

طريقة حقلية لتشخيص طفيل الجرب

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الملخص العربي

ما زال الجرب في مصر يعتبر مشكلة مرضية قائمة لكل من الانسان والحيوان على حد سواء . وبالإضافة الى الأضرار الاقتصادية الكبيرة التي تلحق بالحيوانات المختلفة نتيجة للإصابة بهذا المرض فإن الطفيل المسبب له يمكن ينتقل بسهولة من الحيوانات المختلفة الى الانسان .

وقد استخدمت طرق متعددة لتشخيص طفيل الجرب تعتمد كلها على اضافة مجلول قلوئى الى القشور المأخوذة من الجلد المصاب وفحص راسب هذه القشور بعد خروجها من جهاز الطرد المركزى ، ألا أنه من عيوب هذه الطريقة وجود شوائب كثيرة نتيجة تآكل هذه القشور قد ينتج عنها حجب طفيل المرض عند الفحص وخصوصا اذا كانت الإصابة طفيفة . ولهذا فقد أتجه التفكير فى هذا البحث الى استحصار مجلول له خاصية تزويد القشور بالإضافة الى تعويم طفيل الجرب على السطح تاركا القشور المذابة كراسب . وعلى هذا الأساس تم فحص ٩٤ (أربعة وتسعون) عينة من حيوانات مصابة بالمرض منها ٢٢ عينة من الجاموس ، ٤٤ من الأغنام ، ٢٨ من الكلاب لمعرفة تركيب المجلول المناسب

وقد وجد نتيجة لهذا البحث أن المركب المكون من مجلول هيدروكسيد البوتاسيوم بتركيز ٢٠٪ ومجلول ملح الطعام المركز بأجزاء متساوية هو المجلول المناسب لهذا الغرض .

تاریخچهٔ فرهنگ و ادب در ایران

در این کتاب به بررسی تاریخچهٔ فرهنگ و ادب در ایران پرداخته می‌شود.

تاریخچهٔ فرهنگ

در این بخش به بررسی تاریخچهٔ فرهنگ در ایران پرداخته می‌شود. فرهنگ به معنای مجموعهٔ ارزش‌ها، باورها و عادات یک جامعه است. در ایران، فرهنگ ریشه‌های دیرینه‌ای دارد که به دوران پیش از اسلام بازمی‌گردد.

در دورهٔ ساسانیان، فرهنگ ایرانی با تأثیرات یونانی و رومی آمیخته شد. در دورهٔ اسلامی، فرهنگ ایرانی با تأثیرات عربی و فارسی آمیخته شد. در دورهٔ صفویان، فرهنگ ایرانی با تأثیرات عثمانی آمیخته شد. در دورهٔ قاجاریان، فرهنگ ایرانی با تأثیرات روسی و اروپایی آمیخته شد. در دورهٔ پهلوی، فرهنگ ایرانی با تأثیرات غربی آمیخته شد. در دورهٔ جمهوری، فرهنگ ایرانی با تأثیرات غربی آمیخته شد.

در این بخش به بررسی تاریخچهٔ ادب در ایران پرداخته می‌شود. ادب به معنای مجموعهٔ آثار و سبک‌های نوشتاری است. در ایران، ادب ریشه‌های دیرینه‌ای دارد که به دوران پیش از اسلام بازمی‌گردد.

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A FIELD TECHNIQUE FOR DETECTION OF MITES

(With one table)

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SUMMARY

Skin scrapings from 94 different infested animals were examined to clarify the effect of equal volumes of different concentrations of potassium hydroxide and pure saturated sodium chloride solution on the flotation of different kinds of mites. Of these samples 22 were collected from buffaloes, 44 from sheep and 28 from dogs.

Our findings revealed that mixture of equal volumes of 20% potassium hydroxide and saturated sodium chloride solutions was the optimum.

INTRODUCTION

In Egypt mange "scabies" still constitutes a medical problem for both man and animals. In addition to the economic losses caused by the parasites among domestic animals, mites could be easily transmitted to man (KUTZER and GRUNBERG ; 1969).

There exist different methods for diagnosing the disease depending upon the detection of the causative parasites. PAGE *et al.* (1968) reported that the cell test is a useful method in diagnosing mange. BODDIE (1970) mentioned various methods depending on the maceration of debris around the parasites by an alkali. The report of the British Veterinary Association (1964) and JENSEN and MACKEY (1971) described a method depending on deep skin scraping of the affected parts and placing the scales on a dark work surface, the watch the movement of the mites under hand lens.

The aim of this work is to obtain a solution of high specific gravity to float the parasite as well as to macerate the debris.

MATERIALS AND METHODS

MATERIALS

1) Solutions

- a) Different concentrations of potassium hydroxide were prepared as, 10, 15, 20, 25 and 30%.
- b) Saturated sodium chloride solution.

2) Specimens:

Skin scrapings were collected from 94 different infected animals, of which 22 samples from buffaloes and 44 from sheep infected with psoroptic mites and 28 samples from dogs infected with demodectic mites.

METHOD

Samples were collected by scraping the glycerin moistened affected parts of the skin until oozing of the blood-only in case of demodectic mange. Each sample was divided into five parts in test-tube containing equal volumes of saturated sodium chloride solution and 10, 15, 20, 25 and 30 per cent potassium hydroxide solutions respectively. The samples were then placed in water bath for 10 minutes at 80°C, after which each sample was centrifuged for 3 minutes at 2000 r.p.m. The supernatant fluid and the sediment of each sample were examined microscopically for the presence of mites.

RESULTS AND DISCUSSION

Results obtained are shown in Table 1.

The techniques used for the detection of mites are numerous. Some of these methods depends upon the maceration of the scales attached to the parasites by using alkali and examination of the sediment which- in this case-contains so much debris. (Report of British Vet. Association, 1964; BODDIE, 1970 and SOULSBY, 1973).

The flotation method described by BODDIE (1970) using saturated sugar solution is- to some extent-laborious owing to the sticky nature of this solution

Methods used by PAGE *et al.* (1968) and JENSEN and MACKAY (1971) needs careful and well trained examiner.

In this study trials began by using a solution of concentrated sodium chloride instead of the saturated sugar solution described by BODDIE (1970) after the maceration with potassium hydroxide (10%), but the specific gravity of this mixture was found to be not high enough to rise all the parasites to the surface, (specific gravity 1.040). Only very few parasites were detected in the supernatant fluid in case of psoroptic mites, In such case the light infestation may

TABLE 1. Effect of equal volumes of different concentrations of potassium hydroxide and saturated sodium chloride on the flotation of different mites.

Species	Total No.	10% KOH NaCl v/v				15% KOH NaCl v/v				20% KOH NaCl v/v				25% KOH NaCl v/v				30% KOH NaCl v/v			
		Supernat		Sedement		upernat.		Sedement		Supernat.		Sedement		Supernat		Sedement		Supernat.		Sedement	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Buffaloes	Detected	—	0	22	100	—	0	22	100	19	86.36	18	81.81	22	100	10	45.45	22	100	9	40.91
	Deformed	—	0	—	0	—	0	—	0	—	—	0	0	2	9	—	0	9	40.9	3	13.6
Sheep	Detected	—	0	44	100	—	0	44	100	44	100	44	100	44	100	10	22.73	44	100	16	36.36
	Deformed	—	0	—	0	—	0	—	0	—	—	0	0	7	15.9	—	0	25	56.8	12	27.20
Dogs	Detected	28	100	22	78.57	28	100	14	50	26	92.86	9	32.14	21	75	4	14.29	24	85.71	6	21.43
	Deformed	—	0	—	0	6	21.4	—	0	9	32.1	—	0	11	39.2	—	0	14	50	2	7.1

Supernat. - Supernatant fluid

be overlooked resulting in miss diagnosis. On the other hand this mixture could rise all the demodectic mites, but the higher concentration of potassium hydroxide (15, 20% ...), tends to produce a high percentage of deformities in these mites (Table 1).

The next step was the use of different concentrations of potassium hydroxide viz 10, 15, 20, 25 and 30% in addition to equal volumes of saturated sodium chloride solution. The specific gravity of these mixture were 1.040, 1.055, 1.060, 1.062 and more than 1.065 (out of graduation) at 20°C respectively.

Results as shown in the table indicates that the first two mixtures (10 and 15% potassium hydroxide in addition to equal volume of saturated sodium chloride solution) failed to rise the psoroptic mites. The mixture of 20% potassium hydroxide and equal volume of saturated sodium chloride solutions was found the other hand to be, the optimum one that achieved the flotation of the psoroptic mites in a clear state free from debris.

The higher concentrations of potassium hydroxide (25 and 30%) lead however, to great deformities in the psoroptic mites which resulted in misleading diagnosis.

Commercial salt of sodium chloride including much impurities resulted in the formation of dense precipitate that completely hinder the examination.

Thus we advise the use of a mixture composed of equal volume of potassium hydroxide in 20% concentration plus pure saturated sodium chloride solution in order to obtain psoroptic mites in clear demonstrable state, while 10% potassium hydroxide in addition to equal volume of pure saturated sodium chloride solution was sufficient to obtain the same results in case of demodectic mites (Table 1),

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