

Amplified Ribosomal DNA Restriction Analysis Method to Assess Rumen Microbial Diversity of Ruminant

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Abstract : Rumen degradation characteristic of feedstuff is one of the prominent factors affecting microbial population in rumen of animal. High rumen degradation rate of faba bean protein may lead to inconstant rumen conditions that could have a prominent impact on rumen microbial diversity. Amplified Ribosomal DNA Restriction Analysis (ARDRA) is utilized to monitor diversity of rumen microbes on sheep fed low quality forage supplemented by faba beans. Four mature merino sheep with existing rumen cannula were used in this study according to 4 x 4 Latin square design. The results of study indicated that there were 37 different ARDRA types identified out of 136 clones examined. Among those clones, five main clone types existed across the treatments with different percentages. In conclusion, the ARDRA method is potential to be used as a routine tool to assess the temporary changes in the rumen community as a result of different feeding strategies.

Keywords : ARDRA method, cattle, genomic diversity, rumen microbes

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