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1 The post feeding glycaemic and insulin response to copra 2 meal in horses

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7

8 Abstract

9 Knowing the effect a feed ingredient has on post-feeding glycaemic and insulin responses is
10 important when managing conditions like equine metabolic syndrome, laminitis and the
11 polysaccharide storage myopathy form of tying up in horses. Feeds that cause minimal post-feeding
12 disturbances to plasma glucose and insulin are desirable. This study was conducted to determine the
13 post feeding glycaemic and insulin response in horses to copra meal (Copra Meal; 11% non-
14 structural carbohydrate; NSC) and to compare this to the responses observed to low NSC pasture
15 (Pasture; 7 % NSC) and higher NSC extruded pellet (Pellet; 25.3 % NSC) and sweetfeed (Sweetfeed;
16 33.7 % NSC) rations.

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

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