

## SOIL TESTING AND PHILOSOPHIES OF FERTILIZATION

Growers must know their crop nutrient needs and soil nutrient availability in order to evaluate the effectiveness of various fertilization practices. To guess at crop needs can be wasteful regardless of how good the fertilizer management practice is. Therefore, growers must obtain the most accurate information possible for their specific growing condition. How is this done? The best way is through a good program of soil testing including proper soil sampling, good sample analysis and adherence to recommended application rates for specific crops. Both the Cooperative Extension Service and private laboratories provide such services.

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There are two major philosophical approaches to fertilizer recommendations. The first, which is used by most university soil testing laboratories including IFAS, is to recommend a sufficient amount of each nutrient which will provide maximum yield for the grower for a particular crop. Some laboratories use another philosophy: that the soil itself should be maintained at some general optimal nutrient balance — usually determined with little regard to specific crop requirements. This philosophy of optimal nutrient balance is an insurance program because it tries to assure that maximum growth will always occur for a variety of crops by supplying sufficient fertilizer for the most nutrient-demanding crops. The theory is to keep the soil-nutrient level high so changes in farming practices will not be limited from year to year. In reality, many Florida sands do not have the nutrient-holding capacity that would enable them to be enriched over time. So while this approach generally works very well for maintaining optimal plant growth, it can be costly, both economically and environmentally. The philosophy of soil testing laboratories should be carefully considered before selecting one.

### SUMMARY

Good fertilizer management for every agricultural commodity is essential for profitable production and for environmental protection. The key to success is knowing crop needs and matching