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#### SUMMARY

Careful attention to special plant needs will allow Contra Costa gardeners to grow beautiful acid-loving plants such as azaleas, rhododendrons and blueberries.

## Growing Acid Loving Plants

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### Some plants require a more acidic soil than most.

If you've ever admired the coral beauty of camellias, azaleas or rhododendrons and savored the juicy plumpness of blueberries, you may have thought of growing your own. You may also have heard that these are acid-loving plants and, because they have similar soil requirements and growing conditions, you may have decided they deserve a dedicated area in your garden. You may have also considered growing them in raised beds or large containers. Before you pick up your shovel, a valuable first step would be to purchase a soil test kit from your favorite nursery and find out what your soil and water acidity levels are.

Your test results may confirm what is known about Contra Costa County soils: that they are slightly acidic to moderately alkaline. Acid-loving plants prefer soil with a pH of 4.5 to 6.5, whereas most plants grow best where the soil pH ranges from 5.8 to 7.0. Keep in mind that soil pH is measured on a scale of 1.0 (acidic) to 14.0 (basic), 7.0 being neutral. Each increment on the scale represents a difference of ten times more basic or acidic.

#### Why Soil pH is important:

Soil pH is an important factor in plant growth since it influences the availability of

plant nutrients and the activity of microorganisms. In moist soil, these transform soluble nutrients such as boron, iron, manganese, zinc and copper into an assimilable form by the roots of growing plants. The roots of acidophilic plants grown in alkaline soil cannot uptake necessary nutrients. The result is stunted growth, chlorotic leaves, even death. Symptomatic mineral deficiencies appear on leaves and internodes are visibly shortened.

#### Prepare the Planting Site:

At planting time in September or October, as our rainy season gets underway, select a location protected from frost, excessive sun and wind. Make sure it is well aerated, cool and humid, with good drainage, preferably with a northern exposure. Prepare the soil with compost.

Compost, which is naturally acidic, releases its beneficial elements gradually by mimicking the type of decomposition of organic materials found in boggy areas or shaded woodlands, natural habitats of acid-loving plants. Also, it substantially increases the microbial activity of soils because it provides a source of carbon and other nutrients which promote the growth, activity and numbers of microorganisms.

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***“...be attentive to maintaining special cultural conditions: keep the soil acidic, cool and moist, porous and highly organic; check the leaves for signs of inadequate nutrition or salt injury, windburn or sunburn; hand-pull weeds; ensure that fragile surface roots are not disturbed.”***

Your compost can include acidic oak leaf mold, pine needles, builder’s sand, coffee grounds and perlite. Avoid wood ashes or lime as these are alkaline. Keep maple leaves or sawdust out of your compost as they form matted layers, impermeable to water and air. Peat moss is also recommended for acidic soil preparation. Many store-bought granular or liquid chemical fertilizers are on the market and should be used in quantities smaller than indicated on the label. The reason for these words of caution is that they can easily cause severe root damage, the symptoms of which look like nutrient deficiencies. Too much sulfur, ammonium nitrate, ammonium sulfate and urea produce salts, toxic to plant roots.

It is also useful to know that the alkaline content of irrigation water can neutralize your soil. You can remedy this by maintaining a 3-4” layer of mulch around the base of your acid-loving plants. Over time, the mulch will decompose and replenish the acid content of the soil. In addition to the compost ingredients mentioned above, your mulch can have oak leaf litter, ground redwood, pine and fir bark, ground corn cobs or grape pomace. Do not use peat moss in your mulch unless it is as moist as a sponge; otherwise, it is water-repellent. Check that the mulch layer covers the soil completely to discourage over-wintering ground-dwelling insect pests.

### **Maintain Proper Conditions:**

Contra Costa County gardeners who want to grow healthy acid-loving plants need to carefully maintain special cultural conditions: keep the soil acidic, cool, moist, porous and highly organic; check leaves for signs of inadequate nutrition or salt injury, windburn or sunburn; hand-pull weeds to avoid disturbing fragile surface roots.

Check with your nursery for varieties which are suitable to our local environmental conditions. Some evergreen and deciduous azaleas and their hybrids thrive in our coastal areas. The Brook, Gold Cup and Nuccio azalea hybrids were developed in California and are hardy to about 20° F (6° C). Our mild climate allows a wide choice of rhodies in a variety of colors. Some blueberry cultivars, while requiring acidic soil (pH 5.0-5.5), have low chill hour requirements and are able to grow in hot, dry places. These include Emerald, Jewel and Star, bred in California for CA soils.

Long term success with your acid-loving plants depends on the kind of soil preparation you give them early on and as they become established. Providing them with the acid soil, moisture and protection they require will help ensure their survival, and enhance their beauty, longevity and productivity.