Introduction

- Solanum lycocarpum St Hil. is widespread in Brazil as it grows naturally in dry areas and poor soils.
- Its high amount of secondary metabolites demands an alternative way in which this plant can be used in livestock production systems.
- Characterization of its fermentation profile by means of the Volatile Fatty Acid (VFA) analysis is one step towards its sustainable use for ruminants.
- An in vitro trial was conducted for this purpose.

Material & Methods

A triplicate 5 x 2 x 4 factorial trial involved:
- Five dried fractions - (Flower=Fl, Fruit=Fr, Leaf=Lf, Stem=St and Root=Rt)
- Two inclusion levels: 0.2 and 0.4 g
- Four incubation times: 08, 24, 48 and 96 hours in tubes (Fig 1.)

In vitro trial confirmed the hypothesis that the greatest VFA profiles were found in fruit, flower and leaf (Fig 2).

Fluctuation over time showed that once fed to ruminants the VFA production will depend mainly upon the flow rate of ingested biomass in the rumen (Fig. 3).

Results

- Fruit fraction had the highest effective production of VFA (Fig 2)
- Acetic, propionic and butyric rates of productions were 0.09 ; 0.045 and 0.0015 mM /hour respectively for this fraction.

Conclusion

- Dietary manipulation of ruminants with the inclusion of the fruit or leaf from S. lycocarpum as an additive is possible.
- Further studies will assess the potential of this plant as an additive for the ruminant production.

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