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The post feeding glycaemic and insulin response to copra meal in horses

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Abstract

Knowing the effect a feed ingredient has on post-feeding glycaemic and insulin responses is important when managing conditions like equine metabolic syndrome, laminitis and the polysaccharide storage myopathy form of tying up in horses. Feeds that cause minimal post-feeding disturbances to plasma glucose and insulin are desirable. This study was conducted to determine the post feeding glycaemic and insulin response in horses to copra meal (Copra Meal; 11% non-structural carbohydrate; NSC) and to compare this to the responses observed to low NSC pasture (Pasture; 7 % NSC) and higher NSC extruded pellet (Pellet; 25.3 % NSC) and sweetfeed (Sweetfeed; 33.7 % NSC) rations.

Copra Meal did not increase plasma glucose levels above those observed in horses grazing the low NSC Pasture while the Pellet and Sweetfeed rations caused significant post-feeding rises in plasma glucose. The Pellet and Sweetfeed rations also raised post feeding plasma insulin levels significantly compared to Pasture and Copra Meal. Copra Meal raised plasma insulin levels significantly higher than that observed in horses grazing Pasture from 15 to 60 minutes post feeding, after which time there was no significant difference. The results of this study demonstrated that the NSC content of a