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## Drift Management Considerations

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# Drift Management Considerations

## **Abstract**

Warmer weather means emerging crops and more outdoor activities. Locally produced foods are expanding and home gardening is showing increased interest as a way to save costs. These and other factors make it particularly important to review spray drift reduction procedures.

## **Keywords**

Agricultural and Biosystems Engineering, Entomology

## **Disciplines**

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## Drift Management Considerations

**By Mark Hanna, Department of Agriculture and Biosystems Engineering and Kristine Schaefer, Pest Management and the Environment**

Warmer weather means emerging crops and more outdoor activities. Locally produced foods are expanding and home gardening is showing increased interest as a way to save costs. These and other factors make it particularly important to review spray drift reduction procedures.

Increasing droplet size so that small droplets don't become entrained in ambient air currents is a key to drift reduction. Seasoned readers of ICM News should already be familiar with common procedures to reduce drift. Techniques include:

- Operating nozzles at a lower pressure
- Using a larger tip size (which also lowers pressure for a given application rate)
- Maintaining boom height at the lowest level consistent with nozzle overlap
- Using a low-drift nozzle style such as venturi or air-induction tip
- Driving more slowly near field borders when using a spray controller (lowers pressure)

In addition, weather factors are important. Avoid off-site drift by spraying when wind speeds are below 10 miles/hour (mi/h), with prevailing winds away from sensitive areas, and avoiding application during dead calm conditions (e.g., atmospheric inversion). If high wind speeds have persisted for several days and weeds or pest populations are continuing to grow, applicators may feel compelled to go ahead with applications. Before filling the sprayer and heading to the field, it's good to review just how far a spray droplet can travel.

All nozzle tips produce a range of droplets, although low-drift style nozzles minimize the number of small sized droplets (fines). As shown in the chart below, droplets 200 microns and less in diameter can travel across fence lines 25 feet or more with wind gusts of 15 mi/h. In some cases, a non-herbicide resistant crop or sensitive plant species may be only a few feet across a property line. Adjusting nozzle type and sprayer pressure and leaving an unsprayed buffer area may be necessary in certain situations.

### Distances droplet sizes travel with various wind speeds from 3 feet boom height.

Droplet size, microns	5 mi/h	10 mi/h	15 mi/h	20 mi/h
100	24 ft	48 ft	72 ft	96 ft
200	9	18	26	35
400	5	9	14	18
500	4	7	10	14
600	3	6	9	12

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