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## CONTRIBUTION TO THE STUDY OF THE ANTIBACTERIAL AND METHANOGENIC EFFECT OF ESSENTIAL OILS OF *PIMPINELLA ANISUM* ON THE RUMEN FLORA OF ALGERIAN RAMS

Amour Fatima<sup>1</sup>, Hammoudi Abdelhamid<sup>2</sup>, Ammam Abdelkader<sup>2\*</sup>

<sup>1</sup>University of Ibn Khaldoun Tiaret, Algeria;

<sup>1</sup>University of Ibn Khaldoun Tiaret, Algeria;

<sup>2\*</sup>University of Dr Moulay Tahar Saida, Algeria;

\*Corresponding Author Ammam Abdelkader, e-mail: [vetokadi@yahoo.fr](mailto:vetokadi@yahoo.fr);

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### ABSTRACT

Ruminal flora is characterized by its extreme diversity. About 200 species have been isolated, of which about thirty are specific to the rumen, presenting various enzymatic activities. We find; cellulolytic, amylolytic, hemicellulolytic, saccharolytic, proteolytic, methanogenic bacteria this last effect is the subject of our study which can be largely influenced by dietary factors. Among these factors, we focused on the essential oils of *Pimpinella anisum*. Indeed, this factor is interesting from a practical point of view, to provide more energy and thus increase the productivity of animals. In this study, we will focus on describing the modifications induced by the EOs on the ruminal ecosystem and the biotransformation phenomena. The animal model chosen for the experimental work of this thesis is the ram, the essential oils of the plant were obtained by hydrodistillation and the yield was 0.16% and the antibacterial activity was excellent at the concentration of 100% of oils without dilution.

**Key words:** rumen, ram, essential oils, pinpinila anise, methanogen, antibacterial.