

## EFFECT OF SOME INSECTICIDES ON THE SARCOPTIC AND PSOROPTIC MANGE OF RABBITS

(With 2 Tables)

By

A.A. DRAZ

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### تأثير بعض المبيدات الحشرية على الجرب في الأرانب

غيبس الماچص صراز

الأرانب عادة ما تصاب بجرب الجسم والأذن وكلا النوعين معا فقد وجد أن نسبة الإصابة بهذه الأنواع هي ٢٩، ٣٦ و ٢٩ و ٣٤ ٪ على التوالي. بالإضافة إلى أنه تم دراسة تأثير بعض المبيدات الحشرية على هذه الأنواع من طفيل الجرب وقد وجد أن الأيفوميك حقن و نيوسيدول رش يعطى ١٠٠ ٪ كفاءه فى القضاء على الطفيل بعد ١١ و ٢٥ يوم على التوالي. كما أن المالاثيون رش و البنزالين ٢٥ ٪ و مرهم الكبريت ٨ ٪ دهان موضعى لا تعطى ١٠٠ ٪ كفاءه وتستخدم فى الحالات الفردية المصابة بالجرب.



## SUMMARY

Rabbits, naturally infested with ear and body mange were examined clinically and parasitologically. The incidence of *Sarcoptes scabiei*, *Psoroptes cuniculi* and mixed infestations were found to be 36.4, 29.5 and 34.1 %, respectively. In addition, the effect of some insecticides on mange were evaluated. Ivomec (400  $\mu$ /Kg of body weight) subcutaneously injected and Neocidol spray were found to be effective (100 %) for treatment of mange after 11 and 25 th day, respectively. On the other hand, Malathion, Benzalin 25 % and Sulphur ointment 8 % unable to reach 100 % efficacy and can be used in sporadic cases of mange in rabbits.

## INTRODUCTION

Manage of rabbits is considered as one of the most dangerous problem facing the rabbit breeders and responsible for high losses in affected rabbits. Overcrowding, malnutrition, fatigue and flock kept under poor hygienic conditions are predisposing factors for mite infestation (LODHA, 1966; RATHORE AND LODHA, 1973).

In Egypt, many authors could investigate the incidence of mites in rabbits with various percentages (EZZAT, 1955; HAIBA et al. 1955; HEGAZI, 1978 and SAMIR, 1990). In addition, trials were carried out by reasearch workers to control mange in rabbits.

The present study reports the incidence of mite infestation in rabbits as well as the effect of some insecticides against naturally infested rabbits.

## MATERIAL AND METHODS

A total of 44 rabbits of californian breed infested with ear and body mange were obtained from a breeding farm located at Khom-hamada, Behera Governorate. Their age varied between 4-5 months.

Skin scrapings and ear swabs were microscopically examined using alkalimaceration technique described by EL-METENAWY, 1985. Identification of mites was carried out according to SOULSBY (1982); GEORGI (1985) and ZAYED (1985).



Infested rabbits were grouped of 7 rabbits each. The remaining 9 rabbits were kept as control. Group one was subcutaneously injected with Ivomec (ivermectin 1 % w/v) (Merk-sharp and Dhome, U. S. A.) at a dose of 400 µg/Kg body weight. Group two was sprayed by Neocidol 25 % (diazinon) (Ciba-Giegy-Switzerland) at dilutions of 1 : 1000 while group three was sprayed by Malathion 57 % (Kafr El-Zayate Co. Egypt) at dilution of 1 : 100. Topical application with Benzalin 25 % (the Nile Co. for pharmaceuticals and Chemicals Industries, A. R. E.) and Sulphur ointment was carried out on groups 4 and 5, respectively.

Mange lesions were scrapped with a brush to remove any scales and crusts before the treatment.

Skin scraping and ear swabs were taken on the 5<sup>th</sup> day and regularly after 2 days thereafter from both treated and control rabbits at 25 days post treatment. The collected samples were microscopically examined according to alkalimaceration technique (El-Metennawy, 1985).

Efficiency of insecticides was evaluated according to Moskey and Harwood (1941).

## RESULTS

The obtained results were tabulated in Tables 1 & 2.

## DISCUSSION

The results recorded in Table (1) revealed that Californian breed rabbits were infested with *Sarcoptes scabiei*, *Psoroptes cuniculi* and mixed infestations of the two mite species at an incidence of 36.4, 29.5 and 34.1% respectively. This result may be slightly differ than that recorded by Hegazi (1978), Rai (1988) and Samir (1990) who estimate an infestation rate of 12.9%, 11.1% and (17.3, 6.5 and 8.2%) respectively. However, unhygienic cages, overcrowding, locality, ventilation and other prevailing environmental conditions play an important role in infestation of rabbits with mites.

The present study demonstrates the use of two subcut. injections doses with 7 days apart of Ivomec (400 ug/kg body weight) for complete eradication of mites in infested rabbits after 11 days (Table 2). Similar results were obtained by Prosl and Kanout, 1985; Wright and Riner, 1985 and Samir, 1990. However, susceptibility of strains of parasite may varied from different localities (Wright and Riner, 1985).



Necocidol gave 100% efficacy at 25 th day after its twice application with 2 weeks apart (Table 2). This result was supported by Malaka and Samy (1965); Malaka, et al. (1971) and Samir (1990).

The maximum efficacy of malathion on the infested rabbits was 90% on the 21 th day (Table 2). So malathion can not be used in controlling mange. These conclusion is agreed with that recorded by English (1960), Wright (1980) and Samir (1990).

Regarding the topical application of insecticides in controlling mite infesting rabbits, the three applications of bezalin lotion ( 25%) and 8% sulphur ointement with 7 days interval gave a maximum efficacy of 91.5 and 84% at 23 th day respectively (Table 2). This result is nearly similar to that reported by Samir (1990).

Thus we can concluded that scraping of mange lesion should be performed before application or injection of insecticides. Ivomec and Neocidol were found to be effective in controlling mites of rabbits. On the other hand, Malathion, Benzalin 25% and Sulphur ointement 8% unable to reach 100% efficacy. However, they can be used in sporadic cases of mange in rabbits. The good hygienic state of rabbitries and the frequent application of an effecient spray should be adopted for complete eradication of mites.

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Table ( 1 ): Incidence of mites infestation in the examined Californian breed rabbits.

Type of mite	No. of infested rabbits	%
Sarcoptic scabiei	16	36.4
Psoroptes cuniculi	13	29.5
Mixed infestation	15	34.1
Total	44	100.0

Table ( 2 ): Efficiency of insecticides in controlling mange infesting rabbits.

Type of insecticides	No. of treatment	% efficient	period after treatment
Ivomec injection	2 with 7 days apart	100.0	11
Neocidol spray	2 with 2 weeks apart	100.0	25
Malathion spray	2 with 10 days apart	90.0	21
Benzalin lotion ( 25 % )	3 applications at week interval	91.5	23
Sulphur oint. ( 8 % )	3 applications at week interval	84.0	23