

EQUINE NEWSLETTER

Promoting Health and Management Awareness in the Michigan Horse Industry

<http://www.canr.msu.edu/dept/ans/equineadult/newsletters.htm>

Michigan State University Department of Animal Science & Department of Large Animal Clinical Sciences

Production & Management



The Spartan Equine Nutrition Service

Dr. Christine Skelly, Equine Extension Specialist

The Spartan Equine Nutrition Service provides Michigan horse owners with hay analysis and ration balancing services. Dr. Christine Skelly, the state Equine Extension Specialist, and Dr. Tom Herdt, Chief of the Nutrition Section of the Animal Health and Diagnostic Laboratory, developed the Spartan Equine Nutrition Service (SENS) to address Michigan Horse owner's concerns for feeding quality forage and balanced diets.

Horses come in all shapes and sizes, and their nutritional needs are based primarily on their age, performance level, and reproductive status. The SENS program calculates nutritional recommendations for each horse using these important criteria. The first step to the SENS program is filling out a form that defines each nutritional classification of horses on a farm by age, workload and reproductive status. The next step requires the owner to provide a representative hay sample to be sent to MSU's Animal Health and Diagnostic

Lab for analysis.

Sounds simple, but unfortunately, you can't just grab a few handfuls of hay and pop it into a bag! A representative hay sampling requires using a hay probe and sampling through the core of several hay bales. You should sample at least twenty bales from a lot of hay. A hay lot is defined as all hay cut and baled at the same time from the same field. Each field, even at the same farm, can vary greatly in hay quality, based on the species of grasses or legumes planted, stage of maturity of the hay plants at harvest, weather conditions during growth and harvest, as well as the time of year cut-off harvest. If you are only buying a few bales at a time, you may not feel it worthwhile to have the hay analyzed. In this case, you can provide as much information as possible about the type of hay you usually buy and SENS will use "book values" to estimate the nutritional quality of your hay. However, we encourage you to buy hay in as large a quantity as you can store properly, and have it analyzed.

Why is forage so important? Horses are better suited for eating forage than grain. Anatomically, they are designed to eat very small portions of feed nearly continuously - grazing certainly fills the bill. Also, horses are mentally programmed to chew all day long. Consequently, a horse that has very limited access to good forage will chew down the barn, take out the tree, or devour their stable mate's mane!

Although forages should form the basis of the diet for all horses, there are some horses that require supplemental grain, even if they are getting plenty of good quality forage. The young growing horse, the performance horse and the

broodmare with a foal at side are all examples of horses that may need supplemental grain, usually a mix of oats, corn and soybean meal. This grain mix can also be balanced with calcium and phosphorus, important trace minerals, and a vitamin pre-mix designed for horses. There are many commercial grain mixes designed for different horse classifications. These usually do a great job of balancing diets for horses with high nutritional needs.

Before sending in the hay sample and horse information, the horse owner needs to describe what type of grain supplement they prefer to feed, commercial or custom made mixes. For those owners wishing to feed commercial concentrate mixes, it is important to indicate the preferred brand and to include a feed tag, especially if it is not a major brand. The SENS report will indicate the amount of commercial concentrate to feed, based on the hay analysis and the nutritional requirements of the horses. For people wishing to have concentrate mixes custom formulated, the form provides for input of desired ingredients and restrictions. For example, it is possible to indicate that the concentrate should contain no more than 20% corn and contain at least 5% beet pulp. If possible, the SENS computer program will formulate within those restrictions a concentrate mix that complements the hay and forms a balanced ration.

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Many farms have several groups of horses, differing greatly in age, activity level, and reproductive status. The SENS program can calculate a formula for a single, optimum grain mix that best meets the needs for all of these horses. If the horse owner is willing to top dress the grain fed to some horses, then the SENS program can fine-tune the feeding program even more. For example, lets say you have a yearling with a high protein requirement, a mature horse with a very heavy workload and a weekend pleasure horse. You can feed all of the horses the same hay and grain mix if you supplement the growing horse with a protein source and the performance horse with an energy source. This will give you a tailor made diet for each horse on the farm without having the feed mill mix three different feeds. This method can save on cost, time, and storage space.

Once you have sent in your hay sample, horse information and feeding program preference, you can expect results back as quickly as 5 working days after your packet is received at MSU, or slightly longer if a mineral analysis is requested. During this time, your hay sample will be processed at the Nutrition Section of MSU's Animal Health and Diagnostic Lab (AHDL). Next, the processed sample will be sent to the Michigan Department of Agriculture to be analyzed for moisture, acid-detergent fiber and crude protein using near infrared reflectance spectroscopy (NIRS). The digestible energy of the forage will also be estimated. If you are feeding young growing horses or have a specific nutritional problem, you may want to pay an additional fee to have minerals analyzed. If so, your sample will be

sent to the AHDL's Toxicology Section for analysis by inductively coupled plasma emission spectroscopy (ICP).

Once the forage analysis results are complete, the forage information along with the horse information and grain-mix information will be entered into a computer program that has been designed specifically for SENS. The computer program utilizes a non-linear balancing algorithm that allows the user to balance an optimal grain mix for horses of diverse nutritional needs. The computer program ensures that each classification of horse will receive a balanced diet. Additionally, the diet will be formulated for the most cost efficient ration.

The SENS client will receive a forage analysis report, grain-mix report, diet nutrient profile, and feeding sheet that explains how to feed each group of horses and when top dressing is necessary. In addition, the client will also receive fact sheets geared towards their horses that give more general nutritional information and feeding tips for the conscientious horse owner.

If you would like to take advantage of the Spartan Equine Nutrition Service, contact the Animal Health and Diagnostic Laboratory at 517-353-1683 or write Animal Health Diagnostic Laboratory, PO Box 30076, Lansing, MI 48909-7576 to request a SENS packet. We encourage you to work with your veterinarian or equine nutritionist to fill out the forms. The cost for the service is \$15 for ration balancing and \$12 for a standard hay analysis. There is an additional charge of \$20 for mineral analysis. Payment is requested at the time of sample submission.

Equine Health



Foot and Mouth Disease: Implications to the Horse Industry

Dr. Christine Skelly, Equine Extension Specialist

Foot and Mouth Disease (FMD) is a highly infectious viral disease that affects cloven hoofed animals like cattle, sheep, swine and deer. Horses and humans cannot be infected with FMD. While not usually fatal, FMD dramatically decreases the animal's welfare and reduces milk and meat production. Symptoms of FMD include fever, and blisters in the mouth, nose, teats and between the toes. Consequently, animals infected with FMD have trouble eating and walking. Females may abort or have trouble being bred. Due to potential secondary complications, it may take animals months to recover from FMD. Even after the disease has run its course, animals never reach their production potential.

The last outbreak of FMD in the USA occurred in 1929. In an effort to maintain our FMD free status in the USA, USDA has a strict policy of no imports of animal products from FMD infected countries. The current outbreak of FMD in the United Kingdom has lead to a ban on the importation of UK animal products and increased precautions on imported horses to the US.

Foot and Mouth Disease spreads quickly through the air, by infected animal products like meat, and by mechanical means (automobile tires, clothes, and shoes). Although horses cannot contract the disease, they can carry it on their



MSU Horse Programs 2001 - 2002 Calendar of Events



Nov 2-4	Adult Teen Leader Workshop	Kettunen Center
Nov 10-11	MSU Horse Breeders School	MSU Merillat Center
Dec 8-9	MSU Horse Breeders School	MSU Merillat Center
March 2	MSU ANR Week Horse Program	MSU Campus

For more information call the MSU Horse Extension Office at 517/353-4893 or check the Equine Extension Web Site: <http://www.canr.msu.edu/dept/ans/msue.html>

hooves. Since horses are more likely to be housed with other cloven hoofed animals, they could carry and transmit the virus to other livestock. In the recent FMD outbreak in the United Kingdom, transporting horses off of farms where there was an FMD outbreak was prohibited. Also, to reduce the disease's spread, horse events were cancelled throughout most of the UK.

In Michigan, the Michigan Department of Agriculture (MDA) has taken measures to prevent an FMD outbreak in our state. MDA is working closely with USDA, MSU and producer organizations to increase our state's biosecurity efforts. MDA has assisted the USDA at Detroit Metro in their surveillance and inspection efforts.

USDA has strict requirements of horses imported from FMD-infected countries. The horses must be disinfected with a vinegar solution. The horse's

hooves must be thoroughly cleaned and then disinfected with a 4 percent sodium carbonate solution. All horses must be quarantined for five days at a USDA facility. In addition, tack, grooming equipment, etc. must also be disinfected.

While the onslaught of FMD is thankfully on the down slide in the UK, we in Michigan should use this as an opportunity to improve strategies for biosecurity on our farms and when we transport livestock. We should continue to educate ourselves and the associations that we are involved with in the area of biosecurity. We need to put into place sound biosecurity regulations and more importantly enforce them to ensure that Michigan horse events have the lowest risk possible to disease exposure or transmission. If FMD were to rear its ugly head in the states, it will surely effect the horse industry by halting most livestock movement and events, including horse shows and races.

Currently, if you are traveling to an FMD-infected country and have any contact with the rural landscape or livestock, MDA recommends that you to take the follow precautions:

1. Declare on custom forms if you have been on a farm or with livestock and follow regulations regarding meat and dairy products.
2. Wash and disinfect all clothes, luggage and personal items (jewelry, cameras, watches, computers, etc). Disinfect all footwear.
3. Upon your return to the states, avoid contact with livestock or wildlife for a minimum of five days.

For more information on Foot and Mouth Disease, refer to the following web sites:

<http://cvm.msu.edu/extension>
www.mda.state.mi.us/health/FMD.html
www.aphis.usda.gov/oa/fmd



UPDATE: West Nile Virus in Horses

John Berends and Judy Marteniuk
MSU Extension Veterinarians

The West Nile virus (WNV) is a virus that affects the horses' neurological system. This virus was first isolated in the United States in New York in the late summer of 1999. Currently, the virus has spread to 18 states and will continue to spread; therefore, we should treat this virus as if it's here to stay.

Transmission of WNV is by mosquitoes. Birds serve as the reservoir host after having been bitten by an infected mosquito. People, horses, and other mammals (bats, cats, chipmunks, skunks, squirrels, and some domestic rabbits) are incidental hosts and do not spread the disease. We call horses dead-end hosts because they cannot pass this virus to

other horses, humans, or mosquitoes. The virus can be passed from bird to bird only by mosquito bites. WNV can be transmitted to other parts of the country through the movement of infected migratory birds or inadvertent transport of infected mosquitoes in your horse trailer and/or tack and supplies.

Only a small percentage of infected horses or people actually become sick. Clinical signs of a horse sick from WNV are: ataxia (incoordination, stumbling, limb weakness), somnolence (sleepiness), dullness, listlessness, facial paralysis (droopy eyelids, lower lip) and inability to rise. Other signs may include: a mild fever, blindness, muscle trembling, and seizures. Unlike Eastern equine encephalomyelitis (EEE) and Western equine encephalomyelitis (WEE) which have a very low survival rate, clinically affected horses have a 65% chance of recovery and return to normal function when treated. Once a horse has been infected

with the WNV and survived, it is protected from development of clinical disease for an extended period of time.

There is no specific treatment. Horses that are clinically infected are treated by supportive measures, such as IV fluids, control of fever, and safe, quiet housing. Prevention remains the best practice to follow. In August, Fort Dodge Animal Health released a safe killed vaccine for WNV; however, the effectiveness has not yet been proven. This vaccine is similar to EEE and WEE vaccines which are very effective but offer no cross protection for WNV. Additional preventive measures for you and your horse should include: insect repellants, stable horses from dusk until dawn, eliminate mosquito breeding areas, and use appropriate screening where applicable.

Further information may be obtained at www.mda.state.mi.us or by contacting your veterinarian.



Helmet Safety

Karen Waite, Equine Youth Extension Specialist

Did you know that roughly 20% of all horse related injuries are head injuries and that head injuries account for 60% of equestrian related deaths? How about the fact that 40% of riding injuries occur in the 25-44 year-old age group, suggesting that kids aren't the only ones who should wear helmets?

Wearing an ASTM-SEI approved riding helmet may save your life, or the life of someone you care about. This simple fact is the basis for General Rule #4 in the newly revised 4-H Horse and Pony Project Show Rules and Regulations, released in

early 2001. This rule states that all participants in all hunter (both over fences and on the flat) and gymkhana classes are required to wear a properly secured, protective riding helmet whenever they are mounted, if a show is following 4-H rules. The new rulebook also states that approved safety helmets must be worn by youth aged 5 to 8. Finally, the Michigan 4-H Horse Program strongly recommends that approved safety helmets be worn by all youth participating in all equestrian activities. (Please go to <http://www.msue.msu.edu/msue/cyf/youth/horse/horserules.html> for a copy of the new rulebook.)

The "helmet issue" is one of much controversy in the horse world. Some riding disciplines have helmet usage as an ingrained part of their tradition and wouldn't dream of riding without one, while other disciplines seem to consider helmets "taboo". This paradigm is shifting, however. One only needs to look at the number of kids wearing bicycle helmets these days, to realize that helmets are becoming not only the safe thing to do, but the "cool" thing to do. The American Horse Show Association (AHSA) has announced that in 2002, all youth

will be required to wear an approved safety helmet, regardless of riding discipline. This step will make riding helmets even more accepted in the future.

While county 4-H Horse programs vary widely with respect to helmet use, it is important to remember that 4-H is a youth development program, which should focus on safe learning experiences for children. Just because a national breed association does not require the use of helmets does not mean that 4-H shouldn't either. In fact, the opposite is true. A 4-H horse club should strive to be a place where a child learns the safest possible skills for working around horses, with positive adult role models to show them the way. If down the road a youth decides that they would like to try to compete at a breed level, they should be encouraged to do so. Once there, they may or may not choose to exercise the safe habits they learned in 4-H, although we certainly hope they do.

For more information on helmet safety, please visit the American Medical Equestrian Association website at http://www.horse_country.com/amea.html or contact Karen Waite, Equine Extension Youth Specialist at 517-353-1748 or kwaite@msu.edu.

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Editors Note

Dr. Christine Skelly

This Fall held tragedy as well as triumph - Tragedy in light of the September 11th attack on our American way of life and triumph as Americans pull together and stand up for what we hold dear. This newsletter is one way people involved with MSU Horse Programs reach out to our neighbors, sharing valuable horse health and management information as well as current programming efforts. Working with the Michigan horse industry gives us an opportunity to help horse owners and enthusiasts enjoy their special interest and passion. We use the horse as a tool to teach young people important life skills, including responsibility and respect for other living systems. For adults, besides the obvious enjoyment that is derived from horses, we have an opportunity to learn more about important land use issues that effect everyone in our state. We are told that strengthening our focus on family, neighbors and work is the best way Americans can challenge those who would wish our great country harm. For me, it has enhanced my appreciation for the day to day interactions I enjoy with students, co-workers and people involved with the Michigan horse industry.