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ABSTRACTS

A STUDY TO EVALUATE THE EFFICACY OF A SINGLE TOPICAL TREATMENT WITH C661 (PERMETHRIN 36.08 %, DINOTEFURAN 4.95%, PYRIPROXYFEN 0.44%) AGAINST FLEA EGGS AND LARVAE (*CTENOCEPHALIDES FELIS FELIS*) ON DOGS FOLLOWING WEEKLY INFESTATIONS WITH MATURE FEMALE FLEAS.

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The objective of this study was to confirm the ovicidal and larvicidal efficacy of C661 (Permethrin 36.08 %, Dinotefuran 4.95%, Pyriproxyfen 0.44%) spot-on when administered once on dogs for duration of 63 days. The secondary variable was the 48 hours flea counts to assess adulticidal efficacy of C661 after induced infestations using mature female *Ctenocephalides felis felis*.

Sixteen healthy beagle dogs were used in this study: 14 females, 1 castrated female and 1 castrated male born between june 2000 and august 2005.

Each dog was infested with 100 (± 2) mature *Ctenocephalides felis felis*.ready to lay eggs that is to say engorged during 3 days on cats The infestation was performed once before treatment: on D-7 and then at 1, 7, 14, 21, 28, 35, 42, 49, 56 and 63 days post treatment. Eggs of fleas were collected and counted 24 hours after fleas infestation and alive fleas were counted by dog combing 48 hours after each weekly infestation performed after treatment.

The first 100 collected eggs were placed in individual vials to follow their evolution in adults by placing them in an incubator for 4 weeks and the remaining eggs were placed to incubate for 7 days to follow their hatching into larvae.

The trial performed with the C661 at the recommended dosage demonstrated the good adulticidal effect on mature fleas with an efficacy above 96.2% during 30 days.

We observed simultaneously an inhibition of eggs laying with an efficacy above 92.3% until 29 days post treatment and then 85.6 % (Day 36) and 82.2 % (Day 43).

None of the eggs laid by mature fleas before they die were able to emerge as imago except on day 64 (efficacy 99.8%). In the same condition in the control group the adult emergence rate after 4 weeks of incubation was between 24.8% and 58.5%.

From Day 43 the hatching inhibition of eggs into larvae induced by C661 could be calculated. This inhibition was between 99.1 and 100% until Day 64.

The originality of this study was the use of fleas ready to lay eggs. So eggs could be collected before fleas died in the treated group

Keywords: Ectoparasites, *Ctenocephalides felis felis*, eggs production control, adulticidal effect.

THE OCCURRENCE OF *TOXOPLASMA GONDII* IN SHEEP, CATTLE, PIGS AND CATS IN SWITZERLAND WITH EMPHASIS ON THE GENOTYPES OF THE ISOLATES

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Toxoplasma gondii is one of the most important zoonotic parasites worldwide. Humans get infected either by the oral uptake of sporulated oocysts (with felidae being the only final hosts) or by the ingestion of raw / undercooked meat harboring infectious tissue cysts. A survey was undertaken by the Institute of Parasitology, University of Bern (IPB), in order to estimate the frequency of *T. gondii* in different animal species. Therefore, the prevalence of oocyst-shedding by cats as well as the seroprevalence and the frequency of detectable *Toxoplasma*-DNA in meat of meat-producing animals were assessed. Only one of the 252 assessed cats shed *Toxoplasma*-oocysts resulting in a prevalence of 0.4 %. As meat producing animals, a total of 270 pigs, 150 wild boars, 250 sheep and 406 cattle of different age groups and housing forms were assessed. Seroprevalences of the meat producing animals could be directly compared to the results of an earlier study carried out in 2000. This comparison demonstrated that antibodies against *T. gondii* can be detected more frequently in farm animals than ten years ago, maybe as a consequence of the new, more animal friendly legislation. For the first time in Switzerland, *Toxoplasma* isolates were genotyped. This analysis was carried out at the Friedrich-Loeffler Institute (FLI) and the results suggest that all three genotypes (I, II, III) occur in Switzerland. Taken together, meat as well as cats can serve as source of infection with *T. gondii* and the risk of infection has rather increased in the last ten years than decreased.

Keywords: toxoplasmosis, oocyst-shedding, serology, PCR-RFLP

LONG-TERM MANAGEMENT OF SARCOPTIC MANGE IN A LLAMA HERD BASED ON REPEATED DOUBLE-DOSE IVERMECTIN INJECTIONS

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A herd of 23 llamas *Lama glama* is facing a recurrent sarcoptic mange outbreak since January 2010. A young male was introduced in November 2009 without quarantine and died in March 2010 with extensive thickening of the skin and crust formation. The diagnosis of sarcoptic mange was established by Dr Laigle. Skin lesions were also observed on three llamas in March 2010. These animals were treated by two injections with 1% moxidectin at 0.2 mg/kg ten days apart. Despite this, the infection spread throughout the whole herd in May 2010. Then, three injections of 1% doramectin at five-day intervals (0.2 mg/kg) were performed on the whole herd but relapses were observed in July 2010. However, three injections of the same molecule at 0.5 mg/kg five days apart on the most affected llamas with sprays of 6% fenvalerate failed to eradicate the disease. No more success was achieved with two injections of 1% moxidectin (0.2 mg/kg, at 10 day-intervals) on the whole herd in September 2010. On October 6th 2010, the Parasitology Unit of the Veterinary School of Toulouse examined 15 animals with varying levels of dermatological lesions and pruritus. Skin scrapings taken on seven animals revealed numerous *Sarcoptes scabiei*. From this date, all llamas were treated with 1% ivermectin at 0.4 mg/kg by subcutaneous injection at 14-day intervals and sprayed weakly with 10 % dimpylate. Monthly skin scrapings were done. Six months later, clinical improvement and negative skin scrapings were observed except in two individuals which were isolated to control reinfection in the herd. Ivermectin injections and sprays are currently in progress until three consecutive skin scrapings will be negative. This case highlights the difficulty to manage scabies in a herd of South America camelids involving the introduction of a strict protocol for several months due to the contagious nature of *S. scabiei* and the low bioavailability of macrocyclic lactones in llamas.

Keywords:

Llama, *Sarcoptes scabiei*, ivermectin, skin disease

PSOROPTIC MANGE IN CATTLE IN GREAT BRITAIN

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Psoroptic mange in cattle is a severe skin disease, with serious welfare implications if it is not quickly identified and treated correctly. It is rarely reported in the UK. Prior to the outbreak of disease I will discuss, the last documented incidents of psoroptic mange in cattle in Great Britain (GB) were diagnosed in animals in the borders of Scotland in 1983. I intend to describe two cases (one in a beef herd, another in a dairy herd) in an outbreak that has involved 22 premises over 5 years. The beef herd contained pedigree Belgian blue cattle. Eight animals were showing clinical signs out of a group of 80 cows and calves at the time of veterinary involvement. The dairy herd, which regularly bought in cattle, had approximately 350 of the 500 milking cows showing various degrees of clinical signs when visited. One severely affected animal had died.

We have now diagnosed disease in 18 beef and 5 dairy herds, to date. The majority of these cases have not been successfully treated by the licensed macrocyclic lactones (MLs). It is highly likely that disease was initially imported from mainland Europe and the single treatment of ML required on importation for warble fly control is selecting mites that are not affected by these chemicals. Another notable feature of these incidents was the long period between clinical signs emerging and the farmer seeking a diagnosis, which has usually been one to two years. In the case of the probable source farm, the interval was four years.

The clinical signs of the disease, the treatment options and the difficulties of successful farm eradication will be discussed. The efforts to inform government, veterinary practitioners and farmers of the disease will also be detailed. This disease has the potential to become endemic in Great Britain.

Keywords: psoroptic mange; parasitic skin disease, *Psoroptes* sp, mites, cattle.