

Conclusions/Outcomes/Impacts:

For the early maturity hybrids at Madrid (Table 1), yields were high on average and ranged as high as 279 bu/acre. Grain moisture at harvest showed a 7% spread from the driest to the wettest hybrids, indicating that the hybrids tested encompassed a fair range of maturities.

The yield:moisture ratio provides an indication of hybrid efficiency in producing high yield under short-season conditions. This ratio is one of the best guides to choosing a hybrid with excellent yield potential and appropriate maturity. The absolute value of the yield:moisture ratio is not as important as the relative values of the hybrids tested.

The high yield:moisture ratio of hybrids like Doebler's® RPM®2415HXR™, T A Seeds TA255-18, and Master's Choice MC-3220 indicate that they were especially good, showing high yields for their relative maturity. There was little stalk lodging in general and no root lodging among these hybrids, although higher stalk lodging values for a few hybrids suggest concern.

Standability is an important trait for hybrid adaptation, especially when rainy fall weather can delay harvest operations. High values for early vigor reflect plants that showed strong early season growth – a plus for taking best advantage of the available sunlight during the growing season. Smaller values for stay green indicate hybrids where leaves remained greener later in the season, which is a plus for continuing to fill the ear and keep the plant strong until harvest.

Table 2 shows the hybrid data for medium-early maturity hybrids from Madrid. Again, average yield of these hybrids was high and individual hybrids yields ranged up to 252 bu/acre. As with the early hybrids, the 7% spread in grain moisture values at harvest reflects a range in maturity for this set of hybrids.

When maturities within a trial vary, the yield:moisture ratio is a particularly valuable indicator of which hybrids are producing the most for a given maturity. Hybrids like Syngenta N29T, Doebler's® RPM®2415HXR™, and T A Seeds TA266-22DP performed well as reflected by this index.

The hybrids in this test all had relatively good early vigor, as reflected by scores close to 5 for this trait. They all tended to retain green leaf area into September (seen as scores near 1 for both stay green and plant health), which helps to support good grain fill and retain stalk and root health and strength.

All hybrids in this evaluation had good standability, reflected in their zero or near-zero values for stalk and root lodging at harvest time.

As a reminder, **growers should choose hybrids based on multi-year and multi-location data whenever possible**, since any hybrid can have a “banner environment” but not necessarily hold up as strongly over a range of different locations and growing seasons. Much of this data will be incorporated into hybrid performance tables in the upcoming Cornell Guide for Integrated Field Crop Management, which provides that multi-year summary.

Outreach:

Results from 2015 trials, which were harvested in late fall, are available in the 2015 Hybrid Corn Grain Performance Trials report (Plant Breeding Mimeo 2016-1, also on the web at <http://plbrgen.cals.cornell.edu/research-extension/crop-variety-trials/corn-variety-testing>). These results will be incorporated into the multi-year tables of recommended hybrids in the 2017 Cornell Guide for Integrated Field Crop Management (to be published by Cornell University in fall 2016).

The 2015 Hybrid Corn Grain Performance Trials report shows single year data, but recall that hybrid choices should always be made based on multi-year data. Results of 2014 Northern New York Agricultural Development Program testing were incorporated into the multi-year tables of recommended corn grain hybrids in the 2015 Cornell Guide for Integrated Field Crop Management (Cornell University, 2014). These results are available for farmer and seed company use in selecting hybrids best adapted to the challenging soils and climates of NNY. The publications are distributed through extension offices and at various extension and outreach meetings.

Next Steps:

Provided that funding is available, we will plan to continue testing hybrids in NNY to ensure that farmers and seed companies have a solid basis for their choices of corn grain hybrids for this important region of the state.

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Reports and/or articles in which results of this project have been published.

Smith, M.E. 2016. 2015 New York Hybrid Corn Grain Performance Trials. Cornell University, Cornell Cooperative Extension, Plant Breeding and Genetics 2016-1. 12 pp.
Smith, M.E. and J. Singer. 2015. Corn grain hybrid selection. pp. 51-53. In: Cox, W.J. and J. Thomas-Murphy (eds.) 2016 Cornell Guide for Integrated Field Crop Management. Pesticide Management Education Program, Cornell University, Ithaca NY. 158 pp.

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The complete 2015 New York Hybrid Corn Grain Performance Trials with results from NNY and other sites statewide is posted at <http://plbrgen.cals.cornell.edu/research-extension/crop-variety-trials/corn-variety-testing>.