Effect of Crambe meal addition (*Crambe abyssinica* Hochst) on rumen fermentation and methane production *in vitro*[1]

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Abstract: Crambe meal is a residual after oil extraction from seeds, which has high protein content and can be used as feed for ruminants. This study was conducted at the Center for Nuclear Energy in Agriculture (CENA / USP / Piracicaba / SP / Brazil), in order to evaluate the effect of replacement soybean meal protein with different levels of crambe meal protein in sheep diet on methane production (CH_4), gas production (GP), partitioning factor (PF), truly degradability of organic matter (TDOM) and truly degradability of dry matter (TDDM). Diets contained 30 % hay grass and 70 % concentrate consisting of corn, soybean meal and / or crambe meal and minerals. The treatments consisted in the substitution of 0, 22.2, 44.2 and 63.7 % protein soybean meal for crambe meal protein. The semi-automatic in vitro gas production technique was used, according to the methodology of Mauricio et al., 1999 adapted by Bueno et al., 2005. The experimental design was randomized blocks with four treatments and eight repetitions, which were submitted to ANOVA and means compared by Duncan test (5 %). The increased levels of protein replacement of soybean meal for crambe meal protein did not show any significant effect ($P<0.05$) for any measured parameters which mentioned previously. According to the literature there were very limited data about replacement percentage of protein (soya bean) in sheep diet by crambe meal. These data suggest that, crambe meal can be bused as protein replacer of soybean meal without any negative effect on rumen fermentation and degradability of both organic and dry matter in vitro.

Keywords: organic matter truly degraded, oilseeds, sheep, gas production