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Oral Presentation

Is it possible to change milk secretion of drugs with soy enriched diets in lactating ruminants?

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Abstract

Soy is the most commonly used protein supplement in beef and dairy diets. Soy, which is also used as a common protein source in animal feed, is palatable and has a good amino acid balance and high bioavailability. In vivo and in vitro interaction of flavonoids, including isoflavones such as genistein and daidzein, with several ABC transporters, including BCRP/ABCG2, has been demonstrated. BCRP presence in ruminants could affect the efflux of hydrophobic toxins and drugs, including their active secretion to milk and a reduction in the withdrawal time of the drug milk residues. As a result of inhibition of efflux transporters such as BCRP, changes in drug pharmacokinetics and drug transfer into milk have been observed. In this respect, the use of forage supplemented with BCRP inhibitors may be beneficial to control drug accumulation in milk and prevent undesirable contamination of milk. It is aimed to reduce the drug withdrawal periods for dairy animals with the procedure in question. In this presentation, it is aimed to give information about the importance of soy-enriched diets in the nutrition of ruminants during the lactation period and the effect of transport proteins on the transfer of drugs into milk.

Keywords: BCRP/ABCG2, pharmacokinetics, soy, withdrawal time, ruminant

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