

## Feeding Donkey's

### Dr. Vandergrift's Response to Feeding Donkey's With Metabolic Issues

You are to be applauded for your obvious love and concern for Flower. I very much appreciate your desire to do what is best for Flower and to make her as comfortable as possible. However, I think everyone needs to pause briefly and do a quick reality check here. Although Flower's exact age may be in question, there is no doubt that she is very very old. A 66 year old equine in human equivalent years would be approximately 160 years old; this is a life span of Biblical proportions literally and figuratively. Flower can not be expected to live very many more years. Therefore, before we get all wrapped up with concerns about Cushing's Syndrome, Insulin Resistance or other metabolic anomalies we should first accept the simple basic truth that Flower's body is probably beginning to shut down for no other reason than she is old. The kidney's do not work as well as they used to, the liver does not work as good as it used to, the heart doesn't pump as good as it used to, hormonal balances are beginning to become unbalanced, and so on. When any person or animal reaches the stratosphere of longevity that Flower has all one has to do to find things wrong with the body is to start looking. Your goal which is also your obvious intent at the moment is to make Flower as comfortable and as healthy as possible in her remaining year(s). In this regard I offer you my assistance.

Based on some of the communications you have had with various people that have been forwarded to me I understand why you might be feeling a bit confused. Therefore, let me attempt to clear up some misconceptions before we discuss a recommended diet for Flower.

Cushing's Syndrome is exactly that, a syndrome, it is not a disease with a specific predictable progression. Cushing's is caused by tumor growth of the pituitary gland which in turn affects several hormonal systems within the body. Which hormonal systems are affected the most determines the progression and symptoms of this insidious disorder; hence the term syndrome rather than disease. In most cases equines with Cushing's Syndrome have elevated cortisol levels as a result of the adrenal gland being over stimulated by excessive production of ACTH by the pituitary gland. Elevated cortisol levels in turn raise blood glucose levels and over an extended period of time will begin to adversely affect many metabolic systems within the body. The very same way that chronic stress in people will eventually shorten their life span due to health issues. The text book symptoms of Cushing's Syndrome such as poor hair coat, laminitis, weight loss, poor immune function are all a result of poor adrenal function, but the primary cause is malfunction of the pituitary gland. You should also be aware that there is no cure for Cushing's, it will eventually kill every animal that develops this awful condition. Medications such as pergolide only help to reduce the negative effects of Cushing's but they do not stop its progression. Equines with Cushing's often succumb to laminitis in a very slow and painful way, but others will suffer kidney failure or liver failure. Keep in perspective here that the effects of old age can have very similar symptoms and it is sometimes difficult to differentiate the two without conducting specific tests. If Flower

does not actually have Cushing's Syndrome and you give her pergolide it is possible that it can have negative effects, however, there is good news here. If she does not have Cushing's Syndrome and you stop giving pergolide then she should improve. The difficult thing to ascertain here is the fact that if she does have Cushing's Syndrome she will eventually begin to get worse even though you are giving her pergolide. Remember, there is no cure for Cushing's, all you can do is slow down the progression a bit. I would suggest that you continue to consult with your vet about continuing or discontinuing the pergolide. If you haven't actually tested for Cushing's with an ACTH challenge I might back off the pergolide but this is a decision you should make with your vet.

Insulin resistance is a metabolic anomaly that is caused by over feeding soluble carbohydrates for an extended period of time, especially during the adolescent stage of an animal's life. I am afraid that Vicki is not quite correct with her discussion about insulin resistance in horses and donkeys. She is on the correct flight path, but she's arriving at the wrong airport. Insulin resistance develops from over consuming soluble carbohydrates and is associated with excessive body fat and easy keepers. Fat intake has nothing to do with insulin resistance, there is no such thing as a high fat forage and the increase in insulin resistance in the equine population has nothing to do with evolution. Insulin resistance is a man made condition caused by selecting animals that are easy keepers and by subsequently feeding these easy keepers way too much grain such as oats, corn and/or barley in order to get them as big and pretty as possible as quickly as possible for the show ring. Vicki is correct in stating that donkeys, just like many warmblood breeds of horses, have been selected, either by man or by the natural forces of nature, based on their ability to survive, perform and reproduce on a low level plane of nutrition. Therefore, their metabolism is designed to function on a low level plane of nutrition, however, when these individuals are then fed a high caloric diet (high plane of nutrition), their metabolic system becomes unbalanced and they begin to develop health problems. Adding fat to a diet enables us to provide needed energy without feeding a lot of grain. Fat can be safely fed to an insulin resistant equine as long as the body condition of the equine is maintained at a moderate level. A fat equine is more susceptible to health issues regardless if the over weight condition is caused by too much grain, too much fat or metabolic anomaly. Most donkeys need to be fed very little in the way of grain, high fat or not. If the grain is high fat, then they need to be fed even less in order to keep their body condition down to an acceptable level. Vicki is also correct in being concerned about the forage component of the diet. Many hays that are grown for horses are higher in soluble carbohydrate than the browse and forages donkeys receive under normal range land conditions and as a result donkeys can easily get too fat when fed even a small amount of high quality hay. The solution here is to feed lower quality hay and/or less of it in order to maintain body condition at a moderate level.

So, what to do? Given the fact that Flower is lacking good teeth she needs a fibrous diet that is easy to swallow without a lot of mastication - answer: beet pulp. Given the fact that Flower is a donkey and is suspected of having metabolic syndrome issues due to her age she needs a diet low in soluble carbohydrate - answer: you have several options here - 1) Triple Crown Senior, 2) Triple Crown Lite, 3) Triple Crown Low Starch Forage, 4) Triple Crown 30 supplement. Triple Crown Lite and Triple Crown 30 are pellets which may be a

bit difficult for Flower to chew. Triple Crown Senior is a beet pulp based feed with a soft pellet designed for horses with dentition problems. Triple Crown Low Starch Forage is a timothy hay based complete diet with standardized low soluble carbohydrate content and provides an alternative to beet pulp for Flower. Flower will also need an adequate mineral and vitamin intake. The best thing to do here is add a good mineral and vitamin supplement to whatever diet option you choose in order to ensure that Flower receives these critical nutrients. Equine Nutrimix from EquiVision is an excellent powdered mineral and vitamin supplement that is easily mixed with any type of diet. You can call them at 859-873-1220 for more information.

At the end of the day, I would recommend you feed Triple Crown Senior at a rate that maintains Flower's body condition at a slightly thin to moderate level. This may be 1/2 pound per day or it may be 5 or more pounds per day, you will have to adjust according to how Flower responds. I would then allow her to graze as best as she can and offer a low quality hay in limited quantities, again adjusting based on body condition. Finish the program off with Equine Nutrimix or its equivalent to ensure adequate mineral and vitamin nutrition. I recommend the Equine Nutrimix over Triple Crown 30 supplement for two reasons: 1) Triple Crown 30 is a pellet and may be difficult for Flower to consume and 2) Triple Crown 30 needs to be fed at a rate of 1 pound per day which will also add additional protein and energy whereas Equine Nutrimix adds no protein or energy to the diet thereby making it easier for you to control Flower's body condition.

Please contact me with any questions or comments at 859-229-9377; however, I must warn you I can be hard to catch so I will most likely have to call you back so please leave a message should you decide to call.

Best wishes to you and Flower,  
Dr. Bill Vandergrift