I own an 18-year-old gelding that has been diagnosed with the beginning stages of Cushing's disease. My veterinarian believes that at this stage the problem can be managed primarily through dietary changes, yet she is unable to tell me what should be altered. Can you help?

Without knowing more particulars about your gelding, I will offer a few general guidelines about feeding horses with equine Cushing's disease (ECD) or pituitary pars intermedia dysfunction (PPID).

The pituitary glands of horses with ECD secrete excessive amounts of adrenocorticotropic hormone (ACTH). In turn, this results in an increased production of cortisol by the adrenal glands. Horses with ECD are prone to laminitis and may develop cortisol-induced insulin insensitivity, which leads to elevated blood insulin and elevated blood glucose.

The best strategy for horses with ECD will depend on several factors. First, since these horses tend to be insulin insensitive, a ration that produces a low-glycemic response is essential. Rations containing rapidly fermented carbohydrates such as lush pasture and high grain meals should be avoided to reduce the likelihood of laminitis. Grazing on pasture might present the greatest risk to horses that are insulin insensitive because the nonstructural carbohydrate content of pasture grasses fluctuates significantly among different grass species and various growing conditions (such as changes in rainfall and temperature). Additionally, a ration must also deliver the correct amount of required nutrients for the horse, and it must supply the appropriate caloric intake to maintain or achieve a desired body condition.

ECD horses that are overweight should be fed a ration composed primarily of hay. Most hays have low glycemic indexes compared to cereal grains or sweet feeds. Hay rations should be supplemented with a low-inclusion fortified balancer to provide nutrients that may be deficient in the forage.

If an older ECD horse has trouble maintaining weight, its ration can be supplemented with additional calories from a high-fat, low-starch product. In addition to providing a concentrated source of energy, vegetable oil has been shown to greatly reduce glycemic response to a grain meal, possibly by delaying gastric emptying. If beet pulp is added to the ration, it should be rinsed to reduce its glycemic index. Rice bran also has a low glycemic index and has been used as a source of supplemental calories.

Interestingly enough, feeds designed for senior horses might not be desirable for ECD horses because they may contain ingredients that produce a high glycemic response such as molasses.

The importance of diet in the management of metabolic conditions such as ECD and insulin resistance cannot be downplayed. Therefore, I would encourage you to find and foster a relationship with a reputable equine nutritionist. Some of the leading feed manufacturers in the country have at their disposal knowledgeable personnel to guide you through your horse's nutritional challenges.

If you would like to submit a nutrition question, please contact Eileen Phethean at ephethean@ker.com or mail to: EQUESTRIAN Nutrition Questions, c/o Kentucky Equine Research, 3910 Delaney Ferry Road, Versailles, KY 40383.