

WHAT ABOUT LIMING YOUR SOIL?



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Last week I discussed soil sampling fields for nutrients and earlier this fall addressed sampling fields for SCN (Soybean Cyst Nematode). We also mentioned soil pH. I realize with a blizzard occurring in southeast Nebraska on Sunday, this is the last thing on peoples' minds, but it is something to consider before next year's cropping season. Liming fields can be done anytime this winter or spring when soil conditions are favorable.

The pH of your soil is very important and crops may respond favorably to lime applications. Have you checked the pH of your soil recently? With challenging economic times looming ahead, it is critical to be as efficient as possible in the use of your applied nutrients. Sometimes by raising the pH of your land, you may increase its productivity by increasing the availability of some of the nutrients. Many of the soil nutrients, such as phosphorus, potassium, and nitrogen are more readily available to plants when the pH is neutral, or around 7. Some legumes are very sensitive to pH. If your salt pH is in the 4.5 – 6 range, soybean yields may increase up to 15% by raising your pH between the 6 -7 range. Legumes in pastures such as alfalfa and red clover are more productive, are easier to establish, and can be maintained easier at pH levels closer to 7.

An on-farm study conducted in eastern Nebraska from 1995 – 2005 showed the benefits and profitability of the addition of lime to a low pH soil in a corn-soybean rotation. By 1999 costs of lime application were recovered through increased crop yields, with a cumulative net return of \$137 per acre by 2005. In other on-farm research in Nebraska, both corn and soybean yields have been increased significantly by lime application in low pH soils, although soybeans tend to respond more. This and other on-farm research can be accessed on the web on Cropwatch at: <http://cropwatch.unl.edu/farmresearch/soynutrientstudies#Liming-Chlorosis>. A concern is if a tenant is cash renting land and pays for liming. It is important that the tenant have an agreement with the landlord if the rent is terminated prior to getting full benefit of the lime, which may be up to 6 years or longer under no-till conditions.

In certain no-till cropping situations where soil is very acidic, below 5.0, it is advisable to apply all the lime and till it in. If you do not want to till the soil, do not apply too much lime at one application. This may cause a very high pH on the surface and interfere with the activity of your herbicide. It can also cause an iron chlorosis problem in soybeans, limiting the uptake of iron in the high soil pH on the soil surface. I have seen this occur on a Missouri River bottom field in Missouri. Liming of soil is a long-term investment. If lime is applied on the surface in a pasture, hay field, or in a no-till system, it may take a few years before it works down into the soil. It's important to keep records on when lime and other nutrients were last applied. An excellent publication by Nebraska Extension is NebGuide G1504 "*Lime Use for Soil Acidity Management*". The link <http://extensionpublications.unl.edu/assets/html/g1504/build/g1504.htm> provides access to this guide. If you have questions in regard to liming, feel free to contact your local Extension office or me at the Nemaha County Extension office at (402) 274-4755.

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