

**[Effects of the replacement of cereal in the diet by other energy sources on fatty acid profile of lambs' meat]**

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The experiment was conducted in order to test the hypothesis that the replacement of cereal by low-starch feed ingredients in lambs' finishing diets supplemented with oils would prevent the occurrence of the *t*10-shifted biohydrogenation (BH) pathways in the rumen.

Forty lambs were assigned to four complete diets composed of 52% of cereal (mainly barley) or cereal replaced by citrus pulp, beet pulp or soy hulls. Diets were supplemented with soybean oil (5.9%) and fish oil (1%). Lambs were fed during 6 weeks and slaughtered afterwards. The fatty acid composition of *Longissimus* muscle and subcutaneous fat samples were analysed.

No alternative source was able to prevent the occurrence of *t*10-shift, even with a higher deposition of *c*9,*t*11-18:2 and *t*11-18:1 originated by soy hulls. In fact, there was a high accumulation of *trans*-10-18:1 in both tissues (7.32 to 17.20% of total fatty acids) reflected by *t*10-18:1/*t*11-18:1 ratio  $\geq 3$  in all treatments. The differences found with soy hulls might be due to modifications of rumen microbiota, as an increase of branched chain deposition in the muscle was verified. These results are striking and lead to question about the importance of the starch content of diets in the occurrence of the shift.