



***In vitro* digestibility and fermentation kinetics of agricultural and agro-industrial by-products used in ruminant feeding in Benin Republic**

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ABSTRACT

Objective: The global energy value of the feed remains essential in the choice of raw materials used in ruminant feeds.

Methodology and results: This study analyzes the variability *in vitro* of degradation parameters in the presence of rumen juice from agricultural and agro-industrial by-products. It reveals that the tuber by-products very rich in starch have a high fermentation efficiency. The by-products poor in fiber and rich in sugars are quickly degraded by the rumen microbes.

Conclusion and application of results: The estimation of the digestibility of agricultural and agro-industrial by-products through the *in vitro* feed incubation methodology in the presence of rumen juice is an effective way to categorize feeds used in small ruminant feeding in Benin republic. The digestibility of the by-products studied is related to the volumes of gas produced during the incubation. More digestible is By-product, the more gas it produces. This study strengthens the rationing tables. The By-products which is more digestible must be prioritized for production targets for fattening. Beyond the feed degradation, other constraints must be considered in the choice of agricultural and agro-industrial by-products in the development of the ruminant rations.

Keywords: by-products, digestibility, Benin Republic, rumen juice, ruminant.