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Potato Variety Development and Evaluation

Program Leader: Joseph B. Sieczka, Professor Emeritus
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Project Objectives:

To identify potato clones with high yield, attractive appearance and good culinary qualities that are adapted to Long Island conditions. Emphasis is placed on clones with resistance to golden nematode, scab and other major pests.

Impact to Industry:

Data from Long Island have been used to identify strengths and weaknesses of released varieties from US and other breeding programs.

Currently named clones with resistance to golden nematode are only resistant to the RO1 strain. The identification of RO2 populations on Long Island and upstate New York requires that adapted clones be developed with RO2 resistance. Without that resistance growers will not be able to grow potatoes, tomatoes or other solanaceous crops on fields that are known to be infested with the RO2 strain of golden nematode.



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Project Summary:

The project evaluated newly released varieties and promising clones from potato breeding programs at Cornell, USDA, University of Maine and other locations in North America, including Canada. The program concentrates on clones that have golden nematode resistance but does not exclude promising susceptible clones. Data are collected on yield, size distribution, internal and external defects, specific gravity, appearance and culinary quality.

Early generation clones from Cornell, USDA and University of Maine are screened in non-replicated observational trials to determine if there is need for further evaluation.

Clones with potential for being named as varieties are grown in commercial-sized plots on farms to determine performance under commercial conditions. If they succeed, we work with the plant breeders and seed certification agencies to increase the amount of seed available and ultimately release (name) the clone as a variety. Much of this work is done cooperatively with researchers from Maine to Florida.