

Lumpy Skin Disease

Lumpy skin disease (LSD) is a highly infectious viral disease of cattle that is characterized by fever and the appearance of various-sized lumps, or nodules, in the skin covering all parts of the body.

The death rate from LSD generally is low, but the economic impact often is high because of export restrictions. The infected cattle become lame, lose weight, and drop in condition rapidly. In addition, milk production in cows with LSD decreases or stops completely, and there is significant damage to hides.

This foreign animal disease does not affect humans or other species besides cattle. It has never occurred in the United States. The disease has spread over most of Africa and has affected Kuwait, Egypt, and Israel.

How it Spreads

LSD spreads between herds in an irregular pattern. It may even seem to bypass cattle housed close to the original outbreak and appear in cattle in a herd several miles away. LSD is spread by biting insects and direct contact with an infected animal. It is possible that LSD is passed to calves through the milk of an infected dam.

There are great variations in infection rates among herds. In an endemic area, 5 to 50 percent of the cattle in naturally exposed herds normally show signs of the disease. However, in experiments, 40 to 50 percent of the cattle inoculated with LSD virus develop the disease. In a susceptible population, infection rates occasionally rise above 50 percent.

Clinical Signs

LSD may affect cattle of any age, but young calves may be the most severely affected. Characteristic lumps, or nodules, appear in the skin of the cattle suddenly 2 to 4 weeks after susceptible cattle are exposed. These lumps, which give the disease its name, vary in size from somewhat smaller than a dime to about the size of a silver dollar. They are painful, firm, well-defined, raised areas that usually have a flattened surface.

Lumps may spread over the entire skin surface of the body and may extend into the respiratory and genital tracts. Frequently, the center of the lump dies, becomes dry, forms a deep scab, and falls out, leaving a raw area that may become infected. The lumps may also disappear without treatment within a few days or become hard and persist for more than a year.

Most deaths in cattle with LSD are a result of secondary infections. When lumps become infected, large areas of dead tissue and skin slough away. The bacterial infection may become generalized with the animal losing condition quickly. In severe cases, cattle usually die about 10 days after lumps first appear. Some cattle with large, raw, open sores will remain alive beyond this period; usually it is advisable to euthanize them for humane purposes.

Swellings usually develop as a result of fluid accumulation in the tissues. These swellings, or edemas, usually are found in the front legs, brisket, lower neck, udder, or lymph nodes.

Other LSD signs include a rough hair coat and a stiff gait. Occasionally, affected cattle have discharges from the eyes, nose, and mouth.

In native African cattle, death losses generally are low (1 to 3 percent). In European breeds, 10 percent or more of the infected cattle may die.

Tentative diagnosis of LSD is based on a careful examination of suspect cattle by a veterinarian. The diagnosis must be confirmed by laboratory tests.

Prevention and Control

In most affected countries, control of LSD has been only partially successful. Wide-scale eradication has not been attempted in areas where the disease is entrenched, but control programs have been able to limit outbreaks and restrict the spread of disease. Usually, cattle affected with LSD recover. Full recovery may take 3 to 6 months, depending on the severity of the illness.

The following disease-fighting measures have been used against LSD:

- quarantines
- slaughter of infected and exposed cattle with proper disposal of animals and contaminated material
- extensive cleaning and disinfection of the infected premises, equipment, and facilities
- restrictions on the movement of all livestock in the affected area
- restrictions on the movement of contaminated hides from the affected area
- regular vaccination of cattle with attenuated LSD virus, in the affected areas has been successful
- intensive insect control, including widespread use of insecticides.

The Animal and Plant Health Inspection Service's Role

Many precautions are taken by the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) to prevent the introduction of foreign animal diseases, such as LSD, into this country.

APHIS prohibits the importation of cattle from countries with either foot-and-mouth disease or rinderpest. Because these diseases occur throughout the regions where LSD exists, it has not been necessary to impose import restrictions related specifically to LSD. As a further precaution, the United States requires that every imported animal have an official veterinary certificate of health from its native country. Imported cattle are inspected at U.S. ports of entry, where they are further treated and quarantined, as necessary.

In cooperation with the U.S. Department of Homeland Security, APHIS maintains a constant alert status to protect American livestock from foreign animal diseases such as LSD.

What the U.S. Livestock Owner Can Do

Livestock owners are the first line of defense against the introduction of LSD into the United States. To help prevent any such introduction, livestock owners should inspect their flocks and herds frequently for lumps characteristic of LSD in their cattle and report any suspicious conditions to their local veterinarian or to their State or Federal animal health officials immediately.

Additional Information

For more information contact
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Emergency Programs
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or visit the APHIS Web site at
www.aphis.usda.gov.

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