



Nutrient Management Planning: Potato Rotation

What is a Nutrient Management Plan ?

A Nutrient Management Plan (NMP) is a document that describes the production practices that a farm manager currently uses and/or will implement to sustain livestock and/or crop production in a manner that is both environmentally and economically sound.

Nutrient management planning is about making sure that crop nutrient needs are met without over fertilizing. It aims to optimize crop yield and quality, minimize input costs, and protect soil and water quality.

Benefits of Nutrient Management Planning

- optimizes use of on-farm nutrients
- prevents excessive nutrient build-up
- reduces fertilizer costs
- maintains soil health for successful crop production
- reduces environmental risks to water and air
- reduced greenhouse gas emissions (N₂O)

Nutrient Management Planning in P.E.I.

Prince Edward Island is encouraging the development of nutrient management plans by Island producers through research and demonstration with the cooperation of federal/provincial research, agri-business, farm organizations and individual producers. The goal of Nutrient Management in P.E.I. is to obtain input from these groups and organizations for the development of nutrient management



Tour of nutrient management potato demonstration (2005)

recommendations and practices that achieve producer and environmental objectives.

In 2003, the P.E.I. Soil and Crop Improvement Association (PEIS CIA) established twelve demonstration plots across P.E.I., comparing producers traditional fertility practices with recommended nutrient management practices in field-scale demonstrations over a three year potato rotation. In each year of the demo, four locations are potatoes, four locations are grain, and four locations are forage. Fertility inputs, cropping records, yields and economic data are collected and analyzed for each location.

Three Year Observations From Potato Demonstration Sites

Results to date are based on eight demonstration sites over a three year period using russet type potatoes. Sites EP3(2004) and WP11(2005) showed a significantly



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greater total yield under the nutrient management program. All other sites showed 'no' significant difference in the total yield between the farmers conventional practice and a fertility plan developed under a Nutrient Management program. In these demonstration sites the farmers realized a saving in fertilizer between \$10 to \$110 per acre under the

NMP plan versus the farmers conventional plan. The chart below shows total yield and fertilizer cost per acre.

For more information on developing a plan for your farm, contact the PEI Soil and Crop Improvement Association at (902) 887-2535

