Soremuzzle of Sheep

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MANY FLOCKS of sheep in western Texas are, at the time of this writing (summer, 1951), affected by a disease not previously described in the United States. The name "soremuzzle" is being used in the affected area, and although the authors are aware that a more appropriate medical term would be desirable, they hesitate to suggest a change until more is known about the nature of the etiology.

When the condition first made its appearance in July, 1948, workers at this experiment station unsuccessfully conducted transmission trials, attempted isolation through bacteriological procedures, and trial-fed a number of suspected plants.[1] Only about 20 cases could be made available for study at that time and, at the end of the third month, the condition had apparently disappeared. No cases were seen in 1949, and in 1950 only 2 affected animals were called to our attention. Attempts at transmission were again unsuccessful in 1950.[2] On the first day of June, 1951, we were requested to investigate what proved to be the first appearance of the disease in this year. Within the following four weeks, our records show that one or both of us had personally established a positive diagnosis on 20 ranches, had held telephone consultations regarding the condition with five veterinarians, and had answered inquiries from 22 ranchers who described the symptoms and lesions so well as to leave little doubt as to the probable diagnosis.

Transmission trials are again under way, but this preliminary report is made with the thought that it will serve to alert other workers should the condition appear elsewhere.

Distribution.—The present outbreak involves about 15 western Texas counties. This represents considerable variation in altitude, from only several hundred feet to somewhat over 2,000 ft. Flora, too, varies from the well-known types of pasture grasses to areas of semiarid nature.

For the most part, the condition has appeared sporadically, sometimes on widely scattered ranches, but in some instances a number of adjacent ranches have been affected to such an extent as to suggest an epizoötic.

Although the region abounds with Angora goats, none are known to have been affected.

Etiology.—The etiological agent has yet to be identified. From both veterinary practitioners and ranchmen have come suggestions and even claims regarding the cause. These have included viruses, bacteria, certain plants, conditions of drought, protein excesses, and others; but observations in the field, in addition to experimental work, would seem to preclude all but the first as being at all likely. Some of the most vociferous observers favored the theory that a pant such as the small milkweed (Asclepias spp.) was responsible, but after the condition appeared in the ram stud at this station, in animals that had not

Fig. 1—The dejected attitude, encrusted nose and muzzle, and nasal discharge are characteristic of soremuzzle. The two irregular white spots on the ground directly beneath the head are deposits of nasal exudate.

Superintendent (Hardy) and assistant veterinarian (Price) of Substation No. 14, Texas Agricultural Experiment Station, Sonora.

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been on pasture for ten months, little has been heard from that quarter.

Symptoms and Lesions.—Only the acute form of the disease is described, but one may observe any degree of affection, to the extent that the mild cases may be almost indistinguishable. Animals acutely affected may present the following symptoms and lesions, arranged according to their constancy. Symptoms: sero-catarrhal to fibrino-catarrhal nasal discharge; swelling of the lips, with tendency to bleed at the margins when handled; lameness; depression; inappetance; rapid loss of weight; and diarrhea. Lesions: hyperemia of entire oral mucosa; inflamed nasal septum, nostrils, and muzzle, with tendency for exudate to dry and crack the skin, causing slight hemorrhage; ulcers of varying size and irregular outline on dental pad, on tip of tongue, and immediately posterior to incisor teeth; inflammation of both the coronary and laminar corium of the hoof, seen clinically as a red zone or band, especially on white-hoofed animals, and most often near the bulb of the heel; inflammation of the corium at the root of the horn; and submaxillary edema. A limited number of necropsies have revealed, in addition, varying degrees of enteritis and cecitis; somewhat excessive abdominal and pericardial fluid; small areas of intramuscular hemorrhage in hind limbs; and degeneration of cardiac muscle. Because of the limited number, however, the significance of these findings is not yet certain.

Recorded body temperatures of affected animals range from 102 F. to 104.5 F. Since body temperatures of sheep in this area are normally found to be as low as 98 F. and as high as 105 F., soremuzzle is not at present considered to be characterized by fever.

Course of the Disease.—Owners first become aware of affected sheep when they see the rapid weight loss, the inflamed muzzles, and the affected gait. Morbidity rates are apparently less than 30 per cent and probably average about 10 per cent. As suggested before, however, very mild forms may exist and these are not readily recognizable where flocks of hundreds or thousands of sheep are involved. The course of the disease is estimated to be ten to twenty-one days, and the flock may be considered out of danger within four weeks of the onset. It is interesting to note that suckling lambs seem to be much less involved than older animals.

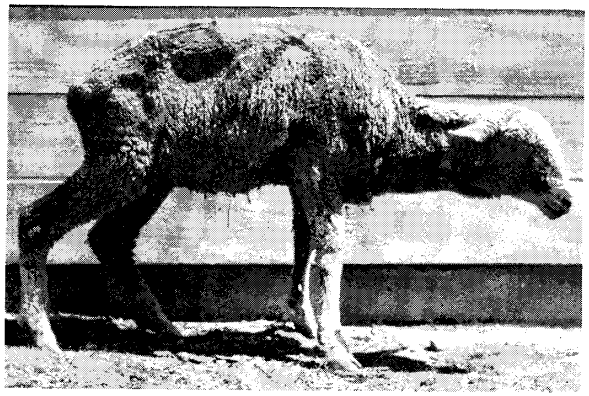

Fig. 2—Marked depression and rapid weight loss due to soremuzzle.

By far the majority of fatal terminations are due to either secondary pneumonia or screwworm infestation of the lips and muzzle. The remaining fatalities are due to extreme weakness and emaciation.

Diagnosis.—The condition has been mistaken for and must be differentiated from soremouth, effect of eating irritating plants, effect of eating cactus, range stiffness, pneumonia, and hemonchiasis. Many hundreds of animals have been subjected unnecessarily and at considerable cost to soremouth vaccination, penicillin injections, and drenching. During an outbreak, a diagnosis is commonly and correctly made on the basis of the presence of oral ulcers and inflamed muzzle.

It seems appropriate to mention here that there are striking similarities between soremuzzle as described herein and blue tongue, a disease of sheep in South Africa and several other regions of that hemisphere. The latter disease was described by Hutcheon[3] in 1902, Spruell[4] in 1905, Dixon[5] in 1909, and Theiler[6] in 1906. Descriptions more readily accessible to American readers are provided by Gambles[7] and by Thomas and Neitz.[8]

Fig. 3—Encrusted muzzles and swollen tongue.

Treatment and Management.—Although the first few treatment trials show promise for both aureomycin and antihistamines, the work has not involved a sufficient number of animals to warrant definite recommendations. At present, it is recommended that the owners watch their flocks closely in order to treat screwworm cases promptly and that only the most acutely affected animals be hauled home for good nursing care.

Fig. 4—Zone of inflammation.

The usual precautions which pertain to infectious diseases are felt to be appropriate; *viz.*, nonintroduction of new sheep to the premises, proper disposal of carcasses, and avoidance of unnecessary changes in pasture.

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