

Highest Level of PFOS in Milk Reported at Maine Dairy Farm

Milk and other agricultural products are not routinely tested for perfluorooctanesulfonic acid (PFOS) or other per- and polyfluoroalkyl substances (PFAS), but there has been limited sampling in cases of contamination or for research purposes.

Author (Year)	Location	PFOS in Milk, Highest Level (ppt)	Notes
Maine DEP/DACF *	Central Maine	32,200	Unidentified dairy in Central Maine. Additional samples were between 12K and 15K.
State of New Mexico (2019)	New Mexico	~4,900	Dairy farm using well water contaminated by nearby air force base. Estimate based on reported multiple of drinking water standard.
Maine DEP/DACF *	Arundel, Maine	1,420	Raw milk samples measured 1,420 ppt PFOS in November 2016, 938 ppt in January 2017, and then lower, including 220 ppt in January 2019.
Wang, et al. (2010)	China	695	As reported in Sungur , milk was purchased at retail in China between 2008 and 2009, with results ranging from 5 to 695 ppt.
Guerranti, et al. (2013)	Italy	360	Based on a mean of samples over the limit of detection in a small pilot study.
Maine CDC		210 **	Level at which Milk is “Adulterated”
Xing, et al. (2016)	China	173	Of 91 samples of milk purchased at retail, the mean level of PFOS measured was 24.5 ppt.
Young, et al. (2012)	United States	160	Reported at another dairy farm impacted by sludge spreading near Decatur, Alabama. PFOS was not detected in 60 other milk samples.
Yang, L., et al. (2015)	China	127	Twelve samples of milk from retail markets in eight provinces were tested.
Ericson et al. (2008)	Spain	121	As reported in Sungur , whole and semi-skim milk from the Spain market was tested for PFOS, with levels ranging from 14 to 121 ppt.

* Sources: Investigation report, Maine Department of Environmental Protection (DEP) and milk testing, Maine Department of Agriculture, Conservation, and Forestry (DACF). Available on request.

** Based on a 2016 Reference Dose from the U.S. Environmental Protection Agency, which is ten times *LESS* protective of human health than a 2018 Minimal Risk Level recommended by the Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services.

Methods: A search of PubMed for “PFAS Milk”, “PFOS Milk”, and “PFC Milk” was conducted and the results reviewed for relevant studies of food for human consumption (excluding breast milk). Only selected studies reporting the highest results are presented in the table.