

Two large illegal landfills of chemical waste were discovered close to the industrial plant in 1990. In 2005, a chemical contamination of crude milk at dairy farms along the Sacco River was detected under routine surveillance. Analyses of the local soil indicated a large contamination from γ -hexachlorocyclohexane (γ -HCH), a synthetic chemical isomer by-product of lindane production at the chemical plant. It was clear that the origin of the milk contamination was related to the presence of two industrial toxic waste landfills close to the large chemical plant and that the soil pollution had taken place since the 1960s.

A biomonitoring study on a sample of the population living in the area was conducted in 2007 in order to assess a possible human contamination from γ -HCH and other pollutants. The study found that people living close to the river had higher serum values of γ -HCH compared to people living in other areas of the valley; people who ate locally produced food and drank or washed with water from the local wells had also high γ -HCH values. In order to evaluate the health status of the population living close to the river and to monitor the level of contamination, a continuous clinical and epidemiological surveillance program of the local population was set up in 2009 by the regional health authorities.

The first phase of the surveillance program was carried out between 2010 and 2012. It included the determination of blood levels of γ -HCH and some biochemical parameters related to bone marrow function and inflammation, diabetes and lipid metabolism, liver function, renal function, sex hormones, adrenal function. The results are reported in the technical report of the activities 2010-2013:
[Valle del Sacco - Rapporto tecnico attivit 2010-2013](it/rapporti/cat_view/45-rapporti-2013)

The second phase of the surveillance program was carried out between 2013 and 2015. In order to assess the existence of specific means of contamination, a new analysis was performed focusing on the role of single foods produced locally. Moreover, the effects of γ -HCH on cardiovascular health and metabolic syndrome was examined more deeply. The results are reported in the technical report of activities 2013-2015:
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