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.