The Impact of Management on the Macronutrient Levels of a Corn-Corn-Soybean-Wheat Rotation. (A08-smeenk085307-Poster)

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Abstract:

A rotation study has been in place for 8 yr on a Kalamazoo sandy loam. A corn-corn-soybean-wheat rotation is compared to continuous corn under organic, integrated compost, integrated fertilizer, and conventional management systems with and without cover crops. All crops are grown each year. Macronutrient status was determined in each treatment (0-25 cm) in 1997and at three depths (0-30 cm, 30-60 cm, and 60-90 cm) in 2001. In 1997, both the Ca and Mg levels were significantly higher in all treatments receiving compost than those receiving fertilizer. P levels were significantly higher in some of the treatments receiving compost and there were no differences in K levels associated with nutrient source. In the 2001 sampling P, K, and Mg levels generally decreased with depth but Ca levels were significantly higher in the 30-60 cm samples than in either the 0-30 cm or 60-90 cm samples. Ca and P levels in all crops were significantly lower in the conventionally managed treatments. Although the 0-30 cm P levels in the plots receiving compost were higher than those with fertilizer, using best management practices has generally kept the 2001 levels within 10% of the 1997 levels.

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