



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Conformation: Form to Function By: ADawn Melbye, UMC

Without acceptable conformation, there is limited function. Horses are commonly expected to perform in ways that are not natural for their form. A horse that is correct in form and for its intended use may be more comfortable to ride than a horse with poor conformation. Poor conformation in a horse may result in a greater risk of injury, difficulty in training, and greater lameness issues. Owners need to evaluate and utilize horses that possess acceptable conformation for the intended use of the horse. These evaluations will result in performance at optimum levels.

Many rules of conformation are based on geometry and physics. These are "general" rules that allow us to review a horse's athletic ability. For each athletic ability, there are unique attributes that are specific to the type of performance desired. This explains why hunters, halter horses, and reiners are all designed differently. Each performance horse is built to excel in his discipline with unique traits, such as the type and degree of muscling in a halter horse.

Many times the first thing that attracts your eye to a horse is their head and neck. A head and neck that are well proportioned not only gives a pleasing aesthetic appearance, but provides for a balance point that allows for effective communication via the bridle and rider. A general rule is that a horse's neck length should be one and a half lengths of their head. Head length is measured from the front of the muzzle to the top of the poll. That measurement times 1.5 should equal the distance from the poll to the middle of the shoulder (see figure). Having these attributes provides a balanced head and neck combination. A horse with too large of a head will travel very heavy on the front end and have a tendency to be clumsy. A horse with too small of a head

will lack counterbalance and may lose some its suppleness and action in its front end. When evaluating the details of the horse's head, look for bright, bold, wide set eyes, ears that set slightly below the poll, a lower jaw that is clearly defined and well separated underneath the jaw, nostrils should be large, and a clean throatlatch lacking heavy fat and muscling.

When reviewing the neck, look for a proportional neck and body. The geometry equation for a balanced neck and body is the length of neck equals one third of the horses total body length, and should be equal to the length of the horse's front leg. The union of the head and neck is determined by two bones called atlas and axis. These first two cervical vertebrae allow the horse to shift his balance while traveling, thus the importance of this connection. The head should be attached on the neck at an angle so that the horse can flex at the poll and travel in a balanced manner. The neck should attach to the horse's body fairly high with a distinct chest area below. The base of the neck should be level with the point of the horses shoulder. This allows the horse to be more flexible, balanced and collect more naturally.

Our series on conformation will continue next month and will focus on the chest, back and hindquarters.



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Upcoming Events

Horse Forage Field Day

August 17th 6-8:30 pm

Equine Center
St. Paul, MN

*Research updates,
plant ID, equine
grazing preference,
and pasture
management
recommendations.*

Cost: \$10

To register, go to:

www.regonline.com/HorseForage

Quarterly Lunch and Learn Webinar

Equine Metabolic Syndrome in Ponies

Presented by N. Frank

October 18th - 6:00 pm

*In partnership with
MHU and MSU*

Draft Horse Owner Education Program

February 18, 2012

Equine Center
St. Paul Campus

*In partnership with the
2012 Shire National
Meeting*



Hot Horse Myth Busters

By: Jenifer Nadeau, PhD, University of Connecticut

Horse owners sometimes struggle with ways to cool or water a hot horse. Below are four common myths surrounding this issue.

“Never let a horse drink more than one or two swallows of water at a time”. This comes from the belief that allowing a hot horse to consume unrestricted amounts of water may lead to problems such as colic due to hyperdistension of the stomach. However, a horse’s stomach can hold between 2 and 4 gallons of fluid without being distended, so one or two sips of water at a time is overly restrictive when the hot horse is rapidly losing water and trying to keep itself cool. The horse should therefore be allowed to have a few swallows of cool, clean, fresh water every few minutes.

“Never pour ice-cold water a hot horse”. The second myth has been the source of controversy over the

years because people believed that ice cold water placed on a hot horse’s body will “shock” the horse’s thermoregulatory system into shutting down blood flow to the skin. This belief has been found to be incorrect based on extensive research conducted during 1995 at the Universities of Illinois and Guelph, and at the 1996 Olympic Summer Games in Atlanta. Researchers proved conclusively that horses working under hot and humid conditions were better able to maintain, or even reduce, core body temperature and that after intense exercise, heart rate during rest periods declined when ice water baths were used. Horses were also observed trotted more freely after the baths. Application of cold water to the overheated horses helped to dissipate heat by providing more water to evaporate from the skin, and by direct conduction of the

horse’s body heat into the water that runs off the horse, carrying excess heat with it.

“Never let a hot horse cool out without a blanket or sheet”. Many people cool out the horse by placing a sheet or blanket on the horse while walking it. Blocking the evaporation of water from the skin by using a blanket or sheet is not recommended in hot and humid conditions.

“Never let a hot horse cool out in a drafty area”. This comes from the belief that a draft will make the horse susceptible to a “chill”. However, restricting access to moving during hot and humid conditions makes little sense. Fans work to increase evaporation and dissipate heat by the cooling process known as convection. Misting fans take advantage of the additional cooling property of blowing water onto the horse when is the sweat is changing phase from liquid to gas.

Ask the Expert - Selenium

By: Marcia Hathaway, PhD, University of Minnesota

Q: I am looking for a good map detailing selenium soil levels in MN. I have clients ask about selenium supplementation and I worry about over supplementation.

A: We do not have a current map of MN soil selenium (Se) content. However, in general, the eastern half of the state has a bit more (about 80% of the feedstuffs contain somewhat greater than 0.1 ppm) Se than the western half (only 50% of the feedstuffs contain somewhat greater than 0.1 ppm).

Because the amounts of Se present in MN grown feedstuffs do not reliably meet nutritional requirements, adding Se from a mineral source, such as a ration balancer, is recommended. Most ration balancers for horses contain

sufficient Se to meet the horses requirements without contribution from the hay, if fed at recommended levels. The maximum tolerance level for Se is three times the amount of Se recommended, or in the case of an 1,100 pound horse, 3 mg of Se per day. However, Se toxicity can be a real issue if that 'safe range' is exceeded.

This can easily occur if multiple Se containing supplements are used. Since the Se isn't why people usually purchase the supplement, they fail to account for total Se in the equine diet. Consequently, we tend to see more toxicity due to over supplementation than horse lacking Se. Signs of Se toxicity include dullness, roughness of coat, loss of

hair, hoof soreness, stiffness and lameness

Specifically, some 'immune or energy booster' type supplements contain very high levels of Se. When multiple supplements are combined with a ration balancer, the result can be Se toxicity. This is especially the case with some owners who have the philosophy that if a little supplement is good, more is even better.

The take home message is to carefully read all supplement ingredient lists, especially if feeding multiple supplements, and calculate total daily Se intake, which should include forage, grain, supplement, and ration balancer Se concentrations. Work with an equine nutritionist if you are uncomfortable with these calculations.