

## Mist Sprayers/Foggers

Posted by [Colin Lundy](#)

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[Colin Lundy](#)

[Mist Sprayers/Foggers](#)

May 21, 2015 05:16AM

Registered: 8 years ago

Posts: 12

So I have seen surprisingly little discussion on the forum about sprayers. I will be frank, I don't like spraying but end up doing a lot of it - as I move from IPM to organic. I have only one acre, but a hand pump 4 gallon backpack sprayer is killing me. Not just the weight, but the pump action and the inefficiency of the spray nozzle - it takes a long time and I am sure that I am not getting great coverage.

Has anyone tried using a Mist Blower or Fogger? It is basically like a leaf blower but has a tank for spray solution. Or another way to look at it is an air blast sprayer that fits on your back.

[\[www.youtube.com\]](http://www.youtube.com)

[\[www.stihl.com\]](http://www.stihl.com)

Stihl and Solo both make them.

According to Youtube, they appear to be popular in the Developing world and am surprised to not see more about them here. Can anyone make any comments about these (besides the fact that being motorized it pollutes)? Have you tried it? What do you think? Even if you have not tried it, what would you presume?

Seems to me that it would make spraying a lot faster and that the spray coverage would be a lot better (finer and better distributed) than from a backpack spray nozzle, and with probably less use of spray solution, whether tea, clay, sulphur, chemical, or whatever.

Colin Lundy  
Colonial Inn Orchard  
North Gower, Ontario  
Zone 5a (Canada)  
Zone 3b (USDA)

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[Kevin Frank](#)

[Re: Mist Sprayers/Foggers](#)

May 21, 2015 02:22PM

Registered: 10 years ago

Posts: 24

Not sure that you would do well with oils and clay and the like using a fogger approach. I don't have rows of neatly lined up trees and the space between them for a tractor to march up and down like commercial orchardists do.

I did backpack sprayer on my 35 trees for many years. My elbow got tired and it felt inefficient. Now I use a 16 gallon electric sprayer from northern tool sat inside an overland electric cart (load capacity 750 lbs. The 12 volt battery for the sprayer sits in the cart. The cart batteries are integral. The cart is uber maneuverable and the sprayer reaches the top of my 20 foot high trees. Now I don't dread the 40 gallons or so of spray to do one round of the particular day's recipe. I always pre mix the neem oil with hot water and soap before putting in the sprayer. No problem with emulsification. No motor noise, no exhaust. Just low hum of electric motors and no constant energy usage--power happens for action only.. And we have a solar array that covers our electric usage with net metering so the whole thing is done with sustainable energy.

Kevin Frank  
Holderness, NH  
Zone 5b

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[Mike Biltonen](#)

[Re: Mist Sprayers/Foggers](#)

May 21, 2015 02:24PM

Registered: 10 years ago

Posts: 298

I have both used them and recommend them to small-acreage growers where a small 3-pt hitch airblast sprayer isn't affordable. I haven't used the Stihl, but the Solo I have. The mist gives better coverage, the "blast" gives better distribution, and the engine saves shoulder and elbow joints (and sanity). I've calculated that for a 7 year old tree on M7 (or equivalent) that the 3 gallon tank is adequate for 25-30 trees in full leaf. \$700...hard to beat.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

[Reply](#) [Quote](#)

[Michael Phillips](#)

[Re: Mist Sprayers/Foggers](#)

May 21, 2015 04:15PM

**Moderator**

Registered: 11 years ago

Posts: 621

Only once have I had a mistblower on my back ... and felt I was blasting off to the moon. But that was in earlier days with a heftier gas-powered engine. A three gallon tank means mucho off-and-on reloading. Your "acre of trees" based on Mike's coverage insights suggests 6 to 8 tanks for adequate coverage of seven-year-old trees. Mixing a larger batch may help so then you could distribute buckets of spray at logical staging areas.

The one question I would ask concerns the size nozzle opening and ability to adjust that. *Too fine an orifice puts the squeeze to microbes*. Droplets of spray seem the better choice for nutritional and biological approaches. Particularly when targeting more than just foliage, like bark crevices and trunk zones and even the ground in early spring and fall.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

Edited 1 time(s). Last edit at 05/23/2015 02:55PM by Michael Phillips.

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[Mike Biltonen](#)

[Re: Mist Sprayers/Foggers](#)

May 21, 2015 05:22PM

Registered: 10 years ago

Posts: 298

Michael is right that nurse tanks of pre-mixed materials strategically placed will make the process less cumbersome. As far as the nozzle size, the mistblower doesn't have a nozzle in the traditional sense. It is the air vortex in the tube that breaks up the droplets, not the orifice opening that restricts them. The actual nozzles are for changing direction and pattern of spray, kind of like a showerhead. There shouldn't be any issues with clogging unless material sits in the tank. So assuming the material is mixed well and sprayed very soon after being put in to the tank, Surround, EM, sulfur, oils are all compatible. If anyone has a different experience or problems with specific materials, it would be good to hear about.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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[Colin Lundy](#)

[Re: Mist Sprayers/Foggers](#)

May 23, 2015 04:50AM

Registered: 8 years ago

Posts: 12

Thanks so far. I hope to get some more thoughts:

My trees are also not so neatly placed that I can drive a tractor through; and my land is lumpy and uneven and the undergrowth uncut so walking is more suitable than carting.

I can't imagine clogging is an issue since these machines are also designed for dusting (spraying dry powders). However, Michael makes an interesting point; while the mist blower would be appropriate for some types of sprays (clay, sulphur, etc), does it reduce the droplet size so much that biologicals and oils (for smothering) would be less effective?

I admit that I would not be looking forward to the noise, nor the weight (30lbs before filling the tank), but the thought of doing 25-30 trees on one tank is pretty appealing, and I assume that they are covered more quickly and effectively than with a manual pump backpack sprayer. Currently I only get about 10-14 trees per 4 gallon tank with a manual pump backpack sprayer (depending on what I am spraying and at what time of year).

(Maybe that is my problem. Am I over-spraying? Could I be more efficient with a manual pump backpack sprayer?)

Colin Lundy

Colonial Inn Orchard

North Gower, Ontario

Zone 5a (Canada)

Zone 3b (USDA)

[Reply](#) [Quote](#)

[Michael Phillips](#)

[Re: Mist Sprayers/Foggers](#)

May 23, 2015 02:52PM

**Moderator**

Registered: 11 years ago

Posts: 621

Just to clarify a couple points, then others can return to Colin's particular questions about the effectiveness of mistblower sprayers.

That 25 to 30 tree estimate of Mike's is for 7 year old trees on 50 to 60% vigor rootstock. Such trees at this age are a few years along bearing-wise but probably not the full size allotted. A layout with tree spacing at 12 x 18 feet would amount to 201 trees per acre. Spraying a full-grown M.7 tree allotted a 6 foot radius to the *point of runoff* where both the topside and underside of leaves get wet -- and ideally the bark structure as well -- probably will mean that three gallons of spray covers a dozen trees, if that. Tree height is yet another variable.

This perception of oil to "smother" comes from the use of petroleum distillates at 2% concentration to do just that. Aphid and mite eggs respire, all the more the closer to the hatch point, and thus a delayed dormant app times all this right. Organic growers typically don't need to use dormant oil, not having done in the beneficials ... excepting in the case of an extreme scale infestation. **There is nothing nutritive about petroleum.** Confusion arises when we talk about the oily nature of neem, karanja, and fish hydrolysate. Better to think in terms of fats to fuel microbes and be absorbed by leaf and bark alike. No "smothering" is going on in the holistic approach as mechanisms are entirely different.

[Lost Nation Orchard](#)

Zone 4b in New Hampshire

[Reply](#) [Quote](#)

[Mike Biltonen](#)

Registered: 10 years ago

Posts: 298

[Re: Mist Sprayers/Foggers](#)

May 23, 2015 10:08PM

A couple of points: Michael is correct that 3 gallons will cover 12 full grown trees to run-off, if run-off is required. However, full coverage is more important and so ensuring that the material in the tank essentially "mists" the tree so that droplets of an appropriate size land on an optimal amount of tree surface volume requires some "energy" behind it. This is where the mistblower comes in.

In advanced sprayer technology droplet size is controlled through a combination of pressure (often greater than 150 psi) and nozzling technology -- none of which the mist-blower has. The mistblower has what I can only describe as a reverse Venturi effect -- the vortex of the air stream and length of the tube physically breaks up the liquid as it released at the end of the tube, in effect mist-ifying it (!). The nozzles on the end of the tube do have some impact in terms of directing the mist and defining the spray pattern, but in reality have little effect on the droplet size. Nonetheless, the effect the machine has on the droplet size and the force behind the deposition ensure good coverage throughout the tree canopy -- even in reasonably tall trees.

To Michael's final point, in conventional ag, the idea of a "smothering" spray (e.g., oil) comes from the reductionist theory that creating a "clean slate" orchard environment is optimum. The fact is that a 2-3% petro-oil spray kills (smothers) everything it hits, including beneficials. This is antithetical to a holistic orchard. Good coverage does not mean killing everything in its path -- we live with the reality that there will be some good bugs and some bad bugs and the two will balance each other...but in the end we have a healthy, vibrant orchard environment. All we're doing as holistic orchardists is assisting nature (presumptuous as that sounds) so our trees can grow a crop for us.

So, I don't know if this helps or hinders the conversation -- but that's another of my 2 cents thrown in. However, I don't think run-off in the strict sense is necessary with every spray, but good coverage (tops and bottoms of leaves) is. This is why I like the mistblower vs a handpump sprayer, if you can't afford or don't need a small airblast sprayer.

[Mike Biltonen, Know Your Roots](#)

Zone 5b in New York

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