Introduction to Pesticide Drift

Pesticide spray drift is the movement of pesticide dust or droplets through the air at the time of application or soon after, to any site other than the area intended. Pesticide droplets are produced by spray nozzles used in application equipment for spraying pesticides on crops, forests, turf and home gardens. Some other pesticides are formulated as very fine dry particles (commonly referred to as dust formulations).

On this page

- Effects of pesticide drift
- Actions for consumers to reduce spray drift and runoff from pesticide product applications
- Additional resources for pesticide applicators

Related Information

- Pesticide volatilization

Effects of Pesticide Drift

Pesticide drift of sprays and dusts can affect people's health and the environment, and damage nearby crops.

Health and Environmental Risks

Pesticide drift can pose health risks when sprays and dusts are carried by the wind and deposited on

other areas:

- Nearby homes, schools, and playgrounds.
- Farm workers in adjacent fields.
- Wildlife, plants, and streams and other water bodies.

Economic Effects

Pesticide drift can cause economic loss:

- Drift of herbicides can injure some crops. Crops on nearby farms can become unsellable if the drifting pesticide is not registered for use on the crop.
- State and local agencies receive thousands of complaints about drifting pesticides each year and spend substantial resources investigating drift complaints.

Actions for Consumers to Reduce Spray Drift and Runoff from Pesticide Product Applications

When applying pesticides around your home, follow these good stewardship practices to protect water resources by reducing runoff and spray drift.

- Only apply the pesticide directly to the treatment area.
- Be mindful of the location of storm drains, drainage ditches, gutters, or surface waters during a pesticide application. Apply the pesticide in a manner that does not allow the product to enter these areas.
- Applying pesticides during calm weather conditions, when rain is not predicted for the next 24 hours, will help to ensure that wind or rain does not blow or wash pesticide off the treatment area.
- Rinsing application equipment, such as watering cans, low pressure hand wands, backpack sprayers, etc. over the treated area will help avoid runoff to water bodies or drainage systems.
- When applying granular products, sweeping any product that lands on a driveway, sidewalk, street, or other hard impervious surface, back onto the treated area of the lawn or garden will help to prevent runoff to water bodies or drainage systems.
- When watering treated areas, refer to the watering-in instructions on the label, and ensure you do not water the treated area to the point of runoff.

Additional Resources for Pesticide Applicators

Webinars on Pesticide Application and Managing Pesticide Spray Drift

In 2018, EPA organized and hosted a series of webinars to help growers, pesticide applicators, and other interested stakeholders manage pesticide spray particle drift. The spray drift series includes:

Strategies for Managing Pesticide Spray Drift Webinar: Fundamentals of spray drift management, presented by Dr. Greg Kruger, a weed science and pesticide application technology specialist from the University of Nebraska-Lincoln.

- Watch the webinar EXIT

- View the questions and answers, transcript and presentation slides

Best Practices for Aerial Application Webinar: Methods of aerial application, best practices for reducing spray particle drift from aerial applications, nozzle selection, and the use of adjuvants as it relates to aerial application, presented by Dr. Bradley Fritz, an agricultural engineer and Research Leader at USDA's Agricultural Research Service.

- Watch the webinar EXIT
- View the transcript and presentation slides

Best Practices for Ground Application Webinar: Ground application technologies, best practices for ground application, and optimization for weed management, presented by Dr. Greg Kruger from the University of Nebraska-Lincoln.

- Watch the webinar EXIT
- View the transcript and presentation slides

More information about reducing pesticide drift is also available from various sources:

- Center for Integrated Pest Management: Pesticide Drift EXIT
- University of Georgia: Reducing Spray Drift EXIT
- North Dakota State University: Air Temperature Inversions EXIT

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