NATIONAL SEED

Measurement Conversions

Common Weights and Measures

1 gal water = 231 in^3 = 8.345 lbs

Area:

43,560 ft^2 = 1 acre
640 ac = 1 $mile^2$ (section)
9 ft^2 = 1 yd^2
4,840 yd^2 = 1 acre

Speed:

1 mph = 88 feet per min

Length:

12 inches = 1 foot
3 feet = 1 yard
5,280 feet = 1 mile

Weight:

1 oz = 0.0625 lb
1 lb = 16 oz
1 ton = 2,000 lbs

Volume:

1 tsp = 0.17 fl oz
1 tbs = 3 tsp
1 fl oz = 2 tbs = 6 tsp
1 cup = 8 fl oz = 16 tbs
1 pt = 2 cups = 16 fl oz
1 qt = 2 pt = 32 fl oz
1 gal = 4 qt = 8 pt =128 fl oz = 231 in^3

Metric Weights and Measures

1 cm^3 (cc) = 1 ml = 1 g @ 20 C° (water)

Area:

1 km^2 = 1,000,000 m^2
1 m^2 = 10,000 cm^2

Length:

10 mm = 1 cm
10 cm = 1 decimeters (dm)
10 dm = 1 m = 100 cm
1,000 m = 1 km

Weight:

1 000 micrograms (mcg) = 1 mg
1,000 mg = 1 g
1,000 g = 1 kg
1,000 kg = 1 metric ton

Volume:

1 milliliter = 0.001 liter
1 centiliter = 0.01 liter
1 deciliter = 0.1 liter
1 kiloliter = 1000 liters

Concentration:

1 part per million (ppm) = 1 mg/l
= 1 mg/kg
1% = 10 g/l
0.1% = 1,000 mg/l

Concentration:

1 ppm = 0.00001 % = 0.013 oz in 100 gal of water
1 % = 10,000 ppm 0.1 % = 1,000 ppm
0.01 % = 100 ppm 0.001 % = 10 ppm

Metric to U.S. Customary System Conversions

Length:

1 ft = 0.3048 m ..... 1 m = 3.280 ft
1 mile = 1.609 km ..... 1 km = 0.621 mile
1 in = 2.54 cm ..... 1 cm = 0.393 in

Area:

1 in^2 = 6.45 cm^2 ..... 1 cm^2 = 0.155 in^2
1 ft^2 = 929 cm^2 ..... 1 cm^2 = 0.00108 ft^2
1 yd^2 = 8,361 cm^2 ..... 1 cm^2 = 0.000119599 yd^2
1 yd^2 = 0.8361 m^2 ..... 1 m^2 = 1.19599 yd^2 = 10.76 ft^2 = 1,550 in^2
1 ac = 4,050 m^2 ..... 1 m^2 = 0.000247105 ac
1 ac = 0.4046856 h..... 1 h = 107,600 ft^2 = 2.47 ac

Volume:

1 fl oz = 29.5 ml = 0.0295 L
1 ml = 0.033814 fl oz = 0.002113 pt
1 pt = 437 ml = 0.437 L
1 L = 33.814 fl oz = 2.113 pt = 1.0567 qt = 0.264 gal
1 qt = 945 ml = 0.945 L
1 gal = 3,785 ml = 3.785 L

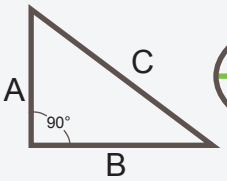
Weight:

1 oz = 29 g, 1 lb = 454 g

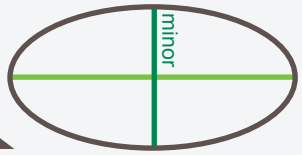
Useful Area Calculations

- Area of a square = length of $side^2$
- Area of a rectangle = side × width
- Area of a circle = π Pi (3.1416) × $radius^2$
- Area of an ellipse = π Pi (3.1416) × (major ÷ 2) × (minor ÷ 2)
- Area of a right triangle = (side A × side B) ÷ 2
- Area of equilateral triangle = 1/4 (0.25) × √3 (1.732)

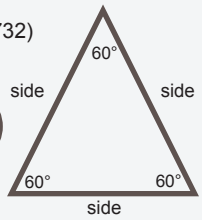
Circle



Right Triangle



Ellipse



Equilateral Triangle

Spray Tank Mixing Sequence

Fill the spray tank with at least 50% of the desired finished carrier volume. While the carrier is agitating, add tank mix ingredients in the following order:

1. Compatibility agent, pH/water hardness adjustment and/or antifoam, if needed
2. AMS, dry formulations (WP, DF, WDG, SP), and dry drift retardants
3. Dry soluble and suspension fertilizers/micronutrients
4. Liquid drift retardants and flowable formulations (F & FL)
5. Liquid concentrates, suspension concentrates, microencapsulated and capsule suspension (LC, SC, ME, CS)
6. Emulsifiable concentrates (E, EL or EC)
7. Solutions and soluble liquids (S or SL)
8. Liquid micronutrients and fertilizers
9. Spray adjuvants (COC, HSOC, MSO, NIS)
10. Finish filling to desired spray volume level and continue agitation

Abbreviations

ac.....acre
cc.....cubic centimeter
cm.....centimeter
fl oz.....fluid ounce
fpm.....feet per minute
ft.....foot or feet
g.....gram
gal.....gallon
gpm.....gallons per minute
h.....hectare
in.....inch
kg.....kilogram
km.....kilometer
L.....liter
lb.....pound
mi.....mile
oz.....ounce
ppm.....part per million
pt.....pint
m.....meter
mg.....milligram
min.....minute
ml.....milliliter
mm.....millimeter
mph.....miles per hour
psi.....pounds per square inch
qt.....quart
rpm .....revolutions per minute
sq.....square
sq ft.....square foot (feet)
sq in.....square inch
tbs.....tablespoon
tsp.....teaspoon
yd.....yard

Temperature Conversions

To convert degrees Celsius (C) to degrees Fahrenheit (F): multiply by 1.8 and add 32. Example: 20° C = (20 × 1.8) + 32 = 68° F

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