

BRIMHALL, PHIL B., Michigan Sugar Company, P.O. Box 107, Caro, MI 48723. - Effects of applied factory waste lime on crop yields grown on high pH soils.

Two studies in 1989, one in 1990 and one in 1993 were initiated to determine the effect of factory waste lime on yields on soils with high pH readings. All studies had a pH reading above 7.5. Rates of lime were 0 ton, 1 ton, 2 tons and 4 tons per acre. Plots were 30 ft. by 30 ft. and arranged in a Latin-square design. Lime used in these studies had an average analysis of 89.6% neutralizing value, calcium carbonate equivalent of 1270 lbs. per cubic yd., 2.9% magnesium carbonate and a sieve analysis of 92.6% thru an 8 mesh, and 58.2% thru a 100 mesh screen. At all locations, lime was applied in the spring and incorporated into the top 3-5 inches of soil. Dry edible beans were always the first crop planted after lime application. The reason for planting dry beans the first year was that if high rates of lime on high pH soil was going to have an adverse effect, it would likely show up on dry beans. Crops grown after the first year varied among locations, but included sugarbeets, winter wheat and beans. The addition of lime had the most effect on increasing soil pH the first year after application. The effect of the 3 lime rates 1, 2 and 4 tons per acre had no significant effect on crop yield at any location or crop year after application. Even though there were no significant effects at any location, the average of the 4 locations showed a trend for higher crop yields with all 3 rates of lime applied. The conclusions drawn from these studies were: Application of factory waste lime on high pH soils had no adverse effect on crop yields. No visual differences in crop growth or color could be observed between treatments.