

ZOOBOTIC AGENTS OF CONCERN IN LIVESTOCK

Zoonotic Disease and Agent	Host	Transmission	Incubation Period (Time from exposure to onset of symptoms).	Signs/Symptoms
Balantidiasis <i>Balantidium coli</i>	Swine	Fecal–oral route.	Unknown, probably 3 – 4 days	Most humans have a high natural resistance to this agent. Can see diarrhea, abdominal pain, straining to defecate, nausea and vomiting.
Brucellosis <i>Brucella</i> spp.	Ruminants and swine	Direct contact of contaminated materials with skin or mucous membranes or by inhalation.	1 week to several months	Characterized by fever, headache, chills, generalized weakness, nausea and weight loss. Subclinical and asymptomatic infections can occur.
Campylobacteriosis (Vibriosis) <i>Campylobacter jejuni</i> <i>Campylobacter fetus</i>	Many animal species	Fecal–oral route.	<i>C. jejuni</i> 1 – 10 days <i>C. fetus</i> unknown	<i>C. jejuni</i> – Watery diarrhea, may be with mucus and blood, abdominal pain, fever and nausea and vomiting, usually brief and self-limiting. <i>C. fetus</i> – Chills, sweats, fever, cough, headache, weight loss and abortion in the latter half of pregnancy.
Cryptosporidiosis <i>Cryptosporidium</i> spp.	Many animal species	Fecal–oral route. May involve contaminated air.	3 – 7 days	Characterized by cramping, abdominal pain, profuse watery diarrhea, anorexia, and weight loss. Immunosuppressed people may develop severe disease.
Dermatomycosis Ringworm <i>Microsporium canis</i> , <i>Trichophyton</i> spp.	Many animal species	Direct skin–to–skin contact with infected animals or indirect contact with contaminated equipment or materials.	4 – 14 days	Dermatophytes grow in keratinized tissue (skin, hair, nails, horns and feathers), characterized by focal, flat, spreading circular lesions that are clear in the center and crusted, scaly and reddened at the periphery. Invasive, systemic infections have been reported in immunocompromised people.
Erysipeloidosis <i>Erysipelothrix rhusiopathiae</i>	Swine, poultry	Direct contact with pharyngeal or intestinal lymphoid tissue or feces of carrier animals, lesions (especially skin), or contaminated fomites including soil.	1 – 7 days	If localized, usually on the hands, a slightly raised, nonpitting dark reddened cutaneous zone slowly progressing peripherally, severe burning pain, sometimes intense itching, occasionally forming vesicles. If generalized, fever, generalized weakness, muscle aches and headache.
Giardiasis <i>Giardia</i> spp.	Many animal species	Fecal – oral route.	1 – 4 weeks	Anorexia, nausea, abdominal cramps, bloating and chronic, intermittent diarrhea.
Leptospirosis <i>Leptospira interrogans</i>	Many animal species	Through non-intact skin and mucous membranes. Often related to direct contact with urine or tissues of infected animals. Inhalation and ingestion may be possible routes.	2 – 30 days, usually 7 – 12 days	Fever with sudden onset, headache, chills, generalized weakness, and conjunctival suffusion (reddened, watery eyes).
Listeriosis <i>Listeria monocytogenes</i>	Many animal species	Ingestion, <i>in utero</i> , direct contact. Shed in feces and milk of carriers.	Uncertain, probably a few days to 3 weeks.	Infection is not obvious except in neonates. Fever with neurologic or respiratory tract disease. May see abortion, reddened eyes and pustular skin lesions.
Lymphocytic Choriomeningitis Virus (LCMV), Arenaviridae family	Swine	Parenteral inoculation, inhalation, contamination of mucous membranes or broken skin, and aerosol transmission. Transmission can occur <i>in utero</i> and potentially by bite of an infected ectoparasite.	1 – 3 weeks.	Influenza – like illness characterized by fever, generalized weakness and, headache. In severe cases, a discolored skin rash and enlarged lymph nodes can develop.
Orf Poxvirus	Sheep, goats	Direct contact with virus – laden lesion exudates. Transmission by fomites or contaminated animals is possible.	3 – 6 days	Characterized by the development of a solitary lesion on the hand, arm or face. Lesion is initially discolored or pustular and progresses to a weeping proliferative nodule with central indentation.

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Pasteurellosis <i>Pasteurella</i> spp.	Ruminants, Swine	Animal bite or scratch, inhalation, non-intact skin contamination from infected material, and ingestion.	For a wound infection – more than 24 hrs. Unknown for other routes.	Wound infection – local redness, swelling, severe pain, occasionally mild fever and regional lymph node swelling. Upper and lower respiratory tract infections and abdominal/pelvic infection are possible with signs related to the area that is affected. Septicemia – infrequent form of infection with fever and generalized signs.
Plague <i>Yersinia pestis</i>	Goats	Bite from an infected flea or bites, scratches from infected animals, or ingestion of infected tissues.	2 – 6 days	Bubonic (localized) form – fever and large, swollen, inflamed and tender lymph nodes. Can progress to septicemic form with dissemination of the agent to other parts of the body. Vaccines are available for personnel in high – risk categories
Psittacosis <i>Chlamydia psittaci</i>	Ruminants, Swine	Direct contact or inhalation of infectious materials from exudates, secretions or dessicated feces.	4 – 15 days, usually 10 days	Fever, headache, generalized weakness, chills and upper or lower respiratory tract disease. May see extensive pneumonia and inflammation of the liver in serious infections.
Q Fever <i>Coxiella burnetii</i>	Sheep, goats, cattle	Inhalation, ingestion.	2 – 4 weeks	Sudden onset with fever, chills, headache, weakness muscle aches and profuse sweating. Some cases – nonproductive cough and chest pain.
Rabies	<i>Please refer to the Rabies Facts Sheet</i>			
Salmonellosis, <i>Salmonella</i> spp.	Many animal species	Fecal – oral route.	6 – 72 hours, usually 12 – 36 hours	Infection causes a sudden onset of headache, abdominal pain, diarrhea and sometimes vomiting. Focal infections can be localized in any tissue of the body with signs related to the area of infection. Immunosuppressed people are at extra risk.
Tetanus	<i>Please refer to the Tetanus Facts Sheet</i>			
Tularemia <i>Francisella tularensis</i>	Sheep	Direct contact of skin with blood or tissues of infected animals, bite from an infected ectoparasite or animal, ingestion of contaminated meat or water, inhalation.	1 – 10 days, usually 3 – 5 days	Symptoms are associated with portal of entry. Skin exposure most common – sudden onset of fever, chills, headache and generalized weakness with decaying ulcer at the site. Ingestion – vomiting and diarrhea. Inhalation – pneumonia.
Tuberculosis <i>Mycobacterium</i> spp.	Many animal species	Transmitted via aerosols from infected animals or tissues, ingestion or wound contamination.	4 – 12 weeks.	Most common form reflects involvement of the pulmonary system and is characterized by cough, sputum production and eventually coughing up blood. Extrapulmonary forms of the disease can involve any tissue or organ system. General symptoms as the disease progresses include weight loss, fatigue, fever, chills and wasting.
Page 2 of 2, Zoonotic Agents of Concern in Livestock				

References:

- Occupational Health and Safety in the Care and Use of Research Animals*, National Research Council, National Academy Press, Washington D.C. 1997.
- Hugh-Jones M.E. et al. 1995. *An Outline of the Zoonoses*. Iowa State University Press, Ames, Iowa.
- Benenson, A.S. 1995. *Control of Communicable Disease in Man*. Am. Public Health Assoc., Washington D.C.