Western Beef Resource Committee

*Fourth Edition*

# Cattle Producer's Handbook

Animal Health Section 620

# Lumpy Jaw and Wooden Tongue in Cattle

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Lump jaw in cattle is the common name of two disease conditions that occur in cattle. The condition is characterized either by an infection of the bone of the head, particularly the upper and the lower jaw (lumpy jaw, or actinomycosis), or by infection of the tongue and lymph nodes of the head (wooden tongue, or actino-bacillosis).

Lumpy jaw and wooden tongue occur in cattle throughout the world. The diseases affect all breeds, age, and sex of cattle. Usually only a small percentage of animals are affected at any one time.

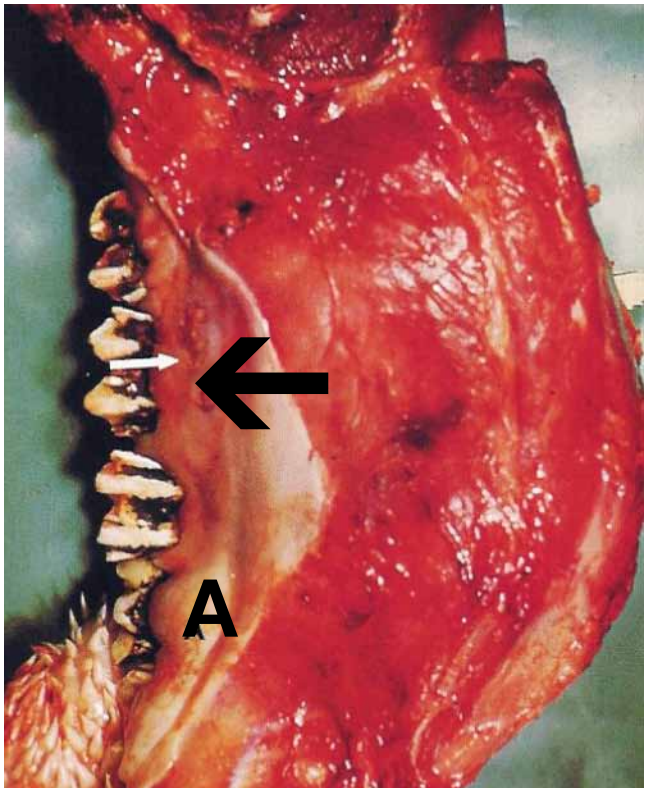


**Fig. 1. Actinomycosis of the lower jaw of a cow. The diameter of the mandible is increased. (A) marks a protruding abscesses, and the arrow points to ulcers.**

## Cause

Lumpy jaw is caused by infection with the bacterium *Actinomyces bovis,* and wooden tongue by infection with the bacterium *Actinobacillus lignieresii*. Mixed infections have occurred but are not common.

The bacteria, which live in the mouth, invade tissue through breaks in the lining of the mouth cavity. Low quality dry stalky feed, grass seeds, coarse hay, and scrub can cause mouth abrasions that allow entry of infection. These factors are commonly associated with dry times and drought, poor quality hay, or grazing poor quality dry pasture or range.

**Fig. 2. Actinobacillosis (wooden tongue) of the tongue of a 2-year-old steer.**

Breaks in the gums that occur as teeth erupt in young animals can also predispose to lumpy jaw and wooden tongue. Ironically, increased incidence has also been reported after flooding.


## Summary

**Actinomycosis (Lumpy Jaw)**

**Cause:** *Actinomyces bovis*

**Epidemiology:** Inhabitant of the bovine mouth. Common but sporadic disease from infection through wounds inside the mouth by feed or through dental alveoli.

**Signs:** Initially painless, hard, immovable bony swelling on the upper or lower jawbone. Swellings enlarge and eventually discharge small amounts of pus through one or more openings in the skin.

**Diagnosis and clinical pathology:** Demonstration of the organism-club colonies with gram-positive filaments.

**Treatment and control:** Surgical drainage and iodides. Treatment is usually not successful. Detect early and dispose of the animal as soon as possible. Eliminate feeding of dry roughage that causes injury to the soft tissue in the mouth.

**Actinobacillosis (Wooden Tongue)**

**Cause:** *Actinobacillus lignieresii*

**Epidemiology:** Organism is inhabitant of mouth and GI tract. Infection through abrasion. Sporadic disease but outbreaks where other predis-posing factors are present.

**Signs:** Difficulty in prehension of food. Inflammation and abscessation of tongue and draining lymph nodes. Soft swellings around head and neck filled with pus. May rupture, drain, and reoccur.

**Diagnosis and clinical pathology:** Demonstration of organism.

**Treatment and control:** Isolate affected animals. Iodides and antibiotics are indicated. Surgical drainage and iodine irrigation. Hygiene and avoidance of abrasive pastures and hay.


## Descriptions

### Lumpy Jaw

Lumpy jaw produces lumps on the upper and lower jawbones. These lumps are immovable hard swellings of the bones. The swellings develop slowly and may take months to reach a size that can be detected. These swellings consist of honeycombed masses of thin bone filled with yellow pus (Fig. 1). If neglected the swellings may become extremely large. In advanced cases, sinuses or openings develop and discharge small amounts of sticky pus containing gritty yellow granules. Unlike the symptom with wooden tongue, the local lymph nodes do not become involved.

Lumpy jaw may be well advanced before external signs are visible. Difficult breathing due to involvement of the nasal bones may be the first sign. As the disease progresses, chewing becomes difficult and uncomfortbale for the animal, resulting in loss of condition.

Occasionally, the soft tissue of the alimentary tract can be involved. Lesions in the digestive tract give vague signs of indigestion, often with chronic bloat.

### Wooden Tongue

Wooden tongue occurs almost entirely in soft tissue. The tongue and lymph nodes of the head are commonly involved. The disease has a sudden onset, with the tongue becoming hard, swollen, and uncomfortable for the animal. Affected animals are unable to eat or drink, and there is rapid loss of condition. The animals drool saliva and may appear to be chewing gently. The tongue often protrudes between the lips. Nodules and ulcers may be visible on the sides of the tongue (Fig. 2). As the disease becomes chronic, fibrous tissue is deposited in the tongue, which becomes hard, shrunken, and immobile, hence the name wooden tongue.

In other cases the area between the two bones of the lower jaw is swollen, giving the appearance of bottle jaw. The lymph nodes around the jaw may become infected, and cause swelling under the skin that can vary in size from a golf ball to a football. These are thick walled abscesses that often rupture and discharge creamy pus.

The abscesses can occur in the soft palette in the back of the mouth and cannot be observed. Cattle with soft palette abscesses will show signs of difficult breathing and will appear to have difficulty swallowing. Abscesses can also occur internally and will only be detected at slaughter.

## Expected Course

Lumpy jaw is usually progressive. As the bony swellings continue to enlarge, obvious disfiguration of the head will occur, the affected animals will lose condition, and death may result. With wooden tongue the abscesses in the lymph nodes of the head may break open and regress for a time but usually recur. In both conditions, the disease often appears to be dormant for a time, but relapses are common.

## Treatment

The treatment of **lumpy jaw** is usually ineffective. If the disease is detected early it is advisable to dispose of the animals while it is still in satisfactory condition. Usu-

ally only the head will be condemned by meat inspectors, unless the lesions have spread elsewhere in the body.

Some current literature states that oral potassium iodide has been recommended for treatment. However, the use of these products in animals destined for the human food chain is discouraged. The label indication for use of organic iodide is as an iodine supplement in the diet of beef and dairy cattle.

Organic iodide is not approved for the prevention or treatment of any specific disease. Thus, use of such products must be the responsibility of a veterinarian with a valid veterinary/client/patient relationship.

Early treatment of **wooden tongue** is usually successful, but advance cases may fail to respond. The most common treatment is almost certainly iodine therapy. Sodium iodide is best given intravenously, and follow up therapy is usually necessary at weekly intervals. Treatment with tetracycline daily for five days is also reported to be effective.

Surgical drainage of abscesses is necessary. The abscesses should be opened and irrigated or swabbed with iodine for several days. Soft palette abscesses can be drained, however, equipment to hold the mouth open must be available, and a skilled veterinarian should perform this surgical procedure. All treated animals should be observed regularly as relapses can occur.

## Control

Affected animals should be isolated from the herd, especially when pus is discharging. They may be transported to slaughter for salvage. If the lesions are large or discharging (especially if the condition is lumpy jaw) the affected animals should be destroyed on the property. Feed and water troughs used by affected animals must be disinfected.

Both bacteria are normal inhabitants of the mouth and/or rumen. The bacteria causing lumpy jaw can survive for considerable periods in the ground. Those causing wooden tongue survive for only a few days. Constant observation for new cases will further reduce environmental contamination and allow better treatment if new cases are detected early.

Alteration of grazing management and control of hay quality will reduce exposure of cattle to coarse or prickly feed and will reduce the prevalence of these conditions. Contact your local veterinary practitioner or your herd health veterinarian for help with the diagnosis and control of these devastating conditions.

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