

Graduate Module Outline

Title: Soil nitrogen supply and nitrogen-fertilizer recommendations

Instructor: Dr. Mehdi Sharifi

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Timing (month/year module will be offered): Winter (Feb-Mar) 2011

Description:

In this module, we will discuss the concept of soil nitrogen (N) supply in different climate conditions, review and evaluate the methods for estimation of soil N supply and explain how an accurate estimate of soil N supply can improve fertilizer N management and consequently reduce the risk of excess N losses to the environment. The topics that will be discussed include: N forms in soil, soil N supply in dry and humid environments, crop N requirement and fertilization, soil testing for available N and fertilizer N recommendations, N management for improved N use efficiency.

Format:

This module includes a combination of lectures, discussions and presentations/assignments for 1.5 hours/week for 8 weeks. Each student will be expected to participate in discussions with questions and comments related to lectures and distributed readings. The students are also expected to have a written major essay on related topics and to present it to the class. At the end of the module there will be an examination on the content of lectures, discussions and presentations/assignments.

Method of Evaluation:

The module will be assessed by a combination of coursework and examination.

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| 1. Essay | 40% |
| 2. Presentation of paper | 20% |
| 3. Participation in discussions | 20% |
| 4. Final examination | 20% |

Prerequisites:

Introductory soil science (SOIL2000) or equivalent undergraduate soil science course.