



Aglime Quarterly

What's Happening
CAPCA Conference
Anaheim
October 16-18

Almond Board Conference
Sacramento
December 6-8



Nitrogen's Effect On Soil pH

Acidic soil conditions are an important soil issue directly effecting a decrease in nutrient availability and stunted root growth. Low soil pH can develop naturally over time or from the use of nitrogen (N) fertilizers containing ammonium.

During the nitrification process of N, ammonium fertilizers, Hydrogen (H+) is released. It is the free hydrogen ion that increases soil acidity. Soil acidity or low pH, is the measure of the concentration of the H+ ions in the soil solution.

A common way to express the relative acidifying effects of these N fertilizers is by the pounds of Limestone, (Effective Calcium Carbonate, ECC) required to neutralize the acidity produced from applying one pound of N fertilizer.

Check with your Certified Crop Advisor to see if the nitrogen fertilizers you apply could be inhibiting crop yields by acidifying your soil.

Form of N Fertilizer	N Concentration	Pounds of ECC needed to neutralize 1 lb. of N
Ammonium Sulfate	21% N	7.2
Anhydrous Ammonia	82% N	3.6
Ammonium Nitrate	34% N	3.6
Urea	46% N	3.6
UAN Solutions	28-32% N	3.6

Fall is the Time

Now is the time to start planning for maximum crop returns next year.

Many crops are sensitive to salt build up and yields can be impacted due to osmotic effects, basically making the plant work harder for water, reducing vigor, fruit development and growth. Some of the first visual signs of too much salt in the root zone are yellowing leaves and stunted growth. Soil sampling at varying depths is a must to check for toxic salt levels and identify the types of salt that may have accumulated.

Limestone, Dolomite and Mined Gypsum Dihydrate amendments are some of the best and least expensive ways to leach salts. The calcium in these products compete for exchange sites within the soil, keeping the salts in the water allowing them to leach. The pH of your soil will determine which product to use.

Have your soil tested and check with your Certified Crop Advisor to see which material is best for your soil type.

References: 10/2016
 *AgProfessionals.com The role of Nitrogen fertilizer in soil pH
 ** UCCE, David Doll, Considerations for Nov/Dec 2014