Sheep demodecosis
(Demodex ovis Railliet, 1895)
in Israel

I. Yeruham 1
Sh. Rosen 2
A. Hadani 2

La démodécie ovine (demodex ovis) Railliet, 1895, en Israël -

INTRODUCTION

Sheep demodecosis, caused by Demodex ovis (Railliet, 1985) was first diagnosed by Simon in 1842 in the meibomian glands of the eyelids of sheep. The disease has been thoroughly studied by Railliet (1985). The parasite has been shown to be world widely distributed and has been described in various countries (1, 2, 3, 4, 6, 7, 10, 12, 14) and in different breeds of sheep (4, 15).

Sheep demodecosis, recorded for the first time in Israel, is described in the present communication.

MATERIALS AND METHODS

One hundred and eighteen flocks of sheep have been examined throughout the country in the years 1983-1984. Size of the flocks ranged between 100-1,000 ewes, and breed distribution was as follows:

<table>
<thead>
<tr>
<th>Breed</th>
<th>Nb. of Flocks</th>
<th>Rate of Infestation</th>
<th>Nb.</th>
<th>p. 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merino</td>
<td>28</td>
<td>12</td>
<td>42.8</td>
<td></td>
</tr>
<tr>
<td>Merino X Finnish</td>
<td>12</td>
<td>4</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Assaf</td>
<td>18</td>
<td>1</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>(Awassi X Ost-Friesian)</td>
<td>60</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Awassi</td>
<td>60</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>17</td>
<td>14.4</td>
<td></td>
</tr>
</tbody>
</table>

RESULTS

Demodectic lesions were found in 17 (14.4 p.100) out of the 188 flocks examined. Twelve (70.5 p.100) of the 17 positive flocks were Merino, 4 (23.5 p.100) Merino X Finnish cross and 1 (6 p.100) Assaf. Suspected skin nodules, found in other 30 flocks, were shown negative for demodectic parasites.

The results are presented in table 1.

1. "Hahaklait", Gedera, Israel
2. The Kimron Veterinary Institute, PO Box 12, Beit-Dagan, 50200 Israel.
Demodectic nodules, ranging between 3-8 mm in diameter, were found in few animals in each infested herd. The lesions were localized on the face, chin and ears, and more rarely on the inner face of the legs (Photo 1). The nodules contained a white cheese-like material which microscopically proved very rich in parasites. Demodex parasites obtained from the cross breeds showed intensive motility, squirming across the slide. Such activity was not observed in the parasites collected from the Merino sheep. Histologically the demodectic nodule had a cystlike structure packed with parasites. Intested sheep were 2 years old or more, the majority being 3-5 years old. In one case demodectic nodules were found on a Merino ram. The infested animals were maintained under adequate conditions and in perfect health.

DISCUSSION

Sheep demodecosis has been described as a mild parasitic disease (6, 12), generally observed in its chronic latent form (11). KLINSKI (1959) described 2 species of Demodex in sheep. The lesions appear as skin nodules or more rarely pustules with no effect on the wool (2, 3, 4) or else the wool, soiled by a sebaceous secretion, becomes massy, glued in clusters, tinted reddish-brown with a repulsive smell. In the last case parasites were found in skin scrapings (5, 14). In the present study isolated nodules were observed mainly on the head with no other clinical manifestations. BROWNLEE (1935) reported that most of the infested sheep were in bad condition whereas in our case no physical deterioration was observed.

Demodex parasites were often observed in the meibomian glands of the eyelids (2, 8, 9, 12) and the epithelial cells of the sensory hairs (13). Some authors (3, 4) claim that skin areas particularly rich in well developed sebaceous glands are most frequently parasitized. In our study demodecosis was detected mainly in the Merino sheep and its crosses. In one case Demodex was found in a skin scraping of an Assaf (Awassi × Ost Friesian) ewe infected with sarcoptic mange. These findings would indicate a difference in the susceptibility of the various ovine breeds to the parasite.

Demodecosis was detected in ewes aged 2 years or more. Lambs, aged less than 1.5 year which originated in 4 infested flocks were found negative. This finding would allude to the slow evolution of the disease. However, NEMESERI and SZEKY (1966) reported demodecosis in young animals. All developmental stages of Demodex have been found in the meibomian glands from eyelids of sheep (2). No such checking was attempted in our study. Means of transmission of demodectic parasites in sheep are still unknown (15) and experimental transmission failed (6).

Photo 1: Demodectic papules (Demodex ovis) on the face of a Merino ewe.
If flocks examined were found infested with demodectic nodules. The mean rate of demodectic infestation in the flocks was rather low (14.4 p.100). Key words: Sheep demodecosis – Israel.

resultaron negativos. En suma, de un total de 118 rebaños examinados, 17 (14.4 p.100) resultaron parasitados. La prevalencia de la demodecosis en los rebaños fue bastante baja. Palabras claves: Oveja – Demodecosis – Israel.

REFERENCES