

## Appendix 1. Abbreviations

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:
<b>Length</b>			
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, $\mu\text{m}$ ( $10^{-6}$ m)	micron	1.0
$3.94 \times 10^{-2}$	millimeter, mm ( $10^{-3}$ m)	inch, in	25.4
10	nanometer, nm ( $10^{-9}$ m)	Angstrom, Å	0.1
<b>Area</b>			
0.001	m	ha	10,000
2.47	hectare, ha	acre	0.405
247	square kilometer, $\text{km}^2$ ( $10^3$ m) <sup>2</sup>	acre	$4.05 \times 10^3$
0.386	square kilometer, $\text{km}^2$ ( $10^3$ m) <sup>2</sup>	square mile, $\text{mi}^2$	2.590
$2.47 \times 10^{-4}$	square meter, $\text{m}^2$	acre	$4.05 \times 10^3$
10.76	square meter, $\text{m}^2$	square foot, $\text{ft}^2$	$9.29 \times 10^{-2}$
$1.55 \times 10^{-3}$	square millimeter, $\text{mm}^2$ ( $10^{-3}$ m <sup>2</sup> )	square inch, $\text{in}^2$	645
<b>Volume</b>			
$9.73 \times 10^{-3}$	cubic meter, $\text{m}^3$	acre-inch	102.8
35.3	cubic meter, $\text{m}^3$	cubic foot, $\text{ft}^3$	$2.83 \times 10^{-2}$
$6.10 \times 10^4$	cubic meter, $\text{m}^3$	cubic inch, $\text{in}^3$	$1.64 \times 10^{-5}$
$3.53 \times 10^{-2}$	liter, L ( $10^{-3}$ m <sup>3</sup> )	cubic foot, $\text{ft}^3$	28.3
0.265	liter, L ( $10^{-3}$ m <sup>3</sup> )	gallon	3.78
33.78	liter, L ( $10^{-3}$ m <sup>3</sup> )	ounce (fluid), oz	$2.96 \times 10^{-2}$
2.11	liter, L ( $10^{-3}$ m <sup>3</sup> )	pint (fluid), pt	0.473
<b>Mass</b>			
$2.20 \times 10^{-3}$	gram, g ( $10^{-3}$ kg)	pound, lb	454
$3.52 \times 10^{-2}$	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
$1.10 \times 10^{-3}$	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
<b>Yield and Rate</b>			
0.893	kilogram per hectare, $\text{kg ha}^{-1}$	pound per acre, $\text{lb acre}^{-1}$	1.12
0.107	liter per hectare, $\text{L ha}^{-1}$	gallon per acre	9.35
893	tonnes per hectare, $\text{t ha}^{-1}$	pound per acre, $\text{lb acre}^{-1}$	$1.12 \times 10^{-3}$
893	megagram per hectare, $\text{Mg ha}^{-1}$	pound per acre, $\text{lb acre}^{-1}$	$1.12 \times 10^{-3}$
0.446	megagram per hectare, $\text{Mg ha}^{-1}$	ton (2000 lb) per acre, $\text{ton acre}^{-1}$	2.24
<b>Pressure</b>			
9.90	megapascal, MPa ( $10^6$ Pa)	atmosphere	0.101
10	megapascal, MPa ( $10^6$ Pa)	bar	0.1
1.00	megagram per cubic meter, $\text{Mg m}^{-3}$	gram per cubic centimeter, $\text{g cm}^{-3}$	1.00
$2.09 \times 10^{-2}$	Pascal, Pa	pound per square foot, $\text{lb ft}^{-2}$	47.9
$1.45 \times 10^{-4}$	Pascal, Pa	pound per square inch, $\text{lb in}^{-2}$	$6.90 \times 10^3$

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)
Electrical Conductivity, Electricity, and Magnetism			
10	siemen per meter, S m <sup>-1</sup>	millimho per centimeter, mmho cm <sup>-1</sup>	0.1
10 <sup>4</sup>	tesla, T	gauss, G	10 <sup>-4</sup>
Water Measurement			
9.73 × 10 <sup>-3</sup>	cubic meter, m <sup>3</sup>	acre-inches, acre-in	102.8
9.81 × 10 <sup>-3</sup>	cubic meter per hour, m <sup>3</sup> h <sup>-1</sup>	cubic feet per second, ft <sup>3</sup> s <sup>-1</sup>	101.9
4.40	cubic meter per hour, m <sup>3</sup> h <sup>-1</sup>	U.S. gallons per minute, gal min <sup>-1</sup>	0.227
8.11	hectare-meter, ha-m	acre-feet, acre-ft	0.123
97.28	hectare-meters, ha-m	acre-inches, acre-in	1.03 × 10 <sup>-2</sup>
8.1 × 10 <sup>-2</sup>	hectare-centimeters, ha-cm	acre-feet, acre-ft	12.33
Concentrations			
1	centimole per kilogram, cmol kg <sup>-1</sup> (ion exchange capacity)	milliequivalents per 100 grams, meq 100 g <sup>-1</sup>	1
0.1	gram per kilogram, g kg <sup>-1</sup>	percent, %	10
1	milligram per kilogram, mg kg <sup>-1</sup>	parts per million, ppm	1
Plant Nutrient Conversion			
2.29	P	P <sub>2</sub> O <sub>5</sub>	0.437
1.20	K	K <sub>2</sub> O	0.830
1.39	Ca	CaO	0.715
1.66	Mg	MgO	0.602

## Appendix 2. Conversion Factors for SI and non-SI Units

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:
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0.621	kilometer, km ( $10^3$ m)	mile, mi	1.609
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$1.55 \times 10^{-3}$	square millimeter, $\text{mm}^2$ ( $10^{-3}$ m <sup>2</sup> )	square inch, $\text{in}^2$	645
<b>Volume</b>			
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$3.53 \times 10^{-2}$	liter, L ( $10^{-3}$ m <sup>3</sup> )	cubic foot, $\text{ft}^3$	28.3
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<b>Mass</b>			
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1.45 × 10 <sup>-4</sup>	Pascal, Pa	pound per square inch, lb in <sup>-2</sup>	6.90 × 10 <sup>-3</sup>
<b>Temperature</b>			
1.00 (K-273)	Kelvin, K	Celsius, °C	1.00 (°C + 273)
(9/5 °C) + 32	Celsius, °C	Fahrenheit, °F	5/9 (°F - 32)
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	(ion exchange capacity)	meq 100 g <sup>-1</sup>	

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