



Pesticides play an important role in modern agriculture by helping control weeds, insects, diseases, and other pests that can reduce crop yields and quality. When used correctly, these products contribute to a safe and abundant food supply. However, pesticides are powerful chemicals that can pose serious risks to human health, livestock, wildlife, and the environment if they are handled improperly.

Every year, pesticide-related illnesses and injuries occur because of inadequate training, improper use of personal protective equipment (PPE), failure to follow label instructions, or unsafe storage and handling practices. Fortunately, most of these incidents can be prevented through proper education, planning, and adherence to established safety procedures.

Pesticide safety begins with understanding that the product label is the law and that every application carries a responsibility to protect yourself, your coworkers, your family, and the surrounding community. Whether mixing, loading, applying, transporting, or storing pesticides, workers must remain vigilant and always follow recommended safety practices. By making safety a priority, you can reduce risks while maintaining effective pest management programs.

How to avoid pesticide poisoning when spraying

Pesticide poisoning is a real concern for farmers in the early summer months. Here are steps to take to lower the risk of exposure.

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While it may seem like overkill to wear so much protective clothing, Extension specialists say it is necessary to help farmers avoid exposure to chemicals during the spray season.

For crop growers, late spring and early summer is about application — from nutrients, to water, to pesticides.

But University of Missouri Extension has issued a stern reminder for those who spray chemicals: Be smart and monitor your health.

“Serious pesticide poisoning is not every day, but exposures are common enough to take seriously,” said Rusty Lee, an MU Extension agronomist. “U.S. poison centers handled over 2 million human exposure cases in 2023 across all substances, and pesticide exposures remain a recurring category.”

Lee said now is a peak time for pesticide use around the state in terms of mixing, loading, spraying, lawn-care use, garden use, and reentry into treated areas. All of that means more chances for exposure.

Lower your pesticide poisoning risk

“Read the label before each use, wear the required PPE, mix and load carefully, avoid shortcuts,” Lee said.

For instance, the label-required PPE for pesticide application may include:

- long sleeves and long pants
- shoes and socks
- chemical-resistant gloves
- protective eyewear
- a chemical-resistant apron for mixing and loading
- an air-purifying respirator

Aside from PPE, Lee also recommended applicators use common sense practices such as washing hands before eating or drinking, keeping pesticides in original containers, and posting and following reentry intervals.

He also said weather can affect when to apply pesticides.

“Avoid spraying in high winds, dead-calm conditions, temperature inversions, extreme heat or when rain is likely to move the pesticide off target,” Lee said.

Temperature inversions happen when the air temperature increases with height. Lee said low-level winds can be a warning sign. The concern is that inversions can cause pesticide volatiles to hang and drift long distances.

Pesticide safety closer to home

Pesticide poisoning can also affect pets and children.

“Do not assume ‘available at the store’ means harmless,” Lee said. “Measure accurately, never mix products casually, keep people and pets off treated areas until the label allows, and store products locked up.”

Lee said the Centers for Disease Control and Prevention and the National Institute for Occupational Safety and Health track occupational pesticide illness because overexposure still occurs and is often preventable.

From Lee’s time as a pesticide applicator trainer, he noted users are sometimes neglectful of various safety practices, from wearing gloves when mixing or loading, to wearing eye protection, washing contaminated clothing separately, and even keeping children and pets away from sprayed areas.

Symptoms of pesticide poisoning

Commonly confused with the flu, pesticide poisoning can present the same symptomology. Lee said poisoning can cause the following:

- headache
- dizziness

- nausea
- sweating
- blurred vision
- vomiting
- diarrhea
- breathing problems
- muscle twitching and weakness

“In severe cases, collapse or respiratory failure occur,” Lee said. “Organophosphate and carbamate insecticides are classic high-concern products because they affect the nervous system.”

If you or someone in your household is developing these symptoms after involvement with pesticides, it is recommended to take the label from the pesticide container with you to the emergency room.

It is also recommended to call the National Poison Center at 1-800-222-1222 for guidance. This number will direct your call to the nearest poison center, which is staffed on a 24-hour basis. Reach the Georgia Poison Center at 800-222-1222.

“Pesticide poisoning is usually preventable,” Lee said. “Slow down, read the label, wear the PPE, respect the weather, and treat mixing and loading as the highest-risk part of the job. The label is not just guidance — it is the law and the best safety plan you have.”

Six, Chris. “How to Avoid Pesticide Poisoning When Spraying.” *Farm Progress*, 3 June 2026, www.farmprogress.com/farm-operations/how-to-avoid-pesticide-poisoning-when-spraying.