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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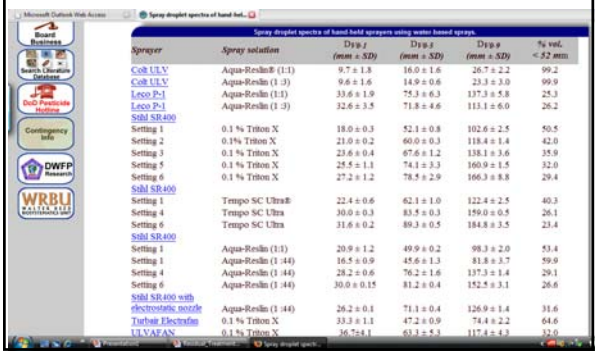
Military has done testing

Data for different sprayer



Sprayer	Spray solution	Dv0.1 (mm ± SD)	Dv0.5 (mm ± SD)	Dv0.9 (mm ± SD)	% vol. < 52 mm
Colt ULV	Aqua-Resin® (1:1)	9.7 ± 1.8	16.0 ± 1.6	26.7 ± 2.2	99.2
Colt 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	71.8 ± 4.6	113.1 ± 6.0	26.2
Stihl SR400					
Setting 1	0.1 % Triton X	18.0 ± 0.3	52.1 ± 0.8	102.6 ± 2.5	50.5
Setting 2	0.1% Triton X	21.0 ± 0.2	60.0 ± 0.3	118.4 ± 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	78.5 ± 2.9	166.3 ± 8.8	29.4
Stihl SR400					
Setting 1	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
Stihl SR400					
Setting 1	Aqua-Resin (1:1)	20.9 ± 1.2	49.9 ± 0.2	98.3 ± 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
Stihl SR400 with electrostatic nozzle	Aqua-Resin (1:44)	26.2 ± 0.1	71.1 ± 0.4	126.9 ± 1.4	31.6
Turbair Electrafin	0.1 % Triton X	33.3 ± 1.1	47.2 ± 0.9	74.4 ± 2.2	64.6
ULVAFAN	0.1 % Triton X	36.7±4.1	63.3 ± 5.3	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.

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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