



## Northern New York Agricultural Development Program News

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Photo: Harvesting corn in Northern NY; photo: Michael Hunter, CCE Jefferson County

### Northern NY High Yield Corn Sites Helping Adjust Cornell Nitrogen Guidelines



Northern New York – On-farm research trials funded by the farmer-driven Northern New York Agricultural Development Program shows some NNY farms have achieved notably high corn yields. These gains prompted farmers to want to know if the Cornell University nitrogen fertilizer and manure application recommendations derived from corn yield potential calculations need to be revised.

Twelve Northern New York farms teamed with Cornell University researchers, Cornell Cooperative Extension field crop specialists and regional crop consultants to investigate whether higher crop productivity means more nitrogen needs to be supplied to replace that taken up by the corn or are new corn varieties simply able to make better use of the nitrogen already in the soil?

The NNYADP-funded project included a review of New York State annual corn silage and grain yields from 1919 through 2011. New York corn silage and corn grain yields have increased steadily over the past 40 years.

The results of the NNYADP trials now available from Cornell Cooperative Extension and posted online at [www.nnyagdev.org](http://www.nnyagdev.org) show that eight of the 22 Northern New York cornfields in the 2013 trials exceeded yield potential expectations.

“Although research in the past 10 years has shown that for many sites the corn yield potentials in the Cornell soil database are in line with actual yields, and on average the harvested yields across the 23 fields tested in NNY in 2013 equaled the yield potentials listed for the soil types of the production fields, there are some notably high yields among the Northern New York fields,” says research leader Quirine M. Kettering, director of the Nutrient Management Spear Program at Cornell University, Ithaca, NY.

Ongoing research is investigating the impact of soil type, drainage, and management on corn nitrogen needs and yields and evaluating a new adaptive management protocol that allows producers to exceed current Cornell University guidelines for nitrogen application to corn. Farmers are using application rates based on either the results of two years of on-farm replicated trials indicating nitrogen needs, or actual yield measurements plus the results of the corn stalk nitrate test/CSNT and other tests such as the Illinois Soil Nitrogen Test/ISNT to indicate nitrogen need on a field-by-field basis.

Researchers are emphasizing to farmers the importance of obtaining accurate corn yield measurements and keeping good records to help support development of improved Cornell yield potential calculations and nitrogen application guidelines.

A second year of data from farms in Northern New York will be collected after the 2014 corn harvest.

The farmer-driven Northern New York Agricultural Development Program has funded annual on-farm corn variety trials and corn production research to enhance the efficiency, profitability, and stewardship of farms in Clinton, Essex, Franklin, Jefferson, Lewis and St. Lawrence counties.

The complete Evaluation of Yield Potentials of Corn Grain and Silage in Northern New York to Improve Crop Production, Nutrient Recycling and Environmental Protection report is online at [www.nnyagdev.org](http://www.nnyagdev.org).