

are grown after peanuts they should not be grown more than once in 3 years.

4. When peanuts or soybeans are grown in a 3-year rotation such as that referred to in 1 above they make about the same yields if part of or all of the fertilizer is applied to the preceding crop (oats for green manure and oats for grain) than when fertilized directly.
5. Corn and oats grown in a 3-year rotation should be fertilized directly, since this soil does not retain fertilizer in adequate amounts to produce good yields of these crops.
6. Corn, peanuts, soybeans, oats and lupine need supplemental fertilizer. When grown in the 3-year rotation mentioned in 1 above, a good rate of fertilization for corn and oats is 600 pounds per acre of 4-12-12 at planting with 60 to 100 pounds per acre of nitrogen as a side-dressing and a top-dressing. The nitrogen may be reduced to half the rate where the crop follows a legume cover crop making good growth. Soybeans, crotalaria and lupine should receive 450 pounds per acre of 0-14-14 and peanuts 200 pounds per acre of 0-14-14.
7. When peanuts are hogged-off and followed by native cover, yields decline about the same as continuous peanuts harvested and followed by lupine plowed under for green manure. This indicates that continuous peanuts, even when they are hogged-off, still have a detrimental effect on the soil.
8. Lime is required to produce good yields. After 11 years adequate lime increased peanut yields 250 to 580 pounds per acre, corn yields up to 26 bushels and soybean yields as much as 7 bushels.

II. Effect of Cash Cropping and Management Practices on the Soil

1. Norfolk loamy fine sand had approximately 400 pounds per acre of exchangeable calcium in the virgin state. When cropped for 7 years to a 3-year rotation, the level was reduced to approximately 100 pounds per acre. At this point a ton of lime improved yields of peanuts, corn and soybeans, but did not raise the pH above 5.7. It would require approximately a ton of lime every 5 years to maintain the pH of soil cropped to a 3-year rotation