

# Gulf Coast Donkey and Mule ASSociation E NEWS



## Conditioning Animals for Warm Weather



Attributes of donkey milk for human health

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Let's all keep our sweet, funny, beautiful friend Karen Clardy in our thoughts and prayers as she bravely faces her recent leukemia diagnosis. She will be spending the next month or so in the hospital in Dallas. I will try to keep the GCDMA Facebook page updated on how Karen is doing and how we can help. For now let's just pray for peace and comfort for Karen, Greg, and the rest of the family, and wisdom for the team of medical professionals who will be curing her! We love you Karen!

### **Upcoming events**

**July 12th-14th, 2013**

**NMDA National Show 2013**

**[Great Celebration Mule & Donkey Show](#)**

**Shelbyville, Tennessee**

**\*\*Sanctioned by NMDA**

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**October 4-6, 2013**

**State Fair of Texas**

**\*\*Sanctioned by GCDMA**

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**November 15-17, 2013**

**[Texas State Championship Donkey & Mule Show](#)**

**New for 2013**

**Brazos County Expo Center**

**Byran, Texas**

**\*\*Sanctioned by GCDMA**

## Conditioning Animals for Warm Weather

J. David Sessum, RVT

As the days get longer, warm weather is coming and it's time to start hitting the trails for trail rides and drives, or to start training in hot weather. Most of us in Texas have already started to experience warmer weather. Our animals have as well. I'd like to encourage you to consider a few things before taking your animal out for a long ride or for some exercise on days when the temperature will be in the upper 90's to 100's.

First, is your animal fit to ride? Ask yourself this question. In the veterinary industry, most of the clients I speak to don't realize how poorly conditioned their animals are. Most show animals are fairly well conditioned, but tend to gain weight over the winter months. So before you start off on that trail ride or that long drive in the summer heat, your animal should be properly conditioned and assessing body condition score is one of the first steps. How do you know what body condition your animal is in? It's pretty simple. Use a body condition score. What's a body condition score? It evaluates many anatomical areas of equine to assess their body condition. Donkeys are notorious for fat deposits on the crests of their neck, on their sides, and over their rump. Does this mean they aren't fit? Not necessarily. It does mean that at some point in their life, they have been overfed. Once a donkey develops these fat deposits, they can be hard to remove. The goal is to prevent the fat deposits from occurring. There are multiple body condition scoring systems available, but a good one to use can be found at the following link:

<http://horse.purinamills.com/products/bodyconditionsscoringchart/default.aspx>

This link will give you the information you need to determine your animal's body condition score. Once you determine your animal's body conditioning score, you can better develop a feeding program and an exercise program to suit your needs.

Secondly, develop an exercise program to fit your animal's fitness level. As your reading this article, picture yourself inside all winter, and then on April 31<sup>st</sup>, deciding to run a marathon. Would you sign up and go run the marathon the next week? No. We frequently ask our animals to do just that though. We leave them in a stall or in a pasture all winter, and then take them out when the weather is warm for a several hour trail ride. You have to train and prepare your animal just like you would train to run the marathon. You have to condition animals for showing as well. I myself have been guilty of riding for a few hours to prepare for a show. At the show, I ride for half an hour, compete in a class, cool down, return an animal to the stall for some rest with the saddle on, and then remount in an hour to begin to prepare for another class. Our conditioning program needs this same approach. For a trail ride that is anticipated to

take up to three hours, your preparation rides should work up to about two hours of walking just like you would on a trail. For a person training for a marathon, they never train for the full distance, but they do get very close to that distance before running the actual race. Even if you don't have time to ride, round pen or lounging sessions can be very beneficial exercises. I utilize a harness and a ground sled to keep my animals conditioned. The sled adds resistance and allows for strengthening and conditioning by elevating pulse and respiratory rate, and is very simple to train an animal to use. Another important element is rest. We need to allow our animals a chance to rest following stressful activities such as trail rides, shows and the frequent long trailer rides traveling to these events. Give your animal at least a day off after returning home from an event to allow them to recover. They need time to rehydrate and rest after a strenuous activity just as we would.

Thirdly, how do we know when our animal is conditioned? They'll tell us. Does that mean if we ask them, they'll tell us how they feel? Probably not. You're certainly welcome to try, but in my experience it's not been successful. What I mean by them telling us is learn to recognize physiological parameters to tell us their conditioning levels. Before it gets ridiculously hot, everyone should go to their barn or paddock, get a thermometer and take the temperature of any animal you plan to work. This will give you a baseline for what is normal. Multiple sources list normal temperature for horses is 99-101 degrees Fahrenheit. Donkeys are listed as 99-102, with 102 being the upper end. Mules also fall within these ranges. To find out what's normal for your animal, simply take its temperature at various times throughout the year in all seasons to establish a baseline. When you start an exercise program, and you think your animal may be getting too hot, take its temperature to determine if it's elevated and if cooling measures are needed. Monitor your animal's respiratory rate as well. Severe "panting" or short, shallow breaths can be an indicator of trouble. It is important to remember that all donkeys have smaller nasal passages than horses, and breathing can quickly become difficult. When working donkeys or mules, allow rest periods of about 5 minutes to assess respiratory rate and depth of breathing. In donkeys, if the nostrils are flared and the chest is expanding very rapidly, they are pretty winded at that point. Allow them to rest or walk to cool down for 5 minutes, and then re-evaluate their breathing to see if they have resumed normal respirations.

Lastly, ensure plenty of fresh water is available. I prefer buckets over automatic waterers so that I can ensure the animals have consumed water after cooling down following exercise. Statistical studies by Noah Cohen, VMD at Texas A&M have shown that adding a second bucket of water to a stall can reduce the chance of colic by 50 percent, so it's always a good idea to have fresh drinking water available. If you're traveling somewhere other than home, water can be lightly flavored with Kool-Aid to hide the taste of water from another source than your barn and ensure your animal will drink when offered.

Follow these tips to ensure that both you and your animal are ready for those dog days of summer. As always, you've got to protect your ass from this heat!

## Donkey Dairies- Attributes of donkey milk for human health

Amy McLean

Donkeys have been used for thousands of years as beast of burden. In many developing countries donkeys are still used for draft purposes such as taking commodities to the market, plowing fields, hauling water, etc. Another use that some may not be as familiar with is the use of donkeys for producing milk. Donkey dairies are a growing agro-commercial industry in Italy. In reality, drinking and using donkey milk is not a new concept. Since, donkeys have been domesticated their milk has been used by many different societies and communities especially in developing countries for human consumption as well as used for many medicinal purposes especially for children or people who were ill. The Egyptian Queen of the Nile, Cleopatra, was known to take a daily bath in donkey milk because she thought it kept her skin youthful in appearance (<http://www.zasavica.org.rs/en/analiza-magareceg-mleka/>).

Recently, an interest by medical researchers have found that feeding donkey milk to young infants is an alternative source to other milk sources that the children may have allergies against. The specific allergy is called “cow’s milk allergy (Gastaldi et al., 2011).” Researchers in China in the early found that the composition of donkey’s milk compared to other mammalian’s milk, that donkey’s milk is the closest thing to humans’ milk (Guo et al., 2007)! Italian researchers have also documented that donkey’s milk is the best choice if human’s milk is not available. The milk is similar to human’s milk when comparing several key milk components such as lactose, protein, minerals and omega 3 fatty acids (Gastaldi et al., 2011).

Table 1. Composition, physical properties, content (g/100 g), and percentage distribution of nitrogen fractions of donkey,<sup>1</sup> mare,<sup>2</sup> human, and cow milk

Item	Donkey	Mare	Human	Cow
pH	7.0–7.2	7.18	7.0–7.5	6.6–6.8
Protein, g/100 g	1.5–1.8	1.5–2.8	0.9–1.7	3.1–3.8
Fat, g/100 g	0.3–1.8	0.5–2.0	3.5–4.0	3.5–3.9
Lactose, g/100 g	5.8–7.4	5.8–7.0	6.3–7.0	4.4–4.9
Ash, g/100 g	0.3–0.5	0.3–0.5	0.2–0.3	0.7–0.8

Item	Donkey	Mare	Human	Cow
TS, g/100 g	8.8–11.7	9.3–11.6	11.7–12.9	12.5–13.0
CN, g/100 g	0.64–1.03	0.94–1.2	0.32–0.42	2.46–2.80
Whey protein, g/100 g	0.49–0.80	0.74–0.91	0.68–0.83	0.55–0.70
NPN, g/100 g	0.18–0.41	0.17–0.35	0.26–0.32	0.1–0.19
CN, %	47.28	50	26.06	77.23
Whey protein, %	36.96	38.79	53.52	17.54
NPN, %	15.76	11.21	20.42	5.23

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[Anantakrishnan et al. \(1941\)](#); [Ofstedal et al. \(1988\)](#); [Salimei et al. \(2004\)](#); and [Chiavari et al. \(2004\)](#).

2

[Pagliarini et al. \(1993\)](#); [Solaroli et al. \(1993\)](#); and [Malacarne et al. \(2002\)](#).



Inside a milking parlor made just for donkeys. Noticed they use an automatic milker similar to what would be used for goats.

It is also rich in vitamin's C, D and B12 and it's low in fat. However, due to how low it is in fat can be a problem when being consumed by young children and calories will have to be supplemented elsewhere. There's much interest in milk consumption by elderly people too. The oldest women in the world, 116 years old, from Southern France

claimed to have drunk donkey milk every day ([http://staugustine.com/stories/121705/wor\\_3523360.shtml](http://staugustine.com/stories/121705/wor_3523360.shtml)). Some have claimed that the milk is appropriate for preventing aging diseases such as osteoporosis.

Another use for donkey's milk has been for cheese production the cheese is known as pule. It takes approximately 25 liters of donkey milk to make 1 kilogram of donkey cheese. The average female donkey will produce approximately 1 liter of milk a day. Novak Djokovic, a tennis star, bought a year's supply of donkey cheese from a Serbian donkey dairy. The cheese has been featured on a hamburger, which sells for over 3,000 British pounds, which is \$4,605 US Dollars. He's planning to sell and use the cheese in his 5 star restaurants, which will be opening later this year in his home country of Serbia (<http://www.telegraph.co.uk/news/uknews/9733879/Novak-Djokovic-buys-up-annual-supply-of-donkey-cheese.html>). Those that consume donkey milk may describe the taste as being similar to skim milk at 1% with a sweet, walnut taste. Currently, donkey milk is not available in the U.S. but one can buy dehydrated donkey milk from various European companies. A liter of dehydrated or powdered donkey milk sells for approximately 54 Euros, which is around \$60! A liter of raw donkey milk can only be bought on the farm directly from a donkey dairy and it sells for approximately 15 Euros for 1 liter or \$20 US dollars.

Other products that are made from donkey milk are donkey cosmetic products including soaps and lotions. Due to the protein composition of the milk it's believed that the cosmetic products are good for your skin and promote healing and tightening of the skin. This idea is similar to what Cleopatra believed that the milk would keep one's skin looking youthful in appearance and there maybe a lot of truth to that! The cosmetic products also reach a premium. A small bar of soap is about 10 Euros or 12 US dollars and the lotion varies but also runs pretty high.

Since there's a growing interest in donkey dairies in Italy there has been some concerned by how the donkeys are kept and their overall welfare. The dairy donkeys unlike cattle must keep their foals on their side in order to continue to produce milk. So, this presents a unique condition where the jenny (the female donkey) must produce enough milk for the foal and for production. Currently, the male foals are being sold for human consumption, especially sausage production that also fetches a high price. This again creates another element you are producing more donkeys and there's a concern by many about the future of the male foals. Regardless, of the dynamic issues that face the donkey dairy industry it is helping preserve many indigenous breeds of donkeys in Italy and surrounding countries. Some farmers preferred various breeds of donkeys such as the Raguswana or Martana Franca when other farmers may have up to 10 breeds including the small Sardinian donkey. Little research has looked at which breeds produce the most milk or best composition.

Other problems facing the donkey dairy industry include a lack of standards for the product. Currently, there's no regulation on the milk content and generally it's not sold in a pasteurized format. Also, there are no guidelines available advising donkey dairy farmers on how to use medication or vaccines. Most farmers are not using any vaccinations or medications to treat an ill donkey. So, if their donkey gets sick they will pull her from production but generally the donkey will not be treated with antibiotics because the withholding period is not known. Considering, that few medicines or vaccines are used, this also creates an interest among people who purchase all "natural" and organic products. It also creates a concern with some dairy farmers, researchers, veterinarians and the sanctuaries on the overall welfare of these animals. The farmers are concerned with several issues such as production, disease outbreaks and how to keep their animals healthy as well as producing a uniformed product that can be sold and distributed to more markets. So, local and national government officials are furiously working to try and provide standards for dairy farmers so the product can later be more readily available and sold in public grocery stores. So, when can will donkey dairy products be available in the U.S? Well, consumers can go on line now and purchase the cosmetic products from various individuals manufacturing the soaps, lotions and body washes. One may also be able to find powdered milk on line but it's doubtful that the craze will take over soon in the U.S. due to the complexity of no standards for the milk and the concern with producing extra donkeys and what will happen to the male foals. However, it does seem to be a profitable business and there's a need for such products so it's probably just a matter of time!

#### References:

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Guo, H.Y., Pang, K., Zhang, X.Y., Zaho, L., Chen, S.W., Dong, M.L., and F.Z. Ren. 1990. Composition, physiochemical properties, nitrogen fraction distribution, and amino acid profile of donkey milk. *Jrnl Dairy Sci*, 90:4, 1635-43.

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<http://www.telegraph.co.uk/news/uknews/9733879/Novak-Djokovic-buys-up-annual-supply-of-donkey-cheese.html>

<http://www.zasavica.org.rs/en/analiza-magareceg-mleka/>



Donkey raw milk.



Powdered donkey milk that can be bought on line sells for 54 Euros.



Donkeys being milked at dairy that had 500 head of donkeys. Some dairies milk twice a day and others only milk once a day.



The jennies used for milk production generally eat an all forage diet.

