

THE EFFECT OF XYLOSE TREATMENT ON DRY MATTER AND CRUDE PROTEIN DEGRADABILITY CHARACTERISTICS OF SOYBEAN MEAL, FULL FAT SOYBEAN AND SOYBEAN SEED IN SHEEP

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Summary. The study was conducted to determine the effects of xylose treatment of soybean meal (SBM), full fat soybean (FFSB) and soybean seed (SBS) on rumen degradability of dry matter (DM) and crude protein (CP) in four ruminally cannulated two years old Merino rams. These feedstuffs were treated with water + heat, water + heat + 2% xylose or 3% xylose. Xylose treatments at both levels (2% and 3%) decreased ($p < 0.001$) effective degradability values (Pe) of DM and CP in SBM. Although the calculated reduction coefficients for effective CP degradability values of SBM treated with 2% and 3% xylose (37% vs 41%) were similar, they were different compared to that of untreated SBM. The calculated reduction coefficients for effective CP degradability values of FFSB and SBS treated with 2% and 3% xylose were 15.6% and 25%; 25.8% and 28.3, respectively. In conclusion, xylose treatment is more effective on protection of SBM proteins from rumen degradation compared to FFSB and SBS proteins when the calculated reduction coefficients for effective CP degradability values were considered. There was no difference between the effective CP degradability of xylose treated SBM, hence 2% xylose level is sufficient for SBM while high xylose level is necessary for FFSB and SBS. This may be resulted from high ether extract and processing methods of FFSB and SBS. For this reason xylose level may be increased for its effectiveness depending on the oil content and processing methods of FFSB and SBS.

Keywords: full fat soybean, rumen degradability, soybean meal, soybean seed, xylose.