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An Equine New Year's Resolution: Better Pasture Management

The beginning of a new year is a great time to set priorities for the rest of the year. Focusing some of our efforts on improved pasture management could potentially have positive impacts on our horses, our wallets, and the environment. Like many resolutions, it is a yearlong undertaking that requires advanced planning.

Benefits of Improved Pastures

Improving pastures has many benefits that justify the time, effort, and potential cost involved. Pastures that have desirable grass cover provide safe footing for horses and, in many cases, all of the nutrition needed to maintain them.

"The most economical way to feed a horse is on pasture," said Tom Keene, forage agronomist at the University of Kentucky College of Agriculture, Food and Environment.

Stored feeds, such as grain mixes and hay, are significantly more expensive than maintaining a healthy and productive pasture. Weed control in pastures improves the quality and quantity of forage produced, is more aesthetically appealing, and reduces toxic plant growth. Finally, a healthy pasture reduces manure and fertilizer runoff into nearby waterways and slows soil erosion.

Planning Ahead

Improving pastures in an economical way requires knowing "the what," "the how," and "the when" concerning pasture management. Knowing when to carry out specific practices can sometimes be difficult due to climate differences across the United States. To address this, we asked three forage extension specialists to describe management practices and timing in their respective areas. Marvin Hall, PhD, at Pennsylvania State University in central Pennsylvania, said his region is dominated by cool-season grasses (those that grow best when temperatures are between 60°-80°F). Jennifer Johnson, PhD, at Auburn University in south central Alabama, said she relies heavily on warm-season grasses (those that grow best when temperatures are 85°-95°F). And Ray Smith, PhD, at the University of Kentucky in Central Kentucky, is located in the "transition zone," an area where farms can utilize both warm- and cool-season grasses (Figure 1).

FIGURE 1

Time your pasture-management practices according to your region.

Winter

The goal of winter pasture management is to minimize the traffic's impact on the pasture. This usually means removing horses from pastures or limiting their access, especially during wet periods. Keep horses in a "sacrifice area" during winter months, as heavy traffic will damage most grasses that are now dormant. Exceptions include grazing stockpiled tall fescue or bermudagrass or annual ryegrass.

Articles of Interest

Better Pasture Management

Stockpiling refers to setting aside grazing areas in the late summer or early fall and allowing forage to accumulate for grazing in the early winter, therefore reducing the need for feeding as much hay. Think of stockpiled forage as hay still standing in the pasture rather than stacked in the barn. Harvesting, baling, transporting, and storing hay is an expensive process; grazing stockpiled grasses allows the horse to harvest the forage in the field, saving you money and time. Grasses such as bermudagrass and tall fescue are excellent for stockpiling because they hold their nutritive value after a killing frost and will survive winter grazing well (when managed properly). Pastures dominated by grasses such as orchardgrass and bahiagrass are not good candidates for stockpiling, as freezing temperatures lower their quality, and winter grazing easily damages them.

Frost seeding clovers into pastures improves forage quality and production. Perform frost seeding in late winter. Broadcast clover seeds four to six weeks before the last frost into pastures that have been either grazed heavily or mowed close. As the ground freezes and thaws, it will expand and contract, working seeds into the soil. These seeds will germinate in early spring. Do not frost-seed grasses and other legumes such as alfalfa, as their success rates are low. Whenever seeding, always use quality seed of improved varieties ideal for your area.

FIGURE 2

Common Horse Pasture Grasses

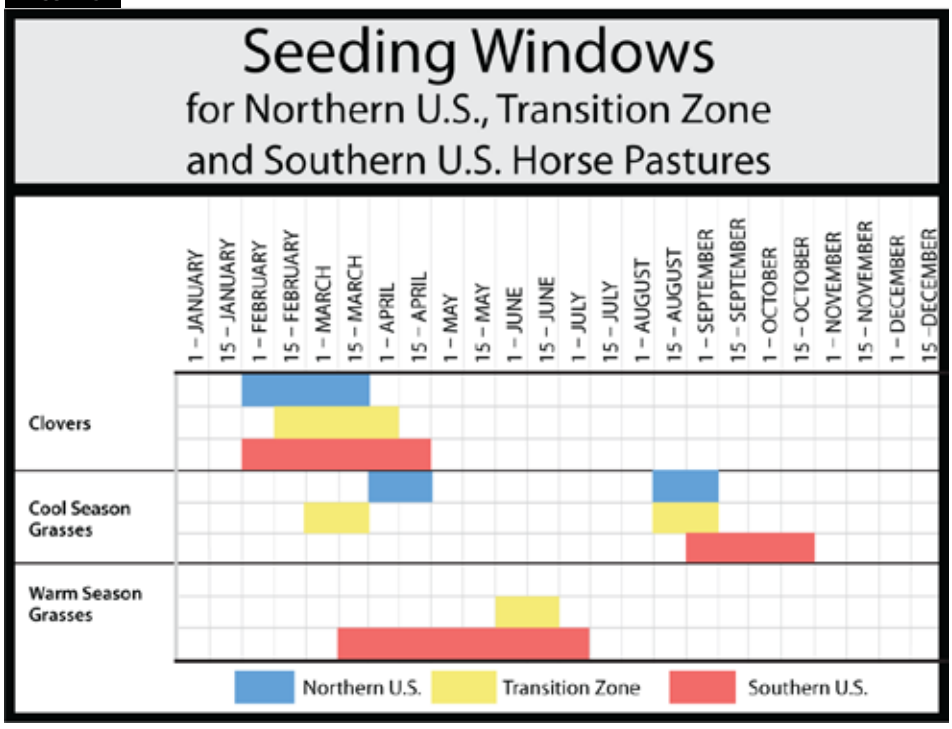
	Cool Season Grasses	Warm Season Grasses
Northern U.S.	Bromegrass Orchardgrass Timothy Perennial Ryegrass Tall Fescue	N/A
Transition Zone	Tall Fescue Orchardgrass Kentucky Bluegrass Perennial Ryegrass	Crabgrass* Bermudagrass
Southern U.S.	Tall Fescue Annual Ryegrass*	Bermudagrass Crabgrass* Bahiagrass Dallisgrass

*annuals

Spring

Spring is all about balancing quality with quantity. Pastures dominated by cool-season grasses will be extremely productive and begin producing seedheads during the spring. Forage quality and maturity are inversely related, meaning that as the plants mature, yield increases while forage quality decreases. Many farms produce more forage in the spring than their horses can keep up

FIGURE 3



MASTHEAD

University of Kentucky Ag Equine Programs

Jenny Evans, MFA, co-managing editor and interim executive director of the Gluck Equine Research Foundation, jenny.evans@uky.edu
Holly Wiemers, MA, APR, co-managing editor, holly.wiemers@uky.edu

Bluegrass Equine Digest Advisory Board

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The Horse: Your Guide to Equine Health Care

Alexandra Beckstett, Managing Editor
Brian Turner, Layout and Design

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with. In these situations, mow or divert excess forage into hay production. Mowing will also remove seedheads, keeping grasses in a vegetative state and improving the pasture's forage quality.

Seeding is another springtime task. For southern areas, spring and early summer are the only times to seed warm-season grasses such as bermudagrass. Seed or plant bermudagrass via vegetative propagation (planting sprigs). Any planting's success rests on proper preparation, including weed control and fertility. You can also seed cool-season grasses in the spring, but ideally seed them in the fall, especially in the transition zone and the southern United States. Figure 2 contains a list of common cool-season and warm-season grasses for different areas.

Naturally occurring tall fescue (usually KY 31+) is known to be infected with an endophyte that can produce chemicals toxic to broodmares. This is a significant concern in the transition zone where tall fescue is dominant and large broodmare herds are common. If significant tall fescue is present in pastures, remove broodmares from it during their last trimester. Have the fescue analyzed for endophyte and ergovaline (the toxic chemical) presence in the late spring/early summer, when ergovaline levels peak.

Summer

Summer is all about managing warm-season grasses. This is the time of highest production for warm-season grasses. Horse farms in the south will typically be grazing pastures heavily during this season and haying excess forage. Bermudagrass is very responsive to nitrogen applications; if maximizing yield is important (such as when making hay) add nitrogen applications in the summer. However, if there are not enough horses to consume the forage produced, reduce your nitrogen applications.

In northern locations, most warm-season grasses are considered weeds. Crabgrass is one warm-season grass that is very nutritious for horses (and they like it). However, it and other warm-season grasses are not desired in cool-season pastures because they die back in the fall, leaving bare areas that problem weeds can fill in. For cool-season pastures, summer is a time to reduce grazing pressure to prevent warm-season grasses from invading. Additional supplementation might be needed in the transition zone, where summer temperatures can persist for extended periods of time and cool-season grass production is low.

Summer is also the time to start planning and preparing for late summer or early fall pasture establishment. Some farms choose to kill pastures completely and re-establish new pastures to greatly improve forage quality and quantity. This usually requires one to two applications of glyphosate to remove all vegetation. High rates of glyphosate are best when controlling difficult grasses such as tall fescue and nimblewill (a warm-season perennial grass that livestock do not consume). Space glyphosate applications about six weeks apart; apply the first application in the late summer to set up for a proper seeding window in the fall. After the second application, you can reseed grasses one week later due to glyphosate's low residual effects. When using herbicides, always read and follow all label recommendations.

Fall

Fall is all about planning for the future. This is the best time to seed cool-season grasses, re-establish pastures that were killed over the summer, and overseed by drilling into existing stands. Overseeding

GRAD STUDENT SPOTLIGHT

EMILY RUBINSON

From: **Bethesda, Maryland**

Degrees and institute where received:

BA, Smith College, Massachusetts

MSc, University of Kentucky

Emily Rubinson wanted to pursue a degree at the University of Kentucky Gluck Equine Research Center so she could apply the molecular and microbiological techniques she had used in human medicine to animals.

"And since I am in Kentucky, I wanted to get some experience with horses," she said. "I have been fortunate to perform my research under the supervision of Dr. Martin Nielsen (DVM, PhD, Dipl. EVPC, assistant professor at the Gluck Center)."

In Rubinson's research project, she evaluated the inflammatory reaction to vaccination and whether deworming horses simultaneously with vaccination would affect vaccine efficacy.

Unlike humans, horses are never completely parasite-free, but parasite burdens are largely impacted by the regular deworming treatments often practiced on horse farms. It is also very common to carry out vaccination and deworming on the same day, but Rubinson questioned, "Is the vaccine response altered by deworming?

In recent years research in humans has shown possible beneficial effects of having worm parasites in the gastrointestinal tract, Rubinson said. These worms have been found to reduce and change the inflammatory response and can counteract various allergic conditions, such as asthma.

"We don't know, however, if similar mechanisms might be in play in the horse," Rubinson said.

To test the hypothesis, Rubinson said, "we measured the inflammatory response (acute phase proteins, hematology, and cytokines) to a combination of three different vaccinations given to yearling ponies. All ponies were vaccinated with the same three vaccines, but one group was dewormed with ivermectin, another with pyrantel pamoate, and the last group was not dewormed."

Rubinson's determined that deworming affected horses' inflammatory response to vaccination to some extent, but the vaccine antibody titers (the concentration of specific antibodies in the blood) did not differ significantly between the groups.

"Therefore, our conclusion was that vaccination and deworming can be carried out on the same day without losing vaccination effects," she said.

Rubinson earned her master's degree at UK in December. As for the future, she hopes to work in the field of veterinary microbiology, preferably parasitology, and then after a few years go back to school to get her doctoral degree. UK

>Shaila Sigsgaard is an editorial contributor for the Bluegrass Equine Digest.

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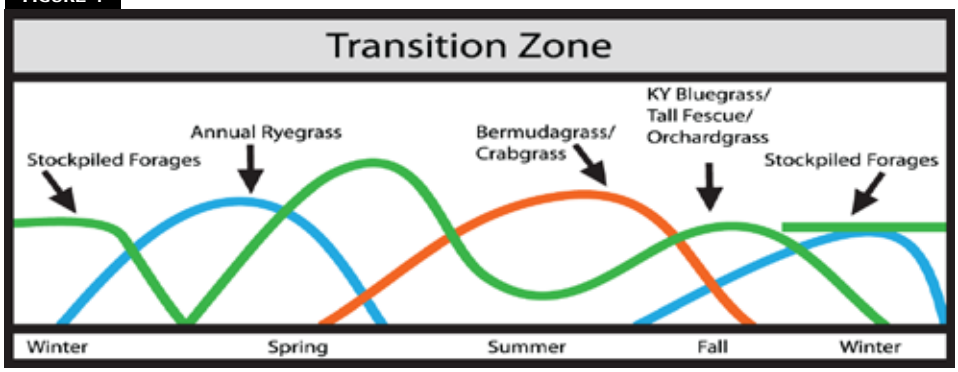
perennials into thin cool-season stands will thicken the stand while overseeding annuals (such as oats, cereal rye, or annual ryegrass) into warm-season grass will provide fall and spring grazing. See Figure 3 for recommended seeding dates. Grasses are best established using a no-till drill. Seeding rates will vary by species and mixture; seeding too little can result in thin stands and high weed pressure while seeding too much is a waste of seed (and money).

Nitrogen is the most important nutrient for grass production. Late summer through fall is the best time to fertilize cool-season pastures with nitrogen. This will allow grasses to be productive longer into the winter without the excess production that is common with spring applications. You can split nitrogen applications into two applications (primarily in the transition zone) six weeks apart. Nitrogen applications in late summer are especially important when stockpiling forages for winter.

Do not graze tall fescue or bermudagrass pastures that are being stockpiled in the early fall. These pastures will accumulate forage (aided by nitrogen applications) and can be used when needed in the winter.

FIGURE 4



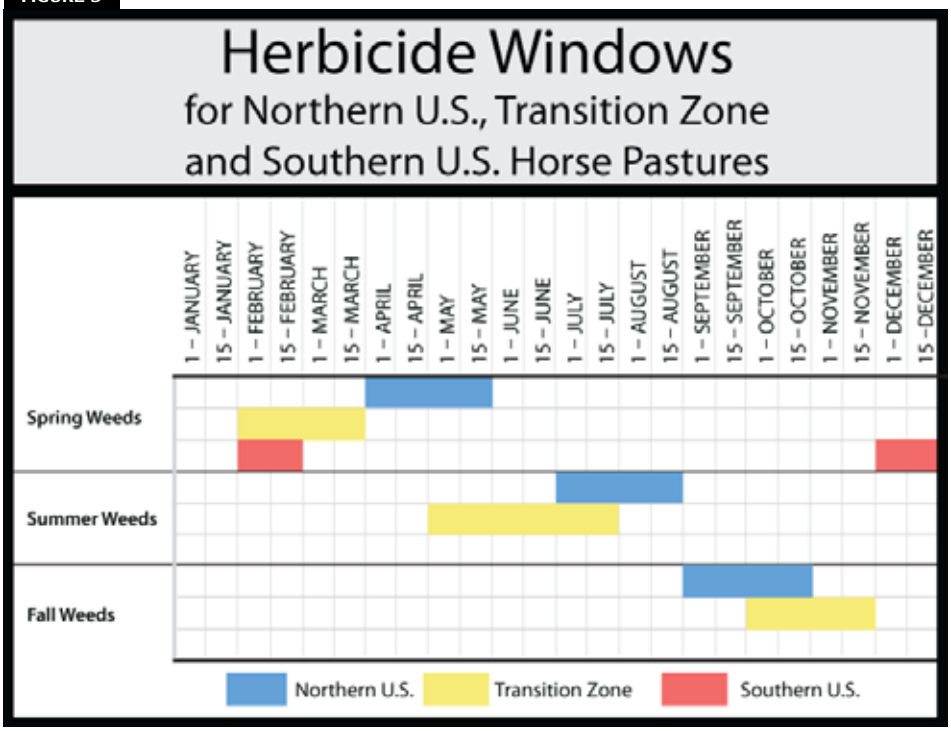
Year-Round Practices

Rotational grazing can benefit pastures throughout the grazing season. Horses are spot grazers, meaning that they will repeatedly graze the same location over and over again while ignoring other areas. By rotating horses and clipping pastures after horses are removed, you can reduce spot grazing's impacts. Rotational grazing is simple: Moves horses from one pasture to another and back again every few weeks. Use temporary fencing to divide pastures, if needed.

You can sample soil and apply fertilizer (excluding nitrogen) anytime the weather is conducive. Ideally, sample pasture soil every two to three years, and apply lime and fertilizer based on soil test recommendations. Local county extension agents and agribusinesses are great resources for soil testing recommendations.

A good pasture management strategy will focus on providing and utilizing quality grazing throughout most of the year. Figure 4 illustrates yield distribu for grasses that farm owners can plant in the transition zone. Pastures dominated by cool-season grasses (such as tall fescue and orchardgrass) will be most productive in the spring and the fall. During summer, horses will be grazing warm-season grasses, like crabgrass. Late fall and into winter, feed them stockpiled tall fescue. Seed annual ryegrass in early spring until cool-season perennials become active again. Provide hay if needed in the late winter or peak summer months when forage production does not meet your horses' nutrient requirements.

FIGURE 5



Weed Control

Unfortunately, weed control is not a once-a-year event. It's highly dependent on the weeds present. Generally, weeds are best controlled in a young, vegetative state; however, they often go unnoticed until they are big and strong. Like grasses, different weeds dominate pastures during certain times of the year. Spring weeds include buttercup, chickweed, purple deadnettle, henbit, and yarrow. Summer weeds include pigweed, wild carrot, cocklebur, tall ironweed, and ragweed. Fall weeds include plantain and dandelion.

The key to successful herbicide control of weeds is applying the correct herbicides for the target weed at the correct time. This means some pastures could require more than one application per year until weed populations decrease. Herbicides that are safe for established grasses are often not safe

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for new seedlings; you might need to focus on weeds one year and worry about grass establishment the next (or vice versa). Figure 5 contains recommended treatment windows for groups of weeds throughout the various climate zones. Always follow label instructions when using any herbicide.

Many pasture management practices will also impact weed control. Mowing weeds before they produce seeds can reduce future populations. Maintaining proper fertility will give grasses the best chance to outcompete weeds. Overgrazing pastures will open up bare areas in the pasture, giving weeds the chance to establish and spread.

The key to successful herbicidal control of weeds is applying the correct herbicides for the target weed at the correct time.

Determining Your Needs

Not every pasture needs all the management practices discussed in this article every day. Walk through pastures periodically to help determine how and what to focus your attention on. Contact your local county extension agent or agribusiness representative for assistance and planning of pasture management.

Find more information by visiting the following Forage Extension websites:

- Northeast: http://extension.psu.edu/plants/crops/forages
- Transition Zone: uky.edu/Ag/Forage/ForagePublications.htm
- South: AlabamaForages.com UK

>Krista Lea, MS, assistant coordinator of UK's Horse Pasture Evaluation Program; Ray Smith, PhD, professor and forage extension specialist at UK; Marvin Hall, PhD, professor and extension specialist at Pennsylvania State University, and Jennifer Johnson, PhD, assistant professor and extension specialist at Auburn University, provided this information.

UK Studies Featured at AAEP Kester News Hour

To kick-start the educational sessions at the 2014 American Association of Equine Practitioners' (AAEP) Convention, held Dec. 6-10 in Salt Lake City, Utah, three veterinarians presented their favorite surgery, medicine, and reproduction studies from the past year. On the breeding side, researcher and Texas A&M University theriogenology professor Terry Blanchard, DVM, Dipl. ACT, described 12 equine reproduction-related papers sure to impact the industry. Of those, two featured work done by University of Kentucky researchers:

COURTESY AAEP

Veterinarians recap the year's top studies at the annual AAEP Convention.

Using Acute Phase Proteins to Monitor Placentitis

Researchers from the University of Kentucky hypothesized that certain types of proteins become elevated in mares with placentitis (inflammation of the placenta, an important cause of pregnancy loss). To verify this, they measured concentrations of the proteins serum amyloid A (SAA) and haptoglobin (Hp), as well as white blood cell counts (WBC) and fibrinogen concentrations in mares with experimentally induced placentitis. They determined that SAA and Hp levels increased significantly after induced infection and remained high until the mares aborted. Fibrinogen concentrations and WBC counts, on the other hand, were not useful markers. Blanchard said these results raise the question of whether veterinarians can use SAA or Hp screening to identify at-risk mares earlier in the course of the disease.

Canisso IF, Ball BA, Cray C, et al. Serum amyloid A and haptoglobin concentrations are increased in plasma of mares with ascending placentitis in the absence of changes in peripheral leukocyte counts or fibrinogen concentration. *Am J Reprod Immunol.* 2014;72(4):376-85. ncbi.nlm.nih.gov/pubmed/24916762

Bacteria Transmission from Stallions to Mares Post-Breeding

Another group from the University of Kentucky looked at the presence of bacteria on stallions' external genitalia and whether that bacteria were recovered from mares post-breeding with live cover. They used 15 stallions and 206 mares from two Central Kentucky farms. They determined that 22% of the stallions were positive for potentially pathogenic bacteria, yet only 29% of the mares bred to those positive stallions had positive uterine cultures the following day. This team also looked for potential correlations between whether a mare cultured positive after being bred to a negative or a positive stallion and found no significant relationship between these factors. They concluded that breeding to stallions with positive cultures did not increase the incidence of positive post-breeding uterine cultures in mares.

"This is probably going to be of interest to those of you who are responsible for monitoring stallions in breeding sheds where natural service occurs," Blanchard noted. "The authors' findings encourage us not to be overzealous in treating many of these stallions that culture positive for potential pathogens."

Cerny KL, Little TV, Scoggin CF, et al. Presence of Bacteria on the External Genitalia of Healthy Stallions and its Transmission to the Mare at the Time of Breeding by Live Cover. *JEVS.* 2014;34(3):369-374. j-evs.com/article/S0737-0806%2813%2900465-6/abstract UK

>Alexandra Beckstett is the managing editor of *The Horse*.

Horse Management Tips for Cold Temperatures

Bitter cold temperatures have been a theme this winter. So researchers and faculty from the University of Kentucky College of Agriculture, Food and Environment have offered tips for managing horses during extremely cold weather.

While the ideal time for cold weather preparation is in the fall, you can still take management steps to help keep your horses healthy now. Bob Coleman, PhD, PAS, extension horse specialist within the University of Kentucky's Department of Animal and Food Sciences, said horse owners should think about preparing for acute vs. chronic cold. Acute cold describes the cold snaps that last for a short period of time. Chronic cold is that which takes hold and stays with a region for a much longer duration. Sometimes an acute situation can prove to be more dangerous to animals, he said, because they aren't as accustomed to the temperature, and owners might not be as well-prepared as those in locations where intense cold is more typical and long-lasting.

Regardless of the type of cold, horse owners should ensure animals have adequate shelter, water, dry bedding, and feed, he said.

Coleman said digestion is one way horses generate heat when it is cold. The average horse, with a lower activity level, should eat between 1.5 and 2% of its body weight in feed per day to maintain weight. Feed requirements increase as temperatures drop and horses burn more calories to keep warm.

Mature horses can, when adapted, handle a temperature of 5°F, which is called the lower critical temperature, he said. When the temperature falls below this, the horse needs to increase heat production or reduce heat loss to maintain core body temperature. One way to do this is for the horse to eat more. A drop in temperature to -5°F will require an additional 15% more forage to provide the needed calories, meaning the horse needs to eat 2-3 more pounds of hay each day.

"As a horse owner, making sure there is some extra hay available will help your horses get through the short-term cold snaps," Coleman said. "Long or more chronic exposure to cold will need some other management changes to meet the horse's calorie needs. On the short-term, add more forage. But if forage supplies are limited, adding a concentrate feed to the diet may be needed."

MATT BARTON, UK AGRICULTURAL COMMUNICATIONS

You might add a concentrate to young growing horses' diets to meet their increased calorie needs during winter.

For mature horses at maintenance, good-quality legume-grass mixed hay should be adequate, while young growing horses or broodmares in late gestation require a concentrate in their diets to meet their increased calorie needs. If you're adding concentrate to your horse's diet for the first time, do so gradually to prevent digestive upset.

Coleman said it's also critically important that horses to have access to clean, unfrozen water to ensure they eat adequate amounts of feed. Daily water intake helps reduce the risk of colic due to impaction. While this can be one of the most difficult and time-consuming aspects of winter horse management, its importance can't be overemphasized.

In addition, horses will need shelter to provide protection from the wind and any precipitation.

Coleman urged horse owners who choose to use blankets to make sure those blankets are both wind- and waterproof. A wet blanket means a wet horse, and that wetness disrupts the hair coat's ability to insulate the animal and can quickly lead to cold stress.

All horse owners should take extra time observing horses during cold snaps to make sure they are okay. This means checking on horses daily. Ones who are feeling the effects of the cold will need extra attention.

One last bit of advice? Coleman strongly recommended keeping horses out of pastures or paddocks with ponds or other open water sources. Each winter he hears about horses falling through ice and into ponds. UK

>Holly Wiemers, MA, APR, is communications director for University of Kentucky Ag Equine Programs.

International Research Team to Map Disease Genes in Horses

The Morris Animal Foundation has awarded a three-year, $155,000 grant to a team of researchers from Kentucky and Denmark to build a new reference genome sequence for the domestic horse. The sequence will be a much-needed tool for animal researchers worldwide and the equine industry in particular because it should significantly improve the ability to understand the role of genetics in animal health and well-being.

Ted Kalbfleisch, PhD, of the University of Louisville Department of Biochemistry and Molecular Biology, is the principal investigator on the grant. He will be joined in the research with Ludovic Orlando, PhD, of the Centre for GeoGenetics at the University of Copenhagen's National History Museum, and

Disease Genes in Horses

James MacLeod, VMD, PhD, of the University of Kentucky's Gluck Equine Research Center, in Lexington.

Genome sequencing allows researchers to read and decipher genetic information found in DNA and is especially important in mapping disease genes—discovering the diseases a horse might be genetically predisposed to developing.

"In 2009, Morris Animal Foundation helped fund the first genome reference sequence for the domestic horse," Kalbfleisch said. "We intend to build on this earlier work. In the past five years, there have been dramatic improvements in sequencing technology as well as the computational hardware and algorithms required to analyze the data generated by the technology. Therefore, we now have the tools necessary to vastly improve the reference genome for the horse."

The current reference genome for the horse, known as "EquCab2," has been beneficial in studying horses and their genetic predisposition to disease, but it is not without its shortcomings, Kalbfleisch said.

"The horse research community is working to understand the relationship among genomic structure, variation found within it, and complex diseases and traits in the domestic horse," he said. "The EquCab2 reference genome was developed prior to the development of today's highly sophisticated technology.

"With the application of new high-throughput technologies we have available today, we will map the genome with a focus on what is known as the 'GC-rich regulatory regions.'"

These GC-rich regulatory regions control how genes are expressed (turned on) in order to participate in normal cellular processes. This work will enable scientists to better catalog genetic variation in these regions and understand how it affects health and performance.

"We expect our research to have substantial impact because the horse research community has actively moved to the translational application of genomics in examining important questions in equine science," Kalbfleisch said. "The improved reference genome we will map will directly improve both the quality and productivity of research being carried out in the equine industry." UK

>Edited Press Release

32 and My Horse

ISTOCK.COM

Some breeding decisions revolve around coat color, genetics.

Ernie Bailey, PhD, a professor at the University of Kentucky Gluck Equine Research Center, recently gave a presentation titled "32 and My Horse" on the equine genome and genetics at a UK Equine Forum meeting. Bailey based the lecture on his personal experience with a commercial company called "23andMe" that provides people with genetic information for recreational purposes. The numbers 23 and 32 reference the number of chromosomes humans and horses have, respectively.

Commercial companies such as "23andMe" provide what Bailey called consumer genetics. Consumer genetics allow those who are not scientists to use genetics to identify distant relatives, disease predilection, and the origins of ancestors. Bailey suggested that consumer genetics companies could be of potential value to the horse industry, as well.

Bailey explained that an enormous part of horse breeding decisions revolve around looking at patterns—take, for instance, coat color genetics. He proposed that breeders might further benefit from looking at DNA patterns. Another example Bailey gave was related to chromosome 18, the gene associated with sprinting ability in horses. Aside from coat color and athleticism, owners and veterinarians can also use genetics to look at gene mutations that cause a variety of health problems.

Bailey is currently researching the genetics of equine arteritis virus, the cause of equine viral arteritis, which is a viral disease of equids, in collaboration with Gluck Center researchers Udeni Balasuriya, PhD, BVSc, MS, PhD, an associate professor of virology, and Peter Timoney, MVB, PhD, FRCVS, Frederick Van Lennep Chair in Equine Veterinary Science. UK

>Hannah Forte is a communication intern with the UK Ag Equine Programs and Gluck Equine Research Center and undergraduate student majoring in community and leadership development at UK.

What Should I Expect From a Veterinary Visit?

Q I am looking for general information regarding my veterinarian and horse care. What should I expect from the veterinarian? I feel like she just provides shots, but there is really no physical examination. Is there a set protocol or standard that I should be asking for? She does shots and moves on to the next horse, and that is about it. My dog gets a more thorough physical exam when I take him to the vet.

PAULA, VIA E-MAIL

A Here is a prime example of where communication between owner and veterinarian is critical—so that there are few misunderstandings! Perhaps you asked your veterinarian to come out to "give vaccinations," which is what happened. Although if a horse appeared to be clinically ill, it likely would have resulted in a physical examination and further work-up instead of vaccination.

If you would like a physical examination on every animal on an annual basis, you should discuss this with your veterinarian. Ask her to develop a preventive medicine schedule for your horses. This usually includes physical examinations, vaccinations, deworming, dental care, reproductive services, etc. The extra time for a physical examination might not be covered in the farm call and vaccination fees, but that is exactly what you need to discuss. Older and special needs horses might require routine blood work and other services. Prior to your veterinarian's next visit, ask to schedule some extra time to discuss these matters. Veterinary services can be tailored to suit the needs of the horses and client. UK

>Roberta Dwyer, DVM, MS, Dipl. ACVPM, is a professor at the University of Kentucky Maxwell H. Gluck Equine Research Center.

Kentucky Extension Agents to Host 8th Annual Pastures Please!!

University of Kentucky Cooperative Extension Service and UK Ag Equine Programs will host Pastures Please!! on Feb. 5 at 6 p.m. at the Fayette County Extension office on Red Mile Road in Lexington. The public is invited to the free annual event, particularly horse owners and farm managers interested in the latest information about horse pasture management.

This year's program will feature topics on stewardship when applying herbicides for weed control, how to "start over" and completely re-establish pastures, and plants poisonous to horses.

A few Central Kentucky extension agents launched the annual educational program in 2007 to provide timely and practical information for area horse owners. It has expanded and now includes participation from Bourbon, Clark, Fayette, Jefferson, Jessamine, Scott, and Woodford counties. Each year a different county hosts the event.

Those interested in attending should RSVP to UK at 859/257-2226 or equine@uky.edu.

Now You Can Follow Us on Twitter, Too

The University of Kentucky College of Agriculture, Food and Environment has several equine-related social media pages with the latest news and events information.

The UK Ag Equine Programs recently joined Twitter. Follow us at UKAgEquine.

The UK Maxwell H. Gluck Equine Research Center is also on Twitter at UKGluckCenter.

Got Facebook? Like these pages administered by us:

University of Kentucky Ag Equine Programs: UK Ag Equine Programs is an overarching framework for all things equine at the University of Kentucky, including the undergraduate degree program, equine-related student organizations, equine research, and outreach activities.

University of Kentucky Maxwell H. Gluck Equine Research Center: The mission of the Gluck Center is scientific discovery, education and dissemination of knowledge for the benefit of the health and well-being of horses.

University of Kentucky Horse Pasture Evaluation Program: The University of Kentucky Horse Pasture Evaluation Program is a service program offered to horse farms in Kentucky with the goal of overall improved pasture management. Regardless of breed or discipline, the programs goals are to: provide detailed pasture management recommendation to horse farm owners and managers; help improve pastureland to increase quality and quantity of pasture as a feed source and reduce the need for stored feeds such as hay and grain; and assess the potential risk of fescue toxicity of individual pastures to pregnant broodmares.

Kentucky Equine Networking Association (created by the Kentucky Horse Council and University of Kentucky): The mission of the Kentucky Equine Networking Association (KENA) is to provide an educational and social venue for equine professionals and other horse enthusiasts from all disciplines to share ideas and business strategies, and obtain current knowledge on horse and farm management with the principal objective of enhancing individual horse ownership and the horse industry at large.

Saddle Up SAFELY: Saddle Up SAFELY is a rider safety awareness program sponsored by UK HealthCare, UK College of Agriculture, Food and Environment and many community organizations. It aims to make a great sport safer though education about safe riding and horse handling practices. UK

UK Law Symposium to be Held Feb. 24

The *Kentucky Journal of Equine, Agriculture, and Natural Resources Law* will host a symposium Feb. 24 titled "Improving or Impeding? The Local & National Effects of State & Federal Regulations." It will take place in the UK College of Law Courtroom.

The equine law discussion is scheduled for the morning session. Presenters will speak on a range of issues from the Kentucky equine industry's economic outlook to recent developments in court cases to industry regulation. A lunch will be hosted at the Hilary J. Boone Center on campus. Parking and/or student shuttles will run between the two venues.

Equine speakers include:

Rutherford B. Campbell, professor, is a graduate of Centre College in Kentucky, the UK College of Law, where he graduated with Order of Coif distinction, and Harvard Law School, where he received an LLM. Campbell writes and teaches in the securities, economics, and corporate law fields. Prior to entering academia, he practiced in New York City and in Lexington. He will serve as panel moderator.

Jill Stowe, PhD, is an associate professor in the University of Kentucky's Department of Agricultural Economics and also serves as the Director of the UK Ag Equine Programs. Her specialties include economics of the equine industry, decision-making under risk and uncertainty, other-regarding preferences, incentives, and neuroeconomics. She received a PhD in Economics from Texas A&M University.

Laura D'Angelo received an MBA from York University Schulich School of Business before receiving her law degree from the UK College of Law. She helps international and domestic clients navigate compliance issues, contract negotiation, mergers and acquisitions, and commercial lending. D'Angelo also effectively steers clients through the myriad of evolving state and federal regulations that govern the equine gaming industry. She is a partner at Dinsmore & Shohl in Lexington.

Robert Beck is a transactional lawyer with Stites & Harbison in Lexington representing both domestic and foreign clients in the purchase, sale, or syndication of bloodstock valued at more than $700 million. Beck also regularly provides corporate and financing legal counsel to equine industry participants. He is chair of the Kentucky Horse Racing Commission, having been reappointed by Governor Steve Beshear for a third term.

Robert Heleringer is an expert in equine regulatory law and has written a book on the subject. He has a deep background in the racing industry. During his career Heleringer served for 23 years in the Kentucky General Assembly where he was an outspoken advocate for the horse racing industry and for the rights of people with developmental disabilities.

Contact Dillon Nichols, MA, JD candidate and UK College of Law Executive Development editor for the *Kentucky Journal of Equine, Agriculture, and Natural Resources Law*, at dillon.nichols@gmail.com for more information or registration. UK

>Holly Wiemers, MA, APR, is communications director for UK Ag Equine Programs.

UPCOMING EVENTS

February 5

Pastures Please!! Fayette County Extension Office. For more information and to RSVP, contact the UK Equine Programs office at equine@uky.edu.

February 24

Kentucky Journal of Equine, Agriculture, and Natural Resources Law Symposium, Topic: Improving or Impeding? The Local & National Effects of State & Federal Regulations, UK College of Law Courtroom.

Equine influenza virus (EIV) and equine herpesvirus (rhinopneumonitis) cause the most common respiratory diseases in horses — and without a second vaccination, the risk increases.[1,2] Don't take the gamble. Help protect your at-risk horse by vaccinating with FLUVAC INNOVATOR® EHV 4/1 every six months. Download the Equine Influenza Calculator on iTunes® or learn more at **FluvacInnovator.com/calculator**.

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*EHV-1 and EHV-4

[1] Fretz PB, Babiuk LA, McLaughlin B. Equine Respiratory Disease on the Western Canadian Racetracks. *Can Vet J* 1979;20(2):58-61.

[2] Manley L, Caceres P. Retrospective Cohort Study of an Equine Influenza Outbreak in the Chilean Army in the Metropolitan Region of Santiago, Chile, during 2006, in *Proceedings*. 12th Symposium of the International Society for Veterinary Epidemiology and Economics, Durban, South Africa 2009:64.