

Annex 2. Reported human cases and outbreaks in Europe, Canada and the United States due to the consumption of dairy products made from raw milk collected from the international literature and from official reports

Pathogenic agent	Food	Country	Year	Cases	References
<i>Salmonella enteric</i> Muenster	Cheddar cheese from unpasteurized milk	Canada	1982	Not given	D'Aoust <i>et al.</i> , 1985; van Cauteren <i>et al.</i> , 2009
<i>Salmonella</i> Typhimurium PT10	Cheddar cheese from unpasteurized milk	Canada	1984	> 1700 confirmed cases	D'Aoust <i>et al.</i> , 1985
<i>Salmonella</i>	Farm raw milk cheese	Finland	1985	35 cases	Huchot <i>et al.</i> , 1993
<i>Salmonella</i> Typhimurium	Raw milk vacherin mont d'or cheese	Switzerland	1985	215 cases	Anonymous, 1986
<i>Salmonella</i> Dublin	Soft stilton cheese from unpasteurized milk	England and Wales	1989	42 cases	Maguire <i>et al.</i> , 1992
<i>Salmonella</i> Paratyphi B	Raw goat milk cheese	France	1990	277 cases	Grimont & Bouvet, 1991
<i>Salmonella</i> Paratyphi B	Raw goat milk cheese	France	1993	273 cases, 1 dead	Desenclos <i>et al.</i> , 1996
<i>Salmonella</i> Berta	Farm soft cheese from unpasteurized milk	Canada	1994	35 confirmed cases	Ellis <i>et al.</i> , 1998
<i>Salmonella</i> Dublin	Raw cow milk mont d'or cheese	France & Switzerland	1995	25 cases, 12 hospitalized, 5 dead	Vaillant <i>et al.</i> , 1996
<i>Salmonella</i> Dublin	Raw cow milk mont d'or cheese	France	1996	14 cases, 1 dead	Infuso <i>et al.</i> , 1997
<i>Salmonella</i> Typhimurium PT12 atypical	Raw milk morbier cheese	France	1997	113 cases	De Valk <i>et al.</i> , 2000
<i>Salmonella</i> Typhimurium var Copenhagen phage type DT104 (outbreak 1) and non-var Copenhagen phage type DT 104b (outbreak 2)	Unpasteurized Mexican-style cheese	United States	1997	31 confirmed cases (outbreak 1); 79 cases (outbreak 2)	Cody <i>et al.</i> , 1999
<i>Salmonella</i> Typhimurium DT104	Unpasteurized Mexican-style cheese	United States	1997	54 confirmed cases	Villar <i>et al.</i> , 1999
<i>Salmonella</i> Newport	Raw milk cheese	United States	2001	27 cases, 12 hospitalized	CDC, 2014
<i>Salmonella</i> Enteritidis phage type 8	Raw milk cantal cheese	France	2001	215 cases	Haeghebaert <i>et al.</i> , 2003
<i>Salmonella</i>	Unpasteurized queso-fresco cheese	United States	2003	50 cases, 7 hospitalized	CDC, 2014

Typhimurium					
<i>Salmonella</i> Typhimurium	Unpasteurized queso-fresco cheese	United States	2004	12 cases, 1 hospitalized and 1 dead	CDC, 2014
<i>Salmonella</i>	Unpasteurized queso-fresco cheese	United States	2005	2 cases	CDC, 2014
<i>Salmonella</i> Typhimurium	Unpasteurized queso-fresco cheese	United States	2006	20 cases, 2 hospitalized	CDC, 2014
<i>Salmonella enterica</i> Newport	Unpasteurized Mexican-style aged cheese	United States	2006-2007	85 cases (but no significant association)	CDC, 2008
<i>Salmonella</i> Typhimurium	Raw milk cheese and raw milk	United States	2007	29 cases	CDC, 2007
<i>Salmonella enteric</i> Muenster	Unpasteurized goat cheese	France	2008	25 laboratory-confirmed cases, 4 hospitalized	van Cauteren <i>et al.</i> , 2009
<i>E. coli</i> O119:B14 (vtx2)	Farm fresh cheese from raw cow and goat milk	France	1992-1993	4 cases, 4 HUS, 1 dead	Casenave <i>et al.</i> , 1993
<i>E. coli</i> O157 (PT28, vtx2)	Farm raw milk cheese	Scotland	1994	22 cases, 1 HUS	Ammon, 1997
<i>E. coli</i> O103	Farm fresh cheese from raw goat milk	France	1994	4 cases, 4 HUS	Decludt, 1995
<i>E. coli</i> O110:H-	Raw milk cheese	Germany	1996	3 cases, 0 HUS	Bockemühl & Karch, 1996
<i>E. coli</i> O157:H7	Fresh cheddar cheese curds	United States	1998	63 cases, 55 laboratory-confirmed, 24 hospitalized	CDC, 2000
<i>E. coli</i> O157:H7	Unpasteurized cream	England	1998	7 cases	CDSC, 1998a
<i>E. coli</i> O157 (PT2, vtx2)	Cheese from unpasteurized milk	England	1998	10 cases, 1 HUS case	CDSC, 1998b
<i>E. coli</i> O157	Unpasteurized farm cheese	Scotland	1998	4 cases	Strachan <i>et al.</i> , 2006
<i>E. coli</i> O157 (PT21, PT28)	Homemade raw goat milk cheese	Scotland	1999	27 cases, 1 HUS	Curnow, 1999
<i>E. coli</i> O157:H7	Unpasteurized gouda hard cheese	Canada	2002-2003	13 cases, 2 HUS	Honish <i>et al.</i> , 2004
<i>E. coli</i> O157:H7	Unpasteurized queso-fresco cheese	United States	2004	3 cases, 2 hospitalized	CDC, 2014
<i>E. coli</i> O157:H7	Raw milk cheese	Canada	2004	3 cases	MAPAQ, 2004
<i>E. coli</i> O157 (vtx2, eae)	Farm fresh unpasteurized goat cheese	France	2004	3 cases, 2 HUS	Espié <i>et al.</i> , 2006
<i>E. coli</i> O26, O80 (vtx2, eae)	Raw milk brie	France	2005	6 HUS	INVS, 2007
<i>E. coli</i> O157:H7	Raw milk cheese	Canada	2008-2009	16 cases	Gaulin <i>et al.</i> , 2012
<i>E. coli</i> O157:H7	Aged raw milk gouda cheese	United States	2010	38 cases, 15 hospitalized	McCollum <i>et al.</i> , 2012

<i>E. coli</i> O157:H7, <i>E. coli</i> O157:NM(H-)	Unpasteurized cheeses	United States	2010	15 cases	CDC, 2014
<i>E. coli</i> O157:H7 and <i>Listeria monocytogenes</i>	Unpasteurized gouda cheese	United States	2010	38 cases, 15 hospitalized, 1 HUS	CDC, 2014
<i>Listeria</i>	Vacherin mont d'or cheese from unpasteurized milk	Switzerland	1983-1987	122 cases, 33 dead	Bille, 1989
<i>Listeria meningitis</i>	Anari goat raw milk soft cheese	England	1988	1 case	Azadian <i>et al.</i> , 1989
<i>Listeria monocytogenes</i> Serovar 4b	Raw milk brie de meauw cheese	France	1995	36 cases, 4 dead, 7 fetal/neonatal cases	Vaillant <i>et al.</i> , 1998
<i>Listeria monocytogenes</i> Serovar 4b	Raw milk livarot, pont-l'évêque cheese	France	1997	14 cases	Jacquet <i>et al.</i> , 1998
<i>Listeria monocytogenes</i>	Fresh Mexican-style raw milk cheese	United States	2000-2001	13 cases, 11 pregnant women (5 stillbirths, 3 premature deliveries, 3 infected newborns)	CDC, 2001; MacDonald <i>et al.</i> , 2005
<i>Listeria monocytogenes</i>	Unpasteurized queso-fresco cheese	United States	2003	12 cases, 12 hospitalized, 1 dead	CDC, 2014
<i>Listeria monocytogenes</i>	Unpasteurized queso-fresco cheese	United States	2005	12 cases, 12 hospitalized, 0 dead	CDC, 2014
<i>Brucella melitensis</i>	Home-made fresh cottage cheese from unpasteurized milk	Spain	1996	81 cases	Castell Monsalve <i>et al.</i> , 1996
<i>Brucella</i>	Homemade unpasteurized cheese	United States	2001	4 cases, 0 dead	CDC, 2014
<i>Brucella melitensis</i> serovar 3	Unpasteurized raw goat cheese	Spain	2002	11 brucellosis cases	Méndez Martínez <i>et al.</i> , 2003
<i>Brucella</i>	Unpasteurized queso-fresco cheese	United States	2005	2 cases, 2 hospitalized, 0 dead	CDC, 2014
<i>Brucella</i>	Unpasteurized goat cheese	United States	2006	5 cases, 3 hospitalized, 0 dead	CDC, 2014
<i>Brucella</i>	Unpasteurized queso-fresco cheese	United States	2007	3 cases, 1 hospitalized, 0 dead	CDC, 2014
<i>Brucella abortus</i>	Raw milk cheese	France	2012	1 case (child)	Bronner <i>et al.</i> , 2014
<i>Campylobacter jejuni</i>	Homemade unpasteurized cheese	United States	2000	18 cases, 0 hospitalized, 0 dead	CDC, 2014
<i>Campylobacter jejuni</i>	Unpasteurized cheese	United States	2003	18 cases, 0 hospitalized, 0 dead	CDC, 2014
<i>Campylobacter jejuni</i>	Homemade unpasteurized cheese	United States	2006	58 cases, 2 hospitalized, 0 dead	CDC, 2014
<i>Campylobacter jejuni</i>	Fresh raw milk cheese	United States	2007	68 cases	CDC, 2009
<i>Campylobacter jejuni</i>	Unpasteurized queso-fresco cheese	United States	2009	10 cases, 0 hospitalized, 0 dead	CDC, 2014
<i>Staphylococcus aureus</i> enterotoxins A and D	Farm raw sheep milk cheese	France	1983	20 cases	De Buyser <i>et al.</i> , 1985
<i>Staphylococcus aureus</i> enterotoxins A	Raw sheep milk cheese	Scotland	1984	27 cases	Bone <i>et al.</i> , 1989
<i>Staphylococcus aureus</i>	Stilton cheese from unpasteurized milk	England	1988	155 cases	Maguire <i>et al.</i> , 1991
Staphylococci enterotoxin type E	Soft cheese from unpasteurized milk	France	2009	6 outbreaks, 23 cases	Ostyn <i>et al.</i> , 2010

<i>Streptococcus equi</i> , <i>Streptococcus</i> <i>zooepidemicus</i> (group C)	Mexican-style soft raw milk cheese (queso fresco)	United States	1983	16 cases, 5 hospitalized, 3 dead	Altekruse <i>et al.</i> , 1998; CDC, 1983
TBEV	Cheese from raw cow and goat milk	Austria	2008	6 cases	Holzmann <i>et al.</i> , 2009