

EPA's Pesticide Drift Reduction Technologies Program - A Voluntary Program - DRAFT January 2014

Verified drift reduction technologies can significantly reduce pesticide spray drift and loss from the application site, thereby keeping more pesticide on the crop and reducing risks to nearby crops, the environment and people.



[What is the Drift Reduction Technologies Program?](#)

[How to Test for Percent Drift Reduction](#)

[EPA-Verified Drift Reduction Technologies and the Star-Ratings](#)

[Adding Directions to Include DRTs on Pesticide Product Labels](#)

[Table of Verified DRT-Rated Technologies](#)

[Additional Resources](#)

What is the Drift Reduction Technologies Program?

The EPA's Drift Reduction Technologies (DRT) Program is a voluntary program that is intended to encourage the identification and use of DRTs that can substantially reduce drift of pesticide spray droplets from the target application site (e.g., a corn field) downwind to non-target areas. Examples of drift reduction technologies include spray nozzles, shrouds and shields, and nozzle/drift reducing adjuvant chemical combinations. Although these and other technologies have the potential to provide drift reduction, there is often uncertainty about their effectiveness or performance.

Verification testing of technologies can provide a specific, quantitative measure of the effectiveness of the tested technology to reduce spray drift. The DRT Program focuses on technologies used for groundboom and aerial applications to field and row crops, which are the predominant pesticide use and application methods as well as the largest crop acreage in the United States.

The EPA believes that over time, the DRT Program will move the agricultural sector away from unverified application technologies, toward the widespread use of low drift technologies. A robust adoption of this voluntary testing program by equipment and pesticide manufacturers and the resultant widespread use of DRTs by pesticide applicators will provide many benefits including:

- A standardized scientific approach to verifying and rating DRTs
- Reduced loss of pesticide product to drift and increased deposition of product on the intended crop, potentially improving efficacy of the pest or weed control
- Pesticide labels containing use directions with reductions for necessary spray restrictions, giving applicators more flexibility
- Reduced potential for off-target adverse effects, improved protection to sensitive crops and environments and nearby people

How to Test for Percent Drift Reduction

EPA's Offices of Research and Development and Pesticide Programs, with technical input from external experts, have developed a protocol *Generic Verification Protocol for Testing Pesticide Application Spray Drift Reduction Technologies for Row and Field Crops*. [\[insert link\]](#) for testing pesticide application technologies to estimate the percent reduction of spray drift.

This protocol addresses three testing approaches: low speed wind tunnels (to simulate application by groundboom equipment), high speed wind tunnels (to simulate application by aircraft), and field testing (groundboom or aerial application). Generally, testing of smaller technologies, such as spray nozzles or nozzle/adjuvant combinations, would be conducted in wind tunnels which measure the amount of the relatively smallest driftable droplets (fines). The DRT rating of the technology will be based on the difference between the amounts of driftable fines from the technology being tested as compared to the reference nozzle. Use of a standardized DRT test protocol will enable EPA to make valid comparisons of test results. The drift reduction estimated by the study results would then be used to assign the technology its DRT rating.

EPA believes that field studies will most likely be used to determine drift reduction for shrouds or other large equipment that cannot fit into a wind tunnel. Field studies generate a deposition pattern and quantity of spray drift at downwind distances. EPA can use these data to estimate the percent drift reduction. Each field study is likely to be unique, and involve case-by-case considerations.

EPA can use data from wind tunnel and field tests in the models for its risk assessments. EPA will "credit" the DRT-rated technology in the risk assessment-management decision rather than assuming no spray drift reduction. Pesticide labels that include use directions that specify DRT-rated technologies would also specify spray drift risk management measures, such as buffer zones, maximum wind speed, or release height. Since pesticide product labels will only specify, for example, to use a nozzle with a, for example, a DRT** rating, the label will not include brand names. Thus, applicators will have a variety of technologies from which to choose.

EPA notes that the protocol is limited to technologies for application to row and field crops because a large majority of agricultural pesticides are applied to these crops by groundboom and aerial equipment. A focus on encouraging the use of DRTs for these uses should have an overall greater benefit to drift reduction. In the future, EPA may consider expanding this voluntary program to application technologies for orchard and vineyard crops which require the use of significantly different application equipment.

Test Facilities

Technology manufacturers should contract with a qualified testing facility capable of performing this test with the appropriate equipment, methods and quality control standards. Refer to the protocol, section A8. *Special Training and Certifications*, for further information.

Submitting Test Reports to the EPA for Review and Evaluation

The EPA's Office of Pesticide Programs has developed a format for data submission. [link] Send test reports to the EPA DRT box at drt.box@epa.gov. OPP will review the reports to verify the quality of the study and verify the tested technology's drift reduction potential. Based on the data and information in the submitted report, OPP will verify whether the test was performed in an appropriate manner and only then determine if the data support a DRT rating.

EPA-Verified Drift Reduction Technologies and the Star-Ratings

The EPA will offer four DRT ratings represented by one, two, three, or four stars for verified technologies which demonstrate at least 25% reduction in potential spray drift:

DRT-Assigned Ratings



Adding Directions to Include DRTs on Pesticide Product Labels

The EPA encourages pesticide registrants to submit registration applications for new or amended registrations to include the use of verified DRTs on their product labels. As previously explained, the label will not include brand names, but will have use directions, such as, "Apply this product with DRT** technology." Applications to include DRT label claims should be submitted according to standard requirements and procedures for applications for registration.

OPP will review registration applications and will credit the DRT label claim in its risk assessment and management decisions. Use of DRT-rated technologies can potentially result in significantly less off-target deposition, and could therefore mean that labels could contain use directions with reduced application restrictions, such as reduction or elimination of a buffer zone, or allowing applications during greater wind velocity or spray release height. Conversely,

for identical or substantially similar pesticides without a DRT claim, EPA/OPP would not apply the credit of a DRT claim and therefore would likely require greater application restrictions to address potentially greater off-target drift and risks.

Pesticide applicants and registrants can choose to label their products for use with both standard application equipment (non-DRT) and DRT-rated equipment or technologies, thus giving the applicator a choice. In this case such labels would have two sets of application restrictions: One set of restrictions if the product is applied without DRT and another set of restrictions if the product is applied with a DRT.

Table of Verified DRT-Rated Technologies

Pesticide applicators who choose to use a product labeled with a specific DRT claim can locate the application technologies that have been verified for that DRT claim using the Table of Verified DRT-Rated Technologies. For example, if a label allows the applicator to use DRT*** technology, the applicator would refer to the EPA’s DRT website to see the identities of the specific DRT*** rated technologies to make the application.

Table of Verified DRT-Rated Technologies for Groundboom Applications

Manufacturer	DRT-Rated Technology	System Pressure (psi)
DRT* Technologies		
DRT** Technologies		
DRT*** Technologies		
DRT**** Technologies		

Table for Verified DRT-Rated Technologies for Aerial Applications

Manufacturer	DRT-Rated Technology	System Pressure (psi)

DRT* Technologies		
DRT** Technologies		
DRT*** Technologies		
DRT**** Technologies		

Additional Resources

- [Federal Register notice: EPA DRT Program](#) [**need link to FR notice**]