

JUNE 2007 MEETING NOTES OF THE
EQUINUTS CHAPTER OF THE OLD PEOPLES RIDING CLUB

Meeting

Harris Statema from LMF feeds drove down from WA to talk to Dana, Nancy, Karen Freeman, Kathleen, Jeannie, Susan Mooney, Sue Foote, Arleen, Dawn, Lisa, Carrie, Julie, Silvia, and guest Nancy McKnight, at Dana's house, on the equine GI tract, metabolism, latest research in feeds and feeding, how to formulate rations, how to read a hay analysis, etc. He had an excellent presentation with a lot of handouts. Harris is very excited about his job, and loves helping equestrians understand how to optimize their equine(s)' diet for both performance and health.

First, he passed out a "Test Your Nutritional Knowledge" quiz for us to test our own level of knowledge ... it wasn't graded ... good thing, while he got his handouts ready. He covered most of the items on the quiz during his talk, and much of it is also in the handouts. If anyone would like to copy my handouts, let me know. You also can contact Harris directly and he will be happy to send it all to you. There is information on balancing carbohydrates, minerals, calories, the digestive tract of horses, starch and sugar levels in hay, hay testing, digestibility, balancing hay nutrient levels with grain, optimum balance levels, LMF feeds, probiotics, body scoring condition levels, and most common feeding mistakes. Don't ask how I did on the quiz ... OK?!?

More mistakes are made with hay than anything else. He and his wife owned a feed store for many years, and he said that when he sold hay, he was frequently selling color, that if he put out some really green hay, you could hear the cars braking as they passed, and coming back to get some without ever inquiring as to the nutritional levels in the hay. When he goes to a farm, he works with the hay first and grains last, using the grains to balance out calorie &/or mineral deficiencies in the hay. This is especially critical if you have a starch/sugar sensitive horse. You need to ask "What is this horse's optimum ability/genetic potential for a long, happy, useful life", and feed to realize that potential. As a feed salesman, he can guarantee that there are a lot of rip-offs in the horse industry. Many of the popular supplements are useless, at best, and can be harmful in that they have such large concentrations of one nutrient, that they throw the ratio balance with other nutrients off. As the end user, we need to know the right questions to ask so that we feed correctly and without spending a lot of money on supplements and feed that are useless, or often actually detrimental to our horses health. A lot of stuff is deliberately made complicated to confuse, and many claims are made that are completely unfounded. You need to balance two things – calories and minerals. Frequently, while trying to balance one thing, some other ratio is thrown off, or you supplement with "X's Hoof Formula" which has a huge amount of zinc, that upsets the ratio balance with copper and manganese (should be 3:1:3). Increasing Cu and Mn to balance the high Zn, can throw their ratio levels off with other minerals. As the consumer and person responsible for your horse's health, you need to read the ingredient tags very carefully and critically.

The equine digestive tract is completely opposite of a bovines. Cows digest corn well, horses don't. The pH levels (acidity) in the equine digestive tract change, from around 5.4 in the stomach to 6.6 in the colon, becoming less acid as you go from ingestion to excretion. The starches in rolled barley, corn, milo, or wheat are not very digestible in the foregut, and when fed, grain gets into the hindgut where it is then fermented, creating lactic acid, lowering the pH, causing acidosis and killing off the hindgut bacteria. The hindgut needs to remain a fermentation vat for the fibers in the forage (approximately 70 % of intake). COB is the worst thing to feed a horse. Oats are best as they are in a natural gelatinization form that is readily available to the enzymes in the stomach and small intestine. Reduction of particle size, by cracking, crimping, or grinding, increases oat digestibility by 2 – 5 %. Pelletized barley or wheat are OK, as is corn if it is less than 15%, since the grain has been ground and heated to form the pellets. Pelletizing breaks it down physically, by reducing particle size, and chemically, by converting the starches to a gelatin form when heated, so they can be digested in the fore gut. The ground and pelletized feeds have a short shelf life, however, since the processing that makes them digestible also causes them to oxidize quickly.

Many companies either don't date their feedbags, or date them in a very cryptic manner. LMF feedbags always are dated, clearly, so you know that you are buying fresh feed, not out-dated, rancid or nutritionally compromised feed.

Harris mentioned that a horse produces approximately 10 gallons of saliva per day. The saliva protects the stomach from ulcers by coating the wall and protecting the lining from the acids that naturally build up for digestion of the starches and sugars in feed. He went through the body-scoring sheet in the handouts with us, and mentioned that most horses are over fed, and that the owners tend to see a level 5 (obese) horse as a level 3 (good). The fat in an obese horse becomes its own organ, and can start to control some aspects of metabolism. And then we were back to hay.

You have to buy hay to match the horse, and the best hay for your horse will depend on the needs of your horse. Then you have to buy grain &/or supplements to balance the hay. Alfalfa is too high in protein and calcium, but too low in phosphorus and trace minerals. Poor "baby-sitter" hay which keeps an inactive, older, easy keeper fat will not have enough calories or protein for a young athlete in training. Factors affecting hay will be the type of forage it is composed of, age at which it was cut, time of day it was cut, how long it took to cure for baling, where it was grown, if it was fertilized and what it was fertilized with, etc. Harris went through a half dozen pages in his handout package comparing different hays, with tables for comparing various aspects of forages.

The NW hays are the highest quality of any place in the world, so we generally feed less grains, but all hays have deficiencies that need to be corrected for with supplements &/or a grain feed. Western Oregon spring pasture grasses are very high in protein, high in calories, and very mineral deficient. Since alfalfa and legume hays are so different from the grass hays, LMF produces two lines of each feed they produce, to balance the forage. The product names will have a "G" or an "A" to show which type of forage they were formulated for. As grass grows, the stem and the leaf develop cell walls from cellulose, hemi-cellulose, and lignin for structural support, which on the average, accounts for about 61% of grass hay and which is approximately 50% digestible. The other 39% of grass hay is cell content, protein, sugars, fats, and minerals that are close to 100% digestible. In alfalfa, only the stems develop cell wall cellulose that are about 50% digestible, but the leaves do not, so alfalfa contains around 55% cell content which is almost totally digestible. All hays are dependent on proper maturity at time of cutting. Cut too young, there is not enough fiber and the sugar content is too high, so sugars get into the hind gut and you risk colic and founder. Cut too tall, there is too much fiber, the sugars and starches have gone into seed production, and the hay doesn't contain enough calories. The taller the grass gets before it is cut for hay, the greater the indigestible content since it builds cell walls to hold itself up, and the lower the sugars and starches photosynthesized earlier that the plant has used for growth. After it has mature heads and goes to seed, it is baby sitter hay – a low nutritional source of roughage. Grasses photosynthesize during the day, creating sugars, transporting them down to the roots and utilizing them for growth during the night. Therefore, digestible carbohydrates are lowest in the early morning and hay cut early morning will have lower calorie levels. This is desirable in hay if you have a horse that is starch/sugar sensitive, insulin-resistant, has Cushing's or PSSM syndromes, or chronically ties-up or has had laminitis. Don't put these horses out in your winter sacrifice paddock with very little grass. Those stressed grasses are doing their best to grow and make up for lost time, and a grass's response to stress is to accumulate sugar. It will continue to accumulate sugars until the stress or limiting factor is relieved, then spring into a rapid growth phase. The same applies to pastures that have grass going to seed. Seed is a grain, so access by NSC sensitive horses must be restricted.

If you change forage or grain types, remember that it takes 21 days to change the digestive tract, and several months to see the changes manifested in body condition or behavior. You can modify behavior with feed. Starch and sugar are the preferred energy source by the horse's metabolic system. These non-structural carbohydrates influence blood glucose and insulin levels. Other energy sources are oil and fiber. Starch & sugar convert to free fatty acids going directly into blood sugars whereas fibers convert to volatile fatty acids and end up as glycogen in the muscle.

Harris went on to minerals and an incredible diagram of mineral interrelationships (which is complicated, to say the least, and it doesn't have the effect of vitamins added into it for additional complexity), as well as a pages on balancing mineral relationships and correct concentrations, a photomicrograph of hair before and after being fed a chelated mineral mix (a chelater is a molecule that temporarily binds with a mineral, but has no other chemical effect, making the mineral more soluble, digestible, or otherwise available), and a handout titled Minerals for Horses- A Balancing Act which describes the major minerals needed in the equine diet. The form (whether they are an oxide, sulfate, chelated, salt, etc.) of the minerals affects the availability for the horse and will determine the amount the horse will digest, absorb and utilize, or simply turn it into an insoluble solid and excrete it. Chelated minerals are the best, salts compete for intestinal absorption spots, oxides, and sulfates are typically poorly absorbed. It is important that minerals be absorbed quickly since there is less absorption in the hindgut. A horse requires 6 to 8 oz. of minerals per day. Harris feels that mineralized salt blocks are a waste of money since they are 97 – 99% and your horse would have to consume about 4 pounds of salt block/day to get an adequate amount of trace minerals, although it is very hard to overdose on salt. All minerals have a specific role, and most function as a ratio of other minerals, so concentrations need to be balanced. Add a supplement with a high concentration of one mineral, and you will throw the rest off. Calcium and phosphorus are the most important to have balanced and in the correct amount, with the calcium level about twice the phosphorus. Calcium and phosphorus are crucial to the availability of all other minerals. You don't want to have more phosphorus than calcium. Alfalfa has a much higher Ca content than P, so if you feed it, you need to get phosphorus into the diet with grain, bran, etc., since high Ca levels in relationship to the P levels ties up the available phosphorus, which in turn interferes with other mineral availabilities, however if the Ca:P ratio is inverted in your feed, alfalfa is a useful way to correct the problem. Calcium is usually plentiful in NW hays, but they are frequently low in phosphorus, copper, zinc, and selenium.

Arlene asked about Pro-Biotics. Harris said there have been many improvements through research, and the All Tech Equine Products researchers have found some really unique solutions. The 1st Defense probiotics, Altech BioPlex have lots of B vitamins, and uses an active yeast culture rather than a passive one. He said they are especially valuable for horses being transported or stressed. He was also asked a question about fats. His response was that vegetable fats are the best way to add calories. Horses don't have a gall bladder, so adding choline chloride helps them digest fat. Stabilized rice bran, about 20% fat, is a good source of calories, but you will have to careful not to through the Ca:P off. Don't feed the unstabalized 12% fat product since it goes rancid very rapidly. Ground flax seed has a high fat content, but it also has a toxic element that must be heat neutralized before feeding.

Finally, Harris passed out a handout on hay testing procedures if you would like to have your hay tested, and sheets from actual hay tests which he went through with us telling us what each item meant and what the desirable ranges for each were. If you would like to test your hay and didn't get the sheet, contact Harris (Harris Statema, hstat2@yahoo.com 254-377-3004) or I and we'll get you a copy. Harris said if you have the lab e-mail him a copy of the test results, he will gladly go through them with you and help you develop a feed regime to balance your horses diet.

Karen talked a bit about our **camp at Nancy McKnight's on August 6th through 8th**, and asked that any of us that are interested in attending who haven't signed up, **please sign up** and put down a **\$50 deposit**. There are only a couple spots left. Camp sounds like it will be a great learning experience as well as a LOT of fun! Our **August meeting will be during camp**, and it will be mounted games. If you are not attending camp, you can trailer in for the meeting and to participate in the games. She mentioned that we do not have a location or topic for our **July meeting**, yet.

Other Happenings

Kari and her family held a **Bar-B-Q on June 14th for Equinut members and their husbands to meet Shiela Haviland**. Shiela is a national OPRC board member, the NOPRC membership secretary as well as the web-master. It was a wonderful event, and **we thank you so much, Kari, for your generosity**. You really are “the hostess with the mostest! There was excellent food, great beverages, and perfect weather. **Justine, Jeannie, Dawn, Karen Freeman, Karen McCurdy, Lisa, Dana, Julie, Silvia, and myself were there**. At the end of the evening, we sat around the table and chatted with Shiela. She was interested in getting feedback on how we feel the National organization is doing, as well as any ideas/suggestions on what they can do to better fill our needs. She gave us insight into how the national OPRC functions and how our \$10 membership fee is used. She was wearing a knit beige polo with hunter and navy trim and the OPRC logo, which we all said that we would love to have, and told her that we would be willing to purchase them from the OPRC website using PayPal. The national board membership is working on designing rating patches, and getting them made to reward those of us who rate up, and we all voiced a desire for a saddle pad with the OPRC logo on it to attach our patches to, as well as to give us a group identity when we attend horse shows or other mounted functions. Shiela told us that the NOPRC has had OPRC logo bumper stickers made, and they should be in the mail to the presidents of each chapter to be distributed to members.

Congratulations to Dana and Nemo who debuted their musical free style ride at the ODS League Championship Show, receiving a score of 62.5% on their first try.

Karen will be temporarily discontinuing poles due to the extra care her Mom is requiring now, camps and show season getting into full swing, not to mention their house remodeling project.

Next Meeting

As of this moment we do not have a confirmed meeting place or a topic for the next meeting. Lisa Smith offered her home as a place. Sue Foote offered to talk to us about dung beetles. She has a thriving colony and finds them to be incredibly interesting critters as well as very effective at manure management. If you're interested, let Karen know. Sue lives in Yamhill, so it would be nice if we saved her the long drive for a change. I will let you know more when I find something out for sure. Karen will try to contact a chiropractor we met at the Mane Event, who was also one of the clinicians at the Equine Expo, and Nancy will contact John Meriwether, a tack-store owner, saddle fitter and repairman, and a Schleese dealer from Issaquah, WA, to find out if we can get him down here for a meeting and saddle-fitting clinic.

Coming Up

22 through 24 June – Adult Eventing Camp at Inavale

24 June – Jokers Wild Poker Ride - sponsored by the OET Midvalley chapter at the TE Ranch, Philomouth, for more info call Meg 541-929-4008 or Paula 541-259-1762 or

midvalley@oregonequestriantrails.org. Registration 9 am to noon, last rider out at noon, \$5/hand or \$20 for 5 hands ride lasts 2 to 4 hours through very beautiful scenery. Go north on 9th ~ 1 mile, left on Heritage Hills Rd., follow the signs. Prizes for top hands, no dogs or alcohol.

9 July – Equinuts meeting – Anyone have an idea for what to do, or anyone wants to host it?

7 July – Horse Trials at LOH

11 through 15 July - Country Classic in Wilsonville – bring food or beverages (Karen will set up tables for us), and we can all watch the jumper derby together.

6 through 8 August – Equinut's OPRC camp at Nancy McKnight's

6 August – Equinuts meeting – to be held in conjunction with our camp – mounted games.

For those of you who aren't camping with us, trailer your horse in for the fun

Respectively Submitted,

Nancy Clarke

Secretary, the Equinuts chapter of the Old People's Riding Club