports of horses choking on the large cubes, but there is probably no danger for the normal horse.

Silage and haylage can be fed to horses, and they provide fiber and bulk. However, these feeds can result in digestive problems because of the possible presence of molds and other toxic substances. Only high quality silage or haylage should be fed to horses. It may take horses some time to become accustomed to the taste of silage or haylage. Up to one half of the horse’s hay ration can be replaced with silage. Usually 1 pound of hay is equivalent to 3 pounds of silage on a dry matter basis.

"HorseHage" is a patented procedure for vacuum packaging high-moisture hay. The product was developed in England and is very popular with horse owners there. It is being marketed in the U.S. and provides bulk to the diet. It can be directly substituted for hay in the diet.

Shredded sugar beet pulp is a by-product of the sugar beet industry and is a very popular horse feed in some areas of the U.S. It is palatable, relatively high in digestible energy and a good source of fiber and bulk. Beet pulp comes in a dry flake form. When wet, it absorbs tremendous amounts of water, swelling to three to four times its original bulk. Therefore, to prevent serious colic, bulk beet pulp should be soaked in water for 8 to 12 hours before feeding it to horses. Beet pulp should be limited to 25% of the ration.

Citrus pulp is the pulp and residue of fruit processed for juice. The palatability and feeding value varies with the processing conditions, but it can provide bulk to the diet. It is recommended that citrus pulp be limited to 25% of the ration.

Grain hulls such as cottonseed hulls, peanut hulls, oat hulls and rice mill feed can increase bulk in the horse's diet. Generally, these feed by-products are not extremely palatable to horses and are low in nutritive value. Peanut hulls especially are susceptible to aflatoxins, which may be poisonous to horses. Hulls should be limited to 10% of the total ration.

Soybean hulls are the filmy "skins" covering the beans. Unlike the true grain hulls mentioned above, soyhulls are slightly lower than oats in terms of nutritional value. However, because of their small size, they may not provide the bulk needed by the horse's digestive tract. Soyhulls often are pelleted; the loose, unpelleted soyhulls are

not recommended because they are hard for most horse owners to handle and tend to blow around in the feeder. Soyhulls are not very palatable to horses, but most horses will eat them when mixed with a sweet feed. Limit them to about 50% of the diet, and remember that mixing them into a balanced sweet feed destroys the nutritional balance of the sweet feed. This should not be a serious problem for a mature horse at maintenance if you are just feeding it for a short time (i.e., to meet its energy needs during winter).

Ground corn cobs are low in nutritive value but provide a good source of bulk in the horse's diet when fed coarsely ground.

Straw from cereal grains are lower in nutritive value than hays, but they can be used in horse diets to provide bulk. Straw should be limited to 10% of the total ration.

Chaff is a mixture of chopped straw and molasses. Like straw, it is a good source of bulk and should be limited to about 10% of the total ration. Many of these feeds are low in nutritive value. Horse owners may have to increase the amount of concentrate feed to maintain the horse's body weight when these feeds are substituted for hay. Because of the generally low nutritive value, these feeds should be fed as a small proportion of the total diet. High levels may prevent the horse from eating enough of the ration to meet its nutrient needs. Before using a new feedstuff, horse owners should consult their county agents or horsemen experienced with using the feed. As always, new feeds should be gradually introduced to horse diets to reduce the possibility of colic or laminitis (founder).

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