

US EPA ARCHIVE DOCUMENT



Drift Reduction Technology Program

- Accelerate the use of application technologies verified to significantly reduce spray drift.
- Encourage manufacturers—equipment and pesticide, to voluntarily participate.
- OPP to credit DRT-labeled products in risk assessment/management decisions—risk management measure.



Desired Change

No reduction



Standard
technology, no
DRT

25% reduction



Good DRT

50% reduction



Better DRT



Motivation for DRT Program

- **Problem:** Risks of adverse effects
 - 1 – 10+ % applied drifts from target site
 - 1 billion pounds pesticides applied/yr
 - 2,500 reported incidents/yr



- **Better technologies & science**
- **Better drift / risk management, efficacy, cost management**

Verify Application Technologies

- Test protocol: *Verification of Pesticide Application Spray Drift Reduction Technologies for Row and Field Crops*



- Ground boom and aerial application technologies for row and field crops.

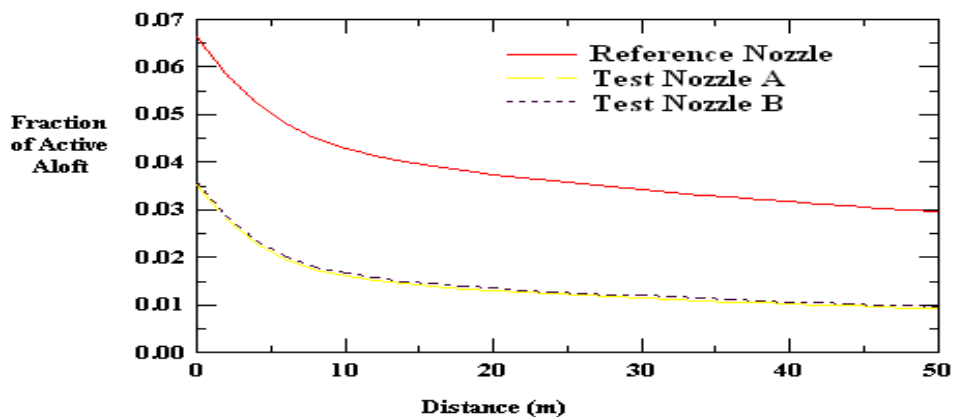




Droplet Size Spectra from Wind Tunnel Test

Nozzle ID	Pressure (psi)	Wind Speed (mph)	$D_{v0.1}$ ($\mu\text{m} \pm\text{SD}$)	$D_{v0.5}$ ($\mu\text{m} \pm\text{SD}$)	$D_{v0.9}$ ($\mu\text{m} \pm\text{SD}$)
Reference	43	120	96.7 \pm 0.4	210.7 \pm 0.8	335.6 \pm 4.4
Test Nozzle A	40	120	129.8 \pm 0.5	275.7 \pm 0.8	425.3 \pm 3.0
Test Nozzle B	40	120	127.1 \pm 1.5	275.2 \pm 3.3	425.2 \pm 13.2

Comparison of Driftable Fractions





What will OPP do with test results?

Review & assign DRT ratings

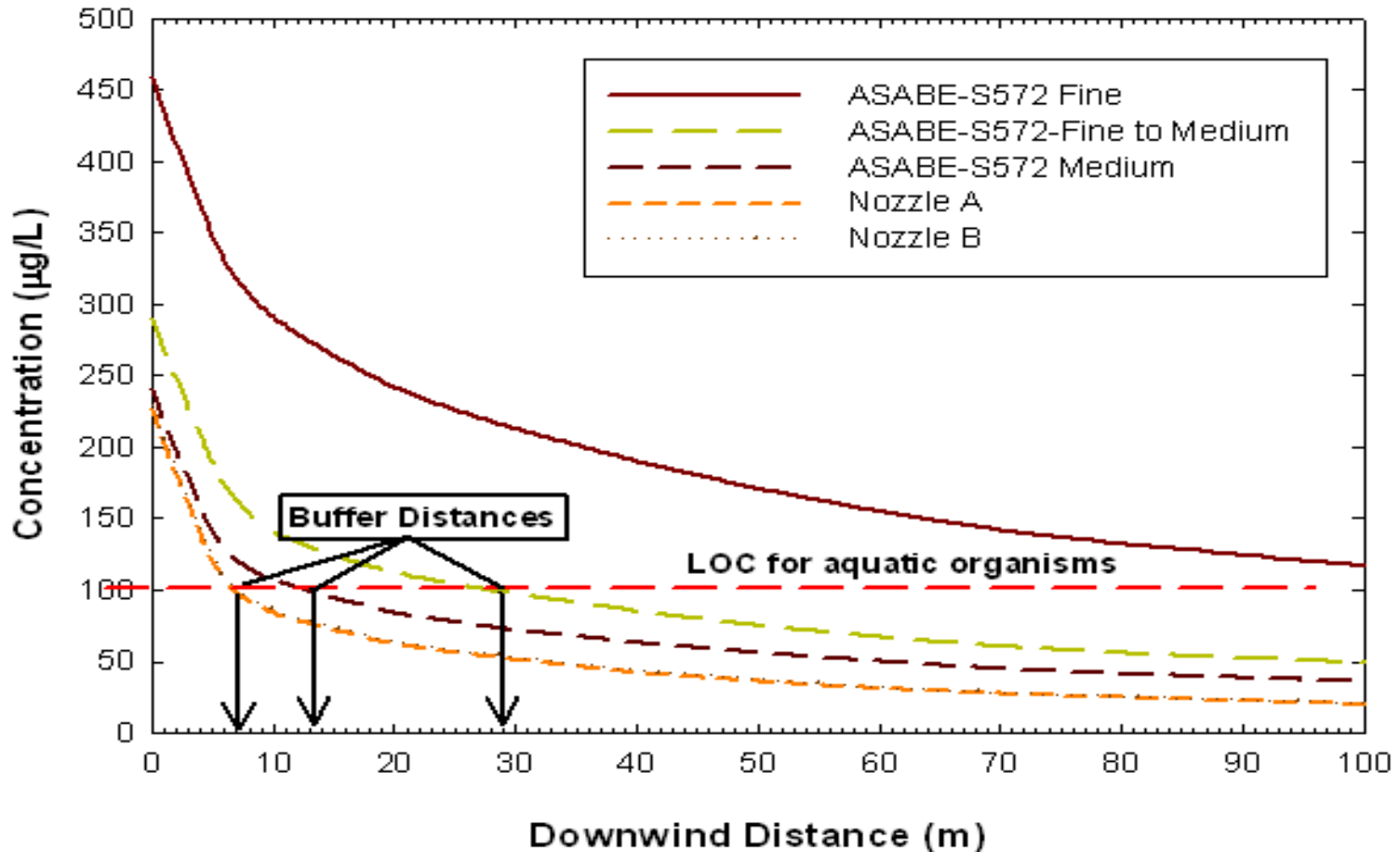
- DRT* - 25%
- DRT** - 50%
- DRT*** - 75%
- DRT**** - 90%

Post verified DRTs and their ratings on OPP website

Credit use of DRT in risk assessments when registrants label products with DRTs

The screenshot shows the EPA website for Pesticide DRT Reduction Technology. It includes a header with the EPA logo and the program name. Below the header is a photograph of a tractor in a field. The main content area is titled 'Pesticide DRT Reduction Technology' and contains several sections: 'What is DRT?', 'How DRT Works', and 'Verification Protocol'. The 'What is DRT?' section explains that the program encourages the agricultural sector to develop, identify, and use pesticide application technologies that have the potential, through verification, to significantly reduce spray drift. The 'How DRT Works' section describes a three-step process for manufacturers. The 'Verification Protocol' section lists steps for submitting test results and includes a table for DRT test ratings. The table has columns for 'DRT Test Rating', 'DRT Test Results', and 'DRT Test Date'. Below the table is a 'DRT Test Rating' graphic showing a scale from 50% (1 star) to 90% (4 stars). The 'DRT Test Rating' graphic is a vertical bar with a green arrow pointing right, indicating the direction of increasing DRT rating. The 'DRT Test Rating' graphic also includes a 'DRT Test Rating' label and a 'DRT Test Rating' scale.

Depositions and Buffer Distances for Aquatic Environments





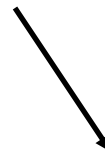
DRT Program Implementation

DRT Program operational

www.epa.gov/pesticides/drt/protocol



Technology co. decides to have equipment tested

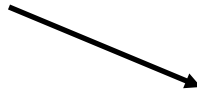


Contracts with Testing facility



DRT Program Implementation

OPP
reviews study,
assigns DRT rating



www.epa.gov/DRT

Category DRT**

- Better Nozzle Co.,
- nozzle XPG145

Nozzle ID	Pressure (psi)	Wind Speed (mph)	D ₅₀ (µm ± 2D)	D ₂₅ (µm ± 2D)	D ₇₅ (µm ± 2D)
Reference	43	120	967.7 ± 0.4	210.7 ± 0.8	332.6 ± 4.4
Leaf Nozzle A	40	120	1208.0 ± 2.0	227.7 ± 0.8	422.3 ± 3.0
Leaf Nozzle B	40	120	1221.1 ± 1.2	227.5 ± 0.3	422.5 ± 13.5

Better Nozzle Co.,
Nozzle XPG145
Rating: DRT**



DRT Program Implementation

Pesticide registrant includes use of DRT category on proposed product label



OPP considers DRT claim in risk assess/mgmt decision registration



"Apply with DRT** equipment."



Applicators see DRT claim on label, refer to websites for specific equipment

Incentives/Benefits of DRTs

- Standard method for validation
- More information for decision-making
- More options for applicators to make applications and manage drift
- Opportunity for better pest control, reduce costs and liabilities
- Reduced off-target drift/deposition – greater protection





Next Steps

- Initiate program this August
 - Final test protocol
 - Website
 - Communications
- Tests begin late summer–early fall
- DRT ratings early winter
- Initial new labels spring 2013