NATURE SAFE® RESEARCH
UNIVERSITY RESEARCH DATA

TITLE: Leaching Rates

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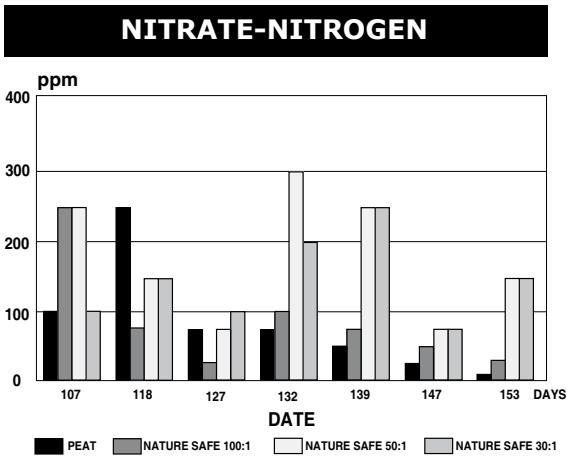
I. Introduction and Procedures

Nutrient balance and availability of fertilizers are major concerns shared by all who try to maximize fertilizer usage. Organic fertilizers are touted as being slow and balanced release. This study examined Nature Safe 8-3-5 and a slow release chemically amended media mix in a hydroponic system. The products were evaluated for leaching resistance of six essential nutrients: Phosphorus, Potassium, Calcium, Magnesium, Nitrate-Nitrogen and Sodium Salts. Floating trays were subjected to all climatic elements throughout the test period which was replicated for two years. Samples were collected at two week intervals for 12 weeks and analyzed.

II. Test Results



Soil media was mixed with Nature Safe Fertilizer at ratios of 100:1, 50:1, 30:1.

This was compared to a slow release chemically amended Peat media.

Phosphorus levels of both treatments declined dramatically during the first two weeks, however, levels were optimum throughout the study. Magnesium remained optimum for Nature Safe; but, the slow release media was significantly lower. Potassium, Calcium, Sodium Salt content and pH did not differ over time between media types. Nitrate-Nitrogen from Nature Safe maintained at a consistently acceptable level to an optimal level throughout the study, whereas, the slow release media dropped to low availability levels after the fourth week and remained low.

Nature Safe maintained plant growth through the eight week trial period. The remaining product showed severe visual nutrient deficiency symptoms after four weeks. Plants were tagged and followed through the growing season and harvested to determine the effect on long range productivity. Twelve selected plants from each treatment were weighed four weeks after harvest at equal moisture content. Field productivity each year was 10% and 18% greater, respectively. No significant (P=.05) germination and emergence differences were noted.

III. Conclusion

Nitrate-Nitrogen proved to be available for the full eight weeks of the test, demonstrating adequate nutrient availability and low leaching rates. Plants which were fed a more controlled release of nutrients by Nature Safe proved to have higher yields, providing vigor to the plant.