

SPRAY DRIFT MANAGEMENT

What is Spray Drift?

The EPA defines pesticide spray drift as the physical movement of a pesticide through air at time of application to any site other than that intended for application. Spray drift is a concern for many reasons. It removes a portion of the chemical from the intended target making it less effective and can result in poor pest control in the target crop in addition to possible health, environmental, economic and legal consequences.

EPA Policy

EPA Policy states "pesticide drift from the target site is to be prevented." EPA uses its discretion to pursue violations based on the unique facts and circumstances of each situation. Applicators must refrain from application under conditions that are inconsistent with the goal of drift prevention, or are prohibited by the pesticide label. Applicators must use all available drift prevention practices in order to prevent drift.

How Does Spray Drift Occur?

Wind and spray droplet size are the major factors influencing spray drift. Small droplets take more time to fall to the ground allowing them to drift further. High spray pressures increase the potential for spray drift to occur as high pressures increase the number of small droplets.

Spray Drift Management

It is impossible to eliminate off-target movement from a pesticide application. However, good management practices can help manage and reduce the amount of drift to off-target areas.

TIPS FOR MANAGING SPRAY DRIFT

- 1. Reduce Spray Pressure:** Refrain from using pressures which exceed 40 to 45 psi. Higher pressures increase the number of small droplets. A spray pressure of 30 psi is all that is necessary for most spray tips.
- 2. Increase Spray Volume:** As spray volumes are reduced from the customary 15 to 20 GPA down to 5 to 10 GPA the spray droplet size decreases. The problem is accentuated further if the applicator increases the spray pressure to compensate for the smaller spray volume thinking they can "drive" the spray into the crop canopy. The result is an increase in the number of small droplets, which will either quickly evaporate before reaching the plant or will be carried off by wind as they lack the momentum needed to reach the plant (small droplets take longer to fall than large droplets). Increasing spray pressure should not be used as a substitute for spray volume.
- 3. Know the Wind Speed and Direction:** The greater the wind speed the farther small spray droplets will be carried. Wind speed can vary greatly from one location to another. Take time to check the wind speed and direction relative to sensitive crops at each field.
- 4. Lower Spray Boom Height:** Wind speed increases with height. The amount of drift due to wind will decrease as the spray boom is lowered.
- 5. Use Drift & Deposition Additives such as Cornbelt® Gardian®, Cornbelt® Gardian Plus®, Cornbelt® Dri-Gard® and Cornbelt® Pro-One XL™:** Research has shown the use of spray drift management additives can reduce spray drift deposits from 50% to 80%. The "user friendliness" of the various drift and deposition aids available in the market vary. They also vary in terms of additional features and benefits they provide.
- 6. Use Nozzles that Produce Large Spray Droplets:** Switching from standard flat-fan nozzles to turbulence-chamber or venturi nozzles increase droplet size thereby reducing the amount of drift. Pre-orifice turbulence chamber nozzles absorb energy in the turbulence chamber reducing exit pressure from the nozzle. The turbo flat-fan nozzle design improves spray pattern uniformity and reduces the percentage of drift droplets under a wide range of pressures. Nozzles should be large enough to accommodate spray volumes of 15 to 20 GPA.
- 7. Slower Speed:** Driving the sprayer at a slower speed decreases the potential for drift to occur.