

Factors Affecting the Results of in vitro Gas Production Technique

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Abstract : In determination of values of feeds which, are used in ruminant nutrition, different methods are used like in vivo, in vitro, in situ or in sacco. Generally, the most reliable results are taken from the in vivo studies. But because of the disadvantages like being hard, laborious and expensive, time consuming, being hard to keep the experiment conditions under control and too much samples are needed, the in vitro techniques are more preferred. The most widely used in vitro techniques are two-staged digestion technique and gas production technique. In vitro gas production technique is based on the measurement of the CO₂ which is released as a result of microbial fermentation of the feeds. In this review, the factors affecting the results obtained from in vitro gas production technique (Hohenheim Feed Test) were discussed. Some factors must be taken into consideration when interpreting the findings obtained in these studies and also comparing the findings reported by different researchers for the same feeds. These factors were discussed in 3 groups: factors related to animal, factors related to feeds and factors related with differences in the application of method. These factors and their effects on the results were explained. Also it can be concluded that the use of in vitro gas production technique in feed evaluation routinely can be contributed to the comprehensive feed evaluation, but standardization is needed in this technique to attain more reliable results.

Keywords : In vitro, gas production technique, Hohenheim feed test, standardization

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