

Soil Reaction Preference . . .

of some plants

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Growth and development of plants are influenced by many factors. These factors are climate, diseases, insects, soil texture, fertility and the acidity or alkalinity (soil reaction) of the soil.

If any of the above-mentioned factors are unfavorable, results will be unsatisfactory. Before attempt is made to adjust the soil reaction (pH), all other factors influencing plant growth should be made favorable.

The different pH values have the following meaning when applied to soils.

Below pH	4.5	Extremely acid
	4.6 - 5.0	Very strongly acid
	5.1 - 5.5	Strongly acid
	5.6 - 6.0	Medium acid
	6.1 - 6.5	Slightly acid
	6.6 - 7.3	Neutral
	7.4 - 8.0	Mildly alkaline
	8.1 - 9.0	Strongly alkaline
Over	9.1	Very strongly alkaline

(Actually exact neutrality is pH 7.0. However, for practical purposes, soils may be considered neutral over the range pH 6.6 - 7.3)

The table below shows the soil reaction preference for some plants commonly known. It is not intended to suggest



pH 4.8



pH 5.2



pH 6.2



pH 6.8

INFLUENCE OF pH ON GROWTH OF LIMA BEANS

that the pH range shown represents the outside limits for growth of the respective plants. The figures given probably represent the optimum range. The mid-point of the range likely will be the best for the particular plant. The data are compiled from many sources and represent the best information available.

To adjust the soil reaction, limestone or wood ashes may be used on acid soils to make them neutral (increase the pH). Sulfur, leaf mold, iron sulfate (copperas) and aluminum sulfate may be used to acidify the soil (reduce the pH). Over large areas, these soil reaction adjustments are more or less temporary.

Flowers

	pH Preference Range		pH Preference Range
Alyssum	6.0 - 8.0	Iris (water flags)	5.0 - 6.0
Aster (flowering)	5.5 - 6.5	Iris (common bearded)	6.0 - 8.0
Aster (many species)	6.0 - 8.0	Iris (swamp)	5.0 - 6.0
Begonia	6.0 - 7.0	Larkspur	6.0 - 8.0
Calendula	6.0 - 8.0	Lily	5.0 - 6.5
Candytuft	6.0 - 7.0	Lily (hemerocallis)	6.0 - 8.0
Cannas	6.0 - 8.0	Narcissus	5.0 - 7.0
Chrysanthemum	6.0 - 8.0	Pansy	6.0 - 7.5
Clematis	6.0 - 7.5	Petunia	6.0 - 8.0
Clematis Crispa	5.0 - 6.5	Phlox annual	6.0 - 8.0
Dahlia	6.0 - 8.0	Rose	5.5 - 7.0
Gaillardia	6.0 - 8.0	Stock	6.0 - 7.0
Gladiolus	6.0 - 8.0	Snapdragon	6.0 - 7.0
Geranium	6.0 - 8.0	Zinnia	6.0 - 8.0
Heliotrope	6.0 - 8.0		

Field and Forage Crops

Alfalfa	6.5 - 8.0	Corn	6.0 - 7.0
Alsike clover	6.0 - 7.0	Cotton	6.0 - 8.0
Barley	6.0 - 7.0	Cowpeas - many	6.0 - 7.0
Bermudagrass	6.0 - 7.5	Dallisgrass	6.0 - 7.0
Bluegrass	6.0 - 7.0	Flax	6.0 - 7.0
Carpetgrass	5.5 - 7.0	Lespedeza	5.0 - 6.5
Centipedegrass	6.0 - 8.0	Melilotus Indica	6.0 - 7.5

Millet	5.5 - 7.5	Soybean	6.0 - 7.0
Oats	6.0 - 7.0	Sudangrass	6.0 - 7.5
Red top	6.0 - 7.0	Sweetclover (white)	6.5 - 8.0
Rye	6.0 - 7.0	Velvet bean	6.0 - 7.0
San Augustine grass	5.5 - 7.5	Vetch	6.0 - 7.0
Sorghum (sweet)		Wheat	6.0 - 7.0
(For syrup only)	5.5 - 6.5	White clover	6.0 - 7.0
(For forage)	5.5 - 7.5		

Vegetables

Asparagus	6.0 - 7.0	Onion	6.0 - 8.0
Beans	5.0 - 6.0	Parsley	6.0 - 8.0
Beans, Lima	5.8 - 7.0	Pea (common garden)	6.0 - 8.0
Beet (common)	6.0 - 7.0	Pea (sweet)	6.0 - 8.0
Beet (sugar)	6.0 - 8.0	Pepper	5.5 - 6.5
Blackberry (most var.)	6.0 - 8.0	Irish potato	
		(For control of scab)	4.8 - 5.4
Broccoli	6.0 - 8.0	Irish potato (For plant growth and yield)	5.5 - 7.5
Brussel sprouts	6.0 - 7.0	Sweetpotato	5.0 - 7.0
Cabbage	6.0 - 8.0	Pumpkin	5.5 - 7.0
Cantaloup	6.0 - 8.0	Radish	6.0 - 8.0
Carrot	6.0 - 6.5	Spinach	6.0 - 8.0
Cauliflower	5.5 - 7.5	Squash	5.6 - 7.5
Celery	6.0 - 6.5	Strawberries	5.0 - 6.0
Cucumber	6.0 - 8.0	Tomato	6.0 - 7.0
Dewberry	5.0 - 6.5	Turnip	5.5 - 7.0
Eggplant	6.0 - 7.0	Watermelon	6.0 - 7.0
Lettuce	6.0 - 7.0		
Muskmelon	6.0 - 7.0		
Okra	6.0 - 8.0		

Trees-Shrubs-Fruits

Abelia	6.0 - 8.0	Azalea Formosa	5.0 - 6.0
Althea	6.0 - 8.0	Butterflybush	6.0 - 8.0
Apple	6.0 - 8.0	Camellia	4.0 - 6.0
Apricots	6.0 - 8.0	Cape jasmine	5.0 - 7.0

Cherry	6.0 - 8.0	Oak, pin	6.0 - 7.0
Elm (American)	6.0 - 8.0	Oak, red	6.0 - 7.0
Elm (Chinese)	6.0 - 8.0	Oak, white	6.0 - 8.0
Grape	6.0 - 8.0	Orange	6.0 - 8.0
Grapefruit	6.0 - 8.0	Peach	6.0 - 7.0
Holly (American)	5.0 - 6.0	Pear	5.8 - 7.5
Holly (Chinese)	6.0 - 7.5	Pine (Southern)	5.0 - 6.0
Lemon	6.0 - 8.0	Plum	6.0 - 7.5
Locust	6.0 - 8.0	Privet	6.0 - 7.5
Magnolia	5.0 - 7.0	Tung	5.0 - 6.0
Oak, chestnut	6.0 - 7.0	Yaupon	5.5 - 7.5

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