

Linseed or soya oil in a fattening diet: 2. composition of body fats. A Clinquart, I Dufrasne, A Mayombo, L Istasse, C Van Eenaeme, JM Bienfait (*Faculty of Veterinary Medicine, University of Liège, Dept of Animal Nutrition, Sart Tilman, B 43, 4000 Liège, Belgium*)

Linseed and soya oil are modified differently after incubation in the rumen (Clinquart *et al*, 1992). The aim of this study was to assess the effects of these 2 fat supplements on body fats.

In Experiment 1, 60 Belgian Blue bulls (double muscle type) were divided into 3 groups. Initial weight was 375 kg. The first group was offered the control diet; the second group received the control diet supplemented with 2.2% soya oil (MSO), and the third received the control diet in which linseed meal was substituted by flaked linseed (FLB). In Experiment 2, 12 Belgian Blue bulls (dual-purpose type) were used. They weighed \approx 340 kg and were divided into 2 groups. The first group was offered the control diet. The diet supplemented with soya oil at a rate of 3.3% was offered to the second group. Fatty acid composition of perirenal fat obtained at slaughter was measured by gas chromatography.

In Experiment 1, the proportion of desaturated fatty acids increased significantly with FLB. This was due to a reduction in stearic acid content and an increase in C18 desaturated fatty acids still present in a large proportion after 8-h incubation in the rumen. It was considered that the shift in saturated / desaturated ratio was associated with a greater softness of fat in the carcass. In Experiment 2, the increase was significant in the MSO group but was not associated with changes in softness of carcass fat. Apparently, this increase was only due to the increase in oleic acid since C18 desaturated fatty acids found in large amounts in soya oil were largely hydrogenated in the rumen.

In conclusion, the changes in fatty acid composition of perirenal fat were associated with a low rate of hydrogenation of fatty acids by the microflora in the rumen.

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Reference

Clinquart A, Istasse L, Mayombo A, Van Eenaeme C, Dufrasne I, Bienfait JM (1992) 28th AFN Meeting, Dijon, October 1991. *Reprod Nutr Dev* 32 (this issue, previous abstract)