

Backpack Sprayer Calibration (NO Math Version!)

HOW TO CALIBRATE A BACKPACK SPRAYER				
Step 1-2:	Establish a calibration plot that is exactly: 18.5 feet wide X 18.5 feet long. Spray the calibrated plot uniformly with water, noting the number of seconds required.	Time required =		Seconds
Step 3:	Spray into a bucket for the same number of seconds.			
Step 4:	Measure the number of ounces of water in the bucket.	Volume sprayed =		Ounces (oz.)
Step 5:	The number of ounces collected from the bucket (step 4) is equal to the number of gallons per acre the sprayer is delivering.	Ounces collected =		Gallons per acre (GPA)
Step 6:	Determine the volume of full spray tank.	Tank volume =		Gallons
Step 7:	From the herbicide label determine amount of herbicide concentrate to apply per acre.			
Step 8:	Determine the amount of herbicide to add to each gallon based on the chart below.	Herbicide amount per gallon =		(tsp, Tbsp, or oz.)
Step 9:	Calculate the amount of herbicide to add to one full tank by multiplying step 6 x step 8	Herbicide amount per tank =		(tsp, Tbsp, or oz.)

SAMPLE CALIBRATION				
Step 1-2:	Let's assume It takes you 25 seconds to spray the 18.5 foot calibration square.	Time required =	25	Seconds
Step 3:	Spray into a bucket for 25 seconds			
Step 4:	You measure out 40 ounces of water from the calibration bucket in step 3	Volume sprayed =	40	Ounces (oz.)
Step 5:	By measuring 40 ounces from step 4, you are sprayer output is 40 GPA	Ounces collected =	40	Gallons per acre (GPA)
Step 6:	Your backpack sprayer holds 3 gallons.	Tank volume =	3	Gallons
Step 7:	You want to spray leafy spurge with Plateau at 10 oz/A			
Step 8:	From the 40 GPA row and 10 oz/A column in Table 1, you will need 1½ tsp of Plateau per gallon.	Herbicide amount per gallon =	1 ½	tsp.
Step 9:	Multiplying steps 6 x 8, you need to add 4.5 tsp of Plateau to the 3 gallon spray tank. (Repeat 7-9 to determine MSO)	Herbicide amount per tank =	4 ½	tsp.

Table 1.

Spray Volume	Approximate Amount of Plateau to Add to Each Gallon Recommended Herbicide Rate per acre			Amount of MSO (methlyated seed oil) to Add to Each Gallon
	8 oz	10 oz	12 oz	2 pints / A
GPA				
20	2½ tsp	1 Tbsp	3½ tsp	10 tsp
30	1½ tsp	2 tsp	2½ tsp	2 Tbsp
40	1¼ tsp	1½ tsp	2 tsp	2 Tbsp
50	1 tsp	1¼ tsp	1½ tsp	2 Tbsp
For hand sprayer applications above 50 GPA, use a 1/8% or 1/16% solution of Plateau and a 1.0% solution of MSO. (Output volumes above 50 GPA are not required for adequate coverage)				
GPA	1/8% Plateau			1.0% MSO
60-80	1 tsp			2 ½ Tbsp
GPA	1/16% Plateau			1.0% MSO
80-100	½ tsp			2 ½ Tbsp

Liquid Conversions		
1 tsp. (teaspoon) =	1/3 Tbsp.	5 ml
1 Tbsp (tablespoon) =	3 tsp.	15 ml
1 oz. (fluid ounce) =	2 Tbsp.	30 ml
1 cup =	8 oz.	237 ml
1 pint =	2 cups	473 ml
1 quart =	2 pints	946 ml
1 gallon =	4 quarts	3785 ml