Ringworm

It's not caused by a worm after all.

Story & photo by ***Troy Smith***

►A fungal infection like athlete's foot and jock itch, ringworm is caused by dermatopytes — not a parasitic worm as once believed.

Don't you sometimes wonder about ringworm? Well, maybe you don't lie awake at night thinking about things that cause ugly lesions on cattle. Surely you've seen them — those hairless patches around the eyes of calves or on the briskets of older cattle, where the skin takes on a thickened, crusty, ash-colored appearance.

Don't you ever wonder why ringworm most often appears in the winter, or why calves rather than adult animals are more likely to be affected? Why does it sometimes spread throughout most of a group of cattle and sometimes show up in only one or two animals in the bunch? Can't people get ringworm? And why is it called ringworm, anyway?

Dermatophytosis has long been referred to as ringworm, because people once believed the usually circular lesions were caused by a parasitic worm. The misnomer stuck, even though dermatophytosis is the result of a fungal infection. University of Nebraska Extension Veterinarian David Smith says several species of fungi, collectively called dermatophytes, can cause ringworm. Such infections are contagious — even across animal species.

That means ringworm can spread to humans. Related infections, including athlete's foot and jock itch, also are caused by dermatophytes. That doesn't mean people who work with cattle or other animals infected with ringworm are likely to become infected, too. Smith says humans and animals are often exposed but do not get ringworm.

"It generally takes more than contact with the fungus to cause infection and the resulting skin injury. Immune status is an important factor affecting susceptibility," Smith says. "That's why we are more likely to see ringworm in young animals, animals with compromised immune systems, animals that are heavily parasitized (with internal parasites) and animals on a poor plane of nutrition."

Smith says exposure to dermatophytes can happen easily enough, as the organisms often are present in the environment as well as on the skin and hair of infected animals. Some dermatophyte species may be present in the soil. Bits of hair and skin scales from infected animals may be present around the premises, on fences, feedbunks, ropes, halters and grooming equipment. All may be sources of contact with dermatophytes. As a consequence, one of the most notable problems associated with ringworm is its interference with exhibition of show cattle.

"It is a contagious zoonotic disease, so a veterinarian cannot write health papers for animals with active ringworm lesions," Smith states.

Typically, show cattle are on a high plane of nutrition and may be otherwise healthy, but still may have compromised immune function due to the stress of transportation and commingling with other cattle. That may increase their susceptibility to ringworm infection. Smith says the show environment can present ample opportunity for susceptible animals and susceptible humans to have contact with infected cattle and equipment.

"The risk factors for people to get ringworm are similar to that of cattle," Smith says. "Children are more susceptible than adults, but immune function is important, as is skin health."

In the more typical commercial setting, on a farm or ranch, ringworm is most apt to show up among growing cattle. It most commonly occurs during late winter or early spring. Ringworm rarely causes significant health problems directly, but when multiple members of a group display the infection, it could be an indication that their immune systems have been suppressed. Smith recommends careful attention to nutrition and consideration of whether the cattle may be burdened by parasites. Deworming may be advisable.

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"We probably start seeing

ringworm in late winter because (of the effects) of crowding and nutritional deficiencies — particularly vitamins A, D and E, we think. That's also when internal parasites enter their 'spring emergence,'" Smith says. "Following infection there appears to be a short-lived immune response, which makes most cases self-limiting. They cure in two to four months."

When infected cattle that have been kept in confinement during the winter are sent to grass in the spring, their lesions often disappear. The probable reason is because nutrition improves and other stressors are reduced or eliminated. There is also less close contact among the cattle and contaminated surfaces. The animals may also have had sufficient time to mount an immune response.

"When there is an individual with ringworm in a herd of unaffected cattle, it suggests that particular calf is more susceptible," Smith adds. "For example, it may be a calf that's persistently infected with BVD (bovine viral diarrhea), heavily parasitized or just not getting to the feedbunk for some reason. That may be a benefit of ringworm — it can point out individuals that need attention."

Treatment of commercial cattle is rarely warranted, except to address underlying conditions that increase susceptibility of cattle. Show animals may be the exception. Smith says there are many topical remedies, including antifungal disinfectants such as diluted bleach or chlorhexidine. However, there is little evidence that they are particularly effective.

"Other remedies involve extralabel use of medications that must be recommended by a veterinarian familiar with the case," Smith explains. "Often, resolution of ringworm just takes time."

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