



## ZOONOSES

A zoonotic disease is a disease that can be transmitted from animals to humans. Generally speaking the occupation or hobby of raising sheep is quite safe. Certainly we who raise sheep do not suffer the danger or injuries as cattle or horse owners risk. However there are a handful of diseases which you can acquire from sheep. It is important that you have knowledge of these diseases to protect yourself and your family. Additionally, the medical profession often is not well informed about these diseases as they rarely encounter them. The following is a list of diseases and circumstances that lead to human infection.

### **Sore Mouth (Contagious Ecthyma, Orf)**

This viral disease causes lesions on the lips of naive sheep. It can infect humans through a break in the skin. Typically the area will be reddened and inflamed with painful swelling around the lesion. It is critical that if you suspect human infection from the soremouth virus that you inform your medical doctor. I often recommend bringing information along to the medical doctor since some doctors have never heard of soremouth, and some may only know it by the name orf, contagious ecthyma or sheep parapox virus.

### **Cryptosporidia**

Cryptosporidia is a very small internal parasite of the intestine that causes diarrhea in lambs 1-4 weeks old. The ability of Cryptosporidia to cause disease is directly related to the immune system of the animal or person. Young or immuno-suppressed shepherds are a greatest risk. Human infection occurs by ingestion of the oocysts that are present in feces. Washing hands in warm soapy water is the easiest and best way to prevent infection with cryptosporidia

### **Salmonella**

While Salmonella is not as common in sheep as it is in poultry it can occur. Salmonella can infect humans in the same manner as cryptosporidia. Salmonella produces high fever and diarrhea in both sheep and humans. Shepherds can get infected by handling or treating infected sheep. Washing hands in warm soapy water or in disinfectant after treating sick animals will prevent infection.

### **Toxoplasmosis**

Toxoplasma gondii is a small internal parasite of cats. Young cats can shed the parasite in large numbers in their feces. Sheep become infected by eating feed or water contaminated with cat feces. Infected sheep do not become visibly ill however if pregnant they can abort. The fetus and placenta contain high numbers of Toxoplasma and should be handled with gloves. Generally infection in humans results in a

mild illness, but *Toxoplasma* can cause abortion in humans. Keeping cats from using feed as a litter box is the easiest way to prevent *Toxoplasma* abortions in sheep. Keeping pregnant women out of the lambing barn and away from cat litter boxes is critical for pregnant women.

### **Q-Fever**

Q-Fever is a disease caused by *Coxiella burnetii*. This is a very small rickettsial organism that is harbored by normal, healthy sheep. Infection in humans is generally mild causing flu-like symptoms, however serious sporadic heart or respiratory complications can occur. Q-fever is an occasional cause of abortions in sheep and aborted lambs and placenta contain high numbers of organisms. Care should be taken during lambing season by wearing plastic sleeves when assisting ewes lambing and handling dead or aborted lambs.

### **Campylobacter**

Campylobacter infection in humans is the number one cause of food-borne illness generally from consuming undercooked meat. Many species of mammals and fish can carry *Campylobacter* asymptotically in their intestine. *Campylobacter* infection in pregnant sheep is one of the major causes of ovine abortions. Infected lambs and placenta contain high number of the organisms and Shepherds can be infected if they are not careful in handling aborted feti and placenta.

### **Tetanus**

Tetanus is caused by a toxin produced by an anaerobic bacterium called *Clostridium tetani*. *Clostridium tetani* is present in high amounts in soils where herbivores (including sheep) are housed or pastured. Infection in humans is by contaminated wounds particularly puncture wounds. Human vaccination is very effective in preventing tetanus. Tetanus is not contagious. Infection in humans cannot occur from contact with and animal infected with or dying of tetanus. It must come from contaminated wounds.

### **Ringworm (Dermatophytosis)**

Ringworm is a fungus that can infect sheep and humans. Infection in sheep is common in show lambs and is often referred to as club lamb fungus. Ringworm can be present in low levels in normal sheep. Infection in humans comes from contact with sheep or with sheep equipment such as brushes, blankets, etc. Human infection will generally be on the hands or arms but is also possible on the face and neck. The lesion in humans appears as a red thickened rash. Young and immuno-suppressed humans are most susceptible.