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DIPARTIMENTO DI SCIENZE VETERINARIE PER LA SALUTE, LA PRODUZIONE ANIMALE E LA SICUREZZA ALIMENTARE
Vespa

Detection of boldenone, its sulfate and glucuronate forms, androstadienedione, cortisol, cortisone, prednisolone, prednisone and dexamethasone in bovine bile and urine by LC-MS/MS: preliminary results.

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ABSTRACT

The European Union regulations ban or regulate the use of substances with hormonal action. There are, however, some detectable steroids in biological matrices from cattle to which no administration were made. These are the so called "grey-zone" or "pseudoendogenous" substances (endogenously produced under certain circumstances). The administration of boldenone and androstadienedione to cattle is forbidden both for therapeutic or growth promotion purposes, while therapeutic use of prednisolone is permitted. The control of the use of these substances is hampered by their pseudoendogenous nature. We made a comparison between analyses performed on the classical matrix urine with bile (a novel matrix) from the same animals, with the aim to determine the better matrix for the above mentioned steroids. We tested the synthetic corticosteroid dexamethasone, too. The preliminary results do not show any difference between the two matrices, as concern the pseudoendogenous substances. The data about dexamethasone were instead very promising about the use of bile. The detection frequency and concentration levels were, in fact, higher in bile than in urine from the same animals.

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