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EXTENSION

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Supplemental Fertilizer Application in the BMP Era for Vegetable Crops Grown in Florida in the BMP Era¹

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This publication is one of a series entitled Fertilizer and Irrigation Management in the BMP Era.

This series is divided into nine principles described in the Introduction Chapter (HOS-897). This publication is part of Principle 3, "Monitor Crop Nutritional Status and Discover How Healthy the Plants Are." BMP implementation requires a global approach to production management. However, for presentation purposes, each aspect of vegetable production is described in a separate publication.

Fertilizers typically contain macronutrients and micronutrients, and are used primarily to obtain higher yields and improve crop quality. If the fertilizer component of the crop nutrient requirement (CNR) is properly managed to minimize fertilizer losses, it is unlikely that additional supplemental fertilizer will be needed. As a general rule, about 50% of the nitrogen and 25% of the potassium are leached out of the root zone by a 2 to 3-inch rainfall for unmulched crops.

Working Definition

Supplemental fertilizer is the fertilizer that is applied in addition to the crop nutrient requirement

during the growing season to replace fertilizer nutrients lost by a leaching rain.

Conditions for Application - Things to Do

- Manage CNR properly to avoid leaching losses caused by irrigation.
- Make a supplemental application of N and/or K when rainfall exceeds 3 inches in 3 days, or 4 inches in 7 days and when plant nutritional status suggests to do so.

Application Techniques - Things to Do

- Place the supplemental fertilizer in the soil just ahead of the advancing root tips.
- For crops growing in close rows or seeded in "broadcast" fashion, the supplemental fertilizer can be broadcast over the top by air, ground spreader, or overhead sprinkler-irrigation system.
- Where plastic mulch is used, supplemental applications can be made through the mulch with

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a liquid-injection wheel or the drip irrigation system.

Application Amounts - Things to Do

- In general, apply 30 lb of nitrogen per acre of planted cropland.
- In general, apply 20 lb of potassium (K_2O) per acre of planted cropland.

Things to Avoid: Potential Pitfalls

Avoid adding supplemental or side-dress fertilizer to row crops when a storm event of significant magnitude is forecasted.

Additional Reading

Soil and Fertilizer Management for Vegetable Production in Florida, HS711, Fla. Coop. Ext. Ser., IFAS, Univ. of Fla. <http://edis.ifas.ufl.edu/CV101>