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## Abstracts

**Long-acting antibiotic formulations in the treatment of calf pneumonia: a comparative study of tilmicosin and oxytetracycline**

*R. Laven, A. H. Andrews*

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The treatment of an outbreak of acute pneumonia in 50 four-to-eight-month-old Friesian and Friesian cross calves is described. At the first visit (day 0) 16 calves received 20 mg/kg bodyweight of oxytetracycline dihydrate intramuscularly and 15 received 10 mg/kg of the macrolide tilmicosin subcutaneously. The remaining 19 in-contact animals were not considered ill enough to be included in the trial and received 20 mg/kg of oxytetracycline dihydrate. The rectal temperature, demeanour, respiratory rate and respiratory effort of each calf was assessed on days 1, 2, 3, 9, 14, 21 and 28, and calves which had not responded were given repeat injections of the same antibiotic. All the calves recovered from the outbreak and of the 19 calves treated strategically, three required a second injection. Among the calves with clinical pneumonia, fewer treatments ( $P < 0.01$ ) were required by those treated with tilmicosin. The rectal temperatures of both groups decreased ( $P < 0.05$ ) after the first injection, but on day 3 the decrease was greater ( $P < 0.05$ ) in the group treated with tilmicosin. Respiratory rates varied widely but respiratory effort was less ( $P < 0.05$ ) on day 2 in the calves treated with tilmicosin. When long-acting antibiotic injections are used to treat enzootic pneumonia it is suggested that a second visit should be made on day 3 to assess the animals' response to treatment.

**Effect of clenbuterol administered during the expulsive stage of bovine parturition on uterine activity and the fetus**

*F. H. Jonker, G. C. van der Weijden, M. A. M. Taverne*

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The effect of an intravenous injection of 0.3 mg clenbuterol on myometrial activity, fetal heart rate and fetal outcome was studied in three groups of animals: six heifers in active labour at term, in which fetal oversize was diagnosed just before the drug was injected and whose calves were delivered by caesarean section within 50 minutes; four cows at the start of the expulsive stage of parturition which had been induced with flumethasone on day 270 of gestation; and in four parturient cows which had had electrodes implanted on the myometrium at least one week before calving was induced with flumethasone on day 270. Electrocardiograph electrodes were placed on the calf and an intrauterine pressure catheter was inserted between the calf and the uterine wall upon rupture of the amniotic membrane. Clenbuterol induced a significant decrease of myometrial activity for at least 20 minutes. Recovery was most rapid in the heifers in which an obstetrical examination had taken place during active labour. There was no significant effect on basal fetal heart rate but decreases in heart rate were absent as long as uterine contractions were inhibited. The fetal outcome, judged either before or at birth by blood pH, base-excess and  $P_{CO_2}$  and by a clinical examination, was not adversely affected.