

UR1213 Herbivores

Biotechnics farming systems Team (Sybel)

Are organic animal products tastier and better for health?



The high proportion of white clover in the diet of pasture-fed organic lambs may result in off-flavours in the meat and in softer carcass subcutaneous fat. By contrast, the meat fatty acids are more favourable for human health.

The 'Organic' label offers production process guarantees, but the obligation of the results is limited, for example in lamb production, to satisfactory fatness and conformation scores of the carcass. This raises questions about the food qualities of the product.

This study aimed at comparing the sensory and nutritional qualities of meat and carcass of from pasture-fed lambs reared organically (O) or conventionally (C). Mean lamb growth profile was kept similar between the two treatments to avoid confounding effects with lamb age or weight at slaughter. The experiment was repeated over three years, with 12 lambs per year in each treatment. The treatments differed in the level of on-pasture mineral N fertilisation inducing a higher proportion of white clover in the organic pasture. Sensory evaluation by trained panellists indicated that loin chops from the O treatment had a higher level of abnormal odour compared with the C treatment. In addition, carcasses from the O treatment had a softer subcutaneous fat one among 3 years compared to the C treatment. These results are probably due to a higher proportion of white clover in the diet. Organically reared lambs did offer the slight advantage of muscle fatty acid containing a higher level of stearic acid, which may have positive effects for human health. This may be the result of a higher biohydrogenation of C18:3n-3 due to differences in the botanical composition between the O

and C pastures.

As legumes are essential to preserve livestock systems' food autonomy, future research may be directed towards the development of management practices that may limit the occurrence of defects in sensory qualities, while taking advantage of the presence of white clover in organic and low-input pastures. We also have to keep in mind that attributes considered as defective for standard products may be well accepted by consumers if the product is "differentiated", which is the case for organic products.

Scientific partners :

UR Qualité des Produits Animaux, Pôle AB Massif Central, RMT DévAB, INAO.

Reference:

- Prache S., Gatellier P., Thomas A., Picard B., Bauchart D. Comparison of meat and carcass quality in organically-reared and conventionally-reared pasture-fed lambs. *Animal*, 5(12), 2001-2009.

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