

suggested herbicide concentrations for 4 gallon backpack sprayer

Asked July 9, 2014, 6:17 PM EDT

I'm using Milestone & Telar on Canadian Thistle & Houndstongue on my one acre lot. I'd like appropriate suggestions for the correct concentration of these products for my situation. Started with 1/2 liquid oz. of Milestone & 1 gm Telar powder to 4 gal. of water. Thistle initially wilts slightly but no further action after 1 week. Houndstongue shows no change at all; acts more like fertilizer than herbicide! Am I using the right stuff and in high enough concentrations. I'd appreciate being able to talk to someone as this is taking quite a bit of time and a lot of cost. The local Co-op that sells the products is pretty vague about mixes and the Pitkin county weed department seems less sure. Please help.

Pitkin County Colorado weeds (/home/questions/tags/weeds)

1 Response

Milestone and Telar are very low use rate herbicides and do not lend themselves easily to be applied as a percent solution - it is simply too easy to over-apply or under-apply - I suspect you did the latter. You should calibrate your sprayer so you know precisely the area it will cover and then you can make an appropriate mix. Below are directions to calibrate but with this said, it likely will be easier to do this if we can visit over the phone - details for that at the end of this response.

Backpack sprayers are fairly easy to calibrate. Fill the tank half full of water - it is not important whether it is exactly 1/2 or not but you must know exactly how much water you put into the tank. Pump the sprayer up to pressure (some have a pneumatic valve - a tire valve - that allows one to use a compressor to pump to pressure while other must be pumped each time to spray) and spray a known area with the water in the tank. I suggest measuring out 100 to 200 square feet - but again a known area - then spray that just as if you were going to spray a patch of weeds. You knew how much water you put in the sprayer, now measure how much is left after spraying the known area and that is how much water it took to cover 100 square feet (or whatever size area you choose). Now you can determine sprayer output in gallons per acre:

For example; if you used 200 ml to spray 100 square feet, then the calculations would be as follows: you will use the following "known values" in your calculations: There are 43,560 square feet in an acre and there are 3,785 ml in a gallon of liquid ... in this case water.

$$(200 \text{ ml}/100 \text{ sq ft})(43,560 \text{ sq ft}/\text{acre})(\text{Gal}/3,785 \text{ ml})=\mathbf{23 \text{ gal}/\text{acre}}$$

Your sprayer holds 4 gallons and at 23 gal/A sprayer output, a full tank would cover the following area:

$$(4 \text{ gal}/\text{tank})(\text{A}/23 \text{ gal})=\mathbf{0.17 \text{ A}/\text{tank}};$$

the recommended rate for Milestone to control Canada thistle is 7 fl oz product/A; the recommended rate of Telar to control houndstongue is 1.5 oz product/A (I normally recommend Cimarron Extra at 2 oz product/A to control houndstongue; Cim Ex is Telar+Escort; you already own the Telar so just use 1.5 oz of Telar and it should work for you) so these calculations show how much of each herbicide to add to the tank to be at the labeled rate when applying:

Milestone: known values; 128 fl oz/gal; 3,785 ml/gal

$$(7 \text{ fl oz}/\text{A})(0.17 \text{ A}/\text{tank})(29.6 \text{ ml}/\text{fl oz})=\mathbf{35.2 \text{ ml of Milestone}/\text{tank}};$$

Telar: known values; 28.4 grams/oz dry weight

$$(1.5 \text{ oz}/\text{A})(0.17 \text{ A}/\text{tank})(28.4 \text{ g}/\text{oz})=\mathbf{7.2 \text{ g}/\text{tank}}$$

Non-ionic surfactant at 0.25% v/v (equivalent to 1 qt of surfactant per 100 gal of spray solution):

$(4 \text{ gal/tank})(0.25\%)=0.01 \text{ gal/tank}$; $(0.01 \text{ gal/tank})(3,785 \text{ ml/gal})=37.9$ or **40 ml/tank**

These equations are just simple math where one is adding known values to the equation to eliminate the labels associated with the number to end up with the correct labels; e.g. gallons per acre; note in the equation above, "gal" cancels out of the equation and one then only has "ml/tank" left and that is the value of interest.

This is a lot of info in a small space and I will be most happy to help you calibrate your sprayer if you would contact me directly at George.Beck@colostate.edu and we can arrange for a time to visit on the phone ... probably will make this easier. Or if I have made any sense at all, then just let me know of any other questions you might have and again, please contact me directly.

thanks for the opportunity to help!

George

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Replied July 14, 2014, 5:41 PM EDT (/questions/198027#view-response-224311)

Answered by



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