

Dottorato di ricerca in Scienze Veterinarie [XXXVIII] CICLO - Anno di corso: [1°]

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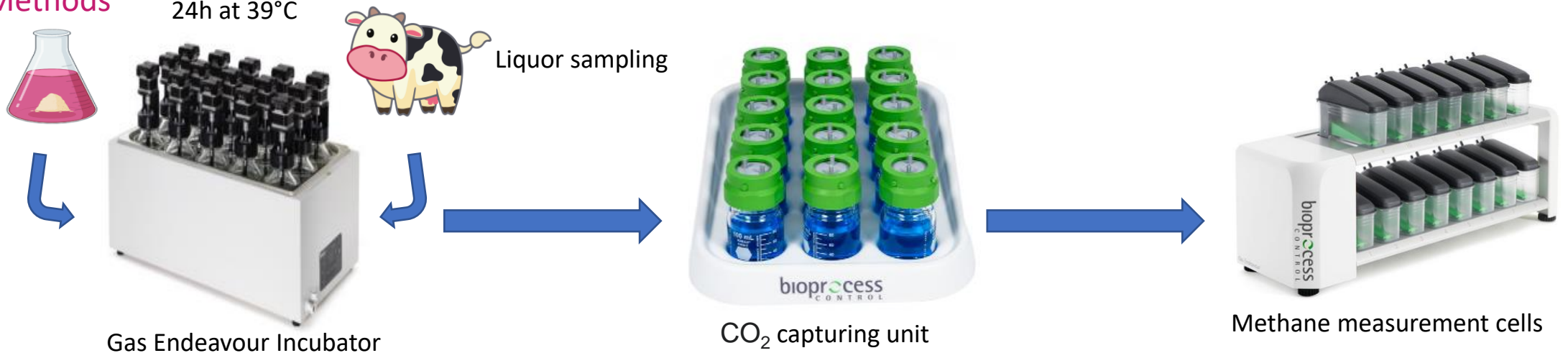
Assessment of botanicals as methane and ammonia inhibitors in cattle

Objective

Methane and ammonia are two of the most polluting components of livestock farming and are among the causes of global warming. The aims are to study the Gas Endeavor® instrument, a model used for *in vitro* analysis of methane production, and to select botanicals capable of reducing methane and ammonia during the fermentations.

Materials and Methods

Substrate +
fermentation mix +
treatment



Results and conclusions

Literature research showed that some botanicals have the ability to mitigate methane and ammonia emissions from ruminal and enteric fermentations through various pathways. Fourteen of these, belonging to different chemical classes and with different modes of action, were selected. The impact of these botanicals can be assessed using the Gas Endeavor® model.

Future proposal

Screening of anti-methanogenic and ammonia reducing action of selected botanicals will be carried out. Moreover the effect on total gas and on single VFAs produced during fermentation will be analyzed.