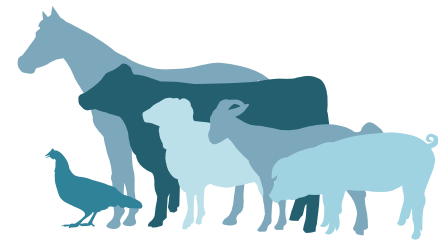


Select Zoonoses of Livestock and Poultry



Animal Impact

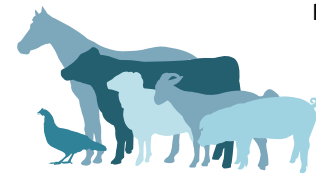
- Most commonly affected species
- Less commonly affected species/possible
- ▲ Asymptomatic reservoir species

Disease	Transmission Animal-to-Animal	Cattle	Sheep	Goats	Pigs	Equines	Poultry	Incubation Period	Disease Description and Clinical Signs
Anthrax <i>Bacillus anthracis</i>	Ingestion: spores when grazing; contaminated forage, bone meal Inhalation: spores in soil Direct contact: spores in soil, blood	●	●	●	▲	●		1-10 days	Sudden death, lack of rigor mortis; highly infectious blood from mouth, nose, anus fails to clot; respiratory difficulty, edema in neck, throat, shoulders (cattle, sheep, goats, equines); swine usually asymptomatic
Brucellosis <i>Brucella abortus</i> <i>Brucella melitensis</i> <i>Brucella suis</i>	Direct contact: reproductive tissues/fluids Ingestion: reproductive tissues/fluids; contaminated feed, water Fomites: contaminated equipment, objects or surfaces Reservoir: feral swine, wild ungulates	●	●	●	●	■		Varies	Reproductive: abortion, stillbirths; retained placenta; placentitis; orchitis; epididymitis Musculoskeletal: arthritis; lameness; spondylitis Cutaneous: (horses) suppurative bursitis, "fistulous withers" or "poll evil"; (pigs) abscesses
Campylobacteriosis <i>Campylobacter jejuni</i> , <i>C. coli</i> , <i>C. fetus</i>	Ingestion: feces; reproductive tissues; contaminated soil, water Direct contact: infected animals Fomites: contaminated equipment, objects or surfaces	●	●	●	■	■	▲	3-25 days	Asymptomatic in most species Gastrointestinal: (swine) enteritis, diarrhea; (cattle, sheep, goats) mucoid, blood-flecked diarrhea; (poultry) acute, fatal enteritis in new chicks Reproductive: (cattle, sheep, goats) abortion
Caseous/ulcerative lymphangitis <i>Corynebacterium</i> spp.	Direct contact: abscesses Inhalation: aerosols Ingestion: contaminated soil, feed, or water		●	●		■		1-3 mos.	Cutaneous: (cattle) ulcers, granulomas Abscesses: (sheep, goats) peripheral lymph nodes and lungs; (horses) chest, ventral abdomen Reproductive: (cattle) abortion; mastitis
Chlamydiosis (Mammals) <i>Chlamydia abortus</i>	Inhalation: aerosols Direct contact: reproductive tissues/fluids Ingestion: contaminated feed, water	■	●	●	■			Varies	Reproductive: (sheep, goats) late term abortion, stillbirth, low birth weight or premature offspring; (cattle) abortion, retained placentas, mastitis
Colibacillosis <i>Escherichia coli</i>	Ingestion: contaminated soil, food, water Direct contact: feces Fomites: contaminated equipment, objects or surfaces	▲	▲	▲	■	■	■	Varies	Gastrointestinal: (lambs, calves, piglets) diarrhea Reproductive: (cattle) mastitis Septicemia: (poultry) air sacculitis; salpingitis; granulomas
Dermatophilosis <i>Dermatophilus congolensis</i>	Direct contact: skin lesions Fomites: soil, thorns Mechanical vectors: biting insects	●	●	●	■	●		1-30 days	Cutaneous: (cattle, sheep, goats, horses) serous exudates at base of hair shaft ("paintbrush lesions"), crusts, alopecia; found in young animals/wet environments
Erysipelas <i>Erysipelothrix rhusiopathiae</i>	Direct contact: animals, fluids Ingestion: contaminated soil, feed, water; cannibalism (poultry) Mechanical vectors: biting insects Reservoir: rodents	■	■		●		●	1-7 days	Acute: (pigs) fever; prostration; red-purple spots on ears, skin; dyspnea; death Subacute: red-purple diamond-shaped skin lesions Chronic: joint swelling, lameness, dyspnea; death Septicemia: (turkeys) cyanosis "blue comb"; death Musculoskeletal: (lambs) polyarthritis
Leptospirosis <i>Leptospira</i> spp.	Direct contact: infected urine; contaminated water; aborted tissues Ingestion: contaminated feed, water Inhalation: aerosolized urine, water Reservoir: rodents	●	■	■	●	▲		7-12 days	Reproductive: (cattle, sheep, goats, pigs) abortion; decreased fertility; stillbirth; weak offspring Systemic: (calves, piglets, lambs, kids, foals) fever; icterus; anemia; death; (calves, piglets) meningitis; (foals) pulmonary bleeding, respiratory distress Ocular: (horses) recurrent inflammatory uveitis; (cattle, horses) conjunctivitis; (horses) cataracts
Listeriosis <i>Listeria monocytogenes</i>	Ingestion: improperly fermented silage; spoiled/decaying feed, plant matter; soil Direct contact: reproductive tissues/fluids Reproductive: vertical	●	●	●	■	■	■	1 d.-7 wks.	Reproductive: (cattle, sheep) abortion; stillbirth Systemic: (calves) dyspnea, meningitis, death in 12 hrs. Neurologic: (cattle, sheep, goats) ataxia; circling; nystagmus; torticollis; cranial nerve deficits Ocular: (cattle, sheep, goats) "silage eye," keratoconjunctivitis

Note: This chart provides an overview of some zoonoses of livestock and poultry. It does not cover foreign animal diseases (FADs). Information presented here is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

Additional disease information available at <http://www.cfsph.iastate.edu/DiseaseInfo/>. Table last reviewed January 2021

Select Zoonoses of Livestock and Poultry



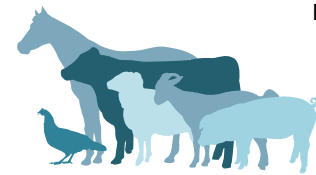
Animal Impact		● Most commonly affected species ■ Less commonly affected species/possible ▲ Asymptomatic reservoir species						Incubation Period	Disease Description and Clinical Signs
		Cattle	Sheep	Goats	Pigs	Equines	Poultry		
Disease	Transmission Animal-to-Animal								
Ornithosis/ Avian chlamydiosis <i>Chlamydia psittaci</i>	Inhalation: aerosolized feces, respiratory secretions Ingestion: feces; carcasses; contaminated feed, water Fomites: contaminated equipment, objects or surfaces	■	■	■	■	■	●	5-14 days; up to 30	Asymptomatic in chickens; turkeys, ducks affected Ocular: conjunctivitis Respiratory: oculonasal discharge; sneezing; dyspnea Gastrointestinal: green to yellow diarrhea Reproductive: decreased egg production Neurologic: (ducks) trembling, abnormal gait
Q fever <i>Coxiella burnetii</i>	Inhalation: aerosols Direct contact: reproductive tissues Ingestion: contaminated feed, water Fomites Vectors: ticks	▲	▲	▲		■		1-3 wks.; varies	Reproductive: (cattle, sheep, goats, horses) abortion; stillbirth; weak offspring; purulent cotyledons (goats)
Rhodococcosis <i>Rhodococcus equi</i>	Inhalation: contaminated dust (foals infected soon after birth) Ingestion: soil (ubiquitous), feces	■			■	●		9 days to 4 wks.	Asymptomatic in adult horses; sometimes found in cervical lymph nodes (swine, cattle) Respiratory: (foals) suppurative bronchopneumonia, esp. 1-4 mos. old; suppurative lymphadenitis fever; tachypnea; cough; purulent nasal discharge; death
Salmonellosis <i>Salmonella</i> spp.	Ingestion: contaminated feed, water Direct contact: infected animal, feces Fomites Reproductive: vertical (poultry) Mechanical vectors: flies	●	■	■	●	●	▲	Varies; <1-2 days if severe	Gastrointestinal: (cattle, sheep, goats, equines, swine) severe enteritis +/- blood; young most affected Reproductive: abortion; decreased milk (cattle) Systemic: septicemia; CNS signs; pneumonia (calves, lambs, kids, foals; piglets 2-4 mos.; poultry hatchlings) Musculoskeletal: (foals) arthritis
Staphylococcosis including methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)	Direct contact: skin wounds; feces Fomites Inhalation: aerosols (dust)	●	■	■	▲	■	■	Variable	Cutaneous: wound infections, abscesses; (swine) exudative epidermitis; (poultry) bumblefoot, comb necrosis Reproductive: (cattle, sheep, swine) mastitis; metritis Systemic: (poultry) septicemia; salpingitis; synovitis
Streptococcosis <i>Streptococcus</i> spp.	Direct contact: infected animals Inhalation: aerosols Fomites Ingestion: contaminated feed, water Mechanical vectors: flies (<i>S. suis</i>)	■	■	■	▲	▲		Varies; toxic shock within hours	Reproductive: mastitis, metritis, placentitis, abortion Respiratory: purulent lung lesions; (swine) pneumonia Musculoskeletal: (swine) polyarthritis Neurologic: (piglets) meningitis, ataxia, high mortality Systemic: (foals, swine) septicemia
Tuberculosis, avian <i>Mycobacterium avium</i>	Ingestion: infected carcasses; contaminated water Inhalation: aerosols Reservoir: rodents, wild birds	■	■	■	●	■	●	Not known	Systemic: (poultry) emaciation; granulomas (GI, tract, spleen, liver, bone marrow); death <i>M. avium</i> subsp. <i>hominissuis</i> : (swine) asymptomatic; head, neck, and mesenteric lymph nodes affected
Tuberculosis, bovine <i>Mycobacterium bovis</i>	Direct contact: body tissues/fluids Inhalation: aerosols Ingestion: unpasteurized dairy; contaminated water Reservoir: cervids, rodents, feral swine	●	■	●	●	■		Varies; months to years	Asymptomatic Systemic: (cattle, sheep, goats) weight loss; weakness; emaciation; fever; dissemination Respiratory: (cattle, sheep, goats) chronic cough, bronchopneumonia; tachypnea; dyspnea Gastrointestinal: intermittent diarrhea; constipation Reproductive: abortion; infertility; mastitis; metritis
Tularemia <i>Francisella tularensis</i>	Ingestion: contaminated food, water Direct contact: animal tissues, bites Inhalation: aerosols Vectors: ticks, biting insects		●		■	■		1-10 days	Asymptomatic Systemic: (sheep, goats) fever; depression; regional lymphadenopathy; death in young lambs and kids Reproductive: (sheep) abortion
VIRAL									
Bovine papular stomatitis <i>Parapoxvirus</i>	Direct contact: infected animals	●						2-4 days	Cutaneous: lesions in/around mouth (nostrils, palate, lips), young animals; teat lesions; may look like vesicles Gastrointestinal: fever, diarrhea, salivation, anorexia
Contagious ecthyma (Orf) <i>Parapoxvirus</i>	Direct contact: scabs; lesions Fomites		●	●				2-3 days	Asymptomatic in adults Cutaneous: (young sheep/lambs) pustules, vesicles, scabs on mouth, muzzle, eyelids, nostrils, teats, udder

Note: This chart provides an overview of selected zoonoses of livestock and poultry. Information presented is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

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Select Zoonoses of Livestock and Poultry



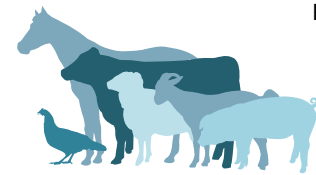
Animal Impact		<ul style="list-style-type: none"> ● Most commonly affected species ■ Less commonly affected species/possible ▲ Asymptomatic reservoir species 						Incubation Period	Disease Description and Clinical Signs	
Disease	Transmission Animal-to-Animal	Cattle	Sheep	Goats	Pigs	Equines	Poultry			
Equine encephalitis viruses Eastern (EEE), Western (WEE), Venezuelan (VEE) - <i>Alphavirus</i>	Vectors: mosquitoes (biological); blackflies, mites (mechanical) Reservoir: rodents, birds		■	■		●		1-5 days	Neurologic: (equines) fever; depression; encephalitis; ataxia; head-pressing; blindness; bruxism; circling; paddling; stupor; seizures; death; (sheep, goats) death	
Influenza A viruses <i>Influenzavirus A</i> Swine influenza, avian influenza	Inhalation: aerosol and droplets from coughing/sneezing Direct contact: nasal discharge Fomites Ingestion: infected carcasses (birds) Reservoir: Waterfowl				■	■	■	Variable; 1-3 days in swine; 1-21 days in poultry	Respiratory: (swine) fever; anorexia; dry cough; labored breathing; nasal discharge; conjunctivitis Reproductive: (swine) abortion Respiratory: (avian, low path) depression; respiratory signs (coughing, sneezing, nasal and ocular discharge) Systemic: (avian, high path) acute death; edema and cyanosis of comb, head, wattle, snood; green diarrhea	
Newcastle disease <i>Avulavirus</i>	Direct contact: feces, respiratory secretions Inhalation: aerosols Ingestion: infected tissues; contaminated feed, water Fomites				■		●	2-15 days	Respiratory: coughing; sneezing; dyspnea; crackles Reproductive: decreased egg production; misshapen and abnormal eggs (velogenic strains) Neurologic: paresis or paralysis; tremors; torticollis Systemic: (velogenic strains) cyanosis; conjunctivitis and edema; head and neck swelling; sudden death	
Pseudocowpox <i>Parapoxvirus</i>	Direct contact: teats, udders with active lesions Fomites	●						6 days	Cutaneous: (cattle) udder, teat lesions; small papules with vesicle; depression forms; pustular phase; dark red scabs; center desquamates; forms ring/horseshoe layer	
Rabies <i>Lyssavirus</i>	Direct contact: infected animal saliva (bite, droplet on mucous membrane, aerosol, broken skin) Reservoir: raccoons, skunks, bats	●	■	■	■	●		10 days-6 mos.	Neurologic: <i>paralytic form:</i> progressive paralysis; dysphagia; hypersalivation; ataxia; ascending paralysis; death in 2-6 days; <i>furious form:</i> tremors; restlessness; aggression; ascending paralysis; death in 4-8 days; wool pulling (sheep); bleating (goats)	
Vesicular stomatitis <i>Vesiculovirus</i>	Direct contact: skin lesions, vesicles; saliva, nasal secretions Fomites Vectors: black flies, sand flies, others?	●	■	■	●	●		3-7 days	Asymptomatic Cutaneous: (equines, cattle, swine) fever; papules, vesicles in/on oral cavity, udder, teats, prepuce, interdigital space, coronary band; inflammation; edema; pain Musculoskeletal: (equines, cattle, swine) lameness Reproductive: (cattle) mastitis	
PARASITIC										
Acariasis (Mange/fowl mites) <i>Sarcoptes, Dermanyssus, Ornithonyssus</i>	Direct contact: infested animals Fomites: contaminated bedding		■	■	■	▲	■	■	10-60 days	Cutaneous: pruritus; dermatitis; alopecia; crusted skin <i>S. scabiei:</i> (cattle) head, face, neck, shoulders, inner thigh, udder/scrotum; (sheep) non-woolly areas of head; (goats) head, neck; (equines) head, neck, shoulder <i>D. gallinae:</i> (poultry) lower legs, breast; feather loss <i>O. sylviarum:</i> (poultry) around cloaca; "dirty" feathers
Ascaris suum (Roundworms)	Ingestion: eggs in environment, on pigs, in manure, on fomites; contaminated plants, feed, water		■	■	■	●		■	50-60 days	Gastrointestinal: (young pigs) pendulous abdomen Respiratory: expiratory dyspnea ("thumps"); chronic paroxysmal cough Reproductive: delayed estrus, poor conception rates
Cryptosporidiosis <i>Cryptosporidium</i> spp.	Ingestion: oocyst-contaminated food, water, soil Fomites	●	●	●			■	■	3-5 days	Asymptomatic Gastrointestinal: (neonatal calves, lambs, kids, piglets) watery diarrhea; tenesmus; anorexia; weight loss
Cysticercosis <i>Taenia</i> spp.	Ingestion: gravid proglottids in pastures; contaminated food, water, soil Humans definitive host	▲	●	▲	▲				Mos. to years	Asymptomatic Gastrointestinal: unthrifty; poor appetite; diarrhea Neurologic: (sheep, lambs, swine) neurological signs Ocular: (swine) eyelid nodules; visual impairment
Echinococcosis <i>Echinococcus</i> spp.	Ingestion: gravid proglottids on fur; from plants, contaminated water, soil Reservoir: rodents	■	▲	■			■		Not known	Respiratory: bronchopneumonia; respiratory difficulty Systemic: abdominal distension; ascites; icterus; heart failure; lameness; sudden death

Note: This chart provides an overview of selected zoonoses of livestock and poultry. Information presented is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

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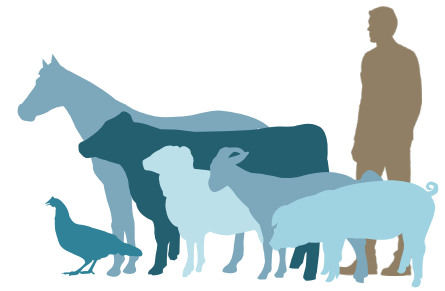
Animal Impact		<ul style="list-style-type: none"> ● Most commonly affected species ■ Less commonly affected species/possible ▲ Asymptomatic reservoir species 						Incubation Period	Disease Description and Clinical Signs
Disease	Transmission Animal-to-Animal	Cattle	Sheep	Goats	Pigs	Equines	Poultry		
Giardiasis <i>Giardia duodenalis</i> <i>G. intestinalis</i>	Ingestion: cysts in contaminated food, water, soil Direct contact: infected animals; grooming (self or others)	■	■	■	■			3-10 days	Asymptomatic, young more affected Gastrointestinal: (cattle, sheep, goats, swine) pasty to fluid, mucoid diarrhea; weight loss or failure to gain
Toxoplasmosis <i>Toxoplasma gondii</i>	Ingestion: soil, plants, water, or feed contaminated with cat feces Reproductive: vertical Cats definitive host		●	●	●		▲	Not known	Reproductive: (sheep, goats, swine) congenital infection; abortion; stillbirth; mummification Neurologic: (lambs, kids) weakness; ataxia; anorexia; inability to nurse; death; (swine) encephalitis Respiratory: (swine) pneumonia; cough; dyspnea
Trichuris suis (Whipworms)	Ingestion: egg-contaminated soil, feed, water Reservoir: feral swine				▲			2-3 weeks	Gastrointestinal: diarrhea; weight loss; anemia; death may occur in piglets < 3 mos.
FUNGAL									
Cryptococcosis <i>Cryptococcus neoformans</i> <i>C. gattii</i>	Inhalation: soil, decaying wood; bird feces, especially pigeon	■	■	■	■	■	▲	Not known	Respiratory: (cattle, sheep, goats, horses) pulmonary infection; (sheep) rhinitis; (horses) nasal/sinus growths Neurologic: (cattle) abnormal gait, head pressing, circling, (goats, horses) meningoencephalitis Reproductive: (cattle, sheep, goats) mastitis, (horses) endometritis, abortion
Dermatophytosis/ Ringworm <i>Microsporum</i> spp. <i>Trichophyton</i> spp.	Direct contact: infected animals; skin lesions Fomites	■	■	■	■	■	■	2-4 weeks	Cutaneous: alopecia, scaling, crusts, erythema; (cattle) legs, chest, intermaxillary skin, dewlap; (sheep) face, head, chest, non-wooled parts of legs; (horses) tack areas; (pigs) inflammatory ring; (poultry) head, neck, comb
Sporotrichosis <i>Sporothrix schenckii</i>	Direct contact: vegetation, wood; cat bites or scratches					●		Several days to 3 mos.	Cutaneous: (equines) moist skin over dermal nodule, progressing to alopecia, ulceration, scabs; ulcers heal slowly; edema in affected limb; lymph node drainage
PRION									
Bovine spongiform encephalopathy (BSE)	Ingestion: prion-containing tissues from infected animals	●		■				2-8 yrs.	Asymptomatic (signs take years to develop) Neurologic: (cattle) hind limb ataxia; tremors; changes in behavior; hyper-responsive to stimuli; recumbency; coma; death; (goats) lethargy; weight loss; recumbency

Note: This chart provides an overview of selected zoonoses of livestock and poultry. Information presented is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

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Select Zoonoses of Livestock and Poultry

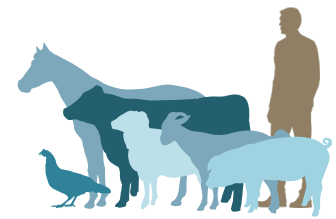


Human Impact													
Disease	Person-to-Person Vector-Transmitted	Transmission from Animals or Animal Products	● = Body System Affected								Incubation Period	Prominent Clinical Signs and Symptoms	
			Septicemia	Respiratory	Gastrointestinal	Cutaneous	Ocular	Neurologic	Reproductive	Death			
Anthrax <i>Bacillus anthracis</i>		Direct contact: spores in soil or blood Ingestion: undercooked meat Inhalation: spores from hides, wool	●	●	●	●					●	1-10 days	Cutaneous: pustules; dark black scab (eschar) Gastrointestinal: severe vomiting; bloody stools Respiratory: flu-like signs; respiratory distress All forms: sepsis, shock, death
Brucellosis <i>Brucella abortus</i> <i>B. melitensis</i> <i>B. suis</i>		Direct contact: reproductive tissues/fluids; RB-51 vaccine Ingestion: raw milk/dairy Inhalation: aerosols	●	●	●	●	●	●	●	●		2-4 wks., up to 6 mos.	Flu-like: headache; fever; fatigue; chills; aches Chronic: waxing, waning fever; bone, joint infections Reproductive: epididymo-orchitis; seminal vesiculitis and prostatitis; abortion or premature birth
Campylobacteriosis <i>Campylobacter jejuni</i> <i>C. fetus</i> <i>C. coli</i>		Ingestion: raw milk or dairy; raw/undercooked meat or poultry; cross-contaminated food; contaminated soil, water Direct contact: animal; feces	●		●					●		1-10 days	Gastrointestinal: mild to severe GI distress; fulminant or relapsing colitis; fever; headache; muscle pain; children/vulnerable people most at risk for diarrhea Reproductive: (<i>C. fetus</i>) miscarriage; premature birth; infant meningitis followed by death
Caseous/ulcerative lymphangitis <i>Corynebacterium</i> spp.		Direct contact: abscesses Inhalation: aerosols Fomites: contaminated bedding, equipment Ingestion: raw milk	●	●		●				●		1-2 wks.	Abscesses: suppurative granulomatous lymphadenitis; rectal and chest abscesses
Chlamydiosis (mammals) <i>Chlamydia abortus</i>		Inhalation: aerosols Direct contact: reproductive tissues/fluids	●	●	●					●		Not known	Reproductive: stillbirth; abortion; pre-term labor Flu-like: fever; headache; dry cough; vomiting Systemic: septicemia; renal dysfunction; pneumonia
Colibacillosis <i>Escherichia coli</i>		Ingestion: undercooked meat; raw milk; other contaminated foods Direct contact: animal; feces	●	●	●					●		1-16 days	Gastrointestinal: watery diarrhea; hemorrhagic colitis; nausea; vomiting; abdominal pain; cramping Systemic: hemolytic uremic syndrome (HUS); fever
Dermatophilosis <i>Dermatophilus congolensis</i>		Direct contact: skin lesions				●						1-10 days	Cutaneous: multiple pustules on hands, forearms; rupture, leaving reddish crater-like cavity
Erysipeloid <i>Erysipelothrix rhusiopathiae</i>		Direct contact: animal; contaminated soil	●			●					●	1-7 days	Cutaneous: acute localized cellulitis; painful red/purple firm swelling, usually on hands and fingers; generalized disease possible
Leptospirosis <i>Leptospira</i> spp.		Direct contact: infected urine; contaminated water, food, soil Ingestion: contaminated water Inhalation: aerosolized urine, water	●	●	●			●	●			Varies	Acute/septicemic phase: fever, chills, conjunctival suffusion, headache; myalgia; nausea; vomiting Immune phase: anicteric (common) or icteric forms; aseptic meningitis; stiff neck; headache; kidney failure; pulmonary hemorrhage; edema; dyspnea; death
Listeriosis <i>Listeria monocytogenes</i>		Ingestion: contaminated foods Direct contact: reproductive tissues	●		●	●	●	●	●	●	●	< 2 wks.; 2 wks.-2 mos. if pregnant	Reproductive: abortion; stillbirth; premature birth Neurologic: meningitis; meningoenzephalitis Systemic: septicemia; fever; chills; headache; dizziness

Note: This chart provides an overview of selected zoonoses of livestock and poultry. Information presented is not comprehensive, and should not be used to rule out a diagnosis or take the place of veterinary advice.

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Human Impact											
Disease	 Person-to-Person  Vector-Transmitted	Transmission from Animals or Animal Products	● = Body System Affected							Incubation Period	Prominent Clinical Signs and Symptoms
			Septicemia	Respiratory	Gastrointestinal	Cutaneous	Ocular	Neurologic	Reproductive		
Psittacosis <i>Chlamydia psittaci</i>		Inhalation: aerosolized feces, respiratory secretions Direct contact: bites, beak contact		●		●		●	●	7-28 days	Flu-like: fever; headache; chills; myalgia; sore throat Respiratory: severe atypical pneumonia; dyspnea; dry to mucopurulent cough Reproductive: severe illness; abortion; preterm birth
Q fever/Coxiellosis <i>Coxiella burnetii</i>		Direct contact: reproductive tissues, fluids; hides, wool Inhalation: aerosols Ingestion: raw milk/dairy Vector: ticks/other	●	●				●	●	2 days to 6 wks., avg. 2-3 wks.	Flu-like: fever; chills; malaise; joint pain; sweating Respiratory: mild productive cough Gastrointestinal: (children) nausea; vomiting; diarrhea Cutaneous: (children) rash
Rhodococcosis <i>Rhodococcus equi</i>		Inhalation: contaminated dust Ingestion: contaminated soil Direct contact: animals, feces	●	●		●				Not known	Most cases in immunocompromised people Cutaneous: wound infections Respiratory: chest pain; cough; dyspnea; pneumonia
Salmonellosis <i>Salmonella</i> spp.		Ingestion: raw milk; raw or undercooked meat, poultry, or eggs; contaminated produce, water Direct contact: feces; animals	●		●			●		6 hrs. to 18 days	Gastrointestinal: acute diarrhea (+/- blood); abdominal pain; nausea; vomiting; dehydration Flu-like: fever; muscle pain; headache; malaise; chills Systemic: (immunocompromised most at risk) bacteremia; septicemia (especially ser. Choleraesuis)
Staphylococcosis, including MRSA (methicillin-resistant <i>Staphylococcus aureus</i>) <i>Staphylococcus</i> spp.		Direct contact: skin; wounds; feces Ingestion: contaminated foods Fomites: equipment Inhalation: aerosols; dust	●	●	●	●		●		Varies	Cutaneous: skin, soft tissue infection; necrotizing fasciitis; staphylococcal scalded skin syndrome Gastrointestinal: acute gastroenteritis; nausea; vomiting; diarrhea; abdominal pain; +/- fever; headache; blood, mucous in vomit, stool
Streptococcosis <i>Streptococcus</i> spp.		Direct contact: infected animals, tissues, fluids; skin wounds Ingestion: raw dairy	●	●	●	●		●		Hours to 3 days	Flu-like: chills; fever; malaise; respiratory disease Gastrointestinal: nausea; vomiting; abdominal pain Systemic: septicemia; endocarditis; glomerulonephritis; meningitis (especially <i>S. suis</i>); septic shock
Tuberculosis, avian <i>Mycobacterium avium complex (MAC)</i>		Direct contact: feces, birds Ingestion: contaminated water Inhalation: aerosols from soil or feces	●	●		●				Not known	Most cases in elderly or immunocompromised people Respiratory: cough; fever; fatigue; night sweats Lymphadenitis: unilateral swelling of cervical LN Systemic: disseminated disease (HIV patients)
Tuberculosis, bovine <i>Mycobacterium bovis</i>		Direct contact: animals, fluids Ingestion: raw milk/dairy; raw or undercooked meat Inhalation: aerosols	●	●		●		●		Varies; mos. to yrs.	Respiratory: fever; cough; chronic weight loss Systemic: fever; weight loss; malaise; other signs vary Neurologic: meningitis; meningoencephalitis (rapidly fatal for all ages); chronic meningitis
Tularemia <i>Francisella tularensis</i>		Direct contact: animals; meat, tissues; body fluids Inhalation: aerosols from soil, dust, or wool contaminated with rodent urine or feces Ingestion: undercooked wild game; water contaminated with dead animals, urine, or feces	●	●	●	●	●		●	2-20 days, signs often within 3-5 days	Ulceroglandular: flu-like, papule at inoculation site, ulceration, regional lymph node swelling Glandular: same as ulceroglandular, but no papule Oculoglandular: painful, purulent conjunctivitis with regional lymphadenopathy, often unilateral Oropharyngeal: local lymphadenopathy; exudative stomatitis, pharyngitis; nausea; vomiting; GI bleeding Pneumonic: cough; dyspnea; pneumonia; death Typhoidal: (rare) severe systemic disease

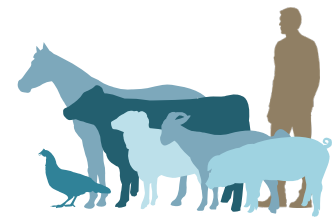


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Additional disease information available at <http://www.cfsph.iastate.edu/DiseaseInfo/>. Table last reviewed January 2021



Human Impact												
Disease	 Person-to-Person Vector-Transmitted	Transmission from Animals or Animal Products	● = Body System Affected							Incubation Period	Prominent Clinical Signs and Symptoms	
			Septicemia	Respiratory	Gastrointestinal	Cutaneous	Ocular	Neurologic	Reproductive			Death
VIRAL												
Bovine papular stomatitis <i>Parapoxvirus</i>		Direct contact: wounds, skin abrasions; bites				●					3-8 days	Cutaneous: papule or wart-like nodule on finger or hand, resolves within a month; may become vesiculated; similar to contagious ecthyma or pseudocowpox
Contagious ecthyma (Orf) <i>Parapoxvirus</i>		Direct contact: skin lesions; scabs; animal vaccine				●					3-7 days	Cutaneous: small, firm red-blue papule (usually on hands/fingers), progresses to hemorrhagic bulla or pustule, +/- central crust; becomes weeping nodule covered by thin crust, usually self-limiting
Equine encephalitis viruses Eastern (EEE), Western (WEE), Venezuelan (VEE) <i>Alphavirus</i>		Vector: mosquitoes		●		●		●	●		2-5 days	Flu-like: fever; chills; malaise; myalgia; headache; cough; sore throat; conjunctivitis Gastrointestinal: nausea; vomiting; diarrhea Neurologic: encephalitis
Influenza A viruses <i>Influenzavirus A</i> (Swine, avian, human)		Direct contact: nasal discharge Fomites Inhalation: droplets and aerosols from coughing/sneezing	●	●	●		●			●	1-7 days	Respiratory: fever; chills; myalgia; upper respiratory symptoms; sore throat; lethargy; headache Gastrointestinal: (especially children) poor appetite; nausea; vomiting; diarrhea
Newcastle disease <i>Avulavirus</i>		Direct contact: birds; secretions; feces; feathers; litter		●			●				1-4 days	Ocular: conjunctivitis (usually from large viral exposures)
Pseudocowpox <i>Parapoxvirus</i>		Direct contact: teat, udder lesions				●					5-14 days	Cutaneous: pruritic red papules on fingers/hands; firm nodules, gray to reddish-blue or brown
Rabies <i>Lyssavirus</i>		Direct contact: infected animal saliva (bites, droplets, aerosol, broken skin)							●	●	Usually 1-3 mos.	Neurologic: headache; fever; pain at inoculation site Encephalitic form: anxiety; confusion; agitation, inability to swallow; hydrophobia; death Paralytic form: generalized paralysis; death
Vesicular stomatitis <i>Vesiculovirus</i>		Direct contact: skin lesions and exudate from vesicles; saliva, nasal secretions	●		●	●					1-6 days	Flu-like: fever; headache; myalgia; malaise Cutaneous: (rare) vesicles Gastrointestinal: nausea; vomiting; diarrhea
West Nile virus <i>Flavivirus</i>		Vector: mosquitoes	●		●	●	●	●		●	3-12 days	Flu-like: fever; headache; myalgia; malaise; lymphadenopathy Gastrointestinal: vomiting Ocular: periocular pain, conjunctivitis; Neurologic: encephalitis; death
FUNGAL												
Cryptococcosis <i>Cryptococcus neoformans, C. gattii</i>		Inhalation: soil, decaying wood; bird feces, especially pigeon Direct contact: soil; feces; blood	●	●		●	●	●		●	Unknown; wks. to mos.	Most cases in immunocompromised people Respiratory: cough; chest pain; dyspnea; hemoptysis; fever Neurologic: meningitis, meningoencephalitis Systemic: disseminated disease involving any organ
Dermatophytosis/ Ringworm <i>Microsporium spp., Trichophyton spp.</i>		Direct contact: infected animals Fomites: objects, environment				●					7-14 days	Cutaneous: pink to red, scaly, slightly elevated skin lesions; follicular papules, pustules, or vesicles at the borders
Sporotrichosis <i>Sporothrix schenckii</i>		Direct contact: vegetation, wood; bites or scratches from cats		●		●					3-12 weeks	Cutaneous: nodule or pustule at site of entry; subcutaneous nodules at enlarged regional lymph nodes






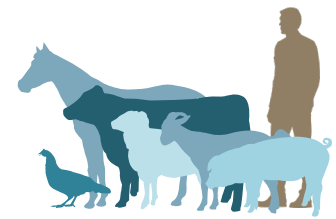
Prominent Clinical Signs and Symptoms

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PARASITIC												
Acariasis (Mange/fowl mites) Sarcoptes, Demanyssus, Ornithonyssus		Direct contact: infested animals, people Fomites				●					1-4 days	Cutaneous: <i>S. scabiei</i> – (from mammals) severe pruritus on arms, chest, abdomen, thighs <i>D. gallinae</i> and <i>O. sylviarum</i> – (from poultry) pruritus most intense at night; allergic dermatitis; rash; vesicles
Ascaris suum (Roundworms)		Ingestion: contaminated food, water, soil		●	●						7-14 days	Respiratory: cough, due to larva migration Gastrointestinal: diarrhea; vomiting; abdominal pain, intestinal obstruction in children
Cryptosporidiosis <i>Cryptosporidium</i> spp.		Ingestion: contaminated food, water, soil	●	●	●						2 days to 2 wks.	Gastrointestinal: mild to severe profuse, watery diarrhea; abdominal cramps; anorexia; nausea; gas; malaise
Taeniasis/Cysticercosis <i>Taenia</i> spp.		Ingestion: raw or undercooked beef, pork			●		●	●			Varies, 8 wks. to years	Gastrointestinal: proglottids in stools; nausea; gas; diarrhea; constipation; abdominal pain; poor appetite Neurologic: (neurocysticercosis) seizures; increased intracranial pressure; headaches; blindness
Echinococcosis (Hydatid disease) <i>Echinococcus</i> spp.		Ingestion: larval cysts in raw or undercooked meat; contaminated fruits, vegetables, water, or soil	●	●	●		●	●			Varies, mos. to years	Various organs: cysts in liver and lungs (most common), may grow faster in immunocompromised
Giardiasis <i>Giardia intestinalis</i>		Ingestion: contaminated food, water, soil			●						1-45 days	Gastrointestinal: mild-severe, acute-chronic diarrhea Systemic: anemia; anorexia; weight loss
Trichuris suis (Whipworms)		Ingestion: contaminated food, water, soil			●						7-14 days	Gastrointestinal: diarrhea; vomiting; abdominal pain; intestinal obstruction, anemia, slow growth in children with high worm burdens
Toxoplasmosis <i>Toxoplasma gondii</i>		Ingestion: raw or undercooked meat containing tissue cysts; sporulated oocysts in food, water, soil Direct contact: feces (cat) Reproductive: vertical	●			●	●	●	●		5-23 days	Flu-like: fever; malaise; myalgia; lymphadenopathy Ocular: chorioretinitis; vitreous inflammation Reproductive: abortion; stillbirth (1 st trimester) Congenital: chorioretinitis; hydrocephaly; encephalitis; visual and learning disabilities later in life
Trichinellosis/Trichinosis <i>Trichinella spiralis</i>		Ingestion: raw or undercooked meat (pork, wild boar, wild game meat) containing encysted larvae	●		●	●	●	●			1-6 wks.	Gastrointestinal: nausea; vomiting; diarrhea; pain Flu-like: fever; myalgia; fatigue; weakness; headache; chills; cough; joint pain
PRION												
Variant Creutzfeldt-Jakob disease (vCJD)		Ingestion: prion-containing tissues from infected animals							●		11-12 yrs.	Neurologic: depression, anxiety, insomnia; months later ataxia, memory loss, slurred speech, deterioration of motor, cognitive function, sight; death within two years



Prominent Clinical Signs and Symptoms

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