

## RESEARCH HIGHLIGHTS

# CH<sub>4</sub> Emission in Ruminants is Leading Towards Global Warming

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Global warming has become a serious threat to life that leads to disastrous outcomes. Several factors are responsible for global warming, methane (CH<sub>4</sub>) is one of them that emits through the enteric fermentation of ruminants. It is reported that CH<sub>4</sub> generated by livestock contributes up to 40% of greenhouse gas (GHG) emissions<sup>1</sup>.

Therefore, the need of the hour is to cope up with this situation. Production of methane can be reduced through certain ways such as including CH<sub>4</sub> vaccination, dietary manipulation as well as dietary management.

Dietary manipulation is a technique through which organic matter (OM) fermentation can be reduced in the rumen. This process is reported to have potential that may aid to alleviate CH<sub>4</sub> emission from ruminants<sup>2</sup>.

Ruminant diets are mixed with fats and oils to amplify energy density as well as to manipulate ruminal fermentation. Utilization of these oils can alter the biohydrogenation process, which ultimately manages the final products as a result of rumen fermentation. Among these oils, sunflower oil (SFO) has been demonstrated to lessen CH<sub>4</sub> production<sup>3</sup>.

Moreover, supplemental NO<sub>3</sub> has also been reported to play a fundamental role in reducing CH<sub>4</sub> production. Being a substitute as an electron acceptor, NO<sub>3</sub> can be converted into ammonia (NH<sub>3</sub>)<sup>4,5</sup>, which supplies nitrogen to support microbial growth<sup>6</sup>.

Accordingly, scientists designed new research in order to investigate the interaction between nitrate and sunflower oil on feed intake, rumen production as well as the microbial population in goats. For this purpose, eight (8) Thai native goats with an initial body weight of 28.8±5 kg were selected<sup>7</sup>.

The results of this study exhibited that feeding the combination of nitrate and sunflower oil has the potential to diminish CH<sub>4</sub> production. In summation, ruminant fed low-quality roughages can be enhanced through combining nitrate and sunflower oil.

## REFERENCES

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