Happy Labor Day Everyone,

Included is the Weekly Pile of Information for the week of August 28th, 2016, Extension's Equine related educational information & announcements for Rockingham & Guilford Counties. To have something included in the Weekly Pile, please follow these simple guidelines.

- Information included needs to be educational in nature &/or directly related to Rockingham or Guilford Counties.

- provided information is a resource to the citizens of Rockingham & Guilford Counties.

- provided information does not require extra time or effort to be listed.

- Listings for Swap Shop will not list pricing details.

- Please E-mail information to me by Wednesday each Week.

- Please keep ads or events as short as possible – with NO FORMATTING,

NO unnecessary Capitalization's and NO ATTACHED DOCUMENTS.

(If sent in that way, it may not be included)

- Please include contact information - Phone, Email and alike.

- PLEASE PUT WEEKLY PILE IN SUBJECT LINE when you send into me.

- The Weekly Pile is not for listings for Commercial type properties or products.

If I forgot to include anything in this email it was probably an oversight on my part, but please let me know!

If you have a question or ideas that you would like covered in the Weekly Pile, please let me know and I will try to include. As Always, I would like to hear your comments about the Weekly Pile or the Extension Horse Program in Rockingham or Guilford Counties!

I NEED YOUR FEEDBACK & IDEAS!

Included in The Pile this Week:

1. First on Scene Program - September 19

What to do if you come to a medical or injury event on a Farm!

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1. First on Scene Program

What to do if you come to a medical or injury event on a Farm!

Monday September 19, 2016

6:00 PM – 9:00 PM

Rockingham County Agricultural Center, 525 Hwy 65, Reidsville, NC 27320

First Aid information for Farmers, Farm Workers and Farm Family Members. Covers everything from heart attack to tractor rollovers.

Program by NC Agromedicine Institute

Sponsored by Rockingham Farm Bureau

Pre-registration required

by Friday September 16th.

Box meal provided.

Contact Ben Chase, Kathryn Holmes, or Will Strader at the Rockingham County Cooperative Extension. Phone 336-342-8230 or emails ben_chase@ncsu.edu, kathryn_holmes@ncsu.edu, or william_strader@ncsu.edu to register and for more information.

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2. Guilford County Forest Landowner Workshop

Thursday September 29, 2016

Guilford County Extension Office

The NC Forest Service and the NC Cooperative Extension Service invite you to attend a Forest Management Workshop that will be held on Thursday September 29th, 2016. This meeting will be held at the Guilford County Extension Office located in Greensboro at 3309 Burlington Road, Greensboro, NC 27405-7603.

If you plan on attending, please RSVP before Friday, September 23, 2016 to Deb Fuller at ddfuller@ncsu.edu or call at (336) 641-2433. Questions? Contact NC Forest Service Guilford County Headquarters 336-641-2406 or email County Ranger David Masters at david.masters@ncagr.gov

Agenda

Thursday September 29th, 2016

9:00 am - NC Forest Service Overview David Masters

9:30 am - Forest Taxation Updates / Incentives for Forest Management, Mark Megalos

11:00 am - Pest Control Update Brian Heath

Noon - Lunch (provide by NC Forest Stewardship Program)

1:00 pm - Wildlife Management John Isenhour

2:00 pm - Hardwood Management / Financial Return Mark Bost

3:00 pm - NC Tree Farm Program / Stewardship Program / Richard Chellberg Cost Share Assistance Updates

4:00 pm - Adjourn

Workshop Registration - return this form to:

Forest Landowner Workshop,

Attn: Deb Fuller,

3309 Burlington Road,

Greensboro, NC 27405

or respond by email to ddfuller@ncsu.edu or call at (336) 641-2433. Registration must be received by September 23 rd To ensure we have lunch available for all attendees, please RSVP no later than Friday, September 23, 2016.

Name: _____

Number Attending: ____

Address: _____

Phone: _____

E-mail: _____

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3. Hurricane Season is Upon Us!

Alaina Cross, NCSU Extension Animal Husbandry

North Carolina is no stranger to hurricanes, and this year is predicted to be potentially more severe than recent years. Here are some tips to help prepare your horses and your farm for a storm.

Before the Storm

Vaccinations: All horses should have a tetanus toxoid vaccine within the last year. Due to the increase in mosquitoes after massive rainfall, all horses should also receive West Nile Virus and Eastern/Western Encephalitis vaccines at the beginning of the hurricane season.

Coggins Test: A negative Coggins will be necessary if the horse needs to be evacuated to a community shelter or across state lines.

Health Certificate: A health certificate is required to cross the state line. This may be necessary if you live in a region that is near the SC/VA borders. A health certificate is valid for 30 days.

Identification: Each horse should have at least 2 forms of identification (in case one is lost). Have proof of ownership, including recent photos of the horse including any identifying marks/scars/coloration, ready in the event that you need to claim a loose horse. Examples of possible identifying methods include:

A well fitted breakaway halter (a regular halter can get trap a horse and possibly strangle them!) with contact information (can be in the form of a luggage tag, a metal ID tag, a zip lock bag secured with duct tape to the halter)

A luggage tag with ID braided into the mane or tail (make sure it is water proof).

Livestock marker - write your phone number on the horses's hindquarters with a waterproof livestock marker

Microchip

ID bands that go around the horse's neck

Evacuation Plan: Hurricanes generally give us at least a day's notice or two before coming into contact with land. Make sure that you have a written evacuation plan for your horses, especially if you are in a low-lying area, a flood plain, near water, or are near the coast. If you will be in the path of the hurricane, it is highly recommended to evacuate prior to the storm, as transportation with horses when wind gusts are over 40mph is hazardous. Decide at which point you will evacuate (for a category 1, 2, 3, 4, or 5 storm?). Also prioritize NOW which horses will be evacuated in what order if you will have to make more than one trip.

Determine two evacuation centers (in opposite directions). For a list of evacuation centers in NC near you, go to:
http://www.ncagr.gov/markets/livestock/horse/EquineDisasterResponseAlliancePartners.htm

Ensure that your truck and horse trailer are ready for travel (tires in good

condition, etc.). Ensure that the vehicle is full of gas.

Water: Power loss often occurs with hurricanes, and many horse farms may find that they are unable to provide water to their horses. Each horse sould have 12-20 gallons of water stored per day. Fill all available water troughs. Be creative with your water resources! Line garbage cans and various storage bins or much buckets with plastic contractor bags and fill them with water. Consider a generator to run the well if you have large numbers of horses. Keep chlorine bleach on hand to add to contaminated water if necessary. To purify water, add two ***drops*** of chlorine bleach per ***quart*** of water and let stand for 30 minutes.

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Feed: Store a minimum of 72 hours of feed and hay (seven days is best) per horse. It is very possible that roads will be closed because of down power lines and trees and that you will not have access to feed for a period of time after the storm. Cover hay with water proof tarps and store on pallets. Keep grain in water tight containers in the event of flooding.

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Farm Preparation: Secure all moveable objects. Remove all items from hallways. Secure jumps, lawn furniture, etc. in a secure place. Place all large vehicles/tractors/trailers in an open field where trees cannot fall on them. Turn off electrical power to the barn to avoid any potential fire hazards with power surges or lightning strikes. Secure all gates. Ensure that all emergency tools are working properly and readily available. These include:

Chain saw (and fuel!)

Hammer/nails

Fence repair materials

Wire cutters/tool box/pry bar

Fire extinguisher

Duct tape

Fuel for generator/tractor

Emergency First Aid Kit: Make sure that you have an emergency first aid kit ready and accessible (and waterproof!). Have any medications that a horse will need easily accessible and ensure that you have enough to get you through the storm and the aftermath. Some items that should be included:

Bandages (leg wraps and quilts)

Antiseptics

Scissors/knife

Topical antibiotic ointments

Tranquilizers

Pain releivers (bute, banamine, etc.)

Flashlight with extra batteries

Extra halters/lead ropes

Clean towels

Fly spray/swat

During the Storm

In or Out? Should horses be left in the pasture or in the barn? Recommendations from the American Association of Equine Practitioners say that if the pasture has good fencing and limited trees, it is probably best to leave horses outside. Well constructed pole-barns or concrete block barns may provide safety from flying debris, but the horses may become trapped if the wind collapses the building. If you have a

sturdy shelter with access to a small, safe paddock, this would be ideal. A horse could escape the building if needed into a safe area.

Keep horses out of pastures and areas with electrical lines. If these come down, they can electrocute the animals nearby.

Trees with shallow roots will fall easily under hurricane force winds and can injure horses or destroy fencing.

Do not keep horses in areas secured by barbed wire, electrical wire, or high tensile wire during a hurricane.

Fire ants and snakes will search for high ground during flooding. Keep this in mind when selecting an area to keep your horses if they are to remain in pasture.

For tips on NC Animal Disaster Sheltering Resoucres click here:
http://www.ncagr.gov/oep/sheltering/manuals.htm

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After the Storm

Inspect Animals: Carefully inspect all horses for injuries, focusing particularly on the eyes and limbs.

Inspect Property: Look for down power lines, fence damage, and misc. debris. Take photos of storm damage to present to insurance companies.

Missing Horse?: If your horse is missing, contact your local county animal control, sheriff's department, or disaster response team.
http://www.ncagr.gov/markets/livestock/horse/EquineDisasterResponseAllliancePartners.htm

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4. You Asked: *Is it better for horses to eat from hay nets hanging high in a stall or from the stall floor? Are the health risks of these nets?*

There are different sides of this issue and I will try to give you enough info for you to be able to make your own decision.

Advantages of hay nets: reduces hay waste and expense; allows close monitoring of appetite and intake; can tightly control amount fed; can use hay nets with small openings to keep horses busy longer so they are less bored; reduces ingestion of

dirty (i.e. manure contaminated) hay and therefore certain parasite eggs. Horses with hay nets are probably LESS apt to choke on hay because their rate of hay intake will be slowed down significantly.

Disadvantages of hay nets: danger of entanglement and injury especially for horses that are unattended for long periods; dust and debris can more easily get in horse's eyes and respiratory tract; tough material of hay net can injure lips and gums; "unnatural" angle for head and neck for eating (though this may not have any consequences); may not provide enough hay for horses left unattended for long periods (though one could use more than one hay net).

There is my try at trying to present to you for both sides. I think a manger is a happy compromise: less hay waste than feeding on the floor, a more natural eating angle, and no danger of getting tangled up in a hay net.

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5. Equine Euthanasia

Ben Chase, Extension Livestock Agent, North Carolina Cooperative Extension, Rockingham & Guilford Counties

In the past week I have had questions & calls that involved putting an animal down. So, I put together the following article for your consideration.

It is never easy to say Goodbye, especially when the decision of life falls on you. When those times come, and you have to put suffering and quality of life of the animal as your first priority, euthanasia may be the decision that has to be made. This is probably one of the hardest decisions a horse owner will need to make, but it is a better alternative than neglect or prolonged suffering.

There are various reasons when considering euthanasia, including: for humane reasons, to prevent suffering caused by a medical condition, an injury (e.g.,

fractured leg), or disease, such as severe heaves or incurable colic. Age, but how old is old? Horses have been known to live up to 48-50 years old. Cost may also be a factor. On occasion, convenience is cited as the reason for euthanasia. The owner no longer needs or wants the horse and they don't want it to go to another owner.

The American Association of Equine Practitioners provides the following guidelines to assist in making humane decisions regarding euthanasia of horses.

http://www.aaep.org/info/horse-health?publication=849

· A horse should not have to endure continuous or unmanageable pain from a condition that is chronic and incurable.

· A horse should not have to endure a medical or surgical condition that has a hopeless chance of survival.

· A horse should not have to remain alive if it has an unmanageable medical condition that renders it a hazard to itself or its handlers.

· A horse should not have to receive continuous analgesic medication for the relief of pain for the rest of its life.

· A horse should not have to endure a lifetime of continuous individual box stall confinement for prevention or relief of unmanageable pain or suffering.

Prepare yourself now before you are ever in this situation. Please make sure that before reaching a final decision, that you consult your veterinarian! (and your insurance agent)

Below are few sites discussing Euthanasia:

The Emergency Euthanasia of Horses

http://www.vetmed.ucdavis.edu/vetext/local-assets/pdfs/pdfs_animal_welfare/emergeuth_horses2-2.pdf

Time to Say Goodbye

http://extension.usu.edu/files/publications/factsheet/Equine_2016-01pr.pdf

Equine Euthanasia - Putting Your Horse to Sleep

http://www.equisearch.com/article/equine-euthanasia-17724

Knowing When It's Time

http://cs.thehorse.com/blogs/across-the-fence/archive/2012/08/07/knowing-when-it-s-time.aspx

Horse Disposal Options

http://articles.extension.org/pages/20164/horse-disposal-options

Horse Mortality: Carcass Disposal Alternatives

http://cwmi.css.cornell.edu/horsefs.pdf

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6. Hay for the Cushings Horse

One of the most important things for a horse with Cushings Disease is good nutritional management. A low-carbohydrate, high-fiber and balanced overall program is essential. Legume hays, such as alfalfa, tend to be higher in calories and protein compared to grass hays, But, good quality forage is naturally low in carbohydrates. The catch is that growing season, cutting and soil conditions will all influence the overall nutritional profile of forage. You can soak hay for 20-30 minutes to reduce the carbohydrate load if you are still concerned, but keep in mind that you may lose some vitamins and minerals as well.

One crucial thing to do if traveling or changing locations or diets is to make sure the new forage is gradually introduced into your horse's new diet. Consider bringing several bales of hay with you, enough to last you at least 2-3 weeks. When you arrive and your horse has had a chance to settle in, gradually start introducing the new hay as you mix it with what he is used to. Take your time to change him over completely, a minimum of 2 weeks if possible.

Will your horse be on pasture at the new location? Will he/she be turned out all day and all night, or stalled at any time? These are questions to consider as well. Keeping good forage available throughout the day will help keep energy intake steady, reducing the likelihood of drastic changes in insulin and glucose concentrations.

Next, it is a good idea to know how much your horse weighs. A weight tape will help you keep track. Make sure you weigh your horse a few times between now and the time you leave (a week or two in between measurements). Horses may lose weight on long trips, so when you arrive you will know if anything has changed. If weight loss occurs, you can adjust the diet accordingly by adding a low-carbohydrate grain concentrate or fat supplement. On the other hand, it will also help you ensure your horse doesn't gain too much weight either!

Finally, if your older horse is sound and able to be ridden, by all means ride! Low intensity exercise will help your horse manage glucose and insulin levels. If this means trail riding, light ring work, or whatever your pleasure, I encourage you to keep your horse exercising as long as it is within his ability and comfort zone. Exercise not only will help manage insulin and glucose, but it will certainly help maintain muscle tone. If turnout is all he/she can handle, then the more the better.

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7. Feeding the Hard Keeper

Martin W. Adams, PhD, PAS - Equine Nutritionist for Southern States

Most of us don't have to worry about being too skinny. So it might be hard to understand why a horse might have trouble putting on weight, especially if food is readily available. This type of horse is known as a "hard keeper". There could be several reasons for a horse being a hard keeper. Some horses have a more active metabolism and require more calories to maintain adequate body weight, others may burn more calories due to a nervous or stressed condition. Before starting a weight-gain program for an underweight horse, identify any of the following conditions that may be interfering with its digestive efficiency.

- **Chronic Digestive Problems**: Ulcer, diarrhea, and gut obstruction from an abdominal tumor or surgery can reduce feed intake and utilization.
- **Poor Dental Condition**: Missing or worn teeth can interfere with feed intake and proper chewing of feed, reducing the calories the horse can extract from its diet.
- **Old Age**: Weight loss in older horses is often a result of dental problems but decreased digestive efficiency in older horses normally results in weight loss.
- **Parasite Infestation**: A heavy internal parasite load can reduce nutrient absorption and prevent a horse from maintaining proper weight or gaining additional weight. A regular deworming program is essential in sustaining good health and body condition.

Use the following guidelines for a feeding program for your hard keeper. This will allow you to "fine tune" the feeding program and maintain optimum body condition to get the best performance from your horse. Depending on your horse's initial condition, it may take several months to get to his ideal body condition; a slow and steady weight gain is the best approach.

- **Feed high quality hay, hay replacer or add some alfalfa hay to the diet**. Poor quality hay is more mature and contains more indigestible fiber and fewer calories than higher quality, less mature hay. High quality alfalfa hay can contain as much as 300 more calories per pound than more mature grass hay. If you don't have a high quality grass or mixed hay available, replace some of the grass hay in the diet with alfalfa hay. Adding 5 to 6 pounds of alfalfa or high quality grass hay to the horse's daily ration can add 1,500 to 1,800 extra kilocalories over a sole diet of lower quality grass hay.

- **Select a senior horse feed for older horses**. For older horses (over 20 years of age) or younger horses with poor dental condition that are underweight, switch to a feed formulated specifically for them, such as Triple Crown Senior Formula or Legends Senior. These feeds contain higher levels of fiber to compensate for the reduced chewing ability of older horses with worn or missing teeth that cannot consume adequate amounts of hay or pasture.

- **Feed horses individually**. All groups of horses develop a social structure with some horses being more dominant. When horses are fed together, the more dominant horses will eat their feed and others as well. Simply providing more feed will not work, the horse that needs more feed must be fed individually.

- **Switch to a high-fat feed or add a high-fat supplement**. Fat contains 2.25 times more calories than the same amount of carbohydrate or protein. Select a feed or a supplement with more fat for your hard keeper so you can feed less grain to minimize the risk of colic and maintain body condition. Triple Crown Training Formula is 13% fat and Triple Crown Complete contains 12% fat. Legends CarbCare Performance and Legends Sport Horse Plus both contain 10% fat. There are other feeds in the Triple Crown and Legends lines formulated with 6% and 8% fat, and extruded fat supplements including Legends Fortified Pelleted Rice Bran with 18% fat and Legends Omega Plus with 25% fat.

- **Feed according to body weight and activity level**. The larger the horse and the greater the workload, usually the more calories are needed to maintain body weight. Horses can only consume 2.5 to 3% of body weight daily in grain and hay. For a horse at maintenance to light activity (riding for an hour or less once or twice per week), start with feeding grain at .5 to .75% and hay at 1.5% of body weight. This would be 5 to 7.5 pounds of grain and 15 pounds of hay for a 1.000-pound horse. For a horse in moderate activity (riding 3 to 4 times per week for an hour or more), feed grain at .75 to 1% and hay at 1.5% of body weight. For intense activity (race training, riding several hours daily for 5 to 6 days per week, etc.), feed grain at 1 to 1.5% and hay at 1.25% to 1.5% of body weight. High-fat feeds feeds will allow you to feed less grain and still meet the greater energy needs of a hard keeper.

- **Monitor changes in the horse's condition with a weight tape**. Rely on a weight tape (or a scale, if available) instead of your eye to judge the changes in body condition. A weight tape may not be very accurate for estimating body weight for a particular horse, but it is consistently accurate at finding changes in your horse's weight. Take the measurement every 30 days, applying the tape at the same location around the heart girth and behind the withers, and maintain the same tension on the tape each time you use it. Use this information to adjust your horse's feeding program to maintain a constant body weight.

- **Make dietary changes gradually**. Drastic changes in the type or amount of grain or hay could upset your horse's digestive system. Introducing new feedstuffs in small amounts allows the intestinal microbes to adapt without causing adverse effects. When introducing a new grain concentrate or hay, replace 25% of each meal with the new feedstuff for three days, then replace 50% for three days, then 75% for three days, so that in ten days you have switched over to the new feedstuff without causing a digestive upset.

- **Evaluate the horse for gastric ulcers.** Gastric ulcers are very common in the horse and symptoms include poor appetite and inadequate body condition. Your veterinarian can diagnose the horse for gastric ulcers and provide medication for treatment. Diagnosis and treatment for gastric ulcers are expensive.

Legends GastroTech Supplement and Triple Crown Alfa-Lox are digestive supplements available from Southern States, and are recommended for horses to aid in prevention of gastric ulcers.

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8. Caring for the Older Horse: Common Problems and Solutions

Kylee Jo Duberstein[1]
Edward L. Johnson[2]

Horses have relatively long life spans compared to other livestock and companion animals, often living into their late 20s and early 30s. Many horses have productive careers into their 20s. In fact, in many disciplines, horses do not peak until their teenage years. Good nutrition, maintenance and veterinary care allow horses to lead longer and more productive lives. However, as horses age, their needs change and additional care may be required to keep them as healthy as possible.

The older horse can often be cared for and managed well as long as the owner and/or caregiver understands the special needs a horse may have as it ages. It is important to recognize that there is not a predetermined age when an individual horse becomes “old.” Like people, individual horses age at different rates. As caregivers, we can have an effect on some areas of aging, such as dental and hoof care, but little effect or control over others, such as genetics, previous care and previous use.

The key to caring for an older horse is to understand how the horse’s body changes as it ages and how these changes impact the horse’s health requirements. Important areas to consider when caring for the older horse are nutrition, lameness, vision, immune response and hormone changes. This publication will address changes in the aging horse’s body that impact its requirements, possible ways to meet these requirements and solutions to problems that may occur. It is important to recognize that not all older horses have problems; some are maintained easily without much change in routine. However, some horses begin to have problems as they age and are referred to as geriatric. These horses may require special attention and a change in management.

Nutrition

Nutritional needs of aging horses will vary greatly between individuals. Some older horses may never need drastic diet modifications, whereas others will require a special diet to help them maintain good health and body condition. In both situations, the goal is to provide adequate nutrition.

Dental Care

As horses age, it can become harder to meet their nutritional requirements. One reason for this is poor dentition. Proper and routine care of the horse’s mouth by a qualified equine dentist will help the horse

maximize nutrients from the food he is eating. Horses chew in a circular motion from one side of their mouth to the other. This motion naturally wears away the horse's teeth. Over time, this chewing motion will lead to sharp points developing on the outside of the horse's upper molars and the inside of the horse's lower molars. Regularly keeping the horse's teeth filed down (known as "floating") one or two times per year will improve his chewing ability and digestion.

Some older horses may not even have teeth. When a young horse first develops molars, they are very long and folded into the dental socket in the jaw. The length of the entire tooth is around 5 inches in a young horse, and only a small portion is visible above the gum line. Over time, chewing wears away the tooth, which continues to push upwards above the gum to replace the worn part. This cycle continues throughout the horse's life, but by the time he approaches his 30s, most of the tooth may be worn down to the roots. This leaves older horses with little ability to chew and digest foods they would ordinarily eat. Changing the type of food the horse eats can easily alleviate this problem. Some feed companies make senior horse feeds, which tend to be softer in texture than ordinary horse feeds. Concentrates fed in the form of pelleted feed can be wet down and softened to make a gruel that is easy for the horse to chew. Forage can be provided in the form of hay cubes or pellets (made of either alfalfa or alfalfa/grass mix), which can also be wet down and softened for the horse to chew easily.

In general, reducing the food's particle size and feeding foods that can be wet down and softened will greatly improve any nutritional problem the horse may have due to chewing difficulties. While dentition problems are usually relatively easy to manage, if the horse is not cared for properly (e.g., turned out to pasture with no additional care) it may quickly become emaciated due to an inability to eat the available food.

Nutrient Absorption

As they age, some horses may become less able to glean nutrients from what they eat due to reduced nutrient absorption, lowered ability to digest fiber and reduced gastrointestinal motility. Some of these problems may be due to intestinal damage from parasites if the horse was not kept on a regular parasite control program throughout its life. Lifelong parasite control is critical in maintaining the horse's health and longevity.

Feeding Strategies

Regardless of the reason, it is important to provide geriatric horses that are having difficulty maintaining their body condition with highly digestible, high-energy feeds. One commonly used practice is to feed older horses beet pulp in some form. Beet pulp is a highly digestible fiber source. It is sometimes incorporated into commercial feed or can be bought separately to be wet down and fed in addition to grain.

Another way to improve digestibility is to select commercial feeds containing grains that have been processed by crimping, cracking, rolling or steam flaking, which breaks the grain's seed coat so that the

horse may better digest it. Supplementing fat may also increase the energy content of the diet since fat is a highly digestible energy source. Commercial feeds are often formulated to contain added fat. Grain mixes without added fat typically contain approximately 3% fat. Many feed companies now market grain mixes with fat contents as high as 14%. If the horse owner does not wish to use one of the commercial feeds formulated with added fat, fat can be top-dressed to the horse's grain. Many feed companies market fat supplements such as stabilized rice bran or extruded pellets with added vegetable oils. Some horse owners also choose to add fat to the horse's diet by pouring some type of vegetable oil over the horse's grain. However, it is critical to not increase the energy content of the diet without also ensuring that other nutrient needs are met. When feeding a commercially formulated feed this is not typically a problem; however, when top dressing the horse's grain with a fat supplement, make sure that other nutrient requirements are also being met.

A horse fed added fat will need less feed to maintain its condition; therefore, protein, vitamin and mineral content should also be increased. Additionally, rice bran supplements that do not have added calcium can cause calcium : phosphorus imbalances in horses on grass forage. Care should also be taken to not feed vitamins and minerals in such excess as to cause toxicities. Fat-soluble vitamins (A, D, E, K) are stored readily in the body and, over time, can lead to toxicities. Excesses in certain minerals can interfere with absorption of other minerals. When adding supplements to the horse's diet, whether it be fat, vitamins or minerals, it is important to be sure that imbalances are not created in other nutrients. The simplest way to do this is to feed concentrates that have been commercially formulated or to feed supplements that have been commercially formulated to match a particular feed.

Before adding supplemental fats, vitamins or minerals to the horse's diet it is important to do a simple blood analysis to ensure that the horse has proper kidney and liver function. Horses with liver dysfunction will not tolerate added fat in the diet. Providing feeds with high protein and /or calcium (e.g., alfalfa, beet pulp) can aggravate the kidneys in horses with kidney disease.

It is also important to feed good quality grain and forage that is free of mold and dust. Moldy, dusty feeds can cause gastrointestinal tract problems such as colic and are generally not easily digestible. Older horses often are more susceptible to respiratory irritation, and feeding dusty feeds will only aggravate these conditions. Horses that suffer from persistent respiratory problems may benefit from having their hay soaked for 15 minutes prior to feeding to control dust. Feeding hay that was cut at the appropriate time is also important. Hay that is too mature when cut has an increased lignin content, and can become indigestible. This hay often appears to have a very high stem content and should be avoided in older horses that already have decreased forage digestion.

Overweight Horses

Not all older horses are hard keepers. Some will hold their weight easily and may actually become too heavy since they are not exercised as often or as intensely as their younger counterparts. These horses may begin to accumulate fat at a rate that may be detrimental to their health. Horses that become too heavy may stress their bones and joints and may aggravate any existing lameness conditions such as arthritis and navicular syndrome. Therefore, it is important to ensure that the horse is meeting all of its

nutritional requirements without gaining an excessive amount of weight. Allowing ample turnout time for horses that are not in a routine riding program will provide them with some exercise and allow them to maintain muscle tone and a healthy body condition.

Metabolic Disorders

Some horses may develop metabolic conditions as they age, which can lead to unhealthy obesity. This is commonly caused by imbalances in hormone levels (such as insulin) that cause diseases such as Cushing's, insulin resistance and metabolic syndrome. These conditions often develop in older horses (about 20 years old). Insulin resistance and metabolic syndrome in horses are similar to diabetes mellitus in humans. Horses with Cushing's produce excessive amounts of cortisol from their adrenal glands. Cortisol has many functions in the body, including maintaining blood pressure, modifying the body's inflammatory immune response, regulating the function of nervous tissue, regulating muscle tone and connective tissue repair, and regulating the breakdown of carbohydrates, proteins and fats by controlling insulin levels in the body. The excessive amount of cortisol produced in horses with Cushing's disease leads to many problems, including recurring laminitis, muscle atrophy, susceptibility to disease, slow wound healing, excessive hair growth along with failure to shed, and lethargy. If any of the above symptoms, including excessive obesity, are noted, a veterinarian should be contacted as soon as possible. Cushing's can be controlled with medication if it is caught early. Horses with metabolic disorders can be managed with routine hoof care, vaccinations, de-worming and a specialized diet. A routine exercise program may help prevent disease onset or improve the lives of individuals already suffering from metabolic disorders.

A common management practice for horses with Cushing's disease, insulin resistance and/or metabolic syndrome is to feed them a diet with a low glycemic response. The glycemic response of feeds is a representative number to convey how much of a glucose and insulin spike a particular feed elicits in the blood, and is strongly correlated to the amount of sugar and starch present in the feed. Feeds that are high in sugar and starch will cause blood glucose levels to rise sharply and quickly, followed by a spike in insulin levels. For horses with metabolic conditions such as Cushing's, this spike in insulin is particularly undesirable. Feeding a diet with a lower starch content (i.e., feeding more highly digestible fiber and fat) will keep insulin levels in the bloodstream stabilized. Additionally, hay can be soaked in water for several hours and the water drained off to further remove sugars from the horse's diet.

It is important to be sure that the horse's diet meets all of its protein, mineral and vitamin requirements as these nutrients are critical for muscle tone and tissue repair, wound healing, and prevention of infection and illness. Horses with Cushing's, insulin resistance and metabolic syndrome can be managed by feeding a diet that meets their nutritional requirements but has little starch and sugar – for example, good quality forage, highly digestible fiber sources (e.g., unmolassed sugar beet pulp, soy hulls), fat supplementation if needed to maintain weight, and protein, vitamins and minerals in the form of a ration balancer.

Lameness

One of the most common soundness problems seen in older horses is arthritis, which can begin at any stage of life but often worsens with age. Although it is uncertain whether arthritis can be prevented, it can often be managed with considerable success.

There are numerous feed supplements marketed for use in improving joint function. These supplements may contain chondroitin sulfate, glucosamines, hyaluronic acid, msm, yucca or a combination of these ingredients. Use of joint supplements may have beneficial effects on some horses that already have arthritis and other forms of joint disease; however, very little scientific research has been done in vivo to test these products. Equine joint supplements are not FDA approved and therefore are not regulated. Because of this, there is often considerable variability in these products. Some horses do appear to respond favorably to supplementation while others do not respond at all. For horses that do not improve with the use of joint supplements, another option is injectable joint products that typically contain substances thought to replace joint fluid or improve cartilage regeneration. Examples of products that may be found in injectable form include polysulfated glycosaminoglycans or sodium hyaluronate (trade names Adequan and Legend). A veterinarian may recommend injecting a particularly bothersome joint with steroids and/or hyaluronic acid for direct and more immediate relief. These injections may improve joint flexion and reduce pain within days, and benefits may last for months or years before having to be repeated.

Other potential lameness-causing conditions for older horses are problems related directly to the feet, often caused by lack of proper care or lack of adequate hoof horn growth. As horses get ridden or worked less, their hooves often become neglected. Many older horses don't grow high-quality horn because of lack of use and a decline in their ability to extract key nutrients from feeds. Poor hoof quality and imbalanced hooves can exacerbate arthritic conditions and lead to soft tissue injuries. While an older horse may not be working and performing like he once did, routine proper hoof care is still essential to maintain health and soundness.

Summary

The problems and solutions discussed in this publication are meant to serve as guidelines for managing an aging horse. Horses vary greatly from individual to individual, and there are no hard and fast rules for caring for horses, geriatric or otherwise. Understanding the underlying reasons for problems that might arise in aging horses will help both owners and caregivers to make educated management decisions. It is important to recognize that while older horses may not be as productive or useful as they might have been in their youth, routine veterinary, dental and hoof care, along with proper nutrition and parasite control, are critical to keep these horses healthy for the remainder of their lives.

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9. Joint Supplements

Florien Jenner DVM, Horse Extension, University of Minnesota

Due to the great variety of joint supplements on the market, this will be limited to the various ingredients commonly used in joint supplement, not brand names. The purpose of joint supplements are to provide building blocks for cartilage and synovial fluid, and to reduce inflammation and cartilage degradation. Most oral joint supplements contain varying amounts of glucosamine, chondroitin sulfate (CS), Methylsulfonylmethane (MSM), and minerals, or a combination of these.

Glucosamine is a building block for cartilage and joint fluid and has been shown to stimulate the building of cartilage and inhibit inflammation. Glucosamine is well absorbed in the horse gut and is accepted as a valid therapeutic approach for the management of degenerative joint disease in horses and as an alternative to injectable therapies where cost is an issue.

CS inhibits inflammation and tissue destruction. However, absorption of CS has been reported for man, dogs, and rats at less than 15%. Absorption in horses has not been studied.

MSM is a source of bioavailable sulfur and is believed to have anti-inflammatory effects, but these effects have not yet been proven.

Minerals are important constituents of enzymes that control cartilage synthesis. They are included in many joint nutriceuticals (non-regulated products) to insure against dietary deficiencies. Sulfur plays a part in the biosynthesis of glucosamine and collagen, manganese is an essential part of the enzyme involved in the synthesis of CS, zinc is a component of the enzyme that controls the production of collagen in cartilage, and copper is also involved in collagen production.

Because of the wide variability and amount of active ingredient of minerals, their purity and availability after oral administration is sometimes unknown. When using joint supplements, it is important to consult with your veterinarian and to rely on trusted, proven brands.

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10. Resources

Nutrient Requirements of Horses

http://www.nap.edu/read/11653/chapter/1

Feeding the Endurance Horse

http://www.thehorse.com/articles/12424/feeding-the-endurance-horse

Digestible Energy Requirements for Exercising Horses

https://dl.sciencesocieties.org/publications/jas/abstracts/56/1/JAN0560010091

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11. HAY

Hay Season is in High Gear, Please let me know if you have hay to sell. A Hay Directory is maintained by the North Carolina Cooperative Extension Service for the Rockingham County and Guilford County area. This directory is intended as a service to both hay producers and buyers in the area. If you are in need of hay or have hay to sell (or removed from this list) please call me at 1-800-666-3625 or 342-8235 and let me know your name, address & phone #, type of hay, number of bales, (square or round bales) and weight per bale.

MANAGE YOUR PASTURES!

If you have hay to sell, please let me know!

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12. Swap Shop

Shooting Star Horse Farm:

- Boarding Spots Available. $500/month. Full Stall. Daily feeding, care and turnout.

Lessons

Training

ShootingStarHorseFarm.com

- 2 Dump Truck loads of free sand for anyone that would want it. If interested call Neila. 336-449-6244

- For Sale – Tamworth Pigs (& for Barbeque) – if interested call 336-496-6756

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13. Take A Load Off

EVER WONDER??

- Why the sun lightens our hair, but darkens our skin?

- Why women can't put on mascara with their mouth closed?

- Why don't you ever see the headline "Psychic Wins Lottery"?

- Why is "abbreviated" such a long word?

- Why is it that doctors call what they do "practice"?

- Why is it that to stop Windows 98, you have to click on "Start"?

- Why is lemon juice made with artificial flavor, and dishwashing liquid made with real lemons?

- Why is the man who invests all your money called a broker?

- Why is the time of day with the slowest traffic called rush hour?

- Why isn't there mouse-flavored cat food?

- When dog food is new and improved tasting, who tests it?

- You know that indestructible black box that is used on airplanes? Why don't they make the whole plane out of that stuff?

- Why don't sheep shrink when it rains?

- Why are they called apartments when they are all stuck together?

- If con is the opposite of pro, is Congress the opposite of progress?

- If flying is so safe, why do they call the airport the terminal?

I always need more help with Clean jokes!

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I always want to know what you think of the Weekly Pile, good or bad,

Especially if it has had ANY IMPACT on you. Let me hear from you!

PLEASE SEND TO ME YOUR IDEAS FOR ARTICLES IN FUTURE NEWSLETTERS!

I WANT TO HEAR FROM YOU!!!!!

Please remember our Troops who are serving our Country (and their families), those who have come home with wounds, and the families that paid the ultimate sacrifice.

Have A GREAT

SAFE LABOR DAY WEEKEND!

I Would Really Like to Hear from YOU!--

Ben Chase

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