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## External Parasite Control

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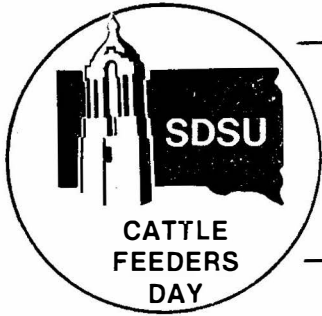
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## EXTERNAL PARASITE CONTROL

J.H. Bailey

Department of Animal Science Report

CATTLE 80-11

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### Cattle Lice

Cattle lice are widely distributed in the United States and are a major pest of cattle in South Dakota. Cattle generally are infested with lice throughout the year, but they become numerous during colder weather when the animals' hair coats become heavier and the animals are crowded together.

Suckling lice (blue lice) feed on blood by piercing the skin of cattle. Besides being a source of constant irritation, blood sucking lice can cause a general debilitation through loss of blood. Heavy untreated infestations of cattle lice have been known to cause anemic conditions in cattle.

Female lice attach their eggs to hairs of the host animals, and the eggs hatch in 8 to 13 days. The young resemble the adults except they are smaller, attaining full size in 2 to 3 weeks. The life cycle requires about 1 month.

### Cattle Grubs

#### Description of Heel Flies

Two species of heel flies infest cattle in South Dakota. The adult flies are about the size of a worker honey bee. The bodies of these flies are covered with transverse bands of yellow or orange hairs. The thorax has four longitudinal shiny bands. The legs are covered with black and orange hairs.

Adult heel flies are strong fliers, and females are very persistent in their egg-laying habits. Female heel flies become active during the first warm days of spring, seeking cattle upon which to deposit eggs. It is at this time that cattle begin to react in a characteristic manner, running wildly about the pastures, or standing in buildings, open shade, or up to their bellies in water ponds or streams.

#### Life Cycles

The life cycles of these two fly species are similar. In the spring, the adults lay their eggs on the cattle by attaching them to the hairs of the hind leg, flanks or sides. The fly of the southern species attaches the eggs in rows of 4 to 10 eggs per hair, while the northern bomb fly lays its eggs singly. The eggs hatch in 3 days to a week, the young larvae crawl down the hair and burrow into the skin in the hair follicles. The young grubs develop and migrate through the body of the animal for several months. The common southern grub localizes in the connective tissue of the esophagus, while the young northern grub localizes in the connective tissue in the spinal canal. Both species then move to the subdermal position of the back and make a hole in the

skin of the back. The grubs continue to grow and form the familiar cysts or "warbles" along the back of the animals. After about a month, each grub emerges through the hole in the skin of the back, drops to the ground and forms the pupal stage. Later, during the first warm days of spring, the adult flies emerge, mate, and the female seeks cattle upon which to deposit her eggs. There is only one generation per year.

### Cattle Scabies

Scabies is a contagious skin disease of cattle caused by tiny parasitic mites that pierce the animal's skin to feed. Discharge from the mite wound oozes onto the surface of the skin to form scabs or crusts.

Cattle with scabies lick, rub and scratch themselves to relieve intense itching. They lose weight and condition and may be more susceptible to complications such as pneumonia due to lowered vitality.

Scabies was a major problem in the early days of open range grazing of cattle. A vigorous State-Federal program to eradicate the disease brought the condition under control. In 1968, only four cases were reported in the entire United States. During 1978, over 200 cases were diagnosed and premises were quarantined. During the fiscal year of 1978-79, South Dakota quarantined 24 infected herds and subsequently dipped them twice to release the quarantine.

### Spread of Cattle Scabies

Direct contact is the most common means of spreading scabies from one animal to another. Scabies-causing mites are also transmitted by infested pens, barns, blankets, brushes and similar equipment. Often they are unintentionally spread when affected animals are sold or exchanged.

Ordinarily, scabies does not spread from one species of animal to another species. For example, cattle scabies does not spread to sheep.

Cattle do not develop an immunity to scabies. Most animals--whether or not they have already had scabies--readily develop the disease when exposed to scabies mites.

### Signs of Scabies

A "scabby" appearance is the best known sign of scabies. Typical lesions are hard, thick and gray in color. In advanced cases, scabs may cover large areas of the animal's body.

It is difficult to detect the disease in its early stages before the mites are well established. Affected cattle may seem restless; their hair may be disturbed from increased licking and rubbing. These may be the only signs of scabies until the scabs form.

Affected animals lose hair from scabby areas, and the skin thickens and hardens. Milk production drops. Severely affected cattle stop eating and lose weight or gain less. If not treated, they may die.

### How Scabies Develop

Scabies may occur at any time of the year. Because the mites are most active in fall and winter, scabies is sometimes mistaken for a cold weather disease.

In summer, when the mites are less active, scabs often disappear. Scabby cattle may appear "cured." The improvement, however, is only temporary. If the disease is not detected and treated during the summer, scabs will come back with the return of cold weather.

Scabs normally begin to form 15 to 45 days after the mites get on the host animal. If the mites are not killed, they may spread and form scabs over the entire body of the animal.

### Observing Cattle for Scabies

Make a practice of observing cattle regularly for signs of scabies. Select a location where you can watch the animals without disturbing them. If you notice restlessness, scratching, rubbing, lesions or other signs of scabies, examine animals individually. Isolate cattle that have scabies. Consult your veterinarian or a State or Federal disease control official promptly for expert inspection, diagnosis and advice.

Watch for constant tail switching, licking, rubbing against objects, scratching, scabby sores and hair patches on fences.

### Cattle Scabies Treatment

Since scabies is a reportable and quarantinable disease, all treatment and control measures are under the supervision of the South Dakota Livestock Sanitary Board. During the past several years, the LSB has provided a portable dipping vat charged with toxaphene and dipped infected herds twice with a 2-week interval between dippings.

Contact your local veterinarian, county extension agent or a representative of the LSB if you have any questions regarding scabies.

TREATMENTS FOR CATTLE LICE<sup>a</sup>

INSECTICIDE	DOSAGE
<u>SPRAYS</u>	
Co-Ral	0.25% spray
Delnav (Dioxathion)	0.15% spray
Ciodrin	1 qt. of 2 lb. E.C. per 6 gal. water
Ciodrin	3% dry dust
Lindane	0.06% spray
Malathion	0.5% spray
Toxaphene	0.5% spray
<u>POUR-ONS</u>	
Dursban-44 Spot-on	43.2% ready-made spot-on, 1 cc/100 lb.
Famphur (Warbex)	1/2 oz./100 lb. body weight
Ruelene 12R	1/2 oz./100 lb. body weight
Ruelene 25E in water	Mix 1 part in 3 parts water
Tiguvon	1/2 oz./100 lb. body weight
Tiguvon	4 cc/300 lb. body weight
Korlan 2	Mix 1 part Korlan 2 with 4 parts water
<u>BACKRUBBERS</u>	
Lindane	0.2% in fuel oil
Malathion	2-5% in fuel oil
Methoxychlor	5% in fuel oil
Rommel (Korlan)	1.0% in fuel oil
Toxaphene	5% in fuel oil
Ciodrin	1% solution
Coumaphos (Co-Ral)	2% in fuel oil
Tiguvon	1% in fuel oil

TREATMENTS FOR CATTLE GRUBS<sup>a</sup>

INSECTICIDE	DOSAGE
<u>SPRAYS</u>	
Co-Ral	8-12 lb. of 25% W.P. to 100 gal. water
Prolate	0.25% spray treatment
Neguvon	10 lb. 80% S.P. to 100 gal. water
Ruelene	1.5 gal. 25% E.C. in 100 gal. water
<u>POUR-ONS</u>	
Co-Ral	1/2 oz. per 100 lb. body weight
Famphur (Warbex)	1 oz. per 200 lb. body weight
Prolate	As directed on label
Prolate	4% in water, 1 oz. per 100 lb. body weight
Neguvon	1/2 fluid oz. per 100 lb. body weight
Ruelene	Mix 1 part 25% E.C. with 3 parts water
Ruelene 12R	1/2 oz. per 100 lb.
Tiguvon (Fenthion)	1/2 oz. per 100 lb. body weight
<u>SPOT-ONS</u>	
Spotton (Fenthion)	4 cc/300 lb. body weight from cali- brated dosage gun

(Taken from South Dakota Insecticide  
Recommendations for 1979. S.D. Ext.  
Circ. EC 683)

<sup>a</sup> Follow all label precautions carefully.

NOTE: Backrubbers are not 100% effective against lice. Charge backrubbers early in the fall and re-charge every 2 to 3 weeks. Do not use old crankcase oil as a diluent for backrubbers.