Application Rates

Conversions used in fertilizer calculations			
1 millimeter or cubic centimeter of water weighs 1 gram			
1 liter of water weighs 1 kilogram			
1 gallon of water weighs 8.34 pounds			
1 part per million (ppm)	= 0.0001 percent		
1 part per million	= 1 milligram/liter		
1 part per million	= 0.013 ounces in 100 gallons of water		
1 percent	= 10,000 ppm		
1 percent	= 10 grams per liter		
1 percent	= 10,000 grams per kilogram		
1 percent	= 1.33 ounces by weight per gallon of water		
1 percent	= 8.34 pounds per 100 gallons of water		
0.1 percent	= 1000 ppm	= 1000 milligrams per liter	
0.01 percent	= 100 ppm	= 100 milligrams per liter	
0.001 percent	= 100 ppm	= 10 milligrams per liter	
0.0001 percent	= 100 ppm	= 1 milligram per liter	
Approximate weight-volume measurements for making small volumes of water-soluble fertilizers			
1 cup	= 8 oz or 1/2 lbs of fertilizer	1 tablespoon	= 0.5 oz of fertilizer
2 cups	= 1 lb of fertilizer	2 tablespoons	= 1 oz of fertilizer
Useful conversions			
1 ton/acre	= 20.8 grams/square foot	lbs/square foot x 43,560	= lbs/acre
1 ton/acre	= 1 lb/21.78 square feet	100 square feet	= 1/435.6 or 0.002296 acres
1 gram/square foot	= 96 lbs/acre	1 in	= 2.54 cm
1 lb/acre	= 0.0104 g/square foot	1 lbs	= 454 gram
100 lbs/acre	= 0.2296 lbs/100 square feet	1 fl oz	= 29.5 ml
100 lbs/acre	= 0.2296 lbs/200 sq feet	1 gal	= 3.79 L
grams/square foot x 96	= lbs/acre	1 acre	= 0.405 hectare

Weight conversions from lbs/acre to weight/100 square feet

lbs/acre	**amount applied/100 sq ft**	**lbs/acre**	**amount applied/100 sq ft**
100	3.7 oz	700	1 lb 10 oz
200	7.4 oz	800	1 lb 13 oz
300	11.1 oz	900	2 lb 1 oz
400	14.8 oz	1000	2 lb 5 oz
500	1 lb 2 1/2 oz	2000	4 lb 10 oz
600	1 lb 6 oz		

Application Rate

Equivalent quantities of dry materials (wettable powders) for various volumes of water based on recommended pounds per 100 gallons

	Recommended Rate					
Water	**1 lb**	**2 lb**	**3 lb**	**4 lb**	**5 lb**	**6 lb**
50 gal	½ lb	1 lb	1½ lb	2 lb	2½ lb	3 lb
25 gal	4 oz	8 oz	12 oz	1 lb	1¼ lb	1½ lb
12.5 gal	2 oz	4 oz	6 oz	8 oz	10 oz	¾ lb
5 gal	3 tbs	1½ oz	2½ oz	3¼ oz	4 oz	5 oz
1 gal	1 tsp	2 tsp	1 tbs	4 tsp	5 tsp	2 tbs

Example: Directions for use specify a rate of 4 lb per 100 gal of water. To prepare 1 gal of solution would require 4 tsp of material.

Equivalent quantities of liquid materials (emulsion concentrates, etc.) for various volumes of water based on pints per 100 gallons

Water 100 gal	Recommended Rate					
	½ pt	**1 pt**	**2 pt**	**3 pt**	**4 pt**	**5 pt**
50 gals	4 fl oz	8 fl oz	1 pt	1½ pt	2 pt	2½ pt
25 gals	2 fl oz	4 fl oz	8 fl oz	12 fl oz	1 pt	1¼ pt
12.5 gals	1 fl oz	2 fl oz	4 fl oz	6 fl oz	8 fl oz	10 fl oz
5 gals	1 tbs	1 fl oz	2 fl oz	2½ fl oz	3 fl oz	4 fl oz
1 gal	½ tsp	1 tsp	2 tsp	3 tsp	4 tsp	5 tsp

Example: Directions for use specify a rate of 4 pt per 100 gal of water. To prepare 5 gal of solution would require 3 fl oz of material.

Rate of application equivalent table

Rate per Acre	Rate per 1000 sq ft	Rate per 100 sq ft
	Liquid Materials	
1 pt	¾ tbs	¼ tsp
1 qt	1½ tbs	½ tsp
1 gal	6 tbs	2 tsp
25 gal	42/3 pt	½ pt
50 gal	42/3 qt	1 pt
100 gal	2 gal	1 qt
200 gal	4 gal	2 qt
300 gal	7 gal	3 qt
400 gal	9¼ gal	1 gal
500 gal	11½ gal	1¼ gal
	Dry Materials	
1 lb	2½ tsp	¼ tsp
3 lb	2¼ tbs	¾ tsp
4 lb	3 tbs	1 tsp
5 lb	4 tbs	1¼ tsp
10 lb	½ cup	2 tsp
100 lb	2¼ lb	¼ lb
200 lb	42/3 lb	½ lb
300 lb	7 lb	¾ lb
400 lb	9¼lb	1 lb
500 lb	11½ lb	1¼ lb

Examples: For liquid materials, 100 gal per acre is equivalent to 21/3 gal per 1000 ft2 or 1 qt per 100 ft2. For dry materials, 4 lb per acre is equivalent to 3 tbs per 1000 ft2 or 1 tsp per 100 ft2.