

## The Effects of Phenolic Compounds in Brown Iranian Propolis Extracts on Ruminal Nitrogen Ammonia Concentration in in Vitro

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**Abstract :** The goal of this study is to determine the chemical compounds of brown Iranian propolis(BIP) extracts and to show flavonoids and phenol effects on nitrogen ammonia (NH<sub>3</sub>-N) in in vitro. Experimental samples were including two diets with different concentrate: forage ratio (80:20 and 60:40) with eight treatments (1:Control diet 60:40 without BIP,2: 60:40 diet with 25% BIP, 3:60:40 diet with 50% BIP, 4: 60:40 diet with 75% BIP,5: Control diet 80:20 without BIP,6: 80:20 diet with 25% BIP,7: 80:20 diet with 50% BIP and 8: 80:20 diet with 75% BIP) and eight repeats. The trial was analyzed considering a completely randomized design by the GLM procedure of SAS 9.1. Means among treatment were compared by Tukey test. The results of this study showed that in food with 80:20 (concentrate: forage), adding BIP 25% did not statistically change NH<sub>3</sub>-N ( $p > 0.05$ ) compared to the control treatment but there was a significant difference ( $p < 0.05$ ) between the effect of BIP 50% on NH<sub>3</sub>-N compared to the BIP 25% and the control. In diet with 60:40 (concentrate: forage), there was no significant difference between the effect of BIP 25% on NH<sub>3</sub>-N and the control, nor was there a significant difference between the effect of BIP 50% and 75%, while a significant difference ( $p < 0.05$ ) between BIP 50% and 75% and the rest was observed. The propolis extract makes nitrogen ammonia decrease. This may help the nitrogen retain longer in ruminants.

**Keywords :** brown Iranian propolis, in vitro, nitrogen ammonia, ruminant

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