

Q Fever

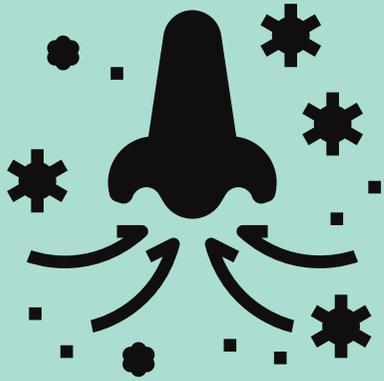
By Avery Permenter

AN OVERVIEW OF Q FEVER AND RISKS TO ECONOMIC LOSS

What is Q Fever and who is at risk?

- Q-Fever is caused by the bacteria *Coxiella burnetii* and is highly contagious
- Q fever is zoonotic and can be passed from animals to people
- Ticks, wild birds, wild mammals, livestock and domestic pets can carry Q fever
- Ruminants and humans are at risk for Q fever
 - Statistically we see an increase of cases in older age group (CDC)
 - The most at risk individuals are those who work in livestock facilities or near ranches

Transmission in Goats



Inhalation of the bacteria through contaminated dust in the air

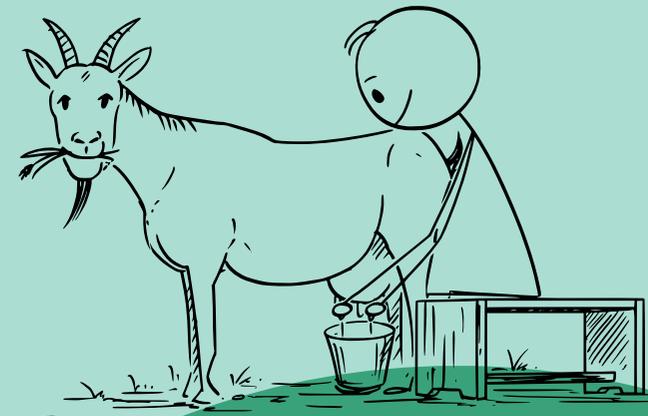


Bites through ticks that have had contact with the bacteria

Direct exposure to afterbirth products



Drinking unpasteurized milk



Signs of Q fever

Signs in humans:

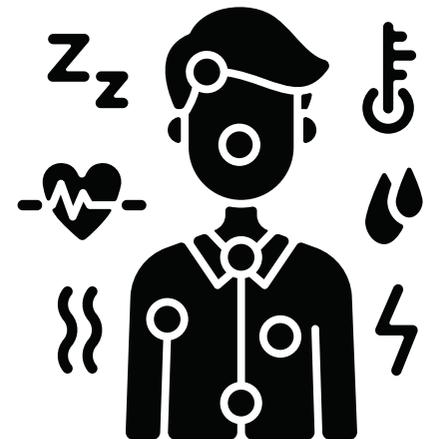
Q Fever can either be symptomatic or asymptomatic in humans. If it is asymptomatic, there will not be signs shown from the person infected. In symptomatic cases, flu-like symptoms can be a sign. Around half the people who become infected with Q fever express symptomatic symptoms.

Pregnant women who are infected with Q Fever can experience abortions.

A blood test can confirm the infection of Q fever. From here a titer can determine whether the infection is chronic or acute.

Signs in small ruminants:

Animals don't experience the chronic or acute symptoms like humans. Instead animals affected with Q Fever can have abortions, stillbirths, and infertility. Often times animals will become depressed around the time of abortion, but will not express any other symptoms



Chronic versus acute

Acute:

- Symptoms can begin to develop 2-3 weeks after exposure
- mild or severe symptoms which can include fever, pain in the chest or stomach, aches, chills, and pneumonia
- Most can recover from Q fever without treatment. Acute Q fever treatment includes two weeks of antibiotics

Chronic:

- Chronic can develop over months or years after exposure
- Symptoms can include infections in the heart valve, shortness of breathe, limb swelling, fatigue and night sweats
- Chronic Q fever is very serious and can be deadly
- Treatment includes long term antibiotics

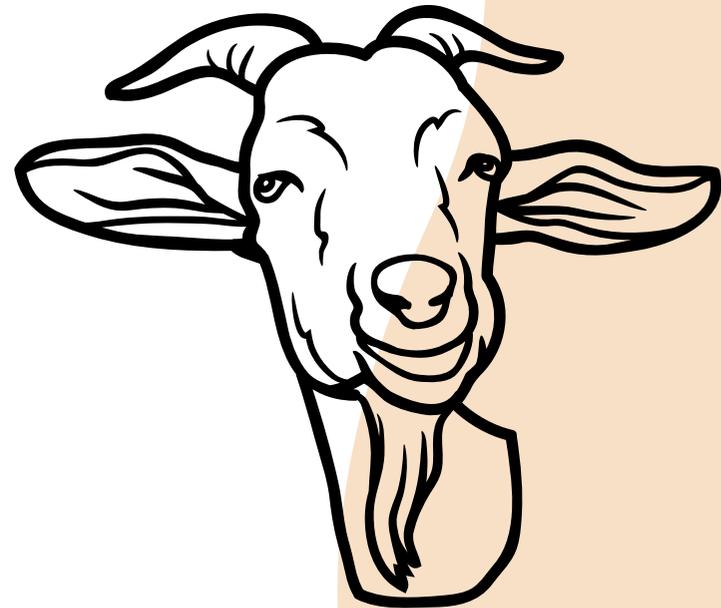
Diagnosis in animals

Herds can be screened using serology. PCR can be used to detect Q fever through afterbirth, milk and feces



Prognosis in animals

Often times, animals rarely show signs of the disease. However, they can be economic loss in the herd as the animal can have reproductive failure.



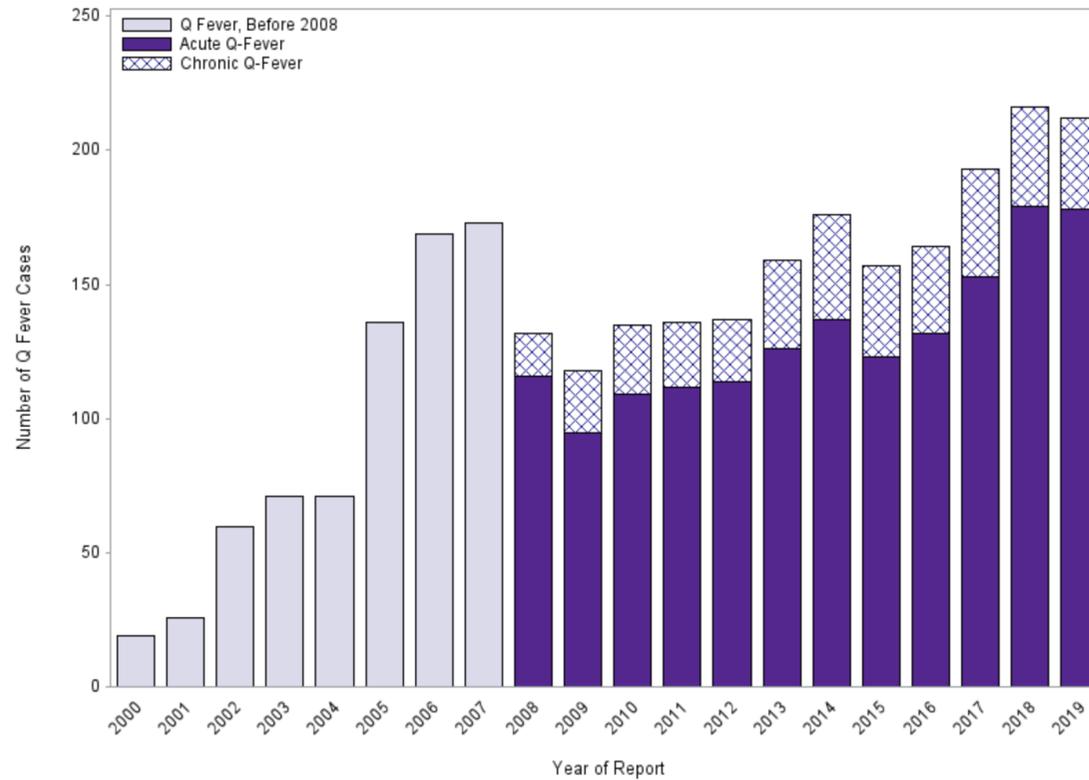
Economic loss

Q fever is an issue for those who raise ruminants because it can cause a loss within the herds. Typical signs include abortion, infertility, and stillbirths. All these combined create an economic loss for the farm as they are putting costs into the animal to have no viable production. Animals who express symptoms of Q fever can be culled.



Statistics

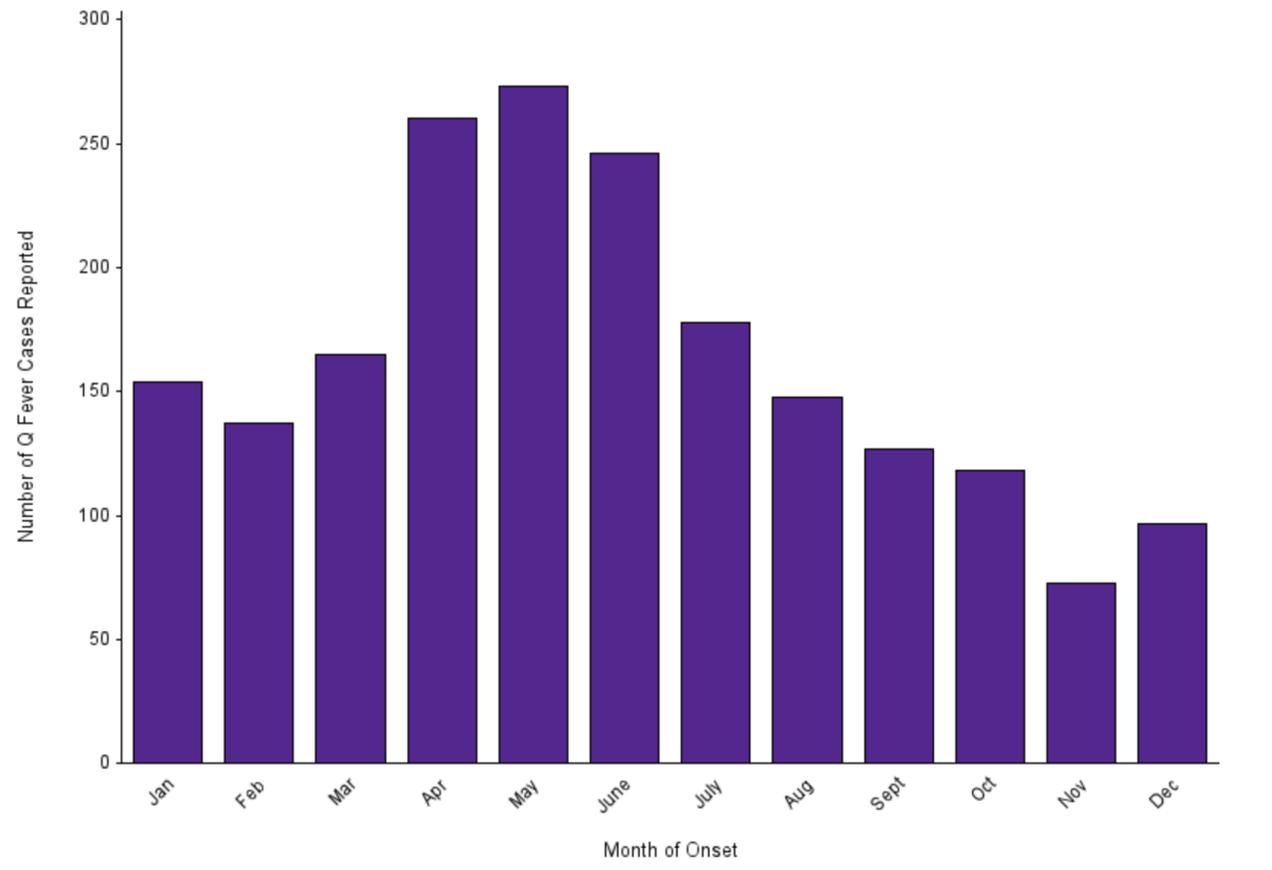
Number of reported cases of Q fever – United States, 2000–2019



U.S. reported cases of Q fever from 2000 - 2019. Here we can see the variations of chronic versus acute infections.

(CDC)

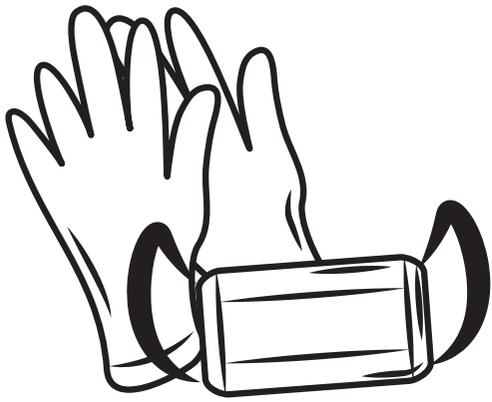
Number of reported cases of Q fever, by month of onset–United States, 2000–2019



U.S. reported cases of Q fever from 2000 - 2019 reported by month. Here we can see an increase in cases from the typical birthing season for goats. This coincides with ruminants birthing season.

(CDC)

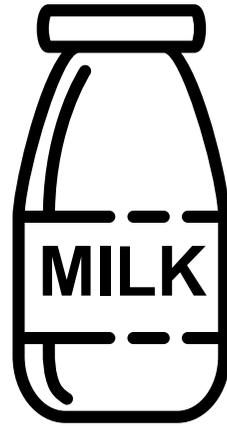
How to manage Q fever



Wear a mask and gloves

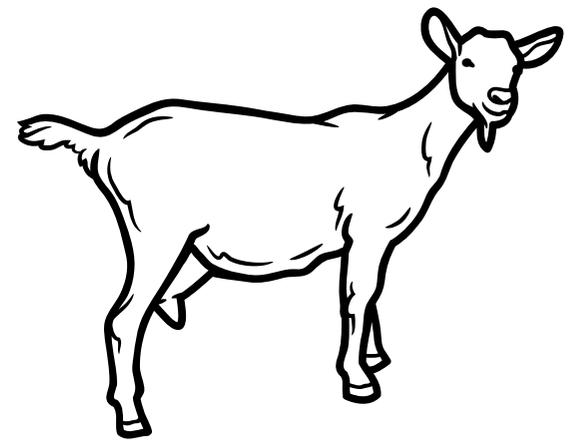
Wear a mask and gloves when handling afterbirth, stillborns and any other clean up during the birthing process.

Even if Q fever is not suspected, it is a good practice to wear a glove and mask with any animal during birthing



Pasteurize milk

Pasteurize milk before consumption.



Use caution

Use caution with animals that have abortion and stillbirths. Isolate the animal who has an abortion or stillbirths. Use gloves, masks and bags to carefully remove any remains. It is recommended to have the fetus tested if Q fever is suspected.

Sources

FLYERS & HANDOUTS – the American Goat Federation.

americangoatfederation.org/resources/flyers-handouts/. Accessed 15 May 2022.

Q Fever. 2019, www.cdc.gov/qfever/index.html.

Young, Amy. “Q Fever (Coxiellosis).” Animal Health Topics / School of Veterinary Medicine, 6 July 2020, healthtopics.vetmed.ucdavis.edu/health-topics/q-fever-coxiellosis. Accessed 15 May 2022.

Thank You!
Are there any questions?

