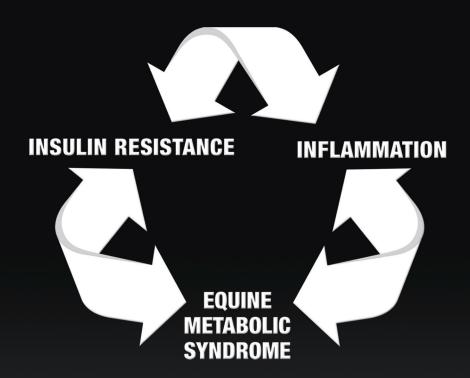
# BREAK THE CYCLE.



Metabarol<sup>™</sup> is a micro-encapsulated resveratrol product that has been shown to reduce insulin levels in response to the oral glucose challenge. Metabarol improves insulin sensitivity and optimizes metabolic efficiency.

Visit **equinemetabolicsyndrome.info** to learn more.





# **Equine Metabolic Syndrome**

Equine Metabolic Syndrome (EMS) is an endocrine disorder that affects a variety of horse and pony breeds. Obese or overweight horses are particularly susceptible to developing EMS, although EMS can also occur in animals in normal or lean body condition.

EMS is characterized in part by insulin resistance (IR). Insulin resistance is diagnosed by elevated blood insulin levels and/or an abnormal response to glucose challenge tests. Insulin resistance is a significant health concern, as horses and ponies affected with this condition have a predisposition to laminitis, or founder. Laminitis results from reduced blood flow and chronic inflammation in the laminae that connect the coffin bone to the hoof wall.

Failure to properly manage insulin resistance in EMS horses, predisposed to laminitis, can lead to a life-threatening situation.





Pictures of typical EMS horses with fat accumulation in the neck, often referred to as a "cresty" neck.



# Metabarol™

Metabarol™ is a premium scientific formula of our proprietary micro-encapsulated resveratrol (Resverasyn®) that is administered daily to support optimum metabolic function in horses. University conducted research demonstrated that Metabarol reduced insulin levels by an average of 30% in response to an oral glucose challenge test after 45 days of administration in horses previously diagnosed with Equine Metabolic Syndrome. Results independent of diet.

### **How it Works**

## Improves Metabolic Efficiency

Daily resveratrol administration improves energy metabolism through its effects on mitochondria, the body's cellular powerhouse. Resveratrol activates an enzyme called Sirtuin 1 that causes mitochondria to more efficiently metabolize glucose. The result is increased energy output from cellular metabolic reactions.

### **Reduces Chronic Inflammation**

Chronic inflammation decreases the sensitivity of insulin receptors to insulin, a condition referred to as insulin resistance (IR). Glucose is not readily transported into cells in animals with insulin resistance. To compensate for insulin resistance, the pancreas of IR animals typically produces and secretes larger amounts of insulin to promote entry of glucose into cells. The high levels of blood insulin associated with insulin resistance is a condition known as hyperinsulinemia, which can contribute to increased risk of laminitis, a devastating inflammatory condition of the hoof.

Daily Metabarol administration has been shown to decrease circulating levels of the pro-inflammatory mediator TNF-alpha in horses. The reduction in chronic inflammation associated with daily Metabarol administration improves insulin sensitivity in horses previously diagnosed with Equine Metabolic Syndrome. This improvement in insulin sensitivity explains the reduction in blood insulin levels in EMS horses exposed to the oral glucose challenge test after 45 days of Metabarol administration.