Conversion Factors and Tables

Nutrient Management Module 7

Length

Unit of measure	Symbol	mm	cm	m	km	in	ft	mi
millimeter	mm	1	0.1	0.001	---	0.0394	0.003	-
centimeter	cm	10	1	0.01	---	0.394	0.033	-
meter	m	1000	100	1	0.001	39.37	3.281	--
kilometer	km	--	--	1000	1		3,281	0.621
inch	in	25.4	2.54	0.0254	—	1	0.083	-
foot	ft	304.8	30.48	0.305	---	12	1	--
mile	mi	---	--	1609	1.609	---	5280	1

Area

Unit of measure	Symbol	m^2	ha	km^2	ft^2	acre	mi^2
square meter	m^2	1	---	---	10.76	---	---
hectare	ha	10,000	1	0.01	107,640	2.47	0.00386
square kilometer	km^2	$1x10^6$	100	1	----	247	0.386
acre	acre	4,049	0.405	---	43,560	1	0.00156
square mile	mi2		259	2.59	---	640	1

Volume

Unit of measure	Symbol	km^3	m^3	L	Mgal	acre-ft	ft^3	gal
cubic kilometer	km^3	1	$lxl0^9$	--	--	811,000		
cubic meter	m^3	--	1	1000	--	--	35.3	264
liter	L		0.001	1			0.0353	0.264
million U.S. gallons	Mgal	--	--	--	1	3.07	134,000	1x106
acre-foot	acre-ft	--	1,233	--	0.3259	1	43,560	325,848
cubic foot	ft^3	--	0.0283	28.3	--	—	1	7.48
gallon	gal	--	--	3.785	--	--	0.134	1

FIELD ACREAGE

1 Acre = 43,560 sq. ft.

Acres = $\frac{\text{area in square feet}}{43{,}560}$

Rectangular or Square Fields
Acres = $\frac{\text{Length x Width (in feet)}}{43{,}560}$

Triangular Fields
Acres = $\frac{\text{Base x Height (in feet)}}{2 \times 43{,}560}$

Parallelogram Fields
(opposite sides parallel)
Acres = $\frac{\text{Base x Height (in feet)}}{43{,}560}$

Trapezoidal Fields (two sides parallel)
Acres = $\frac{\text{(length of A + length of B) x Height (in feet)}}{2 \times 43{,}560}$

Odd Shaped Fields

Divide into triangles and/or rectangles; find area of each separately; then add areas.

DRY MEASURE

1 pint = 33.6 cubic inches
1 quart = 67.2 cubic inches
1 peck = 537.61 cubic inches
1 bushel = 2,150.42 cubic inches = 1.244 ft^3
1 standard barrel = 7,056 cubic inches

STANDARD CROP WEIGHTS

1 bushel wheat = 60 pounds (U.S. Government)
1 bushel corn = 56 pounds (U.S. Government)
1 bushel barley = 48 pounds (U.S. Government)
1 bushel oats = 32 pounds (U.S. Government)
1 bushel potatoes = 60 pounds (most states in U.S.)
1 bushel rice = 45 pounds
1 bushel grain sorghum = 56 pounds
1 bushel of soybeans = 60 pounds
1 bushel of dry beans = 60 pounds
1 bushel of cereal rye = 56 pounds
1 bushel of rapeseed = 50 pounds
1 bushel of sunflower seed = 24 pounds
1 bushel of spelt = 40 pounds
1 bushel of triticale = 56 pounds

RATES OF APPLICATION

1 ounce/square foot	=2,722.5 pounds/acre
1 ounce/square yard	=302.5 pounds/acre
1 ounce/100 square feet	=27.2 pounds/acre
1 pound/100 square feet	=435.6 pounds/acre
1 pound/1,000 square feet	=43.6 pounds/acre
1 pint/acre	=1 fluid ounce/242 square yards
1 gallon/acre	=1/3 ounce/1000 square feet
5 gallons/acre	=1 pint/1,000 square feet
100 gallons/acre	=2.5 gallons/1,000 sq. ft = 1 qt/100 sq. ft
grams/square foot x 96	=pounds/acre
kilograms/48 square feet	=tons per acre
pounds/square feet x 21.78	=tons per acre
100 pounds/acre	=3-1/2 oz/100 sq. ft = 2.5 pounds/1,000 sq. ft
200 pounds/acre	=7-1/2 oz/100 sq. ft
300 pounds/acre	=11 oz/100 sq. ft
400 pounds/acre	=14-3/4 oz/100 sq. ft
500 pounds/acre	=1 lb 2-1/2 oz/100 sq. ft
600 pounds/acre	=1 lb 6 oz/100 sq. ft
700 pounds/acre	=1 lb 10 oz/100 sq. ft
800 pounds/acre	=1 lb 13 oz/100 sq. ft
900 pounds/acre	=2 lb 1 oz/100 sq. ft
1,000 pounds/acre	=2 lb 5 oz/100 sq. ft
2,000 pounds/acre	=4 lb 10 oz/100 sq. ft

CONVERSIONS

1 oz = 29.57 ml = 2 tablespoons
1 tablespoon = 14.8 ml
3 teaspoons = 1 tablespoon
4 tablespoons = 1/4 cup
5 1/3 tablespoons = 1/3 cup
8 tablespoons = 1/2 cup
10 2/3 tablespoons = 2/3 cup
16 tablespoons = 1 cup
1 ounce = 28.35 grams
1 gram = 0.035 ounces
1 cup = 8 fluid ounces
1 cup = 1/2 pint
2 cups = 1 pint
4 cups = 1 quart
4 quarts = 1 gallon
8 quarts = 1 peck
4 pecks = 1 bushel
1 quart = 946.4 milliliters
1 liter = 1.06 quarts

To convert Column 1 to Column 2, multiply by:	Column 1	Column 2	To convert Column 2 to Column 1, multiply by:
1.609	mile, mi	kilometer, km	0.621
0.914	yard, yd	meter, m	1.094
2.540	inch, in	centimeter, cm	0.394
2.590	$mile^2$, mi^2	$kilometer^2$, km^2	0.386
0.00405	acre, A	$kilometer^2$, km^2	247.1
0.405	acre, A	hectare, ha (0.01 km^2)	2.471
102.8	acre-inch, ac-in	$meter^3$, m^3	0.00973
0.2852	cubic foot, ft^3	hectoliter, hl	3.532
0.352	bushel, bu	hectoliter, hl	2.838
0.946	quart (liquid), qt	liter, L	1.057
0.9072	ton (English), T	ton (metric), T	1.102
0.00454	pound, lb	quintal, q	220.5
0.454	pound, lb	kilogram, kg	2.205
2.242	ton (English)/acre	ton (metric)/hectare	0.446
1.121	lb/acre	kg/ha	0.892
1.121	hundredweight/acre	quintal/hectare	0.892
0.0703	$lb/inch^2$, psi	kg/cm^2	14.22
0.06895	lb/in^2, psi	bar	14.50
1.013	atmosphere, atm*	bar	0.9869
1.033	atmosphere, atm*	kg/cm^2	0.9678
0.06805	lb/in^2, psi	atmosphere, atm*	14.70
0.555(F-32)	Fahrenheit, F	Celsius, C	1.80C + 32
10.764	foot-candle, ft-c	lux	0.0929
* An "atmosphere" may be specified in metric or English units.			

USEFUL MEASUREMENTS

Capacities

Cylinder - $diameter^2$ x depth x 0.785 = cubic feet
Rectangle - breadth x depth x length = cubic feet
Cubic Feet x 7.48 = gallons

Quick Conversions

1 pint/acre = 1 fluid oz./242 sq. yards
1 gal/acre = 1 pint/605 sq. yards
1 lb/acre = 1 oz./300 sq. yards
1 cwt/acre = 0.37 oz./sq. yard
1 mph = 88 ft./minute
3 mph = 1 chain/15 sec.

A strip 3 ft. wide x 220 chains = 1 acre
A strip 4 ft. wide x 165 chains = 1 acre
A strip 5 ft. wide x 132 chains = 1 acre

CONVERSION FACTORS

1 gal	=	231 $in.^3$	1 ac-in.	=	3630 $ft.^3$
		0.134 $ft.^3$			134.4 $yd.^3$
		.005 $yd.^3$			27,154 gal.
		8.33 lbs. H_2O			226,192 lbs. H_2O
					335,312 lbs. soil
1 $ft.^3$	=	1728 $in.^3$			
		0.037 $yd.^3$	1 ac-ft	=	43,560 $ft.^3$
		7.48 gal			1613.3 $yd.^3$
		62.4 lbs. H_20			325,848 gal.
					2,722,000 lbs. H_2O
1 $yd.^3$	=	46,656 $in.^3$			4,000,000 lbs. soil
		27 $ft.^3$			
		202 gal	1 $ft.^3$/sec.	=	448.8 gpm
		2480 lb soil			0.993 ac-in./hr.
		0.00744 ac-in			23.8 ac-in/day
		0.00062 ac-ft			3600 ft^3/hr
					7.5 gal/sec
1 acre	=	43,560 ft^2	1 part per million (ppm)	=	0.00136 ton/ac- ft.
		4,840 yd^2			227 lb./ac-in.
		160 rod^2			1 ml /liter
		208.7 $ft.^2$			2 lb/ac. per acre-furrow-slice (6.67 “)
		0.405 hectares			
			An acre-furrow-slice	=	one acre to a depth of 6 2/3 in.
1 gpm	=	0.00223 ft^3/sec.			$\pm$ 2,000,000 lb of soil
		0.00221 ac-in/hr.			
		1440 gal/24 hr.	1 $lb./in.^2$(1 psi)	=	2.31 ft. H_2O
		0.053 ac-in/24 hr.			

WEIGHTS AND MEASURES

1 acre = 0.405 hectare
1 hectare = 2.47 acres
1 acre = 43,560 square feet
1 acre = 4840 square yards
1 acre = 10 square chains

1 bushel (dry) = 1.244 cubic feet
1 bushel (dry) = 2150 cubic inches
1 bushel (dry) = 35.24 liters
1 bushel (dry) = 4 pecks
1 bushel (dry) = 32 quarts

1 cubic foot = 0.804 bushel
1 cubic foot = 25.714 quarts (dry)
1 cubic foot = 29.922 quarts (liquid)
1 cubic foot = 1728 cubic inches

1 cubic foot = 7.81 gallons
1 cubic inch = 16.39 cubic centimeters
1 cubic inch = 0.554 ounces (fluid)
1 cubic yard = 27 cubic feet
1 cubic yard = 46,656 cubic inches
1 cubic yard = 202 gallons
1 cubic yard = 764.5 liters

1 gallon = 3785 cubic centimeters
1 gallon = 231 cubic inches
1 gallon = 0.1337 cubic feet
1 gallon = 3.785 liters
1 gallon = 128 fluid ounces
1 gallon = 4 quarts = 8 pints

1 inch = 2.54 centimeters

1 kilogram = 35.274 ounces
1 kilogram = 2205 pounds

1 liter = 33.81 ounces (fluid)
1 liter = 1.816 pints (dry)
1 liter = 1.057 quarts or 2.11 pints (liquid)
1 liter = 61.025 cubic inches
1 liter = 0.264 gallons

1 meter = 39.37 inches

1 mile = 5280 feet
1 mile = 1760 yards
1 mile = 1.6 kilometers
1 mile = 80 chains
1 mile = 8 furlongs

1 mile per hour = 1.467 feet per sec

1 ounce (avoirdupois) = 28.349 grams
1 ounce (fluid) = 29.574 cubic centimeters
1 ounce (fluid) = 1.805 cubic inches

1 pound = 454 grams
1 pound = 16 ounces
1 quart (dry) = 67.20 cubic inches
1 quart (liquid) = 57.75 cubic inches

1 rod = 16.5 feet
1 rod = 5.029 meters
1 rod = 5.5 yards

1 square foot = 144 square inches
1 square yard = 9 square feet

1 ton (short) = 907.185 kilograms
1 ton (short) = 2000 pounds
1 ton (long) = 2240 pounds
1 ton (metric)= 2204 pounds

1 yard = 91.440 centimeters
1 yard = 3 feet

1 chain = 22 yards
1 chain = 4 rods
1 chain = 100 links

AREAS

Surveyor's Measure (Area)

1 square link = 62.73 square inches
1 square pole = 625 square links
1 square chain = 16 square poles
1 acre = 10 square chains
1 square mile = 640 acres
1 square mile = 1 section
1 township = 36 square miles

Miscellaneous

1 square rod	= 272.25 square feet
1 acre	= 160 square rods
1/4 section of land	= 160 acres = ½ mile by ½ mile
1 foot by 1 mile	= .1212 acres

ACTIVE INGREDIENT (AI) FORMULAS

Pounds Commercial Material/acre = Pounds AI per acre to be applied
Decimal equivalent of % AI

Gallons Commercial Material/acre = Pounds AI per acre to be applied
Pounds AI per gallon

Gallons Commercial Material/tank = Gallons/tank x pounds AI to be applied/acre
Gallons/acre x pounds AI per gallon

Conversion Factors for Fertilizer Materials [1/] [2/]			
		To Convert	
A	B	A to B Multiply By:	B to A Multiply By
Ammonia, NH_3 [3/]	Ammonium nitrate, NH_4NO_3	4.7	0.2128
Ammonia, NH_3	Ammonium sulfate, $(NH_4)2SO_4$	3.8794	0.2578
Ammonia, NH_3	Diammonium phosphate, $(NH_4)2HPO_4$	3.877	0.257
Ammonia, NH_3	Monoammonium phosphate, $NH_4H_2PO_4$	6.7541	0.1481
Ammonia, NH_3	Nitrogen, N	0.8224	1.216
Boron, B	Boron oxide, B_2O_3	3.2199	0.3106
Calcium, Ca	Calcium oxide, CaO	1.3992	0.7147
Calcium oxide, CaO	Calcium carbonate, $CaCO_3$	1.7848	0.5603
Chlorine, Cl	Potassium chloride, KCL	2.102	0.4755
Copper oxide, CuO	Copper, Cu	0.7988	1.2519
Ferric oxide, Fe_2O_3	Iron, Fe	0.6994	1.4298
Magnesium oxide, MgO	Magnesium, Mn	0.6031	1.6581
Molybdenum oxide, MoO_3	Molybdenum oxide, MoO_3	0.6665	1.5004
Nitrogen, N	Ammonium nitrate, NH_4NO_3	2.8573	0.35
Nitrogen, N	Ammonium sulfate, $(NH_4)2SO_4$	4.717	0.212
Nitrogen, N	Calcium cyanamide, $CaCN_2$	2.8595	0.3497
Nitrogen, N	Calcium nitrate, $Ca(NO_3)_2$	5.8575	0.1707
Nitrogen, N	Monoammonium phosphate, $NH_4H_2PO_4$	8.2122	0.1218
Nitrogen, N	Potassium nitrate, KNO_3	7.2185	0.1385
Nitrogen, N	Sodium nitrate, $NaNO_3$	6.0681	0.1648
Nitrogen, N	Urea, $(NH_2)2CO$	2.1438	0.4665
Phosphorus oxide P_2O_5	Calcium metaphosphate, $Ca(PO_3)_2$	1.3951	0.7168
Phosphorus oxide P_2O_5	Phosphoric acid, H_3PO_4	1.3808	0.7242
Phosphorus oxide P_2O_5	Phosphorus, P	0.4364	2.2914
Potash, K_2O	Chlorine equivalent, Cl	0.7527	1.3286
Potash, K_2O	Potassium, K	0.8302	1.2045
Potash, K_2O	Potassium chloride, KCl	1.5829	0.6318
Potash, K_2O	Potassium nitrate, KNO_3	2.1466	0.4659
Potash, K_2O	Potassium sulfate, K_2SO_4	1.8499	0.5406
Sodium oxide, Na_2O	Sodium, Na	0.7419	1.3479
Sulfur, S	Gypsum, $CaSO_4 \cdot 2H_2O$	5.3696	0.1862
Sulfuric oxide, SO_3	Sulfur, S	0.4005	2.4969
Sulfuric oxide, SO_3	Ammonium sulfate, $(NH_4)2SO_4$	1.6505	0.6059
Sulfuric oxide, SO_3	Copper sulfate, $CuSO_4$	1.9935	0.5016
Sulfuric oxide, SO_3	Magnesium sulfate, $MgSO_4$	1.5035	0.6651
Sulfuric oxide, SO_3	Manganese sulfate, $MnSO_4$	1.886	0.5302
Sulfuric oxide, SO_3	Zinc sulfate, $ZnSO_4$	2.0163	0.496
Zinc oxide, ZnO	Zinc, Zn	0.8034	1.2447
Zinc oxide, ZnO	Zinc sulfate, $ZnSO_4 \cdot 7H_2O$	3.5337	0.283
[1/] 1983 FARM CHEMICALS HANDBOOK, page B30			
[2/] International Atomic Weights for 1961, based on Carbon-12, were used in calculating these factors.			
[3/] Excluding the nitrate equivalent.			

UNDERSTANDING SOIL TEST REPORTS

Conversions:

one liter = 1000 cubic centimeters = 1000 grams

one gram = 1000 milligrams

one ppm = one part in 1 million parts, by weight or volume

mg/l = 1 milligram (weight) in 1 million parts (volume) or 1 liter (same as 1 ppm).

mg/kg = milligram per kilogram = mg/1000 grams (same as 1 ppm)

µg/l = microgram per liter, one microgram is 1 millionth of a gram, same as 1 part per billion (1 ppb).

1 percent concentration = 10,000 ppm

ppm x 2 = lb/acre at 6.67 inch depth (acre-furrow-slice)

1 ppm = 8.345 pounds per million gallons of water

1 acre-inch = .6233 gallon of water per square foot

1 ppm = .2255 lb per acre-inch

millimhos per centimeter (mmho/cm) = a measure of the electrical conductivity of the soil

1 mmho/cm = 1 decisiemens per meter (dS/m)

1 millimho = approximately 10 milliequivalents per liter (meq/l)

1 decisiemens per meter = 640 milligrams/l salt

A soil with an electrical conductivity of 4 mmhos/cm or more is considered saline (will have an effect on sensitive crops).

P to P_2O_5 multiply P by 2.29

P_2O_5 to P multiply P_2O_5 by .43

K to K_2O multiply K by 1.20

K_2O to K multiply K_2O by .83

1 g/cc = 62.4 lb/ft^3 - This can be used to calculate more exactly the weight of an acre-furrow slice. For example, assume the soil has a bulk density of 1.1 g/cc. To calculate the weight of an acre-furrow-slice of this soil:

62.4 X 1.1 = 68.64 lb/ft^3

68.64 lb/ft^3 X 43560 ft^3/ac-ft = 2,989,958 lb soil/ac-ft

2,989,958 lb/ac-ft ÷ 12 = 249,163 lb/ac-in

249,163 lb/ac-in = X 6.67 in/acre-furrow-slice = 1,661,918 lb/acre-furrow-slice

Organic matter - Soil organic matter is an ill-defined term used to cover organic materials in all stages of decomposition. Lignin and humic acid are the most resistant to alteration. Generally, organic matter improves infiltration, tilth, moisture holding capacity and the CEC of a soil.

Cation exchange capacity (CEC) = total quantity of cations a soil can adsorb by cation exchange, usually expressed as milliequivalents per 100 grams (meq/100g)

pH - describes the H^+ ion activity of very dilute acid solutions. Scale is from 1 through 14. A pH of 7.0 is neutral; values less than 7.0 indicate acidity, values greater than 7.0 indicate alkalinity. Each unit change in pH represents a 10-fold change in acidity. A soil with a pH of 5.0 is ten times more acid that a soil with a pH of 6.0.

Conversion Factors for SI and non-SI Units

Journal of Agronomy

To convert Column 1 into Column 2, multiply by	Column 1 SI Unit	Column 2 non-SI Unit	To convert Column 2 into Column 1, multiply by
Length			
0.621	kilometer, km (10^3 m)	mile, mi	1.609
1.094	meter, m	yard, yd	0.914
3.28	meter, m	foot, ft	0.304
1.0	micrometer, µm (10^{-6} m)	micron, µ	1.0
3.94×10^{-2}	millimeter, mm (10^{-3} m)	inch, in	25.4
10	nanometer, nm (10^{-9} m)	Angstrom, Å	0.1
Area			
2.47	hectare, ha	acre	0.405
247	square kilometer, km^2 $(10^3 m)^2$	acre	4.05×10^{-3}
0.386	square kilometer, km^2 $(10^3 m)^2$	square mile, mi^2	2.590
2.47×10^{-4}	square meter, m^2	acre	4.05×10^3
10.76	square meter, m^2	square foot, ft^2	9.29×10^{-2}
1.55×10^{-3}	square millimeter, mm^2 $(10^{-3} m)^2$	square inch, in^2	645
Volume			
9.73×10^{-3}	cubic meter, m^3	acre-inch	102.8
35.3	cubic meter, m^3	cubic foot, ft^3	2.83×10^{-2}
6.10×10^4	cubic meter, m^3	cubic inch, in^3	1.64×10^{-5}
2.84×10^{-2}	liter, L (10^{-3} m^3)	bushel, bu	35.24

1.057		liter, L (10^{-3} m^3)		quart (liquid), qt		0.946
3.53×10^{-2}		liter, L (10^{-3} m^3)		cubic foot, ft^3		28.3
0.265		liter, L (10^{-3} m^3)		gallon		3.78
33.78		liter, L (10^{-3} m^3)		ounce (fluid), oz		2.96×10^{-2}
2.11		liter, L (10^{-3} m^3)		pint (fluid), pt		0.473
Mass						
2.20×10^{-3}		gram, g (10^{-3} kg)		pound, lb		454
3.52×10^{-2}		gram, g (10^{-3} kg)		ounce (avdp), oz		28.4
2.205		kilogram, kg		pound, lb		0.454
0.01		kilogram, kg		quintal (metric), q		100
1.10×10^{-3}		kilogram, kg		ton (2000 lb), ton		907
1.102		megagram, Mg (tonne)		ton (U.S.), ton		0.907
1.102		tonne, t		ton (U.S.), ton		0.907
Yield and Rate						
0.893		kilogram per hectare, kg ha^{-1}		pound per acre, lb $acre^{-1}$		1.12
7.77×10^{-2}		kilogram per cubic meter, kg m^{-3}		pound per bushel, bu^{-1}		12.87
1.49×10^{-2}		kilogram per hectare, kg ha^{-1}		bushel per acre, 60 lb		67.19
1.59×10^{-2}		kilogram per hectare, kg ha^{-1}		bushel per acre, 56 lb		62.71
1.86×10^{-2}		kilogram per hectare, kg ha^{-1}		bushel per acre, 48 lb		53.75
0.107		liter per hectare, L ha^{-1}		gallon per acre		9.35
893		tonnes per hectare, t ha^{-1}		pound per acre, lb $acre^{-1}$		1.12×10^{-3}
893		megagram per hectare, Mg ha^{-1}		pound per acre, lb $acre^{-1}$		1.12×10^{-3}
0.446		megagram per hectare, Mg ha^{-1}		ton (2000 lb) per acre, ton $acre^{-1}$		2.24
2.24		meter per second, m s^{-1}		mile per hour		0.447
Specific Surface						
10		square meter per kilogram, m^2 kg^{-1}		square centimeter per gram, cm^2 g^{-1}		0.1

1000		square meter per kilogram, m^2 kg^{-1}		square millimeter per gram, mm^2 g^{-1}		0.001
Density						
1.00		megagram per cubic meter, Mg m^{-3}		gram per cubic centimeter, g cm^{-3}		1.00
Pressure						
9.90		megapascal, MPa (10^6 Pa)		atmosphere		0.101
10		megapascal, MPa (10^6 Pa)		bar		0.1
2.09 x 10^{-2}		pascal, Pa		pound per square foot, lb ft^{-2}		47.9
1.45 x 10^{-4}		pascal, Pa		pound per square inch, lb in^{-2}		6.90 x 10^3
Temperature						
1.00 (K - 273)		Kelvin, K		Celsius, °C		1.00 (°C + 273)
(9/5 °C) + 32		Celsius, °C		Fahrenheit, °F		5/9 (°F - 32)
Energy, Work, Quantity of Heat						
9.52 x 10^{-4}		joule, J		British thermal unit, Btu		1.05 x 10^3
0.239		joule, J		calorie, cal		4.19
10^7		joule, J		erg		10^{-7}
0.735		joule, J		foot-pound		1.36
2.387 x 10^{-5}		joule per square meter, J m^{-2}		calorie per square centimeter (langley)		4.19 x 10^4
10^5		newton, N		dyne		10^{-5}
1.43 x 10^{-3}		watt per square meter, W m^{-2}		calorie per square centimeter minute (irradiance), cal cm^{-2} min^{-1}		698
Transpiration and Photosynthesis						
3.60 x 10^{-2}		milligram per square meter second, mg m^{-2} s^{-1}		gram per square decimeter hour, g dm^{-2} h^{-1}		27.8
5.56 x 10^{-3}		milligram (H_2O) per square meter second, mg m^{-2} s^{-1}		micromole (H_2O) per square centimeter second, µmol cm^{-2} s^{-1}		180
10^{-4}		milligram per		milligram per square		10^4

		square meter second, mg m^{-2} s^{-1}		centimeter second, mg cm^{-2} s^{-1}		
35.97		milligram per square meter second, mg m^{-2} s^{-1}		milligram per square decimeter hour, mg dm^{-2} h^{-1}		2.78×10^{-2}
Plane Angle						
57.3		radian, rad		degrees (angle), °		1.75×10^{-2}
Electrical Conductivity, Electricity, and Magnetism						
10		siemen per meter, S m^{-1}		millimho per centimeter, mmho cm^{-1}		0.1
10^4		tesla, T		gauss, G		10^{-4}
Water Measurement						
9.73×10^{-3}		cubic meter, m^3		acre-inches, acre-in		102.8
9.81×10^{-3}		cubic meter per hour, m^3 h^{-1}		cubic feet per second, ft^3 s^{-1}		101.9
4.40		cubic meter per hour, m^3 h^{-1}		U.S. gallons per minute, gal min^{-1}		0.227
8.11		hectare-meters, ha-m		acre-feet, acre-ft		0.123
97.28		hectare-meters, ha-m		acre-inches, acre-in		1.03×10^{-2}
8.1×10^{-2}		hectare-centimeters, ha-cm		acre-feet, acre-ft		12.33
Concentrations						
1		centimole per kilogram, cmol kg^{-1}		milliequivalents per 100 grams, meq 100 g^{-1}		1
0.1		gram per kilogram, g kg^{-1}		percent, %		10
1		milligram per kilogram, mg kg^{-1}		parts per million, ppm		1
Radioactivity						
2.7×10^{-11}		becquerel, Bq		curie, Ci		3.7×10^{10}
2.7×10^{-2}		becquerel per kilogram, Bq kg^{-1}		picocurie per gram, pCi g^{-1}		37
100		gray, Gy (absorbed dose)		rad, rd		0.01
100		sievert, Sv (equivalent dose)		rem (roentgen equivalent man)		0.01

Plant Nutrient Conversion						
		Elemental		*Oxide*		
2.29		P		P_2O_5		0.437
1.20		K		K_2O		0.830
1.39		Ca		CaO		0.715
1.66		Mg		MgO		0.602