

# **Effects of feeding newly developed blend pellet products based on carinata meal or canola meal in combination with pulse screenings and lignosulfonate on nutrients availability and components production efficiency in high producing dairy cows**

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The main goals of this study were to examine the effect of feeding newly developed blend pelleted products based on carinata meal (BPPCR) or canola meal (BPPCN) in combination with pulse screenings and lignosulfonate on nutrients availability and components production efficiency in high producing dairy cows. Nine mid lactating (3 cannulated + 6 non-cannulated ) Holstein cows were randomly assigned to one of the following three dietary treatments: T1 = control diet (Con; common barley-based diet in western Canada); T2 = basal diet supplemented with 12%DM BPPCR (carinata meal 71.4 % + pea screenings 23.8% + lignosulfonate 4.8 %DM), and T3 = basal diet supplemented with 13%DM BPPCN (canola meal 71.4% + pea screenings 23.8 % + lignosulfonate 4.8%DM) in triplicate 3×3 Latin square design. Intestinal protein digestibility (IVCPD) was determined according to the modified three-step in vitro method using pre-incubated 12hr in situ bags. There were no significant differences ( $P > 0.05$ ) between treatment groups in IVCPD (averaging 74.5 %). The predicted total digestion of protein in rumen and intestine was the same in all treatment (averaging 90.2%). Gross milk revenue (butter fat revenue + protein revenue +other solids revenue) was similar among the three groups (averaging 31.8\$ cow/day). The income efficiency (gross income after purchased feed / unit DM fed) was not affected ( $P > 0.05$ ) by all dietary treatments (averaging 0.94).

Implications: the blend pelleted products based on carinata meal as a new co-product from bio-fuel processing industry is equal to the other pelleted products based on canola meal without affecting nutrients availability and components production efficiency in high producing dairy cows.