



Northern New York Agricultural Development Program News

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NNY Corn Silage Hybrid 2013 Trial Data Posted: Researchers Call Attention to Digestibility Data

The Northern New York Agricultural Development Program (NNYADP) has posted the results of its regional 2013 corn silage hybrid trials at www.nnyagdev.org.

Cornell University researchers conducting the NNYADP-funded 2013 corn silage hybrid trials are calling producers' attention to digestibility data.

"Most agronomists and animal nutritionists now believe that stover fiber digestibility is one of the most important hybrid characteristics affecting silage quality. Furthermore, some animal nutritionists believe that starch concentrations are no longer adequate in assessing corn silage hybrids for quality but rather starch digestibility of the grain is far more important," says lead researcher William J. Cox, a Cornell University Crop and Soil Sciences professor.

Seed companies released brown midrib (BRM) hybrids in the 1990s and 2000s, which provided dairy farmers with the choice of selecting hybrids with high fiber digestibility. Some of these hybrids, however, had agronomic challenges in the past, such as lower tonnage and lodging problems. Newer BMR hybrids, however, have less of a yield penalty and stand reasonably well except in severe wind storms.

"In the future, it is expected that seed companies will release hybrids that have higher starch digestibility, which will provide dairy farmers with the choice of selecting hybrids with both high fiber and high starch digestibility. Nevertheless, we also must evaluate the agronomic performance, including stand emergence under cool conditions, lodging tolerance, and yield, as well as silage quality of these new hybrids," Cox points out.

The NNYADP and Cornell University have evaluated numerous corn hybrids under different management practices including planting date, plant density, row spacing, N rate and timing, harvest date, and harvest cutting height over the last 30 years.

"In almost all instances, the selection of the hybrid has had a greater influence on silage quality than have management practices. Consequently, we believe that hybrid selection is the most important management practice affecting corn silage quality in most growing seasons," says Cox.

In 2013, Cox and Cornell University Crop and Soil Sciences professor Jerry Cherney collaborated with Northern NY farmers to evaluate 37 hybrids in St. Lawrence County at the Greenwood Dairy Farm in Madrid and 39 hybrids in Jefferson County at Robbins Farms in Sackets Harbor.

"These corn silage hybrid trials help the region's dairy producers identify the hybrids that show the strongest ability to produce the most tonnage yield with the highest quality under Northern New York growing conditions," Cox notes.

Dairy producers in the six-county region (Lewis, Jefferson, St. Lawrence, Franklin, Clinton, and Essex) of Northern NY planted 90,500 acres of corn silage in 2012, representing nearly 20% of the entire New York corn silage crop in 2012 (~475,000 acres).

The complete 2013 Corn Silage Hybrid Trials report with tables is posted at www.nnyagdev.org.

MORE INFO on 2013 NNYADP Corn Silage Trial Results:

We planted all hybrids with a 2-row plot planter at 36,000 plants/acre to achieve harvest populations of 32,000-34,000 plants/acre. The Madrid site was planted on May 2 and the Sackets Harbor site on May 3. The Chazy site was planted on May 14 but sustained significant flooding damage in early June and the study had to be abandoned.

Both sites were well-manured dairy sites, so they received no side-dressed N. We used pre-emergence and post-emergence herbicides and hand-weeding to control weeds.

We harvested all maturity groups at the Sackets Harbor site in Jefferson County on 9 September. Unfortunately, most hybrids were in the 56 to 60% range because of the dry preceding conditions. We harvested all maturity groups at Madrid in St. Lawrence County on 11 September when most hybrids were in the 64 to 68% moisture range.

Hybrids were considered **exceptional performers** if the calculated milk yield exceeded the average of their respective relative maturity (RM) group by more than 5%. Hybrids were considered **good performers** if their calculated milk yield exceeded the respective average calculated milk yield of their respective RM group.

When averaged across maturity groups, average silage yields increased approximately 1.5 tons/acre at Madrid and approximately 0.5 tons/acre at Sackets Harbor with each 5-day increase in RM.

Yields ranged from 25.2 tons/acre for the 84-90 day RM and 27.0 tons/acre for the 96-102 day RM group at Madrid. At Sackets Harbor, the range was 24.5 tons/acre (84-90 day RM) to 26.1 tons/acre (96-102 day RM).

Harvest moisture percentage also increased by approximately 1.1 percentage units with each 5-day increase in RM at Madrid and 1.3 percentage units at Sackets Harbor, where all hybrids were harvested on the same day.

When averaged across the Madrid and Sackets Harbor sites, the hybrid, **MC-4050** from KingsAgriseed, which had the highest calculated milk yield at Sackets Harbor and the 2nd highest at Madrid, performed exceptionally well in the **84 to 90 day RM** group.

Another exceptional hybrid in the 84-90 RM Group was **287GRQ** from Doebler's, which had the highest calculated milk yield at Madrid.

Other hybrids that performed well when averaged across sites include **327GRB** from Doebler's, which had the 3rd highest calculated milk yield at Sackets Harbor, **MC-480** from KingsAgriseed, which had the 2nd highest calculated milk yield at Sackets Harbor, **TA304-02ND** from T.A.Seeds, **27A13** from Healthy Herd Genetics and Nutrition, which had the 3rd highest calculated milk yield at Madrid, and **FS 40R30SS** from FS InVISION.

When averaged across the two sites, the hybrids, **WRV 3396 FL** from Wolf River Valley Seeds, which had the highest calculated milk yield at Madrid, **455GRV** from Doebler's, which had the highest calculated milk yield at Sackets Harbor, **TMF2L418** from Mycogen and **P9917AMX** from Pioneer, all performed exceptionally well in the **91-95 day RM**.

The hybrids **TMF2L418** and **P9917AMX** had the second highest calculated milk yield at Sackets Harbor and Madrid, respectively.

When averaged across the two sites, the hybrids, **P0553AM1** from Pioneer and **MC-5250** from KingsAgriseed, which had the 2nd highest calculated milk yield at Sackets Harbor, performed exceptionally well in the **96-102 day RM**.

Other hybrids that performed well when averaged across sites include **FS 46R26SS** from FS InVISION, **43HF13** from Healthy Herd Genetics and Nutrition, which had the highest calculated milk yield at Sackets Harbor, **471XY** from Doebler's, and **39HF13** from Healthy Herd Genetics and Nutrition.

The hybrids, **TMF2Q413** and **TMF2Q427** from Mycogen had the highest calculated milk yields at Madrid but were not entered at the Sackets Harbor site. Likewise, the hybrid, **Garst 86T-823122** from Syngenta had the 3rd highest calculated milk yield at Sackets Harbor, but was not entered at the Madrid site.

The results of this study were incorporated into the Recommended Corn Silage Hybrid tables for Northern NY in the **2014 Cornell Guide for Integrated Field Crop Management**. Only hybrids that have above-average comparative calculated milk yields (>100%) in their hybrid RM group (i.e. 96-100, 101-105 day RM, etc.) are recommended. The report includes comparative silage yields and milk/ton values for the recommended hybrids.