

Useful Conversions

Agronomic:

- 1 acre-foot of soil = 2,000 tons (approximate @ 92 lbs/cu. ft.)
- 1 lb per acre = 0.0104 grams per square foot
- 100 lbs per acre = 0.2296 lbs per 100 square foot
- 1 cubic feet per second = 448.8 gallons per minute
- 1 lb = 16 ounces = 454 grams
- 1 oz = 28.375 grams
- 1 inch = 2.54 cm
- 1 gallon = 3.78 liters
- 1 ppm = 2 lbs/acre of soil 6" deep @ 92 lbs/cu. ft.
- 1 ton per acre = 20.8 g per sq. ft. = 0.73 ounces/ sq. ft.
- 1 ton per acre = 1 lb per 21.78 sq. ft.
- 1 ton per acre = 4.59 lb per 100 sq. ft.
- 1 gram per sq. ft. = 96 lbs per acre
- 1 lb per acre = 1.12 kilograms per hectare
- 1 lb per acre = 0.01042 grams per sq. ft.
- 1 ton per acre = 1 kg per 48 sq. ft.
- lbs per sq. ft. x 21.768 = tons per acre
- lbs per sq. ft. x 43,560 = lbs per acre
- 1 acre = 0.405 hectares
- 1 mile = 1.61 km
- parts per million (ppm) x 0.00136 = tons per acre-foot

To convert a soil test from ppm to lbs per acre.

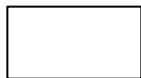
1. Determine the depth of soil in inches that the soil represents
2. Divide this depth by 3
3. Multiply the result by the soil test result

Example: Soil test for nitrate is 9 ppm and sampled depth is 12" ($12''/3 = 4$, $4 \times 9 = 36$ lb/ac)

Mathematics Chart:

<u>Multiply</u>	<u>by</u>	<u>To obtain</u>
Acres	43,560	Sq. ft.
Acres	4,047	Sq. m
Acre-ft	325,851	gallon
Cubic feet	7.48	gallon
Cubic feet per second (cfs)	0.6463	MGD
CFS	448.8	gpm
Days	86,400	seconds
Feet	30.48	cm
Feet per sec	0.3048	m per sec
Feet of water	0.4335	psi
Gallons	0.1337	cu. ft.
Gallons	3.785	liters
Gallons of water	8.345	lbs of water
Grams	0.001	kg
Hectares	2.471	acres
Horse-power	0.7457	kw
Kilometers (km)	0.6214	mi.
Liters	0.0353	cu. ft.
Meters	3.281	feet
Micron	0.000001	meters
Miles	5280	feet
Miles	1.609	Km
Milligrams (mg)	0.001	Grams (g)
Million Gallons per Day (MGD)	1.547	CFS
Pounds	0.0005	tons
Pounds	453.6	grams
Square Feet	0.00002296	Acres
Square Miles	640	Acres
Inches	2.54	cm
° C	(x 1.8) + 32	° F
° F	(-32) x 0.555	° C

Geometry Formulas:

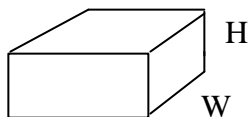


L

W

$$\text{Perimeter} = 2 (L + W),$$

$$\text{Area} = (L * W)$$

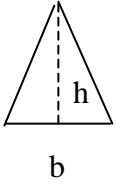


L

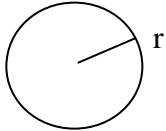
H

W

$$\text{Volume} = L * W * H$$



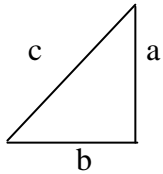
$$\text{Area} = \frac{1}{2} * (b * h)$$



$$\text{Circumference} = 2 * r * \mathbf{p}$$

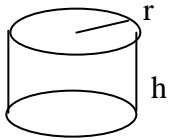
$$\text{Area} = r * r * \mathbf{p}$$

$$\mathbf{p} = 3.14 (\text{Pi})$$



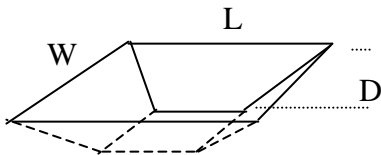
$$c^2 = a^2 + b^2 \quad (\text{a, b, c - are lengths})$$

$$\text{Area} = \frac{1}{2} (a * b)$$



$$\text{Cylinder Surface Area} = 2r\mathbf{p}h + 2\mathbf{p}r^2 \quad \mathbf{p} = 3.14 (\text{Pi})$$

$$\text{Cylinder Volume} = \mathbf{p}r^2h$$



$$\text{Volume (cu.yd.)} = \frac{(A + 4*B + C)}{6} * \frac{D}{27}, \text{ where}$$

V = Volume in Cu. Yds.

A = Area of excavation at ground surface (ft²)

B = Area of excavation at the mid depth point (1/2 D), (ft²)

C = Area of excavation at the bottom of the pond (ft²)

D = Average depth of the pond (ft)