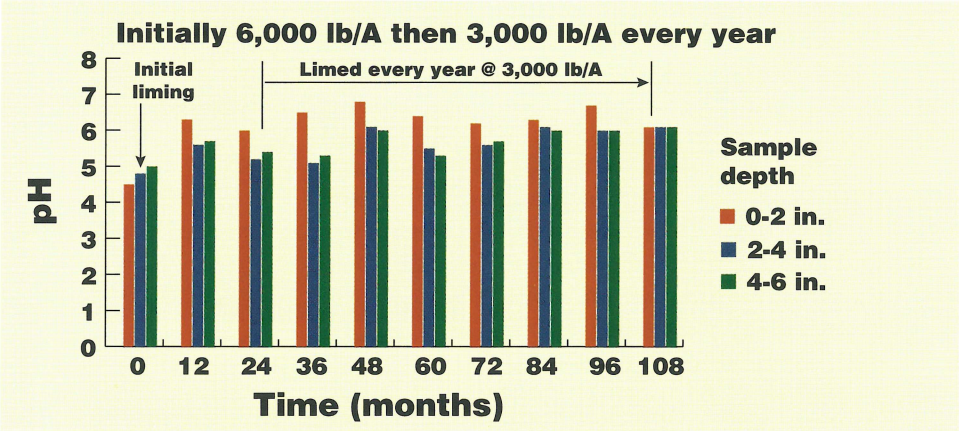

FIGURE 2. Soil pH versus time for a no-till soil limed at 6,000 lb/A initially and then at 3,000 lb/A annually after the second year.

that even this shallow pH improvement could affect herbicide activity and nutrient availability. The study showed that a very long time is required for aglime to have much effect on the soil pH below the surface 2 inches in a no-till system. Finally, there seems to be little justification for more frequent liming in no-till systems.

The current recommendation for liming no-till systems is effective. On an acid soil, aglime should be incorporated to adjust the soil pH to the desired level in the entire plow layer before no-till crop production is initiated. If the soil pH is in the desired range initially, it can be maintained by surface applications of limestone in no-till systems. If a regular liming program is followed and soil pH is not allowed to drop to very low levels, further incorporation of aglime applications should not be necessary. Where incorporation is not possible, there are beneficial effects of surface application of aglime to acid no-till soils even though the immediate effect will only be near the soil surface. Surface liming approximately every three years based on a regular soil testing program should be adequate for no-till systems. BC

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