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Women Exposed to Pesticides Face Higher Risk of Stillbirth

Analysis by Dr. Joseph Mercola | November 01, 2024

STORY AT-A-GLANCE

- Pesticides are widely used in food production and communities despite growing evidence of their negative impact on the environment and human health
- A study published in the American Journal of Epidemiology found that women living within 0.31 miles (500 meters) of areas treated with certain pesticides during the 90 days before conception and in the first trimester had an increased risk of stillbirth
- In August 2024, the EPA issued an emergency suspension of DCPA (Dacthal), a weedkiller linked to fetal thyroid hormone changes and developmental issues, marking the first such ban in 40 years
- A comprehensive study published in July 2024 revealed that communities near agricultural areas face an increased risk of various types of cancer due to pesticide exposure
- Strategies to effectively minimize pesticide exposure for you and your family are included below

Pesticides are used extensively in food production and communities despite mounting evidence of their impact on the environment and human health. The term "pesticides" encompasses a broad range of chemicals, including insecticides, herbicides and substances targeting bacteria or fungi, as classified by the U.S. Environmental Protection Agency (EPA).[1]

Assessing the health and environmental risks associated with pesticides is challenging due to many unknown factors and the difficulty in quantifying known risks. The relationship between pesticide exposure and stillbirth is one area where research is particularly limited, even as pesticide use has dramatically changed over the years.

This prompted researchers at the Mel and Enid Zuckerman College of Public Health and Southwest Environmental Health Sciences Center to investigate how maternal pesticide exposure during preconception and early pregnancy could affect their risk of stillbirth.[2] By analyzing data on pesticide use in proximity to where mothers lived, along with birth records, the authors sought to clarify how these exposures adversely affect fetal development.

Study Finds Pesticide Exposure Increases the Risk of Stillbirth

The study, published in the American Journal of Epidemiology,[3] analyzed data from Arizona's pesticide use records, alongside birth certificates from 2006 to 2020. The researchers focused on three classes of pesticides — pyrethroids, organophosphates and carbamates and how living within 0.31 miles (500 meters) of treated areas during the 90-day window before conception and in the first trimester could influence stillbirth rates.

Overall, the study included over 1.2 million births and 2,290 stillbirths, covering the effects of 27 different pesticides. The findings revealed significant associations between exposure to certain pesticides and an increased risk of stillbirth. According to a news release by the University of Arizona Health Sciences:[4]

> *"Specifically, the pesticides cyfluthrin, zeta-cypermethrin, organophosphates as a class, malathion, carbaryl and propamocarb hydrochloride were linked to increased stillborn births preconception. During the first trimester, fenpropathrin, permethrin, organophosphates as a class, acephate and formetanate hydrochloride were associated with stillbirths."*

Paloma Beamer, Ph.D., one of the study's co-authors, highlighted that acephate exhibited the most significant impact among organophosphates, with exposure in the first trimester linked to a twofold increase in stillbirth risk. Additionally, exposure to cyfluthrin from the pyrethroid group during the 90 days leading up to conception nearly doubled the likelihood of stillbirth.[5]

"These findings underscore the importance of considering individual pesticides rather than just the overall pesticide class, as specific chemical compounds may pose unique risks. It also highlights the potential for pre-pregnancy exposures to affect reproductive outcomes," said lead author Melissa Furlong, Ph.D.[6]

EPA Issues Emergency Suspension of Pesticide That Can Harm Fetuses

On a related note, on August 6, 2024, the EPA made a landmark decision[7] to ban dimethyl tetrachloroterephthalate (DCPA), also known as Dacthal, a weedkiller commonly used on crops such as broccoli, cabbage, onions and kale. This ban is particularly significant not only for farmworkers who often face direct exposure but also for pregnant women who have unknowingly been exposed to this chemical that could affect the health of their unborn children.

"It's EPA's job to protect people from exposure to dangerous chemicals," said Michal Freedhoff, assistant administrator for the EPA's Office of Chemical Safety and Pollution Prevention.[8] "In this case, pregnant women who may never even know they were exposed could give birth to babies [who] experience irreversible lifelong health problems."

DCPA has been linked to changes in fetal thyroid hormone levels, leading to serious health issues, including low birth weight, impaired brain development, lower IQ and motor skill problems. A 2022 peer-reviewed study[9] by researchers from the U.S. Environmental Working Group (EWG) has also identified DCPA as a potential carcinogen.

Freedhoff emphasized the urgency of the situation, stating, "DCPA is so dangerous that it needs to be removed from the market immediately."[10] DCPA has been on the market since 1958, and this ban marks the first time in 40 years that the EPA has invoked its emergency authority to halt the use of a dangerous pesticide.[11]

The decision came after more than a decade of the EPA calling on the manufacturer to submit data on the health effects of DCPA, yet the company only complied in 2023. While this historic decision is welcome change, it should have come sooner. It's worth noting that the European Union banned DCPA back in 2009. As Alexis Temkin, senior toxicologist at the EWG, aptly noted, "The EPA's decision to finally suspend DCPA is welcome news, but it's long overdue."[12]

Specific Pesticides Linked to an Increased Risk of Various Cancers

This decision to ban DCPA raises an important question — how many other harmful chemicals remain in use and continue to pose risks to human health as regulatory battles drag on?

A comprehensive study published in July 2024 in the journal Frontiers in Cancer Control and Society[13] shed light on the scale of this issue, revealing that communities near agricultural production face a heightened risk of developing cancer from exposure to pesticides that are still widely used in the U.S., with risk levels comparable to those of smoking cigarettes. Their findings showed:[14]

> *"Atrazine was consistently a top contributor in regions with high added risk for all cancers and colon cancers. Boscalid was a top contributor in not only high-added-risk regions for leukemia, Non-Hodgkin's lymphoma and pancreatic cancer but also for low-added-risk regions of lung cancer.*
>
> *Dimethomorph was representative of not only regions with a high added risk of leukemia and Non-Hodgkin's lymphoma but also regions with a low added risk*

of colon cancer. Dicamba was consistently at the top of the list in regions with a high added risk of colon cancer and pancreatic cancer.

Dimethenamid was seen in regions with a low added risk of bladder cancer, but in combination with dimethenamid-P, it was observed in regions with a high added risk of pancreatic cancer. Dinotefuran was at the top in regions with high leukemia and Non-Hodgkin's lymphoma on the opposite end for colon cancer.

Glyphosate was consistently seen at the top in regions with a high added risk of all cancers, colon cancer and pancreatic cancer. Imazethapyr had a similar presence in all cancers, colon cancer and lung cancer. Finally, metolachlor, metolachlor-S and the combination of both were consistently top contributors for regions with higher added risk of all cancers, colon cancer and pancreatic cancer."

The authors also noted[15] that pesticides travel through air and water, putting even neighboring communities at risk. While EPA's ban on DCPA is undoubtedly a step in the right direction, it underscores the need for proactive measures to reduce your and your family's exposure to the other pesticides still prevalent in our environment, beginning with how you select and handle your produce.

How to Find Organic Food

Choosing organic products reduces your pesticide exposure, but it's important to recognize that not all "organic" labels are the same. The U.S. Department of Agriculture (USDA) outlines four key classifications for consumers to be aware of:[16]

- **100% organic —** Products that have this label must be made with 100% certified organic ingredients. These items can display the USDA organic seal and make the "100% organic" claim.
- **Organic —** For a product to simply be labeled "organic," at least 95% of its ingredients must be certified organic, with up to 5% nonorganic ingredients allowed,

as long as they are listed on the National List of Allowed and Prohibited Substances.

- **"Made with" organic ingredients —** These items must contain at least 70% certified organic ingredients but cannot display the USDA organic seal or represent the entire product as organic.

- **Specific organic ingredients —** Products with less than 70% organic content cannot carry the organic seal or use the word "organic" on the packaging. However, certified organic ingredients can still be listed on the product's ingredient panel.

Knowing these labels is just the first step. As the demand for organic products increases, some companies have tried to mislead consumers by falsely labeling conventionally grown products as "organic." From 2020 to 2023, several farmers faced legal consequences for selling nonorganic produce as organic, with one case involving a staggering $71 million in fraud.[17]

To protect yourself, it's essential to be a vigilant consumer. Look beyond the label and research the sources of your organic products. The best way to find organic, chemical-free produce is to visit the farmers themselves. Shopping at farmers markets and talking directly to vendors provide valuable insights into their farming practices. Many of these small-scale operations prioritize sustainable methods and try their best to limit chemical use.

Additionally, consider joining a community-supported agriculture (CSA) program.[18] This subscription service allows you to receive regular deliveries of fresh produce from local farms that utilize sustainable agricultural practices. Some CSA farmers also offer educational programs to deepen your understanding of sustainable agriculture.

If you can't join a CSA, the EWG's "Dirty Dozen" list[19] can guide your shopping. This regularly updated list highlights the 12 fruits and vegetables most likely to be contaminated with pesticides, helping you make informed choices. Lastly, consider growing your own food using sustainable methods. By doing so, you'll be able to ensure your food is as safe and chemical-free as possible.

Wash Your Produce Properly to Reduce Pesticide Exposure

Always wash your fresh produce — whether conventionally grown or organic — to remove dirt, residues and other contaminants. A 2022 study published in Foods[20] found the best way to do this. The researcher coated five types of leafy vegetables with common pesticides, including indoxacarb, fludioxonil and chlorfenapyr, and then tested five washing methods:

- Running tap water
- Stagnant tap water or alkaline water
- Ultrasonic cleaning
- A solution of 5% vinegar, 2% sodium bicarbonate and vegetable detergent
- Blanching or boiling

The results showed that rinsing with running water was the most effective method, reducing pesticide levels by about 77%. Blanching or boiling was the second most effective, removing around 59.5% of pesticides. For best results, combine running water with boiling. While boiling fruit might not be practical, these findings are especially valuable for effectively cleaning your vegetables.

Resources for Organic, Chemical-Free Produce

If you live in a dense, urban location in the U.S. that doesn't have any local farmers markets, don't worry. There are plenty of ways to connect with reputable organic farmers who employ regenerative agricultural practices so you can still purchase their products. Below is a list of websites I recommend:

American Grassfed Association — The goal of the American Grassfed Association (AGA) is to promote the grass fed industry through government relations, research, concept marketing and public education.

Their website also allows you to search for AGA-approved producers certified according to strict standards that include being raised on a diet of 100% forage; raised on pasture and never confined to a feedlot; never treated with antibiotics or hormones; born and raised on American family farms.

EatWild.com — EatWild.com provides lists of farmers known to produce raw dairy products as well as grass fed beef and other farm-fresh produce (although not all are certified organic). Here you will also find information about local farmers markets, as well as local stores and restaurants that sell grass fed products.

Weston A. Price Foundation — Weston A. Price has local chapters in most states, and many of them are connected with buying clubs in which you can easily purchase organic foods, including grass fed raw dairy products like milk and butter.

Grassfed Exchange — The Grassfed Exchange has a listing of producers selling organic and grass fed meats across the U.S.

Local Harvest — This website will help you find farmers markets, family farms and other sources of sustainably grown food in your area where you can buy produce, grass fed meats and many other goodies.

Farmers Markets — A national listing of farmers markets.

Eat Well Guide: Wholesome Food from Healthy Animals — The Eat Well Guide is a free online directory of sustainably raised meat, poultry, dairy and eggs from farms, stores, restaurants, inns, hotels and online outlets in the U.S. and Canada.

Community Involved in Sustaining Agriculture (CISA) — CISA is dedicated to sustaining agriculture and promoting the products of small farms.

The Cornucopia Institute — The Cornucopia Institute maintains web-based tools rating all certified organic brands of eggs, dairy products and other commodities, based on their ethical sourcing and authentic farming practices separating CAFO

(concentrated animal feeding operation) "organic" production from authentic organic practices.

RealMilk.com — If you're still unsure of where to find raw milk, check out Raw-Milk-Facts.com and RealMilk.com. They can tell you what the status is for legality in your state, and provide a listing of raw dairy farms in your area. The Farm to Consumer Legal Defense Fund also provides a state-by-state review of raw milk laws.[21] California residents can also find raw milk retailers using the store locator available at RAW FARM.[22]

Sources and References

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