

### **The vaccine for prevention of echinococcosis of animals.**

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The results of the experiment indicated that the vaccine prepared from cultural production protoscolerxes of echinococcus cysts possessed with high immunogenic activity. As it is found from the results of the experiment its efficiency was from 50.0% to 100.0% depending from the doze. In the laboratory conditions the efficiency of tested vaccine doze reached - 80% (table 1). In the immunized sheep the number and size of cysts were in 3-4 times lower in comparison with control one. As always, the number of dead cysts in the experimental sheep was higher in comparison with control animals. For example in the first variant from 50 cysts 42 appeared dead (85.0%) or at the second variant from 70 cysts - 66 specimens were (94.3%) petrificated. The same results were obtained from the used doze of vaccine at the third and the fourth variants of experiments. Particularly from the 16 cysts at the third variant -12 cysts were dead (80.0%); from 23 cysts of control sheep only 5 were dead (21.7%), At the fourth variant the vaccine efficiency was 50.0-80.0%. But the number of died cysts in experimental groups was much higher than in controle sheep. In the production conditions a good results were obtained from vaccine usage. From 10 thousands of immunized wether lambs only 23 were infested by echinococcosis (0.23%). The studied vaccine had rather immunogenic effect concerning the prophylaxis of dog's echinococcosis. The efficiency of vaccine depending from the used doze reached 100%. The number of found echinococcus was in 5-6 times less in comparison with control dogs. The level of immunizing feature of the vaccine increases gradually. That's why in artificially infested animals, the large number of echinococcus eggs was inoculated in sheep organism, but their considerable quantity with the increasing immunity titer began petrificated not reaching their full development. Such phenomena was not observed in controle sheep. The vaccine may be used for the echinococcosis prophylaxis in dogs. The results of the experiments on dogs showed that echinococcus in dog's intestine were located not on the surface but deeper in the inner mucous and muscular covers. Taking into consideration this, we can say that dog's echinococcus refers to the tissue helminthes and differs from multicests. Consequently, the immunity formation in dogs is a natural phenomena and besides the existing methods in the struggle with dog's echinococcosis the immunoprophylaxis is recommended. The vaccination of dogs against echinococcosis is the most reliable and effective method in the spreading of echinococcosis among productive animals and people.

### **Imidacloprid + moxidectin topical solution as a monthly treatment for prevention of heartworm infection (*Dirofilaria immitis*) and control of fleas (*Ctenocephalides felis*) on cats.**

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Imidacloprid applied monthly as a low volume topical application to cats provides highly effective flea control. Fleas are immobilized and killed after contact with imidacloprid on the dermis or hair of cats. Moxidectin is 100 % efficacious against preadult heartworm stages in dogs when administered orally or parentally in various formulations. Studies were conducted to evaluate flea control and heartworm prevention in cats with topically applied moxidectin and imidacloprid formulations. Moxidectin applied topically (1 mg/kg) was 100 % efficacious against experimental pre adult *D. immitis* infections. Moxidectin solution alone had little or no activity against adult fleas (*C.felis*). Imidacloprid alone (10 mg /kg) had no activity against preadult stages of *D. immitis*. Monthly topical treatment of cats with a combined formulation to provide 10 mg/kg imidacloprid + 1 mg/kg moxidectin provided 100 % prevention of *D. immitis* infection and >96 % control of adult fleas.