Proper feeding is one of the most important factors in maintaining your horse’s overall health and performance. When your horse digests its food, carbohydrates produce glucose (sugar), which becomes your horse’s main source of energy. Once its body recognizes the increase in available glucose, insulin is produced to regulate the glucose concentration and use throughout the body. Insulin resistance (IR) occurs when the body is no longer sensitive to the actions of insulin. Therefore, a horse that is insulin-resistant will require higher quantities of insulin to properly utilize the available glucose from digested feed.

The cause of insulin resistance is not fully understood. It is likely that multiple factors contribute to this condition, including diet, obesity, age, activity level and genetics. Modern feeding programs usually include high sugar/starch, which causes an increase in glucose and the amount of insulin required to regulate it.

Research has shown that horses fed a high sugar/starch diet compared to horses fed a high fiber/fat diet were more likely to develop insulin resistance. Obese horses are more likely to become insulin resistant, but even lean horses classified as “easy-keepers” also can develop this disorder.

Horses over the age of 20 are prone to developing endocrine dysfunction and, as a result, also develop IR. Your horse’s activity level also plays a role in developing insulin resistance. Regular exercise will utilize the excess glucose to reduce insulin; therefore, active horses have less of a chance of developing IR.

Insulin-resistant horses often have a body condition score of 6 or higher with irregular fat deposit. They can be described as “easy-keepers” and may have bouts of unexplained sore hooves and laminitis. If you suspect your horse may be insulin-resistant, it is important that you have your veterinarian diagnose it as soon as possible. Left untreated, insulin resistance can lead to decreased pancreatic function and potentially the development of type 2 diabetes.

It is important to note that poor management practices followed in the first 10 years of a horse’s life can predispose it to becoming insulin resistant. Prevention is always preferred. The following management techniques can help you treat and prevent insulin resistance:

- Avoid obesity (body condition score of 7 or higher) by adjusting your feeding protocol.
- Limit grazing, especially in the spring and fall, when cool grasses contain the most sugar.
- Limit concentrates and feed grain low in sugar and starch (i.e. NO MOLASSES, use only if needed).
- Provide exercise and turn-out time for your horse. Turn out should be done in a dry lot or in an arena to reduce the chance of consuming high-starch grasses.
- Maintain adequate hoof care to help reduce future laminitis.
- Ensure a proper diet that is specific to your horse. Many IR horses fed a restricted diet do not get all of the required nutrients. Work with your veterinarian or a nutritional consultant to determine if additional supplements are needed.

Insulin resistance can create a management challenge for horse owners and decrease overall performance. If you suspect your horse may be suffering with IR, contact your veterinarian immediately. Maintaining a healthy balance between diet and exercise can help prevent insulin resistance in your horse.

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Author
Neely Walker, Ph.D.
Assistant Professor (Equine Specialist)
School of Animal Sciences

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William B. Richardson, LSU Vice President for Agriculture
Louisiana State University Agricultural Center
Louisiana Agricultural Experiment Station
Louisiana Cooperative Extension Service
LSU College of Agriculture

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