How do I lower the Ph of soil?

Most ornamentals and fruit trees require Ph ranges of 6-6.5. However, there are a few plants that actually thrive on soils with lower Ph ranges, such as azaleas and blueberries just to name a few. So now comes the question I often get... **How do I lower my soil Ph?**

Many folks want to plant their blueberries in a corner of their lawn that they have limed religiously and that has a high soil Ph. The first step is to go ahead and take a soil test before you plant your blueberries. This will provide your exact soil Ph level. Now purchase a small bag of *wettable sulfur* (90%S). Most of your feed and seed stores in the area will carry this product. Keep in mind that rabbiteye blueberries like Ph levels around 5.3 and highbush varieties like Ph levels around 5.0. Now apply *wettable sulfur* at a rate of 2 lbs (5 cups) per 100 square feet for loamy clay soils. For sandy soils cut rate in half. At this rate you will drop you Ph level by 1 point. So for example if your soil test shows you had a 6.3 Ph before you applied sulfur then it should now drop to 5.3 when sulfur is applied!

Managing Cedar Apple Rust

In years past have you noticed that your apple tree doesn’t have the nice green luster to the leaves that it once did? Have you noticed that around May-June the leaves start developing pale yellow spots, these spots become orange and enlarge with age? Does this sound like your apple trees? If so there is a good chance your tree has Cedar Apple Rust! In many cases of heavy infections the trees will actually start dropping leaves. Normally this is around the July-August time frame. So you are probably wondering how your tree contracted this infection. Well, to start with certain varieties in the south are more susceptible to cedar apple rust. Rome Beauty, Gala, Mutsu (Crispin), and Jonagold are the most susceptible. Delicious apples are not susceptible to cedar rust but are very susceptible to quince rust. With that being said, most apple trees that contract this infection get it from cedars. This is a disease that overwinters on the eastern red cedar. How many of you have ever noticed the dimpled galls that form on cedar tree branches? Spores are produced from these galls and in turn infect apple fruit or foliage in the spring. So what can we do to help control this rust? First, I would recommend removing cedars within ½ mile of the orchard. I know...this is easier said than done sometimes. But if this is practical for your situation then start here. Next a fungicide program will normally help. Applying a fungicide with the active ingredient *myclobutanil* (several name brands on the market) has shown promising results. In most years you will want to begin with the first application the end of April. You may also want to tank mix captan. Fungicides containing captan do a good job controlling scab and flyspeck.
Organic Sweet Corn Production: Things to Consider

Whether it is growing sweet corn for yourself or growing it to sell to the public there has become a strong interest in growing produce organically. This means that for most growers there must be a combination of both traditional practices and modern technology. With that being said Sweet Corn should be planted when soil temperatures are between 70-85°F. This will ensure good germination. Some folks try to plant earlier than this but the result is quite often a poor stand that must be replanted. Another helpful tip is to plant corn in several shorter rows, rather than one long row. This is because corn is wind pollinated and small blocks of at least 4 rows normally work well for good pollination. Also keep in mind that sweet corn can cross pollinate with other types of corn. Cross pollination between white and yellow cultivars will change the colors of the kernels. To prevent cross pollination problems, sweet corn should be separated from different types of corn by at least 400 yards. Also keep in mind planting dates and maturity dates...this is just another tool you can add to your toolbox when it comes to preventing cross pollination.

Many people don’t fully understand issues when it comes to soil fertility. So I am going to try to break it down as best I can. Sweet corn is a fairly heavy feeder when it comes to fertility. An acre of sweet corn needs roughly 150 lbs of N, 75 lbs of P, and 50 lbs of K. Keep in mind that this is actual product. Commonly used organic sources of N-P-K are bloodmeal (~15%), bonemeal (~4%N and 21%P2O5), cottonseed meal (7%N, 2.5%P2O5 and 1.5% K2O) and soybean meal (7%N and 2.3%K2O). Keep in mind that this means, for example if a product you apply you are only getting 7 lbs of actual Nitrogen. If you are using poultry litter for a source of nitrogen a rate of 700 to 1000 lbs/acre is normally sufficient to broadcast before planting. Using liquid fish-emulsion and seaweed (4-1-1) is another option for side dressing. Also planting cover crops such as hairy vetch and crimson clover work well as a cover crop and also fix nitrogen from the atmosphere.

There are four types of sweet corn available: standard (su), sugary-enhanced (se), and supersweet (sh2) and synergistic or triplesweet (sy). The su type is the old fashioned sweet corn with which we are all familiar. It must be consumed quickly after harvest or the sugars rapidly turn to starch. The se types contain more sugar than the su type and, if cooled, will remain sweet for several days after harvest. The sh2 type also contains more sugar than the su type by converts very little sugar to starch. If properly cooled, an sh2 variety will remain sweet for 7-10 days after harvest. The sy type is a hybrid comprised of 75% se and 25% sh2 kernels, resulting in an ear with the sweet and tender characteristics of the se type but with the shelf-life of the sh2.

Many Piedmont growers prefer the following cultivars: “Bodacious” (se) - early-season sweet corn variety and “Silver Queen” – late season white corn. Silver Queen normally exhibits very little earworm damage due to the tight tips of the husks.

Weed control is always a challenge for the organic grower. Weed populations can be reduced through good crop rotations and use of cover crops. Try to rotate crops with different growth habits, warm and cool season crops, and crops grown in wide and narrow rows. On small plantings, organic mulches, such as straw or grass clippings, can help shade out weeds between the rows.

Harvesting should be about 17-18 days after silkling under warm day conditions or 22-24 days after silking during cool weather conditions. At harvest kernels will exude a milky liquid when punctured. This is your indicator that your corn is ready for harvest. In most cultivars it will only stay at this stage about 4-5 days. To retain peak quality, sweet corn should be picked in the early morning and cooled immediately to 32°F preferably, or at least 40°F.
Helpful Tips to Prevent Disease in Your Vegetable Garden

- Select a sunny well-drained site for planting your garden.
- Choose disease-resistant varieties if a particular disease has been a problem in the past.
- Use ONLY healthy transplants.
- Water plants in the morning hours. This allows leaves to dry quickly preventing disease. Using soaker hoses is an excellent option. It keeps the root systems moist while keeping plant foliage dry.
- DO NOT work in the garden when foliage is wet. This prevents spreading pathogens such as bacteria and molds.
- DO NOT over fertilize plants. Too much nitrogen can predispose plants to disease.
- Remove severely diseased plants during the growing season and DO NOT compost them.
- Manage insect pests, they can serve as a vector for viruses and bacteria.
- Control weeds. In many cases they can serve as host plants for viral diseases.
- Practice crop rotation. DO NOT plant the same vegetable in the same location more than two times in three years.

Reducing Blossom End Rot

1. **Lime tomato soils to pH 6.5-6.7:** Home gardens not limed in the past 2 to 3 years will need 2 cups of lime for each plant. To determine the exact amount of lime-take a soil sample!

2. **Fertilize properly:** Applying too much fertilizer at one time can result in blossom-end rot. Following soil test recommendations is the best way to insure proper fertilization. For home gardens not soil tested, apply 5 pints of 10-10-10 per 100 feet of row, and thoroughly work it into the top 8 inches of soil.

3. **Mulch plants:** Use straw, pine straw, decomposed sawdust, ground/decomposed corn cobs, plastic, or newspapers. Mulches conserve moisture and reduce blossom-end rot. In extreme drought, plastic may increase blossom-end rot if plants are not watered.

4. **Irrigate when necessary:** Tomato plants require about 1.5 inches of water per week during fruiting. This amount of water should be supplied by rain or irrigation. Extreme fluctuations in soil moisture result in a greater incidence of blossom end rot.

5. **Spray calcium:** The plants may be sprayed with a calcium solution using calcium nitrate or calcium chloride at 4 Tbsp per gallon of water. This spray should be applied 2 to 3 times a week, beginning at the time the second fruit clusters bloom. These materials can be tank mixed with fungicides for foliar diseases. Chelated calcium solutions also provide an excellent source of calcium. When using these chelates, follow label directions. Several foliar spray materials containing calcium are available and all work well on tomatoes.

Soil Solarization: Organic Weed Control Option

Soil solarization is a relatively new method for weed control that is still being tested. Solarization kills weed seeds, perennial weeds, and soil pathogens by heat treating the soil. **Solarization requires long-range planning because a field must be solarized the summer prior to planting your crop.** The system involves laying clear plastic over tilled, moist soil and sealing around the edges with ridges of soil. The plastic is left in place, usually during mid-summer, for 6 to 8 weeks. After the plastic is removed the soil surface should be disturbed as little as possible to prevent bringing weed seeds to the surface. It is better to plant a fall vegetable crop or winter cover crop than to leave the solarized soil fallow for the winter.

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Fire Ants

So what about treatments for the home vegetable garden and orchards? There are only two treatments that are labeled for these settings. One product is Extinquish (s-methoprene) the other is Esteem (pyriproxyfen). Both of these products act as an insect growth regulator, causing reproductive ants to be born sterile. As worker ants die, they are not replaced causing the colony to die out. These products normally give about 8-10 weeks control.

So what about non-insecticide treatment options? The only option which has had pleasing results is the Boil Water technique which requires several gallons of boiling water applied to each mound. This approach is about 70-80% effective. It is definitely an option for controlling fire ants that are near water sources such as wells or streams. The only downside to this technique is the danger associated with handling of boiling water!

To sum it all up fire ants are here to stay so we must learn to deal with them! When used in a timely fashion, the approaches listed above have provided good control in normal years. The key to controlling fire ants in not as much in the product you use, or using the most expensive product but rather being timely in how you use the product!