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Invited Speaker 36

Alternative Feed Resources – Utilization of *Cistus ladanifer* and its Constituents in Ruminant Diets

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In the Mediterranean region are available several feed resources, such as agro-industrial by-products, shrubs and tree foliage that are suitable for ruminant nutrition. Such feed resources may constitute an alternative to some conventional raw-materials used in ruminant diets, providing energy and nutrients. Moreover, they are also sources of several bioactive compounds with potential benefits on animal health and welfare, quality of products and environmental impact of ruminant production. Within this context, in the last years and more recently under the CistusRumen project (<http://cistusrumen.pt/>) our research team developed an extensive work on utilization of *Cistus ladanifer* L. (Esteva) in ruminant diets. A multidisciplinary team has performed a wide range of studies, focused on chemical composition and nutritional value of *Cistus ladanifer*, extraction procedures of interest compounds, and impact of application of *Cistus ladanifer* or its condensed tannins extract in ruminant diets on feed efficiency, animal health, productivity and quality of products. Although it is considered as a feed with poor nutritional value, our results showed that in specific conditions aerial part of *Cistus ladanifer* (soft stems and leaves) can be used as component of ruminant diets without compromise the animal performance. Moreover, *Cistus ladanifer* showed to be able to modify the ruminal biohydrogenation, promoting the ruminal synthesis of the healthy fatty acids with improvement of the nutritional value of lipids from lamb meat. On the other hand, when incorporated into ruminant diets, *Cistus ladanifer* also limits the meat lipid oxidation. So, taken into account the promising results on utilization of *Cistus ladanifer* in ruminant diets, we intend to continue with the work on this topic, in order to optimize the conditions of use, explore other benefits and elucidate the action mechanisms.

Keywords: CistusRumen project, alternative feed resources, small ruminants, productivity, products quality

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