

Measurement Conversion Table

MULTIPLY TO OBTAIN

Bushels by 8	gal. (dry)
Bushels by 1.24	cubic ft.
Bushels by 4	pecks
Bushels by 0.04545	cubic yds.
Cm by 0.3937	in.
Cm by 0.01	m
Cm by 10	mm
Cubic cm by 0.00003531	cubic ft.
Cubic cm by 0.06102	cubic in.
Cubic cm by 0.00001	cubic m
Cubic cm by 0.000001308	cubic yds.
Cubic cm by 0.0002642	gal.
Cubic cm by 0.001	liters
Cubic cm by 0.002113	pts. (liq.)
Cubic cm by 0.001057	qts. (liq.)
Cubic ft. by 0.0002832	cubic cm
Cubic ft. by 1728	cubic in.
Cubic ft. by 0.02832	cubic m
Cubic ft. by 0.03704	cubic yds.
Cubic ft. by 7.48052	gal. (liq.)
Cubic ft. by 28.32	liters
Cubic ft. by 59.84	pints (liq.)
Cubic ft. by 29.92	quarts (liq.)
Cubic ft. by .80	bushels
Cubic in. by 16.39	cubic cm
Cubic in. by 0.0005787	cubic ft.
Cubic in. by 0.00001639	cubic m
Cubic in. by 0.00002143	cubic yds.
Cubic in. by 0.004329	gal.
Cubic in. by 0.01639	liters
Cubic in. by 0.03463	pints (liq.)
Cubic in. by 0.01732	quarts (liq.)
Cubic m by 10000	cubic cm
Cubic m by 35.31	cubic ft.
Cubic m by 61.023	cubic in.
Cubic m by 1.308	cubic yds.
Cubic m by 264.2	gal.
Cubic m 1000	liters
Cubic m by 2113	pt. (liq.)
Cubic m by 1057	qt. (liq.)

MULTIPLY TO OBTAIN

Cubic yds. by 22	bushels
Cubic yds. by 27	cubic ft.
Cubic yds. by 46.656	cubic in.
Cubic yds. by 0.7646	cubic m
Cubic yds. by 202.0	gal.
Cubic yds. by 764.6	liters
Cubic yds. by 1616	pts. (liq.)
Cubic yds. by 807.9	qts. (liq.)
Ft. by 30.48	cm
Ft. by 12	in.
Ft. by 0.3048	m
Ft. by 1/3	yds.
Gal. by 3785	cubic cm
Gal. by 0.1337	cubic ft.
Gal. by 231	cubic in.
Gal. by 0.003785	cubic m
Gal. by 0.004951	cubic yds.
Gal. by 3.785	liters
Gal. by 8	pts. (liq.)
Gal. by 4	qts. (liq.)
Gal. water by 8.3453	lbs. of water
Grams by 0.01	kg
Grams by 1000	mg
Grams by 0.03527	oz.
Grams by 0.002205	lb.
In. by 2.540	cm
Kg by 2.205	lb.
Kg by 1000	grams
K by 0.6214	miles
Liters by 1000	cubic cm
Liters by 0.03531	cubic ft.
Liters by 61.02	cubic in.
Liters by 0.01	cubic m
Liters by 0.001308	cubic yds.
Liters by 0.2642	gal.
Liters by 2.113	pts. (liq.)
Liters by 1.057	qt. (liq.)
Meters by 100	cm
Meters by 3.281	ft.
Meters by 39.37	in.

MULTIPLY TO OBTAIN

Meters by 0.001	km
Meters by 1.094	yd.
Miles by 5280	ft.
Miles by 1.609	km
Miles by 1760	yds.
Oz. by 0.0625	lb.
Oz. by 2	tbsp. (liq.)
Oz. by 6	tsp. (liq.)
Oz. by 3	tbsp. (dry)
Oz. by 9	tsp. (dry)
Oz. by 28.349527	gram
Oz. (fl.) by 1.805	cubic in.
Oz. (fl.) by 0.02957	liters
Pecks by 0.25	bushels
Pecks by 2	gal.
Lbs. by 16	oz.
Lbs. by 453.5924	grams
Lbs. of water by 0.01602	cubic ft.
Lbs. of water by 27.68	cubic in.
Lbs. of water by 0.1198	gal.
Qts. (dry) by 67.20	cubic in.
Qts. (liq.) by 47.75	cubic in.
Tbsp. (liq.) by 0.5	oz.
Tbsp. (dry) by 0.3333	oz.
Tbsp. by 3	tsp.
Tsp. (liq.) by 0.1666	oz.
Tsp. (dry) by 0.1111	oz.
Tsp. by 0.3333	tbsp.
Tons (metric) by 1000	kg
Tons (metric) by 2205	lb.
Tons (short) by 2000	lb.

Abbreviations

gal.	gallon	gm	gram
ft.	foot	k	kilometer
yd.	yard	kg	kilogram
in.	inch	lb.	pound
m	meter	mg	milligram
mm	millimeter	oz.	ounce
pt.	pint	tbsp.	tablespoon
qt.	quart	tsp.	teaspoon
cm	centimeter		

Temperature: °C = (°F - 32) x 0.555

°F = (°C x 1.8) + 32

pH Preference Table

Common and botanical name	pH range	Common and botanical name	pH range
Abelia, <i>Abelia grandiflora</i>	6.0-7.5	Clover - crimson, <i>Trifolium incarnatum</i>	5.5-7.0
Alfalfa, <i>Medicago sativa</i>	6.5-7.5	Collards, <i>Brassica oleracea</i> , Acephala group	6.0-7.0
Alyssum, <i>Alyssum maritimum</i>	6.0-7.0	Corn, <i>Zea mays</i>	5.5-7.0
Amaryllis, <i>Amaryllis belladonna</i>	5.5-6.5	Cotoneaster, <i>Cotoneaster</i> spp.	6.0-7.5
Apple, <i>Malus pumila</i>	5.5-6.5	Cotton, <i>Gossypium hirsutum</i>	5.0-6.5
Arborvitae, <i>Thuja occidentalis</i>	6.0-7.0	Cowpea, <i>Vigna sinensis</i>	5.0-6.5
Ash - American mountain, <i>Sorbus americana</i>	4.5-5.5	Cucumber, <i>Cucumis sativus</i>	6.0-7.0
Ash - black, <i>Fraxinus nigra</i>	6.0-7.0	Currant, <i>Ribes</i> spp.	6.0-7.5
Ash - white, <i>Fraxinus americana</i>	6.0-7.0	Cyclamen, <i>Cyclamen persicum</i>	6.0-7.0
Asparagus, <i>Asparagus officinalis</i>	6.0-7.5	Daffodil, <i>Narcissus bulbocodium</i>	6.0-6.5
Aster, <i>Aster</i> spp.	5.0-6.0	Dahlia, <i>Dahlia variabilis</i>	6.0-7.5
Astilbe, <i>Astilbe</i> spp.	5.0-6.0	Delphinium, <i>Delphinium grandiflorum</i>	6.0-7.5
Azalea, <i>Rhododendron</i> spp.	4.5-5.5	Dogwood - flowering, <i>Cornus florida</i>	5.0-6.5
Barley, <i>Hordeum sativum</i>	6.5-7.5	Eggplant, <i>Solanum melongena</i>	5.5-6.5
Bean, <i>Phaseolus</i> spp.	6.0-7.0	Elm, <i>Ulmus americana</i>	6.0-7.5
Beech, <i>Phagus grandiflora</i>	5.0-6.5	Endive, <i>Chicorium endiva</i>	5.0-6.8
Beet, <i>Beta vulgaris</i>	6.0-7.0	Fennel, <i>Foeniculum vulgare</i>	5.0-6.8
Begonia, <i>Begonia</i> spp.	5.5-7.0	Fern - Boston, <i>Nephrolepis exalta</i> , var. <i>Bostoniensis</i>	5.5-6.5
Birch - American white, <i>Betula papyrifera</i>	5.0-6.5	Fern - maidenhair, <i>Adiantum pedatum</i>	6.0-7.5
Birch - European white, <i>Betula verrucosa</i>	4.5-6.0	Forsythia, <i>Forsythia</i> spp.	6.0-8.0
Blackberry, <i>Rubus allegheniensis</i>	5.0-6.0	Gardenia, <i>Gardenia jasminoides</i>	5.0-6.0
Blueberry, <i>Vaccinium corymbosum</i>	4.0-5.0	Garlic, <i>Allium sativum</i>	5.5-6.8
Boxwood, <i>Buxus sempervirens</i>	6.0-7.0	Grape, <i>Vitis labrusca</i>	5.5-7.0
Brussels sprouts, <i>Brassica oleracea</i> , Gemnifera group	6.0-7.0	Grass - Bermuda, <i>Cynodon dactylon</i>	6.0-7.0
Buckwheat, <i>Fagopyrum esculentum</i>	5.5-7.0	Grass - Kentucky blue, <i>Poa pratensis</i>	5.5-6.5
Cabbage, <i>Brassica oleracea</i> , Capitata group	6.0-7.0	Grass - Chewings fescue, <i>Festuca rubra</i> , var. <i>fallax</i>	5.5-6.5
Cabbage - Chinese, <i>Brassica pekinensis</i>	6.0-7.0	Grass - tall fescue, <i>Festuca pratensis</i>	4.5-7.0
Caladium, <i>Caladium esculentum</i>	6.0-7.0	Grass - red fescue, <i>F. rubra</i> var. <i>genuina</i>	5.5-6.5
Camellia, <i>Camellia japonica</i>	4.5-5.5	Grass - perennial rye, <i>Lolium perenne</i>	6.0-7.0
Canna, <i>Canna</i> spp.	6.0-8.0	Hibiscus, <i>Hibiscus rosa-sinensis</i>	6.0-7.5
Cantaloupe, <i>Cucumis melo</i>	6.0-7.0	Holly - American, <i>Ilex opaca</i>	5.0-6.0
Carnation, <i>Dianthus caryophyllus</i>	6.0-7.0	Holly - English, <i>I. aquifolium</i>	4.0-5.5
Carrot, <i>Daucus carota</i>	6.0-7.0	Holly - Japanese, <i>I. crenata</i>	5.0-6.5
Cauliflower, <i>Brassica oleracea</i> , Botrytis group	6.0-7.0	Holly - mountain, <i>Nemopanthus mucronata</i>	5.0-6.0
Celery, <i>Apium graveolens</i>	6.0-7.0	Horseradish, <i>Armoracia rusticana</i>	6.0-7.0
Chard, Swiss, <i>Beta vulgaris</i> , Cicla group	6.0-6.8	Hyacinth, <i>Hyacinthus candicans</i>	6.5-7.5
Cherry - sour, <i>Prunus cerasus</i>	6.0-7.0	Hydrangea - blue-flowered, <i>Hydrangea macrophylla</i>	4.0-5.0
Cherry - sweet, <i>Prunus avium</i>	6.0-7.5	Hydrangea - pink-flowered, <i>Hydrangea macrophylla</i>	6.0-7.0

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Common and botanical name	pH range	Common and botanical name	pH range
Ivy - Boston, <i>Parthenocissus tricuspidata</i> , var. <i>veitchii</i>	6.0-7.5	Peony, <i>Paeonia albiflora</i>	6.0-7.5
Ivy - English, <i>Hedera helix</i>	6.0-7.5	Pepper, <i>Capsicum</i> spp.	5.5-7.0
Juniper - common, <i>Juniperus communis</i>	6.0-7.0	Pine - jack, <i>Pinus Banksiana</i>	4.5-5.5
Juniper - creeping, <i>J. horizontalis</i>	5.0-6.0	Pine - loblolly, <i>P. taeda</i>	5.0-6.0
Juniper - mountain, <i>J. communis montana</i>	5.0-6.0	Pine - longleaf, <i>P. palustris</i>	4.5-5.0
Kale, <i>Brassica oleracea</i> , Acephala group	5.5-6.8	Pine - red, <i>P. resinosa</i>	5.0-6.0
Kohlrabi, <i>Brassica oleracea</i> , Gongylodes group	5.5-6.8	Pine - white, <i>P. strobus</i>	4.5-6.0
Leek, <i>Allium ampeloprasum</i>	6.0-6.8	Pine - yellow, <i>P. echinata</i>	5.0-6.0
Lettuce, <i>Lactuca sativa</i>	6.0-7.0	Plum, <i>Prunus americana</i>	6.0-7.0
Lilac - common, <i>Syringa vulgaris</i>	6.0-7.5	Poinsettia, <i>Euphorbia pulcherrima</i>	6.0-7.0
Lilac - Persian, <i>S. persica</i>	6.0-7.5	Poplar - silver, <i>Populus alba</i>	6.0-7.5
Lily - Easter, <i>Lilium longiflorum</i>	6.0-7.0	Poppy, <i>Papaver alpinum</i>	6.0-7.5
Lily - Japanese, <i>L. speciosum</i>	6.0-7.0	Poppy - blue, <i>Meconopsis Baileria</i>	6.0-7.0
Lily - regal, <i>L. regale</i>	6.0-7.0	Poppy - California, <i>Eschscholzia californica</i>	6.0-7.5
Lily - tiger, <i>L. tigrinum</i>	6.0-7.0	Poppy - Iceland, <i>P. nudicaule</i>	6.0-7.5
Lily-of-the-valley, <i>Convallaria majalis</i>	4.5-6.0	Poppy - oriental, <i>P. orientale</i>	6.0-7.5
Linden, <i>Tilia</i> spp.	6.0-8.0	Potato - Irish, <i>Solanum tuberosum</i>	4.8-5.5
Lupine, <i>Lupinus</i> spp.	5.0-6.0	Potato - sweet, <i>Ipomaea batatas</i>	5.2-5.8
Magnolia - saucer, <i>Magnolia soulangiana</i>	5.0-5.8	Pumpkin, <i>Cucurbita pepo</i>	5.5-7.5
Magnolia - southern, <i>M. grandiflora</i>	5.0-5.8	Radish, <i>Raphanus raphanistrum</i>	5.5-6.5
Magnolia - star, <i>M. stellata</i>	5.0-5.8	Raspberry - black, <i>Rubus occidentalis</i>	5.0-6.5
Maple - sugar, <i>Acer saccharum</i>	6.0-7.2	Raspberry - red, <i>R. idaeus</i>	5.5-7.0
Mint, <i>Mentha arvensis</i>	6.8-7.5	Rhododendron, <i>Rhododendron albiflorum</i> , <i>carolinianum</i> , <i>caucasicum</i> , <i>apponicum</i> , <i>mucronulatum</i>	4.5-6.0
Mountain laurel, <i>Kalmia latifolia</i>	4.5-5.5	Rhubarb, <i>Rheum rhabarbarum</i>	5.5-7.0
Muskmelon, <i>Cucumis melo</i>	6.0-7.0	Rose - climbing, <i>R. cathayensis</i>	6.0-7.0
Mustard, <i>Brassica juncea</i>	5.5-6.8	Rose - hybrid tea, <i>Rosa</i> sp.	5.5-7.0
Myrtle - crepe, <i>Lagerstroemia indica</i>	5.0-6.0	Rose - rugosa, <i>R. rugosa</i>	6.0-7.0
Oak - black, <i>Quercus velutina</i>	6.0-7.0	Rutabaga, <i>Brassica napobrassica</i>	5.5-7.0
Oak - pin, <i>Q. palustris</i>	5.0-6.5	Rye, <i>Secale cereale</i>	5.0-7.0
Oak - red, <i>Q. borealis</i>	4.5-6.0	Salsify, <i>Tragopopon porrifolius</i>	6.0-6.8
Oak - white, <i>Q. alba</i>	5.0-6.5	Shallot, <i>Allium cepa</i> , <i>Aggregatum</i> group	5.0-6.8
Oats, <i>Avena sativa</i>	5.0-7.5	Sorrel, <i>Rumex acetosa</i>	5.0-6.8
Okra, <i>Hibiscus esculentus</i>	6.0-7.5	Soybean, <i>Glycine Max</i>	6.0-7.0
Onion, <i>Allium cepa</i>	6.0-7.0	Spinach, <i>Spinacia oleracea</i>	6.0-7.5
Pachysandra - Japanese, <i>Pachysandra terminalis</i>	5.0-8.0	Spruce - black, <i>Picea mariana</i>	4.0-5.0
Pansy, <i>Viola tricolor</i>	5.5-6.5	Spruce - Colorado, <i>P. pungens</i>	6.0-7.0
Parsley, <i>Petroselinum crispum</i>	5.0-7.0	Spruce - Norway, <i>P. abies</i>	5.0-6.0
Parsnip, <i>Pastinaca sativa</i>	5.5-7.0	Spruce - red, <i>P. rubra</i>	4.5-5.0
Pea - edible garden, <i>Pisum sativum</i>	6.0-7.0	Spruce - Sitka, <i>P. sitchensis</i>	5.0-6.0
Pea - sweet, <i>Lathyrus odoratus</i>	6.0-7.5	Spruce - white, <i>P. glauca</i>	5.0-6.0
Peach, <i>Prunus persica</i>	6.0-7.0	Squash, <i>curbita</i> spp.	6.0-7.0
Peanut, <i>Arachis hypogaea</i>	5.5-6.5	Strawberry, <i>Fragaria</i> spp.	5.0-6.5
Pear, <i>Pyrus communis</i>	5.5-6.5	Sugarcane, <i>Saccharum officinarum</i>	6.0-7.5
Pecan - <i>Carya illinoensis</i>	6.5-7.5	Sunflower, <i>Helianthus augustifolius</i> and <i>annuus</i>	6.0-7.5

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Common and botanical name	pH range	Common and botanical name	pH range
Tobacco, <i>Nicotiana tabacum</i>	5.5-7.5	Violet - blue, <i>V. papilionacea</i>	5.0-7.5
Tomato, <i>Lycopersicon lycopersicum</i>	5.5-7.5	Walnut - black, <i>Juglans nigra</i>	6.0-7.5
Trefoil - bird's foot, <i>Lotus corniculatus</i>	5.5-7.0	Watercress, <i>Nasturtium aquaticum</i>	6.0-7.5
Trefoil - yellow, <i>Medicago lupulina</i>	6.0-7.5	Watermelon, <i>citrullus</i>	5.0-5.5
Tulip, <i>Tulipa spp.</i>	6.0-7.0	Wheat, <i>Triticum aestivum</i>	5.5-7.5
Turnip, <i>Brassica rapa</i>	5.5-6.8	Wisteria - Japanese, <i>Wisteria floribunda</i>	6.5-7.5
Vetch - hairy, <i>Vicia villosa</i>	5.5-7.0	Yew - Canada, <i>Taxus canadensis</i>	5.0-6.0
Viburnum, <i>Viburnum tomentosum</i>	6.5-7.5	Yew - Japanese, <i>T. cuspidata</i>	6.0-7.0
Viburnum, <i>V. acerifolium</i>	4.0-5.0	Yucca, <i>Yucca spp.</i>	6.0-8.0
Violet, <i>Viola canina</i>	6.0-7.5	Zinnia, <i>Zinnia elegans</i>	5.5-7.5

Abridged from *The Fertile Triangle*, B.Wolf. Haworth Press, New York, who cited the following sources: Lamotte Chemical Products, Co. 1950, *Lamotte Soil Handbook*. Lamotte Chemical Products Co., Towson, MD; O.A. and D.M. Maynard, 1988. *Knott's Handbook for Vegetable Growers*, Third Edition, John Wiley and Sons, New York; Spurway, C.H. 1941. *Soil Reaction (pH) Preference of Plants*. Special Bulletin 306, Michigan State College, East Lansing, MI.