

Electronic identification and management of eradication plan for Brucellosis, Leucosis and Tuberculosis in buffalo breeding: innovative system for recording of data collected by Veterinary Services

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Buffalo farming in Italy found favorable breeding condition in the southern part of Italy, where are located most of the buffaloes. A total amount of 258,000 buffaloes are recorded in the Italian cattle and buffaloes data base and almost 50% of the animals are present in the Caserta province. Identification of buffaloes, considering the particular environment conditions in which they live, may result difficult (dirty ear tags, consumption due to adverse atmospheric conditions, losses) and some breeders have decided to use an electronic device. The presence of brucellosis in buffaloes requires specific tools to ensure a unique, inalterable and permanent identification in order to apply measures for the eradication plans. Recently (2006), the Campania region has developed a specific regional plan to identify electronically buffaloes using a ceramic bolus provided with a transponder. The National Register and Identification Centre for cattle and buffaloes located in Teramo, at the Istituto Zooprofilattico Sperimentale of Abruzzo and Molise, developed an innovative system to record both identification and sanitary data of buffaloes collected from 'in field activities', in order to improve the sanitary management of the farms. A total amount of six thousand buffaloes have been tested for brucellosis and samples collected from each animal have been identified using a hand-held computer equipped with windows mobile software and provided with an application able to manage the data downloaded (identification number, sex, race, birth date) from the National Database. This application can be used to manage all the activities (identification, sampling, vaccination), including the printing of sticky labels for the identification of blood samples collected in field, thus ensuring a strong identification tool for Veterinary Services, able to improve the activities of the eradication plans.

Effect of zeolite A on the periparturient feed intake and mineral metabolism of dairy cows

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Subclinical periparturient hypocalcaemia is a frequent disease of high yielding dairy cows and there exist different strategies to prevent this metabolic disorder. The addition of zeolite A as a calcium binder to the preparturient ration is one of these strategies. However each of these strategies could have negative side effects, also the feeding of zeolite A. The objectives of the present two experiments were to study the influence of different doses of zeolite A on feed intake and mineral metabolism, especially the incidence of hypocalcaemia. In the first experiment, a supplementation of 90 g zeolite A per kg dry matter (DM), and in the second experiment 12.5, 25 and 50 g zeolite A per kg DM of the total mixed ration (TMR), consisting of 48% maize silage, 32% grass silage and 20% concentrate (on DM basis), were tested. High zeolite A doses (50 and 90 g/kg DM) reduced significantly total DM-intake (- 35 and - 48%), which resulted in a reduction of energy and total calcium intake. The desirable preventing effect on the calcium metabolism was detected for zeolite A doses of 25, 50 and 90 g/kg DM. The majority of analysed calcium concentrations in serum around calving, which is the characteristic parameter in diagnosing a subclinical hypocalcaemia (< 2 mmol/l), were higher than 2 mmol/l. However, only the low zeolite A concentration of 12.5 g/kg DM had no stabilising effect on the serum calcium concentration, the hypocalcaemia incidence was as high as in the control group without zeolite supplementation (75%). A zeolite A addition of 25 g/kg DM (≈200-300 g per cow and day) seems to be the optimal dose for an effective prevention of subclinical hypocalcaemia in combination with only marginal negative side effects.

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