

# A Nutrient Management Bibliography

## *Publications of the Faculty and Staff of the University of Delaware College of Agriculture and Natural Resources*

Nutrient management is one of the most important aspects of modern land use planning. Consequently, determining the most cost-effective and environmentally sound approach to use fertilizers, animal wastes, municipal biosolids, and other nutrient sources has always been a high priority of the University of Delaware's College of Agriculture and Natural Resources. Research on nutrient management has been conducted by the faculty and staff of the College for many years, expanding greatly in the last two decades as public concerns about land use and water quality have grown. Most research has focused on the relationship between agricultural management practices and nutrient losses to ground and surface waters. However, in recent years the importance of nutrient management planning for urban areas (lawns, gardens, parks, golf courses, greenhouses and nurseries) has received attention as well, as has the need to manage municipal and industrial wastes that contain nutrients (e.g., sewage sludges, municipal composts). The types of studies conducted have varied widely, but have generally fallen into the following categories:

- *Field evaluations of improved nutrient management practices that can reduce nutrient loss and improve crop production efficiency; many have been conducted under "on-farm" conditions with cooperating farmers.*
- *Environmental "fate and transport" studies that examine the effect of nutrient management practices on soil and water quality and the safety of our food chain.*

- *Watershed scale projects that have a more holistic perspective, attempting to integrate socio-economic factors into the nutrient management planning process.*
- *Investigations of the basic chemical and physical reactions that control nutrient availability and losses to air and waters. These studies have had the goal of providing the fundamental understanding of nutrient interactions with soils and waters that must underlie any truly effective "best management practices."*

In the spirit of the land-grant system, the College of Agriculture and Natural Resources has always attempted to communicate the results of both basic and applied research to the citizens of Delaware. We have regularly developed bulletins, factsheets, videos, and internet home pages. The goal has been to rapidly disseminate the latest research findings to those who may be able to use the information to develop more effective nutrient management plans for all land uses.

This bibliography continues that effort by providing a summary of the research and education publications on nutrient management now available from the faculty and staff of the College of Agriculture and Natural Resources. If you are interested in obtaining copies of any of the publications listed below, please contact the author directly at the addresses provided on the next page.

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## ***Basic Principles of Nutrient Management***

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Sims, J.T., and K.L. Gartley. 1996. Nutrient management handbook for Delaware. Cooperative Bulletin No. 59. University of Delaware.

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The *Nutrient Management Handbook for Delaware* is a comprehensive guide to nutrient management for all major land uses in Delaware, including production agriculture, residential and commercial landscapes, industrial lawns and athletic fields, and golf courses.

The handbook is intended to serve as an educational resource for those individuals involved in or who advise others on any aspect of nutrient management and/or land use planning. It is equally appropriate as a reference book for commercial producers or homeowners. The handbook reflects the latest research on nutrient management from Delaware and nearby states with similar soils and climates.

Chapters contain information on the basic principles of nutrient management, soil management considerations important to land use planning, nutrient recommendations for all major crops and plant types in Delaware, and detailed step-by-step instructions for preparing a site-specific, crop-specific

nutrient recommendation. Extensive reference sections and appendices provide additional sources of valuable information including conversion factors for soil test results, a glossary of nutrient management terms, reference tables, Soil Test Notes and Factsheets, and the names, office addresses, and phone numbers of Cooperative Extension personnel involved in nutrient management.

Copies of the *Nutrient Management Handbook for Delaware* are available from the University of Delaware Soil Testing Program for a fee of \$50.00. For additional information on this or other publications available from the University of Delaware Soil Testing Program, contact:

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