

EXAMINATIONS OF THE EFFECTIVENESS OF SALINOMYCIN ADMINISTERING
IN DIFFERENT WAYS IN RABBITS

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The prophylaxis of rabbit intestinal coccidiosis introduced at technological level - of weanings in small farms, producing rabbit meat and angora wool is not solved in Hungary in spite of the needs.

The really effective medicines (e.g. Sacox) in a medicated rabbit pellet is generally out of reach for little farmers, not mentioned some small scale breeding stocks integrated by large schale farms. Changing of this situation is very much reasonable, since 50 percent of angora wool's quantity and 98 percent of rabbit meat quantity - providing hard currency - are produced in back yard systems.

In our earlier experiments (Sinkovics et. al., 1985) we have dealt with some appliction forms of Sacox premix Hoechst in drinking water and in moistered sugar beat slices, unfortunately these solutions were not acceptable because of homogenizing problems.

Administering the Sacox in injection, but dubious results were gainde required to be justified. The further investigation of

injection does not seem to be reasonable, because this possibility of application way has given problems for most of farmers and supposedly, because of general animal health protection reasons, this can not be suggested.

In our present examinations, we tested the application of Sacox premix in paste form to be smeared on the animal's tongue, in order to deduct consequences for small farm's production concerning the way of application and effectiveness.

The method was similar which was published earlier (Sinkovics et. al, 1987) based on the following considerations: if the number of oocist - following the weaning from the doe significantly raises up by separation, and the different treatment of litter's brothers, in case of treated group of an effective anti-coccidial medicine, the opg. can be limited depending on the effectiveness (i.e. opg = oocyst per gram of feces.)

MATERIAL AND METHOD

I. Model examination

In course of our examinations we used five does' separated progeny. After having weaned on 31st day, the litters were divided in two groups having 3-3 rearings. Regarding to the fact, that 9 rearings were separated from the fifth doe, 3 groups were created from this litter. We so proceeded, that the treated group's controll was its litter's brothers.

Arrangement of the experiment was the following:

- 1st group Treatment of animals kept on deep litter treated Sacox premix in paste form.
- 1a group Litter's brothers, untreated control
- 2ud group Sacox premix in the commercial rabbit pellett for animals kept on deep litter (2 gs. Sacox premix to 1000 g rabbit feed)
- 2a group Litter's brothers, untreated control.
- 3rd group Cycostat (Cynamid) in commercial rabbit kept on deep litter (6,6 gs Robedin premix to 1000 gs rabbit feed)

- 3a group Litter's brothers, untreated control.
- 4th group Animals kept on deep litter, renewed and cleaned daily, without treatment
- 4a group Animals kept on deep litter, renewed and cleaned daily, without treatment
- 5th group Treatment of animals kept on wire mesh floor, administering Sacox premix in pasted form.
- 5a group Litter's brothers, untreated control Sacox premix in commercial rabbit pellet
- 6th group Animals kept on wire mesh floor (0,5 g Sacox premix to 1000 gr rabbit feed)

In case of 1st group, paste was produced by the Hungarian representative office of Hoechst by such a way that 1 g. paste - in tube - contained the quantity of Sacox calculated by us for a weaning. For group No 2, the granulated rabbit feed - available in retail - was ground by feed grinder and the Sacox was manually added and mixed. Regranulating of this feed was made by laboratory pelleting machine. In group No.3, the feed completed with robenidin (Cycostat) was produced according to the method applied for 2nd group, but this group was only created as medicated control of the experiment.

In the course of examination, based on our earlier results (Sinkovics, 1984), major part of groups to be tested, was kept on deep litter, because the not sufficient sanitary circumstances was accompanied - sooner or later - with an increase of oocist number and sometimes an appearance of coccidiosis' clinical symptoms as well, whose parry is decisive significance in judgement of the applied medicine's effectiveness.

In case of animals kept on deep litter, prior the sample taking we intra muscularly administere 0,05 ml Enterotonin injection in order to collect the fresh feces.

Groups originating from the same litter numbered, 5, 5a, and 6 were kept on wire mesh floor enabling us to compare the results of treatment's effectiveness with the literature's data reachable in this respect and with the results obtained from the deep litter ones. Sampling of each groups took place at every second day

during the 24 days testing period.

For determination of opg Schütze counting chamber were used. Application of medicines, after an eight days long "praeperiod" was started, and was administered, in the first 7 days stage daily, and following that another 7 days medicine free stage, repeatedly 4 days long, daily. During the testing period we individually weighed the animals to determine the body gain, beside this, quantity of consumed feed was weighed daily too.

II. Farm examination

Experiments were made in a plant having 3000 does using meat rabbit corss-breed of New Zeeland white and Buscat. We used at examinations, progeny of the same age of 20 does, equal to 142 sucklings having 25 days age. The litters were divided in two parts by marking (ear tag or painting) and the animals marked by paint were treated. The unpainted individuals created the control group. By this way totally 68 treated a 74 control animals were at our disposal, which were individually weighed on the starting day of the work, and the weighing was repeated twice up to the 46 days age of animals.

Half of every litter (painted individuals) was treated from the age of 25 days by paste filled in injection tube without needle, containing 0,01 g Salinomycin to each gr. paste. By this way in the plastic injection tube having 2 ccm capacity one calibration was equal to the daily dose of one rearing rabbit.

The animals were treated for five days every day and following their weaning in age of 35 days, the treatment was repeated for another five days. After the separation, both experimental and control groups' members were placed by two-s in cages having 0,2x0,6 m floor area equipped with self drinker and self-feeder.

The coccidic infenction of treated and control animals were checked with determination of oocist number Schütze chamber.

RESULTS, DISCUSSION

I. MODELL EXAMINATION

The opg. values of group No.1. and 5., consuming Sacox premix in tube packing proved to be less by scales to the opg. values counted at control groups. The oocyst number's spectacular reduction resulted after some days of treatment. Our earlier works (Sinkovics, 1980) also proved, that, whether a medical treatment administered orally, or a drastic feed change's effect in case of rabbit, following the change, at earliest can be measured on third and 4th day, but the effect itself - after suspension of medical treatment (change in feed) can be registered for another 3-4 days as well.

Knowing this regularity, it can be found out, that as a result of medicine applied in paste form only 20-40 thousand oocists could be demonstrated at the treated animals after each g of feces, on contrarary of control untreated animals have over 80 thousand opg. (see fig. No.1. and 3.).

Okerman and al (1980.) bedise the effectiveness of application Sacox found out, that it was an unfavourable effect to the body gain, although feeding of the medicine was reasonable, taking into consideration the economic points of view.

Our test, conducted concerning the animals body weight gain proved our ealier assumption, that the Sacox did not have any reducing effect to the daily body weight gain, but containing such odorous or taste material, the animals rejected or reduced the feed consumption.

In case of Sacox dosed in tube (fig.No.4.) the body weight gain of medicated groups absolutely did not take place, from that of controls, in addition it was surpassed. That means, that Sacox applied in pasted form not only resulting the sharp, reduction of oocist number, but the slight reduction of body gain at treated animals does not occur.

At the Sacox mixed to feed - in case of four times overdosing - significant body loss could be registered, in case of animals kept on deep litter (fig.No.5.) surely the animals in group No. 2. scarcely consumed some feed. By this way effect of Sacox could not be appeared in reduction of oocist number, further affirming the results gained at application of tube packed medicine.

In group No.6., the animals, kept on wire mesh floor, got 30 ppm of Salinomycin. In this case, also a body weight loss could be registered, compared to the No 5a control group.(figNo.6.).

It can be found out from the data, that feed consumption of testing animals - in case of group No.2.and 6. consuming Sacox premix feed - was less in period of medicine feeding, in contrary with group No.1.and 5 treated with pasted form or control groups.

In period without medicine dosing, the feed consumption of animals, in group No.2 and 6. significantly increased, but this was little for registration of body gain.

The applied Cycostat as complementary of medicine, containing substance named robenidin, did not stated body weight loss effect, even mixed to feed, but the same time sharply reduced, the opg. number, demonstratably from the treated animals, comparing to the litter brother controls. (fig. No.2.)

II. FARM EXAMINATION

Oocist number, emptied in each groups to be tested is demonstrated by fig No.7. It can be seen from the configuration of the curve, that the opg. was although increased in the treated group, but this value could be named rather low one - since in the treated group maximum number of oocists was 10000 - comparing to the controls having opg. between 40-60000.

Paralelly with this, difference was in the daily body weight gain, and in body weight, measured at their age of 45 days. Animals in the treated group produced an average of 0,87 kg, in contrary of control group's average of 0,69 kg. (Fig. No.8.) These body weights are less than expected in both groups, that means these were weak large scale form stock, but this circumstance can be said favourable one concerning the aim of our test. In the weaker stocks, the susceptibility of animals for coccidiosis is greater, and by this way, the properly effective treatment provides better results. This happened in our case, since during the testing period, only 6 animals died out of 68 in the treated group, resulting only 9 % of rabbits under treatment. At the same time 21 animals were lost out of 74 from the control group wich figure was equal to 29 (!) percent.

Summerizing, it can be found out, that the opg. values can effectively be reduced by that packig of Salinomycin applied by us, and paralelly with this in the treated group the perish remarkable reducad and the body weight gain was cousiderably high, which could be tested is the treated group comparing to the controls.

This researching result, from point of view of Salinomycin is extremely valuable, since many author reported the body weight reducing effect of this medicine (e.g. Okerman, Moerland, R.J. REv. Agr. 33. 13-11.)

results of our earlier research already referred also to that, the Salinomycin did not have body weight reducing effect, only the medicated feed's consuming was less prefarable by the animals. Packing worked out by us during this test-series is extremely suitable for preventiv treatment of rabbits, at stock-breed less than 10 does continuously raising sucking or separated rearing rebbits, since

- the natural endowments (laterally greally extended toth-free mouth side, on chin bone and jaw bone) of rabbit make extre-

- mely easy the application with injection tube without needle, which can be administered only by a single person, if the animal is held by his ears or by back of head
- for the time being in Hungary as well as in a foreign country the veterinary visiting the small scale is able to do very little against the suspected or diagnosed coccidiosis, since he does not have any possibility to administer an effective medicine;
 - the packing, form worked out by us, is suitable for retail, and the owner of a small scale farm can accomplish the preventive or profilactic treatment alone, following the instruction of use.

Literature

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SUMMARY

Sacox medicated feed is not everywhere available, there-for we aimed to solve such a type of Salinomycin's packing suitable is treat the rabbits individually.

Our model test was followed by test in large scale farm. Both test serial proved that the application of Sacox paste in concentration of 0,01 gr Salinomycin pro 1 gr paste using plastic injection tube without needle, drastically reduced the opg. number and the same time, this application was not followed no appetitive reduction.

RÉSUMÉ

En Hongrie 98 % de la production de la viande de lapin se réalise dans les petites exploitations privées, en même temps l'approvisionnement des coccidiostats n'est pas résolu d'une manière rassurante.

Les aliments médicamenteux avec le SACOX ne sont pas partout accessibles, c'est à cette fin que avions pris pour but de résoudre le conditionnement du SACOX, de forme qu'il soit utilisable, pour le traitement individuel des lapins.

Nos essais de simaltion étaient suivis par expérience dans lapinière de grande production. Toutes séries d'expérience prouvent, qu'une concentration de 0,01 gr. en Salinomycine / 1 gr. de pâte - pâte Sacox utilisée avec seringue matière plastique, sans aiguille - diminus drastiquement le nombre opg., et en même temps ne conduit pas à l'innapétence.

Aux cas ou le SACOX est quadruplement dosé ou mélangé à l'aliment en dose préventive usuelle, des symptômes d'innapétence et en même temps, des extrêmes refus d'aliment et perte de croissance deviennent observables.

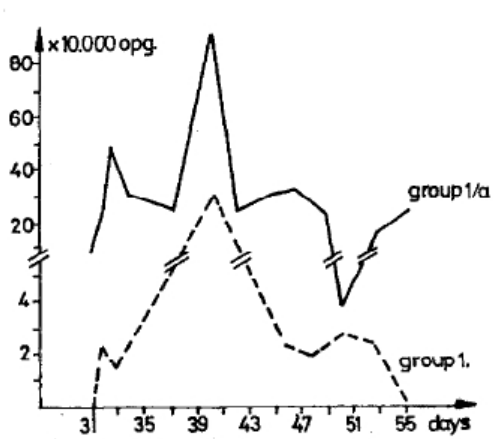


Fig.1. Effect of Sacox paste on opg. nr. on deep litter

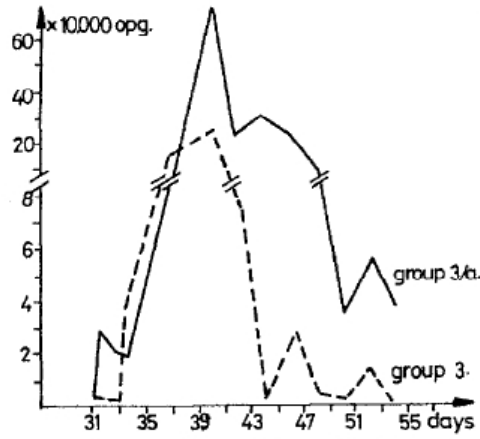


Fig.2. Effect of medicated feed with Cycostat on opg. nr. on deep litter

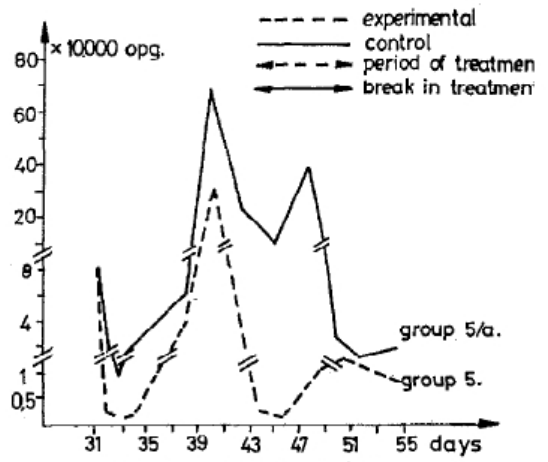


Fig.3. Effect of Sacox paste on opg. nr. on wire mesh floor

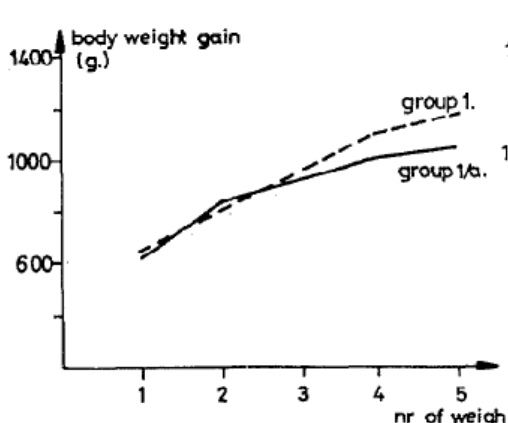


Fig.4. Effect of Sacox paste on daily gain on deep litter

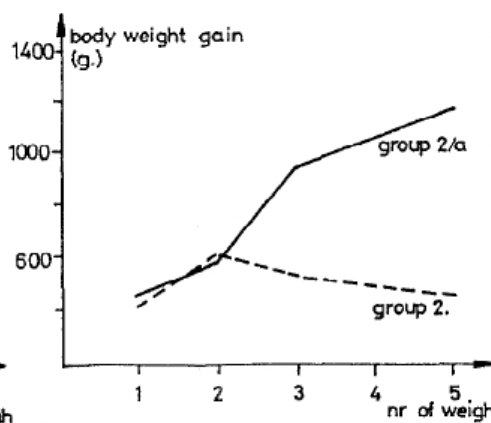


Fig.5. Effect of overdosed feed with Salinomycin on daily gain on deep litter

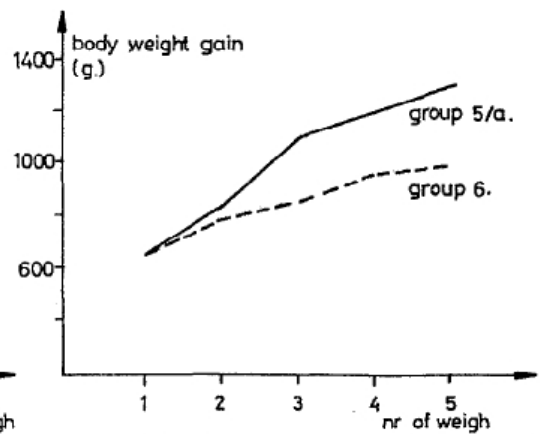


Fig.6. Effect of medicated feed with Salinomycin on daily gain on wire mesh floor

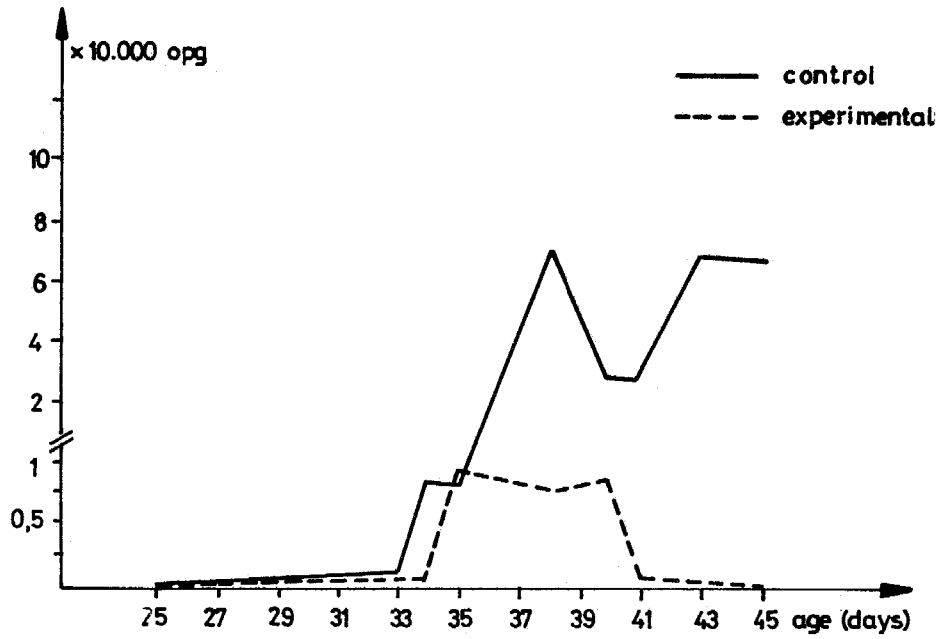


Fig. 7.

Effect of Sacox paste in farm examination

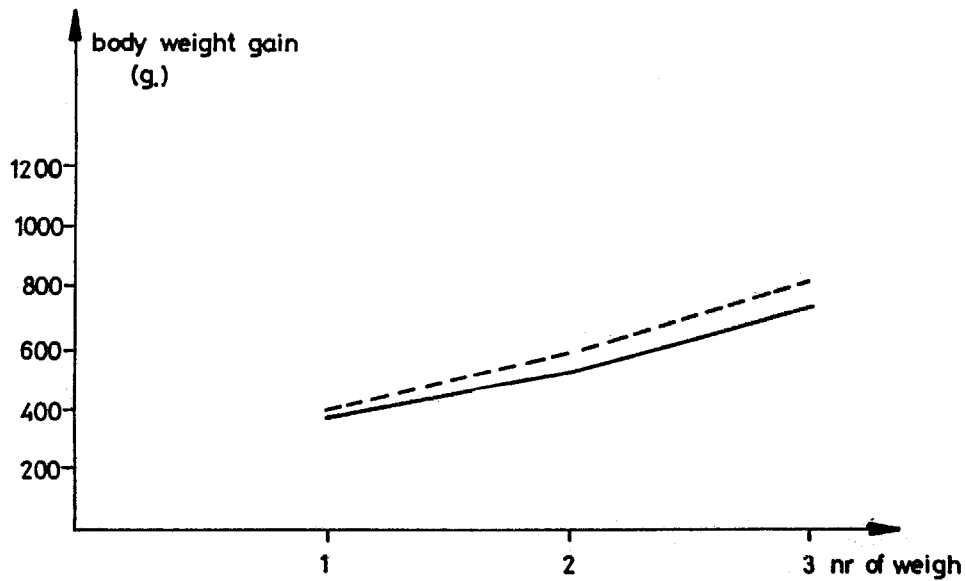


Fig. 8.

Effect of Sacox paste on daily gain in farm examination

