



PLANTS FOR ALKALINE SOILS

By: Alicia Lamborn, Horticulture Agent, UF/IFAS Extension Baker County

Gardeners will find it difficult to grow certain plant species in high pH soils and therefore should match plants to the existing site conditions.

The pH of a soil measures relative acidity or alkalinity. The acidity-alkalinity scale ranges from 0 to 14, with pH of 7 being neutral, below 7 being acidic, and above 7 being alkaline. Some folks commonly refer to alkaline as sweet and acidic as sour, but these terms can be dangerous since “sweet soil” sounds like a good thing to have. On the contrary, most plants prefer a slightly sour (acidic) soil but will generally tolerate a range of soil pH values. If the pH is outside the preferred range of the plant (too high or too low), nutrient deficiency and/or toxicity problems will develop.

Some common reasons for having an elevated pH are over-liming, leaching of alkaline materials from buildings and concrete walkways, and soil that was excavated when digging a pond (or purchased as fill dirt) and used as top soil to build up the land.

Nutrient deficiencies symptoms that cannot seem to be corrected with fertilizer are often a sign of a soil pH problem. A soil pH test (available through the Extension Office) can confirm a high pH problem and will help you select plants that are tolerant of alkaline soils such as the plants listed below.

- Up to pH 7.2: Arborvitae
- Up to pH 7.5: Oakleaf Hydrangea, Oleander, Viburnum, Snowball Viburnum, Red Maple, Japanese Maple, ‘Little Gem’ Magnolia, Red Maple, Japanese Maple, Red Oak, Elm, Dianthus, Snapdragon, Begonia, Gomphrena, Hostas, Easter Lily, Melampodium, Four O’Clock, Daffodil or Narcissus, Marigold
- Up to pH 7.8: ‘Limelight’ Hydrangea, Periwinkle
- Up to pH 8.0: Hibiscus, English Dogwood, Leland Cypress, Hollyhock, Chrysanthemum, Shasta Daisy, Geranium, Lenton Rose, Verbena, Narrow Leaf Zinnia
- Up to pH 8.5: ‘New Gold’ Lantana, ‘Sonset’ Lantana

Reference:

Kelly, L., Crouse, K., and Pennington, J. (2016). Soil pH for Landscape Plants. Mississippi State Extension, Publication 2571.

