

Stable Sheet



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FEEDING FOR GENERATIONS TO COME

Even on a small breeding farm like Miner, foaling season is hardly the only time we think about foals! As we come into fall where shows feature weanlings in-hand or at halter, it is easy to get excited about what is to come next year in terms of the foal that is due or planning the perfect mating of stallion to mare. A couple of articles I came across recently have me pondering the timing of foaling and nutrition of the pregnant mare and how these will affect not just the immediate future of the new baby horse, but definitely its whole life.


One article from the April 2017 issue of *Theriogenology Journal*, titled “Effects of season on placental, foetal and neonatal development in horses” (*foetal* is the European style of *fetal*, sort of a horse of a different *colour*, but still a baby horse!). The premise of the German study was to evaluate the foal size (height and weight) and placental surface area and weight compared to the time of year the foal was born. The three periods they broke up their foaling season into compared foals born in February, March or April, give or take a few days. The most rapid fetal development occurs in the final months of pregnancy. When those final months coincide with the slow-metabolism

of mid to late winter, the result is a smaller foal. The results of the study supported the researchers’ hypothesis that foals born earlier in the year are generally shorter than foals born later in the year and that the size differences maintained through the 12 weeks they followed each foal. Placental weights were less when mares foaled earlier in the season as well, likely also an effect of the reduced metabolism of the mare in winter. The authors made note of the fact that the foaling season they were observing was a relatively small window; they surmise that an even larger difference could be possible when the foaling season lasts more than three months.

Since Morgans are prone to the “easy keeper” disease of Equine Metabolic Syndrome, I’m always taking note of articles relating to the management of these horses, but even more hoping for the “how can we prevent EMS in the first place?” answer. The second article related to foals and mare nutrition caught my eye in the *American Society of Animal Science* journal. The article titled “Horse Species Symposium: Nutritional programming and the impact on mare and

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SAVE THE DATE: OCTOBER 28, 2017

"Day of the Morgan"

Featuring An
AMHA National Open Barn Day



Join us
Saturday, Oct. 28
noon - 4 pm

- Light refreshments
- crafts
- photo booth
- learn about and visit Miner Morgans



FEEDING, Continued from Page 1

foal performance" was published in May of 2015. This study sought to evaluate the dam's diet and metabolism on the resulting foal's metabolism. A foal's metabolism is more than just the mixing of parental DNA combining to form a new life; the nutritional environment that the fetus grows up in can affect how the foal processes the food it is fed after being born and possibly for life. One study reviewed for the symposium

found that mares fed diets high in starch increased the mare's baseline glucose and insulin concentrations and the foals had a tendency to decreased insulin sensitivities. Their conclusion was that over-feeding in the final third of the mare's pregnancy could predispose the resulting foal to insulin resistance.

As we strive to maintain our broodmares' body condition score around a 5-6, the

sources of calories (starch vs. fat and balance of protein and minerals) we offer to help them stay at a healthy weight matter probably as much the quantity of food that we supply and when we supply it. The birth of a healthy foal feels like the first step to having a healthy adult horse, but it starts long before then!

— Karen Lassell
lassell@whminer.com

WHEN SH*T GOES WRONG: MECONIUM IMPACTIONS

Foaling season is an exciting time of the year. In a perfect world, mares foal with no problems; foals stand and nurse within a few hours; and the foals pass their meconium (the first manure) shortly after they nurse. But what happens if only part of the meconium is passed, or worse, none at all? We found ourselves faced with this situation at Miner in early May.

UVM Loyalty delivered a healthy bay colt by 2014 World Champion Western Pleasure Morgan Privilege at 3:30 am on May 3. Within a few hours the colt stood and nursed and all that was left was to wait for him to pass the meconium. The meconium is fecal matter that accumulates in the foal's GI tract in utero. It is a black tarry manure that is usually passed within the first few hours of life. Loyalty's colt passed his meconium within 5 hours – or so we thought.

The fecal matter that we see after the meconium should be yellow or orange and is called milk feces. The day after he was born, we noticed a distinct lack of milk feces in the stall he shared with his mother. We also noticed that he seemed slightly uncomfortable; he was lying with his neck and legs stretched out and he was alternating between standing and lying down frequently. He also was straining to pass manure but never produced any. Other signs we would look for would be foals rolling over onto their backs – a distinct sign of discomfort – but Loyalty's colt never exhibited this behavior. He was also very alert, nursing well, and urinating on his own. We decided that afternoon to give him an enema to aid in the passing of manure.

The enema was composed of 50 ml of Ivory soap and 300 ml of warm water. We

passed a red rubber catheter through his rectum and used a 60 cc dosing syringe to pass the soapy water. We managed to get some fecal matter out – some hard black manure and some softer orange manure. It still appeared that the colt was straining to pass manure and still seemed slightly uncomfortable so a few hours later we repeated the process. That night he still hadn't improved so we enlisted the help of Vermont Large Animal Clinic. They performed an ultrasound and found nothing unusual so we gave him 1 cc of banamine IV to help relax his muscles and pass manure more easily.

The next few days were long ones. We watched the colt very closely, cleaning the stall frequently to check for milk feces and making sure he was displaying no other signs of colic or other discomfort. Throughout the whole ordeal, the colt, who we nicknamed "Nugget", stayed active, nursed well, and urinated. We ran several diagnostic tests on him, all non-invasive, to try to determine the source of the problem. Also to keep him comfortable, we passed a few more enemas and gave him banamine as well as Gastro Guard and Sucralfate to protect his stomach. Finally in the early afternoon on May 8, we found what we'd been looking for: milk feces! We've never been happier to see manure. Since then Nugget has continued to do well and we are looking forward to see what this boy does in the future!

So why did it take Nugget so long to start passing manure on his own? Our vets believed that he had a partial meconium impaction; he did pass some of the meconium at birth, but some was still stuck in his GI tract and took longer

to make its way out. Some foals will never pass meconium on their own; this is called meconium retention.

The first step for treating a meconium impaction or retention is to pass an enema. Usually after one or two, a foal will start passing manure on its own. If two do not seem to rectify the problem, enlisting the help of a veterinarian is the next best step. Usually foals that can't pass manure stop nursing, which will make them dehydrate quickly so IV fluids may be necessary. This will help them to pass manure more easily. Although he never showed any signs of being dehydrated, Nugget received a liter of IV fluids as a precaution. Another treatment is passing a nasogastric tube and using mineral oil to help soften fecal matter in the GI tract. It is not recommended to try to give mineral oil with a dosing syringe as the foals can aspirate it and get pneumonia. We tried to mix mineral oil with milk replacer and convince Nugget to drink some; he thought mom's milk was tastier.

Other treatments we fortunately did not need with Nugget are more frequent IV fluids and in severe cases, surgery. More fluids would have meant placing a catheter for Nugget to be dosed every few hours. This would have required much closer observation to make sure he – or mom – didn't rub the catheter out. Foals with severe meconium impaction or retention have the option of surgery. It is essentially a miniature colic surgery – but the cost is about equal to that of colic surgery on an adult horse. Usually the prognosis and recovery of these foals is good. Thankfully, we didn't have to go that far with Nugget.

— *Samantha Dobbins*
Outgoing year-long equine intern

NYS PASSES LIMITED LIABILITY PROTECTION FOR FARMS

The NYS Horse Council is pleased to announce that the NYS Legislature passed and sent to the Governor a bill that extends limited liability protection to NYS farms which invite clients and visitors on their farms, including equine farms and equine therapeutic businesses. Earlier this week both houses acted with overwhelming support receiving only 4 negative votes in the Assembly and complete support of the Senate. The bill now goes to the Governor for signing.

This legislation amends general obligations law relative to the inherent risks of operating agricultural tourism activities. This bill does not remove the responsibility of the farm owner from making every effort possible to keep clients and visitors safe. It simply adds a degree of responsibility upon that client or visitor to understand there is potential danger when anyone steps on a farm or visits a stable and pets an animal or is simply near one.

Following are some of the Operators responsibilities (please read the complete bill for a full list):

- To post and maintain signage to delineate paths, areas and buildings open to the public;

- To train employees actively involved in agricultural tourism activities;
- To post at every point of sale or distribution of tickets, whether on or off premises, a conspicuous “Warning to Visitors” relative to the inherent risks of participating in activities on working farms and to provide written information meeting the specifications determined by the Commissioner of Agriculture and Markets;
- To post at point of sale or distribution of tickets a conspicuous notice to visitors that they have a responsibility to exercise reasonable care regarding the risks of the agricultural activity, and comply with posted signs, remain in areas designated for the activity, follow any and all written and posted rules of conduct provided by the operator or verbal or other communication for persons with disabilities, and not to willfully remove, deface, alter or otherwise damage signage, warning devices or implements, or other safety devices;
- To take reasonable care to prevent foreseeable risks to visitors, to keep his or her premises safe for intended uses and users and to post conspicuous notice to visitors of the right to a refund to the

purchaser in the amount paid in the initial sale of any tickets returned to the operator of the agricultural tourism area, intact and unused, upon declaration by such purchaser that he or she believes that he or she is unprepared or that he or she is unwilling to participate in the agricultural tourism activity due to the risks inherent in the activities or the duties imposed upon him or her;

- Owners and operators of agricultural tourism areas shall not be liable for an injury to or death of a visitor if the provisions of this subdivision are complied with.

I personally want to thank NYSHC members past and present who helped accomplish this task by writing, calling or visiting legislators and keeping them aware of the need for this protection. Without your unchecked support, we could not have gotten it done. A very special “Thank You” is extended to NY Farm Bureau who championed this legislation for many years and helped craft language that would finally satisfy everyone. Please support your local County Farm Bureau and tell them thank you.

— *Stephen Ropel, President*
June 15, 2017
Stephen.ropel@nyshc.org

JOIN US FOR YOUTH EQUIDAY! Saturday, Nov. 4

Geared for 4-H kids, this event is open to the public and free of charge. Registration in the Horse Barn classroom is from 9-9:30 a.m. and the program will run from 9:30-11:30 a.m. 4-H'ers need to bring their approved helmets to be able to participate in the hands-on portion of the event. Pre-registration isn't required at Miner, but if you're coming with your 4-H group, check in with them! Dress for the barn; boots and warm things as needed! Questions? Email or call Karen: lassell@whminer.com or 518-846-7121, ext. 120.

WEST NILE VIRUS IN HORSES: TWO CONFIRMED CASES IN CLINTON COUNTY

West Nile Virus (WNV) is a mosquito-borne virus that can cause encephalitis (inflammation of the brain) or meningitis (inflammation of the lining of the brain and spinal cord) in humans and horses. Mosquitoes acquire the virus from infected birds and transmit it.

The most common signs of WNV infection in horses include stumbling, incoordination, weak limbs, partial paralysis, muscle twitching and in some cases, death. Fever has occurred in less than one fourth of all confirmed equine cases. Each horse may exhibit a combination of symptoms or not exhibit any symptoms. Once a horse has been bitten by an infected mosquito, it may take only 5 to 15 days for signs of WNV to appear. Horse to horse transmission does not occur. The virus is most prevalent from May to October, when mosquitoes are most abundant.

Treatment is vital for any horse with WNV. Since there is not any specific antibody to counter attack the virus, it is im-

portant to consult your veterinarian and provide supportive therapy. The effect the virus has on each individual horse will determine if home or vet hospital care is warranted. Ensure the horse receives sufficient fluids, possibly through intravenous treatment if the horse is unable to drink on its own. Oral or intravenous feeding may also be necessary for horses unwilling to eat. For horses unable to rise, slinging is recommended 2 to 3 times per day to aid in circulation and to try to prevent pressure point or bed sores. Head and leg protection is also frequently needed.

In cases of WNV, 33% will die, 50% will fully recover and 17% will have relapse or incomplete recovery. Recovery times depend upon the health and age of the affected horse. Many horses will improve within 5 to 7 days of displaying clinical signs, however about 20-30% can exhibit severe neurological deficits for several weeks.

Horse owners should consult their veteri-

narians regarding vaccination. The vaccine shots are of no value if they aren't given prior to exposure to the disease. If your horse was given "spring shots" that included WNV more than six months ago, consider doing a fall booster, particularly if the mosquito population is still active.

To eliminate mosquito breeding habitats: Eliminate any unnecessary standing water on your property (tires, wheelbarrows, old buckets, etc.), make certain roof gutters drain properly and remove any standing water, especially from flat roofs, keep swimming pools clean and free of water on covers. Stable horses inside during active mosquito feeding times (dawn/dusk), utilize fans, barrier cloths, screens, flysheets, repellent sprays (permethrin, DEET), and insecticide misting systems, turn off lights that attract mosquitoes at night, or use fluorescent lights, which do not attract mosquitoes.

— Karen Lassell
lassell@whminer.com

WE'RE HEADING TO EQUINE AFFAIRE!

November 9-12, 2017

Eastern States Expo Center in West Springfield, MA



Look for Miner Institute's booth and participate in Saturday's College and Career Fair! College and Career Fair at Equine Affaire, Saturday, November 11 from 10 am to 4 pm. The event will start at 10 am with a presentation and registration for equine career hopefuls. From there a "scavenger hunt" of sorts will send participants around to all the educational institutions to check in for a mark on their card and learn about collegiate offerings. The conclusion of the event will be a panel discussion with equine professionals talking about their careers and then a drawing for prizes from all the completed scavenger hunt cards.

Learn more about Equine Affaire at equineaffaire.com

PORCINE ZONA PELLUCIDA: EQUINE BIRTH CONTROL

In recent decades, the question of an increasing wild horse population in the United States has prompted a push for the development of some type of equine birth control. The answer came in the 90s in the form of a simple, injectable vaccine called Porcine Zona Pellucida (PZP). This vaccine is given in the muscle, and works by disallowing sperm cells to bind with an egg, therefore preventing fertilization.

The zona pellucida is the outer most membrane surrounding mammalian eggs and contains a variety of glycoproteins, one of which allows the sperm cells to attach to the egg during fertilization. To form the PZP vaccine, this glycoprotein is extracted from the zona pellucida of pig eggs and is combined with a media to make the vaccine. When the injection is administered, the mare's immune system creates antibodies. Some of these antibodies also adhere to the zona pellucida of her own eggs, distorting the shape of the glycoprotein and making it difficult for the sperm to attach.

At first development, the PZP vaccine didn't last very long. Mares that were vaccinated required a second booster and would still regain partial fertility in about a year. This was very labor-intensive and had a limited impact on pregnancy rates and herd population.

More recently, there has been improvement of the original PZP vaccine, now called SpayVac. This version encapsulates the glycoprotein in liposomes, which act as a protective barrier to prolong their circulation throughout the body. Although SpayVac is still undergoing thorough testing in various aspects, it has shown to be effective for roughly three to four years after just one initial vaccination. This success of SpayVac will offer another piece to manage the challenging puzzle that is wild horse population control, but it certainly also highlights the incredible advancements being made in the scientific equine industry.

— Lauren Offutt

Colorado State University

Summer Experience in Equine Management 2017 alumnus

REFLECTING ON THE MINER EXPERIENCE

“I credit the internship at the W. H. Miner Institute as opening a door I didn't even know existed and set me on the path I still travel today. The skills I learned there have come in handy over and over! The staff at Miner are at every level intent on providing opportunities and furthering education in their internship students, and between them harbor a colossal knowledge bank. I know that I would not have followed research as a career path had I not discovered it for the first time on a lonely catwalk above the dairy barn, ruminating (chuckle) on whether the cows were standing or perching, or in the equine insulin and glucose trial that Miner supported for my undergraduate Honours thesis, or sampling milk in the warm barn with a sub-zero blizzard outside.”

— Lindsay Perry

equine intern 2007; returned as a research technician 2009-10

Lindsay completed a Ph.D. in 2016 at the University of Queensland in Australia in gut microbiology, methane production, and forage digestion in beef cattle. She currently works with geospatial imaging systems data to provide high quality maps for large scale beef stations in the Australian outback.



Lindsay dressed as a leprechaun for Halloween at Miner in 2009.

If you are a Miner alumni, we would love to hear from you!
Please reach out via facebook or twitter or email Rachel at dutil@whminer.com.

MINER ALUM AWARDED HARRY SEBRING MEMORIAL GRANT

Valerie Pierzina of Trempealeau, WI was recently awarded the Harry Sebring Memorial Grant through the American Morgan Horse Educational Charitable Trust.

Harry Sebring was a renowned Morgan horse trainer and the grant was created by his family in his memory, since he always wanted to see young adults excel personally and professionally. The Harry Sebring Memorial Grant is offered to all American Morgan Horse Association members under the age of 40 who would like to further his or her equine education, skills, or proficiency and/or provide equine-related experiences and education that will further the grant recipient's business endeavors. Surviving family members continue to own and operate Sebring Stables in Richmond, MA.

Valerie spent the summer of 1998 as a Summer Experience in Equine Management intern at Miner Institute. She is now a Master Equine Massage Therapist and will utilize the grant to further her equine therapy education as she apprentices with Greg Gage of Therasage Equine Massage Certification school to become his program's first employed equine massage instructor. Greg has been a certified human massage therapist for nearly 25 years and has been teaching equine massage therapy techniques through the course he developed more than 18 years ago. Valerie first became certified in equine massage therapy in 2015 and added her master's certification in 2016. The apprenticeship and training is expected to take approximately two years to complete.

In respect to the award, Carrie Mortensen, Executive Director of the American Morgan Horse Association stated, "It was well-deserved. The trustees were very impressed



Learn more about Valerie by reading the page 2 profile in the December 2015 *Stable Sheet*. <http://whminer.org/pdfs/ss-1215.pdf>.

with Valerie's resume and goals." Valerie added, "I feel a great sense of gratitude and responsibility to represent the Sebring family well. I am humbled to be a part of the amazing legacy Harry Sebring left in the Morgan community." She continued, "While the funding will be integral in financing my educational pursuit, the honor of being awarded the grant in Harry's name is invaluable."

Valerie owns five Morgan horses herself currently. She works horse shows and equine events, and travels to horse barns where she offers her vast array of equine therapy services on location. Valerie and her husband, Brian, have owned and operated Grains & Manes Farm since 2010 where they grow corn, soybeans, and hay.

30 YEARS & COUNTING OF SUMMER EXPERIENCE IN EQUINE MANAGEMENT

In August, a dozen or so alumni from the Summer Experience in Equine Management program gathered at Miner Institute's historic horse barn for the first-ever program reunion. The program marked its 30th year in 2017. "It's like coming home," said alum Carrie Ostrowski, who now lives and works in Kentucky. We hope to host more frequent get-togethers in the future.



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FEATURED MINER MORGAN: HD BRANDY BROOK



“Mae” was named for the brandy cocktail, the Mae West, which was named for the star of vaudeville and cinema. Sweet and pretty unflappable, Mae is growing into a lovely young mare! Now as a 4-year-old, she is working nicely under saddle walk, trot and canter as well as lungeing and longlining. By Townshend Rob The Wave and out of our HD Massena, Mae is 15 hands of all-around Morgan mare.

Sale Price: \$3,500

Learn more about the Miner Morgans at www.whminer.org/equine.html