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The controversy behind Chlorpyrifos and how it affects us

Since the practice of agriculture first began about 10,000 years ago, there has always been a great incentive to find ways of overcoming the problems caused by pests and diseases. In fact, the earliest documented pesticide compounds were natural elements such as sulfur, heavy metals and salt. The products used at the time had to be either of plant or animal derivation, or of mineral nature. Then, synthetic pesticide production exploded in the 1940s. These products were effective and inexpensive. Food was cheaper as loss in yield was reduced. However, two decades later, research into pesticides accelerated, and consumers and policy makers grew increasingly concerned about the potential health risks associated with them. One pesticide has particularly raised concerns in North America: chlorpyrifos. Chlorpyrifos is widely used on corn, soybeans, almonds, citrus, cotton, grapes, walnuts, and other crops. It is one of the most widely sold pesticides in Canada and was found in 91% of homes among a sample of the US population in 2001-2002.

The dangers of Chlorpyrifos

Chlorpyrifos is a powerful nerve agent, attacking chemical pathways and causing a breakdown in the ability of nerves to communicate. In fact, chlorpyrifos belongs to the



organophosphates, a chemical class that also includes sarin gas, an intoxicating substance used as a chemical weapon during wars. These harmful properties enable it to kill insects via the nervous systems. However, they can also harm us, humans, who are exposed to it by simply inhaling it, eating it,



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or getting it on our skin. Researchers have raised concerns particularly on their impacts on pregnant women and their babies. Some studies found low to moderate levels of exposure during pregnancy were linked to impaired brain development such as memory problem and lower IQ. Other researchers found that when babies were exposed in the womb, they tended to be smaller, have poorer reflexes, and show higher risks of having ADHD and other permanent developmental disorders years after being exposed. Moreover, chlorpyrifos also represents a major danger for wild animals and farm workers, who are directly exposed to high doses through inhalation while spraying the pesticide in the field.

Regulations on its use

In 2000, the US finally banned chlorpyrifos from residential use and in 2018, the Quebec Ministry of the Environment placed this active ingredient on its top five list of "highest risk" pesticides. However, due to a lack of effective control measures, it wasn't until the following year that Health Canada's Pest Management Regulatory Agency (PMRA) announced its intention to phase out most of the agricultural uses of chlorpyrifos, although the Canadian government's final decision has yet to be announced. In 2020, amid a sharp decrease in demand over the past two decades in the United States, particularly in California and Hawaii, Corteva (the leading manufacturer of chlorpyrifos) finally took the decision to phase out its production. Ultimately, the decision was driven by financial considerations, not safety concerns. Although the announcement marks a victory for public health and environmental advocates, activists believe that the fight continues. In fact, given that the federal government has not officially banned chlorpyrifos from the Canadian market, the pesticide is still being legally manufactured by other companies.