

Residual Treatments?

Do they fit your situation?

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Types of mosquito control

- ✗ Larvaciding
- ✗ Adulticiding
 - ULV
 - Low concentration – no residual

Residual or Barrier treatment
high rates to leave residue



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Residual Treatments What are they?

- ✗ “Barrier treatments”
 - Do not form a “wall”
 - Treated area where mosquitoes rest
 - Pick up pesticide when in contact
 - Protect an area



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What's needed for residual treatments to work?

- ✗ Resting area near protected zone
- ✗ No breeding area within zone
- ✗ Long insecticide residual
- ✗ Mosquito must contact insecticide



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Benefits

- ✗ Treat small area to protect large area
- ✗ Long residual
- ✗ Protect groups of people



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Downsides

- ✗ Kill beneficial insects
- ✗ More human contact
- ✗ Potential to contaminate food
- ✗ Additional equipment



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Military has done testing

ARMED FORCES PEST MANAGEMENT BOARD

DOD Pest Management Equipment Help Desk

What's New

Droplet Size Characteristics for Sprayers

- [Droplet spectra data for boom-mounted sprayers using water-based sprays.](#)
- [Droplet spectra data for boom-mounted sprayers using EC/ULV/UV.](#)
- [Droplet spectra of hand-held sprayers using water-based sprays.](#)
- [Droplet spectra of hand-held sprayers using oil-based sprays.](#)

Spray Discharge Direction

It is generally being considered who, what, when, how much and how to apply a pesticide. One aspect that needs attention is where to apply a pesticide in which direction the spray is discharged (in addition to other factors) determines where the spray is going to end. The figures 1 & 2 show the spray cloud moving in two different directions.

[United Health Organization](#) has the following recommendations for space spraying with vehicle mounted equipment:

- For vehicle-mounted equipment, in areas where the roads are narrow and the houses are close to the roadside, the spray should be directed backwards from the vehicle. In areas where the roads are wide, with buildings far from the roadside, the vehicle should be

Data for different sprayer

Sprayer	Spray solution	Dp50 (mm ± SD)	Dp90 (mm ± SD)	Dp95 (mm ± SD)	% vol. < 52 microns
Cob ULV	Aqua-Resin® (1:1)	9.7 ± 1.3	16.0 ± 1.6	26.7 ± 2.2	99.2
Cob ULV	Aqua-Resin (1:3)	9.6 ± 1.6	14.9 ± 0.6	23.3 ± 3.0	99.9
Leco P-1	Aqua-Resin (1:1)	33.6 ± 1.9	75.3 ± 6.3	137.3 ± 5.8	25.3
Leco P-1	Aqua-Resin (1:3)	32.6 ± 3.5	71.9 ± 4.6	115.1 ± 6.0	28.2
SBI SR400	0.1 % Triton X	18.0 ± 0.3	52.1 ± 0.8	102.6 ± 2.5	50.5
Setting 1	0.1% Triton X	21.0 ± 0.2	60.0 ± 0.3	119.4 ± 1.4	42.0
Setting 3	0.1% Triton X	23.6 ± 0.4	67.6 ± 1.2	138.1 ± 3.6	35.9
Setting 5	0.1% Triton X	25.5 ± 1.1	74.1 ± 3.3	160.9 ± 1.5	32.0
Setting 6	0.1% Triton X	27.2 ± 1.2	78.9 ± 2.9	166.3 ± 8.8	29.4
SBI SR400	Tempo SC Ultra®	22.4 ± 0.6	62.1 ± 1.0	122.4 ± 2.5	40.3
Setting 4	Tempo SC Ultra	30.0 ± 0.3	83.5 ± 0.3	159.0 ± 0.5	26.1
Setting 6	Tempo SC Ultra	31.6 ± 0.2	89.3 ± 0.5	184.8 ± 3.5	23.4
SBI SR400	Aqua-Resin (1:1)	20.9 ± 1.2	49.9 ± 0.2	99.3 ± 2.0	53.4
Setting 1	Aqua-Resin (1:44)	16.5 ± 0.9	45.6 ± 1.3	81.8 ± 3.7	59.9
Setting 4	Aqua-Resin (1:44)	28.2 ± 0.6	76.2 ± 1.6	137.3 ± 1.4	29.1
Setting 6	Aqua-Resin (1:44)	30.0 ± 0.15	81.2 ± 0.4	152.5 ± 3.1	26.6
SBI SR400 with electrostatic nozzle	Aqua-Resin (1:44)	26.2 ± 0.1	71.1 ± 0.4	126.9 ± 1.4	31.6
Turbine Electrode	0.1 % Triton X	33.3 ± 1.1	47.2 ± 0.9	74.4 ± 2.2	64.6
ULVAVAN	0.1 % Triton X	36.7 ± 1.1	63.2 ± 4.3	117.4 ± 4.3	32.0

How

- ✦ Various equipment
- ✦ Mist blower
- ✦ Boom sprayer/handgun

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How

- ✦ Must have deposition
- ✦ Must have coverage
- ✦ ~ 200 micron droplets
 - Penetrate foliage
 - cover foliage

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How

- ✦ Leave pesticide residue
- ✦ Surfaces where mosquitoes rest
- ✦ Probably not mowed grass
- ✦ Shrubs, trees, tall weeds,
- ✦ under bleachers, north sides of buildings, protected sites, etc.

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Can't treat it all?

- ✦ Evaluate site to protect
- ✦ Mosquitoes move through resting sites
- ✦ Consider transitional area

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How about here?



Or Here?



Any problems here?



What products?

- ✗ Cyfluthrin
- ✗ Bifenthrin
- ✗ Deltamethrin
- ✗ Lambda-cyhalothrin
- ✗ Permethrin
- ✗ Etc.
- ✗ Several different



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Restrictions

- ✗ Read each label
- ✗ Restrictions may be different
- ✗ Find product that suites your situations



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How long does it work?

- ✗ Some studies >30 days on leaves
- ✗ Much less on concrete



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Consider as part of PLAN

- ✧ Determine community events
- ✧ Determine zone to protect
- ✧ Evaluate resting areas
- ✧ Residual treat before events
- ✧ Continue larvicides and ULV



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Consider residual
treatments
to protect area
where people congregate
during the evening

Questions?



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