



Bovine Cysticercosis

Beef Measles; *Taenia saginata*

Bovine cysticercosis is a worldwide zoonotic disease affecting people and cattle, caused by the tapeworm *Taenia saginata*. Humans are the definitive (mandatory) host for the tapeworm, and cattle are the most common intermediate host. Cattle become infected when they ingest eggs that were shed in human feces. The eggs adhere to grass and other vegetation, where they can survive for several weeks to months. Once ingested by cattle, they develop into larvae and migrate to muscle tissue, most commonly the heart or around the jaw, diaphragm and tongue. Each larvae forms a fluid cyst surrounded by a fibrous capsule, known as a cysticercus or *Cysticercosis bovis*. The presence of cysticercus in muscle is commonly referred to as “beef measles”. An animal may have one to hundreds of cysts in its muscle.

Protecting Human Health

People can become infected when they eat raw or undercooked meat containing the tapeworm larval cysts. Cooking beef to an internal temperature of 145°F is sufficient to assure safety for consumption. Ingested larvae grow into adult tapeworms in the intestines, where they can remain for many years. In people, the disease is referred to as Taeniasis. Most infections are asymptomatic, but mild abdominal symptoms may occur. Anyone that believes they have been exposed to the parasite should contact their doctor. Health care providers are required to report human cases to their local public health officer within 7 days of identification.

Bovine cysticercosis is difficult to diagnose in live cattle, but USDA Food Safety Inspection Public Health Officers



look

for cysts in beef muscle tissue during their slaughter inspection process. Severely affected carcasses are condemned (not passed for human consumption). If cysts are present in a limited area, the affected area can be removed and the carcass may enter the food chain after treatment to kill any remaining larvae. Treatment consists of refrigeration (carcass moved to a freezer at ≤15°F and kept there for a minimum of ten days) or heating (carcass is heated throughout to a minimum internal temperature of 140°F).

Reporting Infected Cattle

Bovine cysticercosis is a monitored condition in California; cases must be reported within 30 days. Infected carcasses detected at slaughter are reported to the USDA/APHIS/VS and CDFA/AHB, then investigated at the farm level. Producers are provided information about the issue, its causes, and how to mitigate the problem.



Protecting Cattle Health

Exposure to raw sewage and effluent is a known risk for producing cysticercosis. Cattle producers can reduce the risk of beef measles by providing adequate numbers of toilets and handwashing facilities, and insisting that all employees and visitors use them to prevent the contamination of feed bunks, feed storage areas, ditches or other areas with human waste. Portable toilets must be correctly cleaned to prevent human waste from contaminating lagoon water that is used to flush cattle holding areas.

Treated Wastewater

Properly recycled water may be used for irrigation. If your cattle have beef measles, you should assess whether recycled water used to grow cattle feed is meeting the correct standards.

Everyone has a role to play in preventing cysticercosis infection. If producers have more questions they should contact their veterinarian or CDFA.

Animal Health and Food Safety Services

Animal Health Branch

Headquarters - (916) 900-5002

Redding District - (530) 225-2140

Modesto District - (209) 491-9350

Tulare District - (559) 685-3500

Ontario District - (909) 947-4462

USDA-APHIS-VS - (916) 854-3950 or (877) 741-3690

For more information, please click the following:

[Animal Health Branch](#)

[Bovine Health Program](#)