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## Scabies

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# SCABIES

by

James R. Schilling\*

## CLINICAL CASE

On September 17, 1964, two western ewes were admitted to the Iowa State Veterinary Clinic. The two were part of a flock of 43 ewes, 23 lambs, and 1 buck, which all showed symptoms of scabies. The flock had been purchased about one year prior to examination.

The first symptoms in the flock were noticed in September, 1964, and they were loss of wool, rubbing, scratching, biting, and digging. The observed lesion was dermatitis. The flock was inspected in March of 1964 at which time no signs or lesions were observed.

Dr. G. E. Blake of Des Moines reports the flock was dipped twice in "Kopertox" after the diagnosis was made.

## INTRODUCTION

Scabies is a highly contagious parasitic disease important only in sheep. It is one of the earliest recorded diseases of sheep and has been found in most parts of the world. It has been eradicated in Australia and virtually so in Britain. Scabies, a reportable disease, is found regularly in about half of the states in the United States (mostly in the East and Midwest) and appears to be increasing in incidence since 1959 (2), (3), (4).

## ETIOLOGY

There are five genera of arthropods that can produce sheep scabies. They are: *Psoroptes* (common scab), *Sarcoptes* (head scab), *Chorioptes* (foot scab), *Demodectes* (follicular mange), and *Psorergates* (itch). Of these, *Psoroptes* is by far the most important and the rest of the discussion will be limited to that genus.

*Psoroptes ovis* cannot be transmitted to other species of animals. The eggs are laid on the skin and hatch in 1-3 days. The larval and nymph stages last 2-4 days each, making a total of 8-9 days to complete the entire life cycle. All stages can survive for 10 days off the host but in a moist and cool environment they may survive up to three weeks, which explains why *Psoroptes spp.* are more active in the fall and winter months.

## PATHOGENESIS

The adult mites puncture the skin to suck lymph, stimulating an inflammatory reaction. The oozing serum coagulates forming a crust. This reaction plus the biting and scratching of the irritated area results in loss of wool. The crust is undesirable to the mite, causing it to migrate to the edges of the lesion, thereby facilitating its spread. The mite migrates to all areas but prefers those covered by wool. The diseased skin and constant irritation lead to progressive emaciation and death.

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### SYMPTOMS

Restlessness, scratching, and biting at the wool are first noticed. Tags of wool loosen and fall out of infested areas leaving bare, crusty spots. The shoulders, rump and sides are first affected. Occasionally the wool does not fall out but becomes matted. As the lesion enlarges, new wool can be seen growing in the center. The progress of the lesions depends considerably upon the weather. During the warm summer months the symptoms abate with only a few mites hiding in folds of skin around the ears and prepuce.

### DIAGNOSIS

A positive diagnosis is made by detecting and identifying the mite. An experienced person can observe them grossly or with the aid of a low power hand lens, but to positively differentiate them from lice, keds, and other mites, a microscopic examination must be performed.

### TREATMENT

Treatment consists of dipping the entire flock in a suitable solution (specified concentrations of lime-sulphur, nicotine, toxaphene, or lindane) and putting them on a clean pasture. The flock should be watered before dipping to keep them from drinking the toxic dip. The bad cases are culled out for special treatment. Shearing facilitates penetration of the insecticide. All scabs are broken up and moistened. The ears, infraorbital fossae and bases of the horns of all sheep should be hand-dressed by applying a mixture of two parts oil and one part paraffin (derosene) or 5% sulphur in oil by means of

suitable brush. The sheep should remain in the dip a full two minutes with several immersions of the head. This should be repeated in 9 or 10 days and in badly infested flocks, a third time. During this time the flock is quarantined and must remain so until declared scabies free. Movement of such sheep is controlled by state and federal regulation.

Lindane, benzene hexachloride (BHC), dieldrin, toxaphene, DDT, and chlordane have all been used but BHC is considered the insecticide of choice. The filtering effect of the wool may decrease the concentration of the acaricide, so that continual replenishment is necessary (2), (3), (4).

Ault and Miramon state that "by comparative trials the existence of BHC-resistant strains of *Psoroptes communis* var. *ovis* was proved" (1). It is estimated that the degree of resistance is two or three times normal.

### SUMMARY

Scabies is a highly contagious parasitic disease of sheep caused primarily by *Psoroptes communis* var. *ovis*. The dermatitis produced causes loss of wool, restlessness, and scratching. Upon diagnosis, the flock is dipped according to regulations. The presence of scabies must be reported to state authorities who in turn quarantine the flock.

### BIBLIOGRAPHY

1. Ault, C. N. and Miramon, A. R., *Rev. Med. Vet. (Bs.As.)*, 43(6):357-360, 1962.
2. Blood, D. C. and Henderson, J. A., *Veterinary Medicine*, 2nd Ed., Williams and Wilkins Company, Baltimore, 1963.
3. LaPage, G., *Monnig's Veterinary Helminthology and Entomology*, 5th Ed., Williams and Wilkins Company, Baltimore, 1962.
4. Newsom, I. E., *Sheep Diseases*, Williams and Wilkins Company, Baltimore, 1952.