

Bushel Weights Of Various Crops

Peanuts	22 lb
Oats	32 lb
Rice	45 lb
Barley	48 lb
Corn (shelled)	56 lb
Rye	56 lb
Sorghum	56 lb
Wheat	60 lb
Soybeans	60 lb
Corn (ear)	70 lb

Temperature†

°C	°F
100	212
90	194
80	176
70	158
60	140
50	122
40	104
37	98.6
30	86
20	68
10	50
0	32
-5	23
-10	14
-20	-4
-30	-22
-40	-40

Common Liquids Lbs / Gal

11-37-0	12.00
10-34-0	11.65
3-18-18 WL	11.70
10-25-0 WL	11.10
32-0-0	11.07
Am Thio	11.00
10-10-10	10.10
10-0-10-.5B SRN	9.90
22% Urea Liquor	9.48
3-0-11	9.40
23% Urea Liquor	9.34
Water	8.33

† To convert °C to °F,
use this formula:
 $(9/5 \times ^\circ\text{C}) + 32.$

† To convert °F to °C,
use this formula:
 $5/9 \times (^\circ\text{F} - 32)$



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Soil Fertility
Quick Reference Guide



Crop Removal Rates

FIELD CROPS	UNIT	P ₂ O ₅	K ₂ O
Corn	lb/bu	0.44	0.29
Cotton	lb/bale	14.00	19.00
Rice	lb/bu	0.30	0.16
Sorghum	lb/cwt	0.75	0.38
Soybeans	lb/bu	0.80	1.40
Wheat	lb/bu	0.50	.35

Computation of Percent Base Saturation from Soil Test Levels

Basic Element	Conversion Factor
K	780
Ca	400
Mg	240
Na	460

Calculation - Part 1: To Convert lb/A to milliequivalents per 100g

1. Take lb/A of nutrient element
2. Divide by conversion factor

Calculation - Part 2: To Convert lb/A to milliequivalents per 100g

3. Divide the meq/100g of a given element by the CEC (reported in meq/100g)
4. Multiply the result by 100

Example Calculation for K

Given: 450 lb/A soil test K
CEC is 14 meq/100g $\ggg 450/780 = 0.576$ meq/100g

450/780 = 0.576 meq/100g

(0.576/14) x 100 = 4.1 percent K saturation of the CEC

Base saturation is sum of meq/100g for K, Ca, Mg and Na

Percent Acid Saturation

Acid Saturation = 100 - % base saturation

i.e. Base saturation = 70%, then acid saturation = 30%

Area

Unit of Measure	Symbol	in ²	ft ²	yd ²	m ²	acre	ha	km ²	mi ²
Square Inch	in ²	1	0.0069444	7.7 x 10 ⁻⁴	6.4 x 10 ⁻⁴	1.6 x 10 ⁻⁷	6.4 x 10 ⁻⁸	6.4 x 10 ⁻¹⁰	2.5 x 10 ⁻¹⁰
Square Foot	ft ²	144	1	0.11111	0.92903	2.3 x 10 ⁻⁵	9.3 x 10 ⁻⁶	9.3 x 10 ⁻⁸	3.6 x 10 ⁻⁸
Square Yard	yd ²	1,296	9	1	.08613	2.0 x 10 ⁻⁴	8.4 x 10 ⁻⁵	8.4 x 10 ⁻⁷	3.2 x 10 ⁻⁷
Square Meter	m ²	1,550.0	10.764	1.1960	1	2.4 x 10 ⁻⁴	0.0001	1.0 x 10	3.9 x 10 ⁻⁷
Acre	acre	6.3 X 10 ⁶	43,560	4,840.1	4,046.9	1	0.40469	0.0040469	0.0015625
Hectacre	ha	1.55 X 10 ⁷	1.07 x 10 ⁵	11,960 ⁵	10,000	100	1	0.01	0.0038610
Square Kilometer	km ²	1.55 X 10 ⁹	1.07 x 10 ⁷	1.2 x 10 ⁶	1.0 X 10 ⁶	2.4711	100	1	0.38610
Square Mile	mi ²	4.0 x 10 ⁹	2.8 x 10 ⁷	3.1 x 10 ⁶	2.6 X 10 ⁶	640	259	2.5899	1

Weight

Unit of Measure	Symbol	mg	g	kg	lb	short ton	long ton	t
Milligram	mg	1	0.001	1.0 x 10 ⁻⁶	2.2 x 10 ⁻⁵	1.1 x 10 ⁻⁹	9.8 x 10 ⁻¹⁰	1.0 x 10 ⁻⁹
Gram	g	1,000	1	0.001	2.2 x 10 ⁻³	1.1 x 10 ⁻⁶	9.8 x 10 ⁻⁷	1.0 x 10 ⁻⁶
Kilogram	kg	1.0 x 10 ⁶	1,000	1	2.2046	1.1 x 10 ⁻³	9.8 x 10 ⁻⁴	0.001
Pound	lb	4.5 x 10 ⁵	453.59	0.45359	1	4.9 x 10 ⁻⁴	4.4 x 10 ⁻⁴	4.5 x 10 ⁻⁴
Short ton	short ton	9.1 x 10 ⁸	9.1 x 10 ⁵	907.44	2,000.6	1	0.89310	0.90744
Long ton	long ton	10.2 x 10 ⁸	10.2 x 10 ⁵	1,016.0	2,240.0	1.1197	1	1.0160
Metric ton	t	1.0 x 10 ⁹	1.0 x 10 ⁵	1,000	2,204.6	1.1023	0.9842	1