



Cornell **CALS**
College of Agriculture and Life Sciences



NEW YORK and VERMONT CORN SILAGE HYBRID EVALUATION PROGRAM

2018

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NEW YORK and VERMONT CORN SILAGE HYBRID TESTS – 2018

The corn silage hybrid evaluation program expanded to 77 hybrids in 2018. Hybrid evaluation at multiple environments helps in decision making and expands the reach of this type of data to more farmers. With this in mind Cornell, UVM, and seed companies collaborate to bring this robust evaluation. This year, hybrids were either entered into the 80-95 day relative maturity (**RM**) group (Early-Mid) and were tested at two locations in NY (n = 20; Hu-Lane Farm in Albion and the Willsboro Research Farm in Willsboro) and one location in VT (n = 20; Borderview Farm in Alburgh) or were entered into the 96-110 day relative maturity group (Mid-Late) and were tested at two locations in NY (n = 57; Greenwood Farms in Madrid and the Musgrave Research Farm in Aurora) and one location in VT (n = 55; Borderview Farm in Alburgh). The average Growing Degree Days (**GDD**; 86-50°F system) from May through August for years 2005 to 2018 is 2053 GDD at Albion, 2039 at Willsboro, 1979 at Alburgh, 2078 at Aurora and 1953 at Madrid (Table 1a and 1b).

The NY and VT corn silage evaluation program is made possible with support from dairy producers, participating seed companies, Cornell University, the University of Vermont, the New York Farm Viability Institute, the Northern New York Agricultural Development Program, and the New York State Agricultural Experiment Station. Seed companies were invited to submit hybrids into either maturity group for a fee.

MATERIALS AND METHODS

All hybrids were planted using a two-row planter at 34,000 plants/acre. Each plot consisted of four 20' rows spaced 30 inches apart with harvest of the inner two rows. The following information is shown in Table 2. The early-mid hybrids were planted in Albion, NY on May 10th, in Alburgh, VT on May 18th, and in Willsboro on May 24th. The mid-late hybrids were planted in Madrid, NY on May 9th, in Alburgh, VT on May 17th, and in Aurora, NY on May 26th. Hybrids were planted in a randomized complete block design, with 3 replications. The Albion, NY site has an Appleton silt loam soil type, was previously planted with soybeans and received 32 units N/acre at planting and an additional 120 units N/acre was applied as sidedress. The Willsboro, NY site has a Stafford fine sandy loam soil type, was previously fallow, received 15 units N/acre at planting and 90 units N/acre were applied as sidedress. Both Alburgh, VT sites have a Benson rocky silt loam soil type, were previously planted with corn and a winter rye cover crop and received 5 units N/acre at planting. Additionally, 92 units N/acre were applied as sidedress at both VT locations. The Aurora, NY site has a Lima silt loam soil type, was previously planted with soybeans, and received 25 units N/acre at planting and an additional 106 units N/acre were applied as sidedress. The Madrid, NY location has a Hogansburg loam soil type, was previously planted in sod and received 38 units of manure N/acre prior to planting with an additional 32 units N/acre at planting. The Madrid site did not receive sidedress N.

The early-mid hybrids were harvested on Aug. 28th in Albion, Sept. 12th in Alburgh, and Sept. 14th in Willsboro. The mid-late hybrids were harvested on Sept. 12th in Madrid, Sept. 12th in Alburgh, and Sept. 19th in Aurora. From planting to harvest, the early-mid hybrids had 2148 GDD in Albion, 2134 GDD in Alburgh, and 2196 GDD in Willsboro (86-50 system). From planting to harvest, the mid-late hybrids had 2249 GDD in Madrid, 2271 GDD in Alburgh, and 2245 GDD in Aurora (86-50 system).

The goal was to harvest all hybrids at about 65% ($\pm 3\%$) moisture. The maturity groups were monitored and harvest decisions were made by measuring whole plant dry matter (**DM**) testing on fill plots prior to harvest. Plots were harvested with a two-row, Kemper rotary head and Wintersteiger

Weighmaster system with sample mixing capabilities at a target cutting height of 6 to 8 inches at the Albion, Aurora, and Madrid locations. Plots were harvested with a John Deere 3975 pull-type forage harvester equipped with a custom built 20A Plot Harvester Sampler (RCI Engineering, Mayville, WI) and electronic load cells at the Willsboro location with plot weights determined from the RCI software computer interface on-board the tractor at a target cutting height of 6 to 8 inches. In Vermont, plots were harvested with a John Deere 2-row chopper into a wagon equipped with an Avery Weigh-Tronix weighing system at a target cutting height of 6 to 8 inches.

An approximate 500 g sample was taken in duplicate per plot replicate, resulting in 18 samples per entry across the three sites. Samples were sealed in gallon-sized freezer bags and placed in a chest freezer with the addition of ice packs for transportation back to Cornell University or the University of Vermont where they were transferred to a -20°C freezer and/or shipped for immediate analysis. One of the duplicate samples from each plot was kept as a retained sample while the other sample (9 samples/hybrid entry across the three sites) was submitted to Cumberland Valley Analytical Services (Waynesboro, PA) where NIR procedures were used to determine crude protein (**CP**), starch, lignin, ash, total fatty acids (**TFA**), ash corrected neutral detergent fiber (**aNDFom**), neutral detergent fiber (**NDF**) digestibility (**NDFD**; 12, 30, 120, 240 h), and undigested NDF (**uNDFom**; 240 h). Several companies paid an additional fee for wet chemistry analysis on NDFD at 30 h.

In 2016, we introduced a new concept for evaluating the impact of varying nutrient and digestibility characteristics of corn silage hybrids by utilizing the Cornell Net Carbohydrate and Protein System (CNCPS). Using version 6.55, results from 2016 showed a large range in predicted milk yield values based upon large predicted differences in feed intake of cows fed the example ration among the hybrids. With further understanding of the role of undigested NDF (**uNDF₂₄₀**) and an ability to now look at potential differences in feed intake based upon predicted rumen pools of **aNDFom** and **uNDF₂₄₀**, we chose to utilize CNCPS v. 7.0 for the 2017 and 2018 analysis.

Corn silage hybrid performance was evaluated by the predicted milk production output of the Cornell Net Carbohydrate and Protein System (**CNCPS v.7.0**; Cornell University, Ithaca, NY). Rumen fill dictates the amount of feed a cow can consume and is limited by either the amount of **uNDFom** or **aNDFom** in a ration. There is a direct correlation between dry matter intake (**DMI**) and milk production. Therefore, by limiting the amount of feed consumed, the cow's milk production potential is limited. Corn silage chemistry results were applied to a typical New York high corn silage-based diet (forage at ~60% of diet DM; corn silage ~70% of forage DM) in the CNCPS. For practical purposes, since the samples had not undergone fermentation, a feed library value was assigned to soluble protein, ammonia, volatile fatty acids, and 7-hr starch digestibility values. The base diet was formulated by Dr. Tom Overton, Dr. Van Amburgh, and Michael Dineen. Initially, each individual replicate replaced the base corn silage in the diet at the same DM amount. Subsequently, DMI of the entire ration was adjusted based on the first limiting rumen fill factor; 1) the rumen **aNDFom** pool size or 2) the rumen **uNDFom** pool size and the predicted milk production was recorded. This novel approach to hybrid evaluation allows us to account for differences in DMI potential of the total ration based upon hybrid selection and is a more biologically robust representation compared to evaluating hybrids on a constant DMI basis. The predictions made by the CNCPS v.7.0 were used to evaluate differences in intake potential and subsequent predicted allowable milk yield based upon the nutrient and digestibility characteristics of each hybrid.

Data were analyzed using PROC GLM in SAS 9.4 (SAS Institute, Cary, NC). The least significant difference (**LSD**) values reported for separating hybrid means for each location were generated at the

$P=0.10$ level. For interpretation purposes, if the difference between two hybrids is greater than the reported LSD, there is a 90% probability that this is not due to random variation and there is a true varietal difference between the hybrids.

RESULTS AND DISCUSSION

The growing season was defined by below average precipitation and above average heat (measured as GDD's) across the region (Table 1a and 1b). A defining difference between trial locations was the timing and amount of rainfall from late July to early September. While all locations realized some level of improvement in growing conditions with more frequent rainfall in late July and August, its timing and impact on the crop varied. In general, rain arrived at all locations in time to facilitate normal pollination of the crop but ear development varied by location.

The above average GDD accumulation throughout the season and particularly as the crop neared maturity resulted in fast dry down of the crop to target whole plant moisture content for silage harvest. A noticeable characteristic at harvest in many corn fields, including trial fields, was a healthy green plant with a dry ear.

While nutrient inputs at all locations met or exceeded crop needs, a lack of soil moisture may have compromised nutrient uptake at varying stages of crop development. Recognizing these real world influences and how a hybrid might perform under varying stressors is important to understand when evaluating this data.

Growing Conditions

Albion

Rainfall throughout the growing season (May – August) was below average, resulting in a total deficit of 4.35 inches for those four months. The crop showed drought related stresses through the middle of the growing season. However, rainfall in late July and August (while still below average) arrived at a key time to improve pollination and resulted in overall good ear development.

Growing degree day accumulation was well above average in May, July and August; and near average in June. The result of these growing conditions was below average plant stature with average to above average ears.

Willsboro

For the months of May through July the site received approximately 63% of average rainfall with the largest deficit in July (Table 1a). In August rainfall was 98% of average and September was the only month with above average rainfall. Growing degree day accumulation was above average in May, July, August and September, while June was slightly below average. A late May planting date resulted in this crop not benefiting from the above average heat in May. These factors led to a later tasseling date which meant that rainfall arrived in time to facilitate pollination (Figure 1d).

This field was fallow and defined as a low maintenance grass sod prior to trial implementation. The composition of the sod may not be considered a well maintained sod as defined for sod Nitrogen (N) credits found in the Cornell Nitrogen Guidelines for Field Crops in New York (<http://nmsp.cals.cornell.edu/guidelines/nutrientguide.html>). In addition to the expectation of limited sod N credits the site received sidedress N (Table 2) based on management observations at the location.

Alburgh

This location was below average in rainfall throughout the growing season. The week following planting coincided with a number of cold nights combined with cold rainfall which had an apparent

impact on germination and emergence. While the total seasonal rainfall was slightly higher than the Albion location and very similar to the Willsboro location, this location experienced the largest deviation from average with total rainfall for May to August measuring only 60% of average (Table 1a, 1b). Additionally, there was no significant rainfall from early July to early August and 64% of August rainfall came in one storm event on August 9th (Figure 1a). In this case, the impact of the timing of the rainfall may have been more significant than the below average totals.

Following the trend seen at all 2018 locations, GDD accumulation was above average in all months except for June (Table 1a, 1b). As all hybrids in the 80-95 and 96-110 day relative maturity range were planted at this location, harvest was split to target 35% DM at harvest for each RM group with the first harvest taking place September 12th and the second harvest taking place September 19th (Table 2).

Aurora

Aurora received the highest total precipitation of any location in 2018 with rainfall totals actually slightly above the long term average; however, these numbers are quite deceiving. The location experienced early season drought stress similar to other 2018 locations. The difference was significant storm events in late July and early August that inflated monthly and seasonal totals (Figure 1b). As with other locations, the timing of the rain events had a significant impact on crop development.

Across the location, plant size can be described as below normal in both height and stalk size. Kernel development was compromised in the tip of ears (poor tip fill). This was uniform across the plot and not specific to any one hybrid. There was minor hail damage, also uniform across the plot, resulting from a storm event in late July.

This was the latest planted location in the trials; however, despite being planted 9 days after the Alburgh location, it was harvested on the same date (Table 2) at a higher whole plant DM. Similarly, this location was planted 16 days after Madrid but harvested only 7 days later, again at a higher whole plant DM. While GDD accumulation is an obvious driver of this and was above average at all three locations, the Aurora location actually had the smallest deviation from the long term average. It is likely that the leaf damage caused by the hail event and other growing conditions played a role in the rate of dry down.

Despite the issues with tip fill, a combination of suitable ear development, crop stage at harvest and smaller statured plants resulted in the average percent starch at this location being the highest of the three 96 – 110 day relative maturity locations (Aurora, Madrid, Alburgh).

Madrid

Precipitation and GDD totals followed similar trends to other locations (Table 1a, 1b). Above average rainfall in August can be largely attributed to one significant rain event (Figure 1c). The crop could be described as taller corn with average ears. Like Aurora, tip fill was poor across the plot. An additional stressor that was uniform across the plot was damage from spider mites (*tetranychus urticae* Koch). This pest is often associated with hot weather and drought stressed corn which are consistent with conditions at this location.

Average starch content was notably lower at this location and can be attributed to many of the same factors discussed for the Aurora location. While the factors are the same, their impact differed as this location can be characterized by larger plants relative to ear size and a lower average whole plant DM at harvest.

Forage Quality and Yield

Results are presented in Tables 3 and 4 for each trial location. The tables provide yield and forage quality (CP, aNDFom, starch, lignin, 30 hr NDFD, 240 hr uNDFD, predicted milk yield, etc.) results for each hybrid entry. Overall, compared to challenging feed quality in 2017, the above average GDD accumulation combined with dry conditions early followed by timely rainfall for ear development resulted in overall improvements in starch levels and fiber digestibility, though the degree of change varied by hybrid.

The amount of corn silage included in a dairy cow's diet is largely driven by the total amount and digestibility of the fiber, with respect to the rest of the diet. In developing the CNCPS ration to evaluate 2018 corn silage, it was determined that improved fiber characteristics would allow for a higher corn silage inclusion rate than was possible in 2017 (Figure 2). As a result, an average of 3.5 lbs more corn silage (24.8 lb DM) was included in the formulated ration for a cow producing 100 lbs/day of milk, which was an average of 15 lbs/day more milk than 2017.

Figures 4 and 5 show the crop yield plotted against the predicted milk yield (PMY). The axes are presented as a percent (%) of plot mean with 100% representing the plot mean. From these plots, you can derive the percentage above or below the mean that a given hybrid performed. Each scatterplot is split into four quadrants using the plot mean for the respective parameters to divide the quadrants. This graphical representation provides a quick reference of which quadrant each hybrid falls into at each location; 1) above average in yield and below average in PMY, 2) above average in crop yield and PMY, 3) below average in both crop yield and PMY, 4) below average in crop yield and above average in PMY (Figure 3). It is important to view the data in this context as the performance of a hybrid relative to its peers at the same location is more important than the absolute value for crop yield or PMY. The plot means for crop yield (tons/acre at 35% DM) and PMY (lbs/day) as well as the minimum and maximum values are reported to provide context to the percentages.

When evaluating trial data for corn silage hybrids, two approaches are often used. One method of evaluating hybrids is to study hybrid performance at a location that is most closely related to the growing conditions you experienced on your own farm in 2018. Since conditions at a given location can vary greatly from season to season this is a less desirable method of evaluation.

A second, preferable method for picking desirable hybrids is to look for hybrids that perform consistently above average across trial locations, as this may reflect varying growing conditions more so than the first method. The actual yield or quality measurement (absolute value) is less important than how a hybrid performed relative to its peers at the same locations (% of plot mean). Hybrids that consistently performed above average across locations in both crop yield and PMY (Figures 4 and 5) is a strong indicator of performance. With that said, there was only one hybrid in the trial that performed above the plot mean at all three locations they were entered, which speaks to the variability in growing conditions experienced in 2018.

In the 96-110 day relative maturity range Pioneer 0414AM performed above average for both parameters at all three locations. There were also a small number of hybrids that performed above average for both parameters in two of the three locations; Hubner H4062RC2P, Local Seed ZS8926-VIP3111, Dekalb DKC44-80RIB in the 80-95 day relative maturity range and Doeblers 4018AMXT, Channel 202-81STXRIB, Dairyland HiDF-3202P, Growmark FS53R85SS, Dekalb DKC54-40RIB, CROPLAN 4549, Dyna-Gro D49VC70 in the 96-110 day relative maturity range.

It may not always be desirable to select a hybrid that falls into the second quadrant in Figures 4 and 5 (above average in yield and PMY). Instead, selecting a range of hybrids may be beneficial to accommodate feeding a range of cow groups. As an example, with respect to other forages available for the diet, it is often not favorable to feed a highly digestible corn silage to heifers or dry cows as this may cause over conditioning due to the cow consuming too much energy as a result of an increase in DMI. However, the difference in PMY results between 2017 and 2018 demonstrates the importance of growing digestible forages as an approach to reduce non-forage feed costs and non-forage feed inclusion rates. Environmental conditions strongly influence the forage quality; however, selecting hybrids that have performed well under varying conditions may improve your chances of having a more digestible forage compared to other hybrids grown under the same conditions. We suggest working with your agronomist and nutritionist to identify hybrids that would succeed for your farm and meet your nutritional needs.

CONCLUSIONS

Growers can use this performance data to better understand how a hybrid performs under a diverse set of environments. From this you can compare to your own yearly performance to better understand if a hybrid may be a good fit for your farming conditions.

Overall, all locations used for the 2018 trials experienced dry and warm conditions, which was representative of the growing season across the region yet, the trial results underline the highly variable growing conditions for the individual locations. These conditions and trial results suggest that producers should expect improved feeding characteristics in their 2018 crop when compared to 2017.

The results of this study will be published by PRO-DAIRY (<https://prodairy.cals.cornell.edu/>), Cornell Field Crops (www.fieldcrops.org), and the University of Vermont Extension (www.uvm.edu/extension/cropsoil) and disseminated widely across the region using multiple electronic and print publications.

ACKNOWLEDGEMENTS

We thank the seed companies that participated in 2018 for their collaboration. We urge all seed companies to participate in our corn silage testing program in 2019 so we can provide the best information under New York and Vermont growing conditions to our dairy producers.

We thank Greenwood Dairy and Hu-Lane Farms for their ongoing collaboration and support of the program; Paul Stachowski and Jeff Stanton at the Cornell Musgrave Research Farm, Aurora; Mike Davis, Adam Seyward and Delvin Meseck at the Willsboro Research Farm and Roger Rainville at Borderview Farm for their efforts during field operations; and Andrew LaPierre and Rodrigo Molano for assistance with the CNCPS data analysis.

Additional financial support was provided by New York Farm Viability Institute, Northern New York Agricultural Development Program, New York Corn Growers Association and the Cornell University Agricultural Experiment Station.

Table 1: Comparisons of 2018 growing conditions at trial locations in New York and Vermont.

Table 1a: NY & VT Corn Silage Trails, 80-95 RM, Weather Data

| | Rainfall, inches | | | | | | Growing Degree Days (GDD), 86/50 | | | | | |
|---------------|------------------|-------|--------------|-------|---------------|-------|----------------------------------|-------|-------------|-------|---------------|-------|
| | Alburgh, VT | | Albion, NY | | Willsboro, NY | | Alburgh, VT | | Albion, NY | | Willsboro, NY | |
| | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* |
| May | 2.13 | 3.94 | 2.05 | 2.66 | 2.27 | 3.47 | 349 | 316 | 436 | 314 | 372 | 315 |
| June | 2.58 | 4.89 | 1.61 | 3.39 | 3.23 | 4.64 | 426 | 471 | 474 | 491 | 453 | 480 |
| July | 2.63 | 4.53 | 2.36 | 3.93 | 2.00 | 3.83 | 674 | 621 | 720 | 643 | 697 | 644 |
| August | 3.33 | 4.36 | 3.03 | 3.43 | 3.42 | 3.48 | 646 | 572 | 699 | 604 | 689 | 600 |
| September | 3.86 | 4.02 | 2.79 | 3.14 | 3.52 | 3.04 | 431 | 388 | 502 | 418 | 448 | 411 |
| May-August | 10.67 | 17.72 | 9.05 | 13.40 | 10.92 | 15.43 | 2094 | 1979 | 2328 | 2053 | 2210 | 2039 |
| May-September | 14.53 | 21.74 | 11.84 | 16.54 | 14.44 | 18.46 | 2525 | 2367 | 2830 | 2471 | 2658 | 2450 |

*Avg. - Represents averages of years: 2005-2018

Table 1b: NY & VT Corn Silage Trails, 96-110 RM, Weather Data

| | Rainfall, inches | | | | | | Growing Degree Days (GDD), 86/50 | | | | | |
|---------------|------------------|-------|--------------|-------|--------------|-------|----------------------------------|-------|-------------|-------|-------------|-------|
| | Alburgh, VT | | Aurora, NY | | Madrid, NY | | Alburgh, VT | | Aurora, NY | | Madrid, NY | |
| | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* | 2018 | Avg.* |
| May | 2.13 | 3.94 | 2.14 | 3.00 | 1.76 | 3.31 | 349 | 316 | 414 | 336 | 364 | 305 |
| June | 2.58 | 4.89 | 2.74 | 3.96 | 2.60 | 4.47 | 426 | 471 | 439 | 495 | 423 | 470 |
| July | 2.63 | 4.53 | 5.01 | 3.62 | 3.43 | 4.71 | 674 | 621 | 660 | 646 | 684 | 609 |
| August | 3.33 | 4.36 | 4.85 | 3.72 | 4.63 | 4.15 | 646 | 572 | 659 | 601 | 652 | 568 |
| September | 3.86 | 4.02 | 4.13 | 3.60 | 3.17 | 3.85 | 431 | 388 | 471 | 416 | 432 | 385 |
| May-August | 10.67 | 17.72 | 14.74 | 14.31 | 12.42 | 16.64 | 2094 | 1979 | 2170 | 2078 | 2123 | 1953 |
| May-September | 14.53 | 21.74 | 18.87 | 17.91 | 15.59 | 20.50 | 2525 | 2367 | 2641 | 2494 | 2554 | 2337 |

*Avg. - Represents averages of years: 2005-2018

Table 2. NY & VT Corn Silage Trials, Field Information, 2018 Growing Season

| | 80 - 95 Day Relative Maturity | | | 96-110 Day Relative Maturity | | |
|--------------------|-------------------------------|------------|---------------|------------------------------|------------|------------|
| | Alburgh, VT | Albion, NY | Willsboro, NY | Alburgh, VT | Aurora, NY | Madrid, NY |
| Planting Date | 18-May | 10-May | 24-May | 17-May | 26-May | 9-May |
| Harvest Date | 12-Sep | 28-Aug | 14-Sep | 19-Sep | 19-Sep | 12-Sep |
| Previous Crop | Corn / Rye | Soybean | Fallow | Corn / Rye | Soybeans | Sod |
| | Cover Crop | | | Cover Crop | | |
| Starter N | 5 | 32 | 15 | 5 | 25 | 32 |
| Manure N | 0 | 0 | 0 | 0 | 0 | 38 |
| Sidedress N | 92 | 120 | 90 | 92 | 106 | 0 |
| Total Fertilizer N | 97 | 152 | 105 | 97 | 131 | 70 |
| Soil Type | Benson | Appleton | Stafford | Benson | Lima | Hogansburg |

Figure 1. Accumulation of Growing Degree Days (GDD) from planting through harvest and individual rainfall events from May 1st through harvest at Alburgh, VT (1a), Aurora, NY (1b), Madrid, NY (1c), Willsboro, NY (1d), Albion, NY (1e).

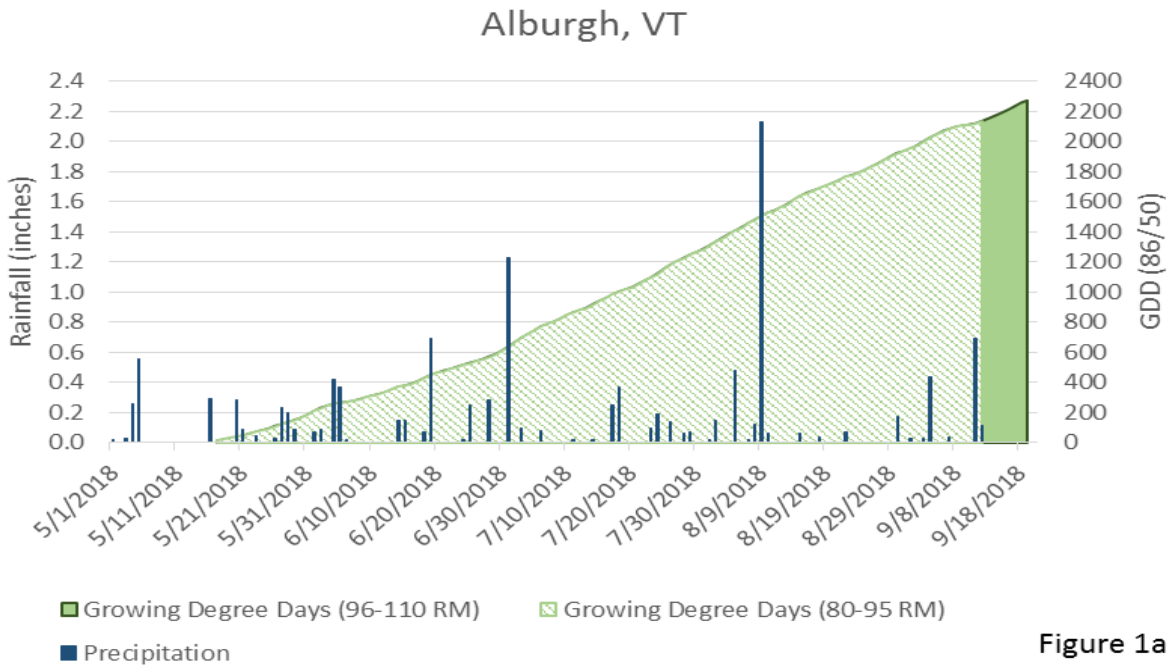


Figure 1a

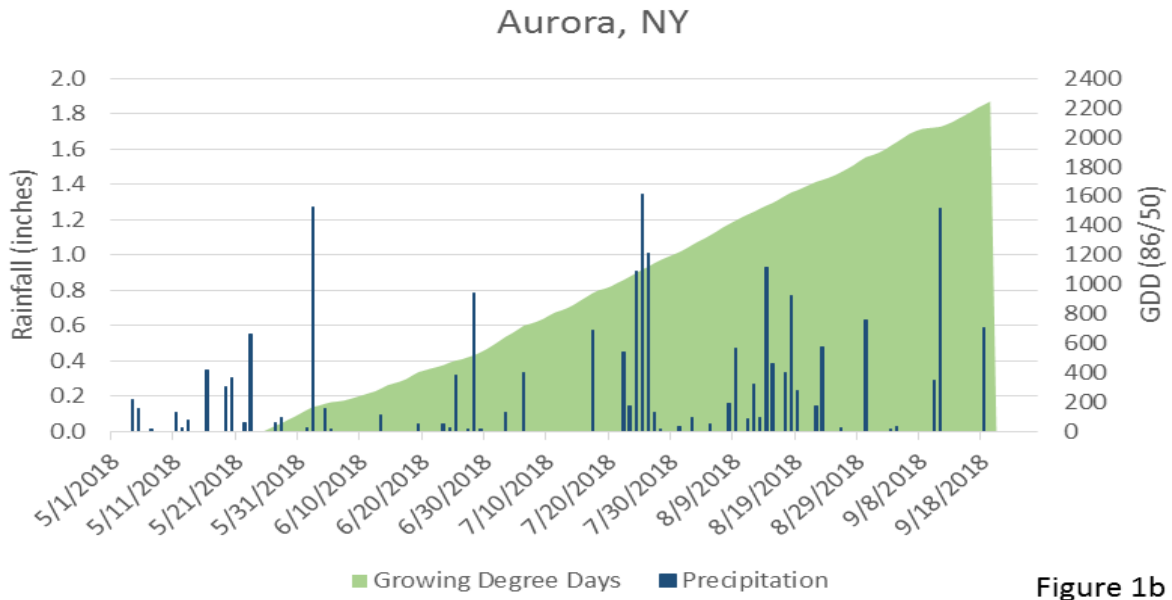


Figure 1b

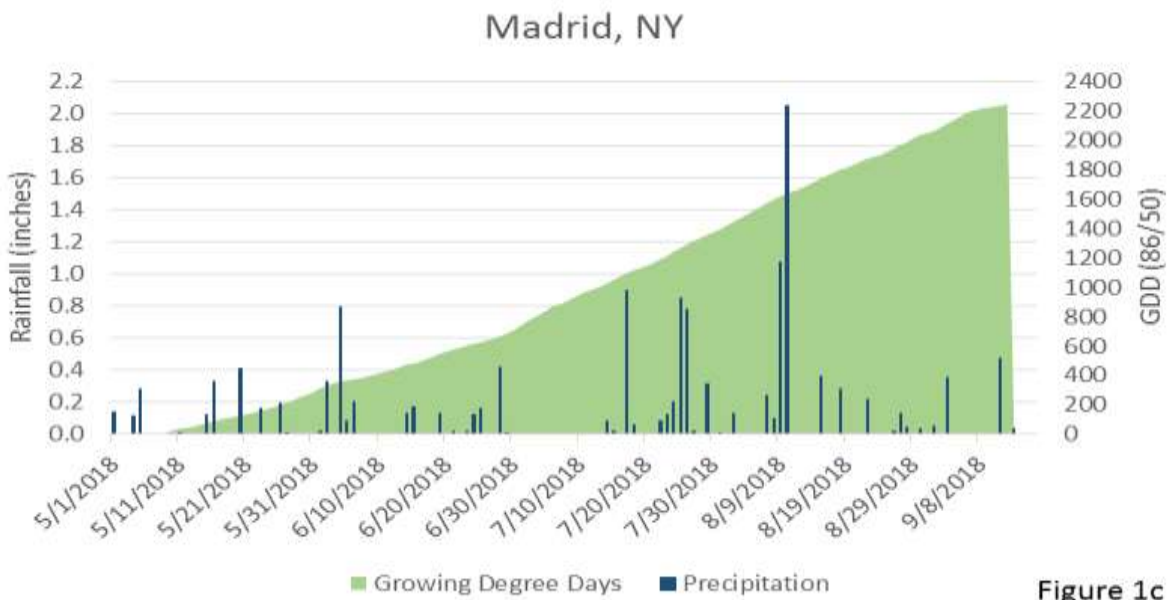


Figure 1c

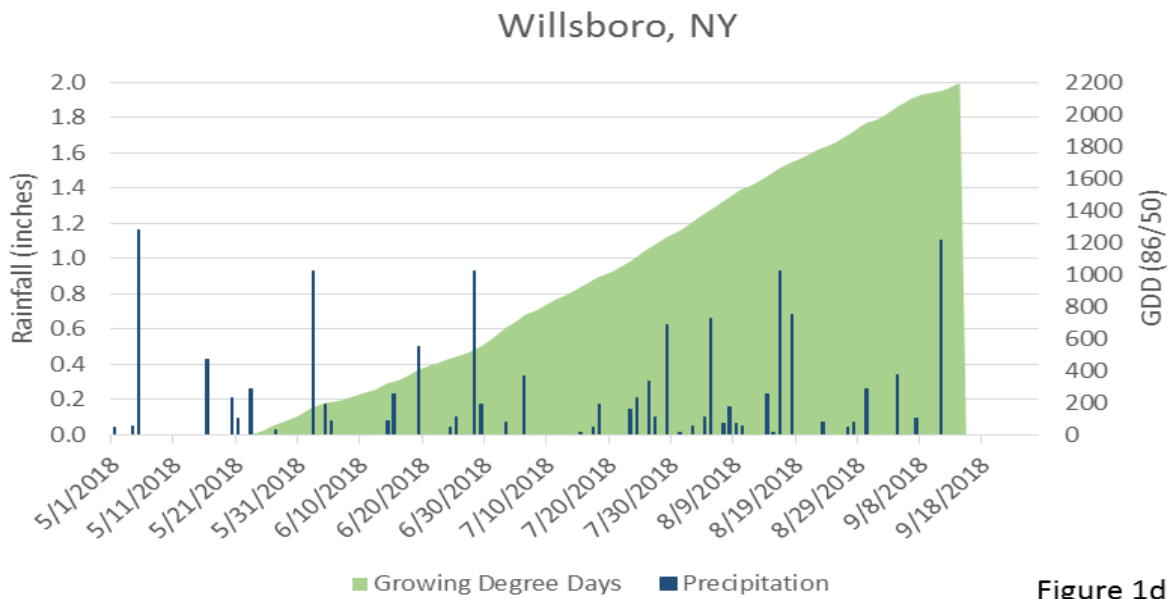


Figure 1d

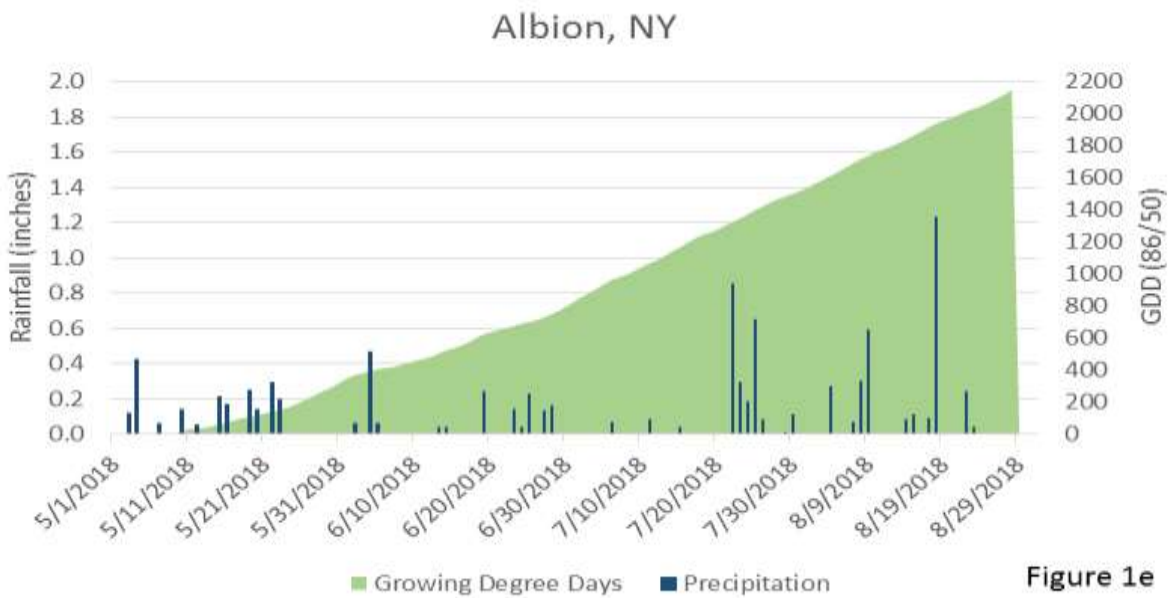


Figure 1e

Figure 2: Comparison of the proportion of samples at different aNDFom (2a) and uNDF240om (2b) levels between 2017 and 2018.

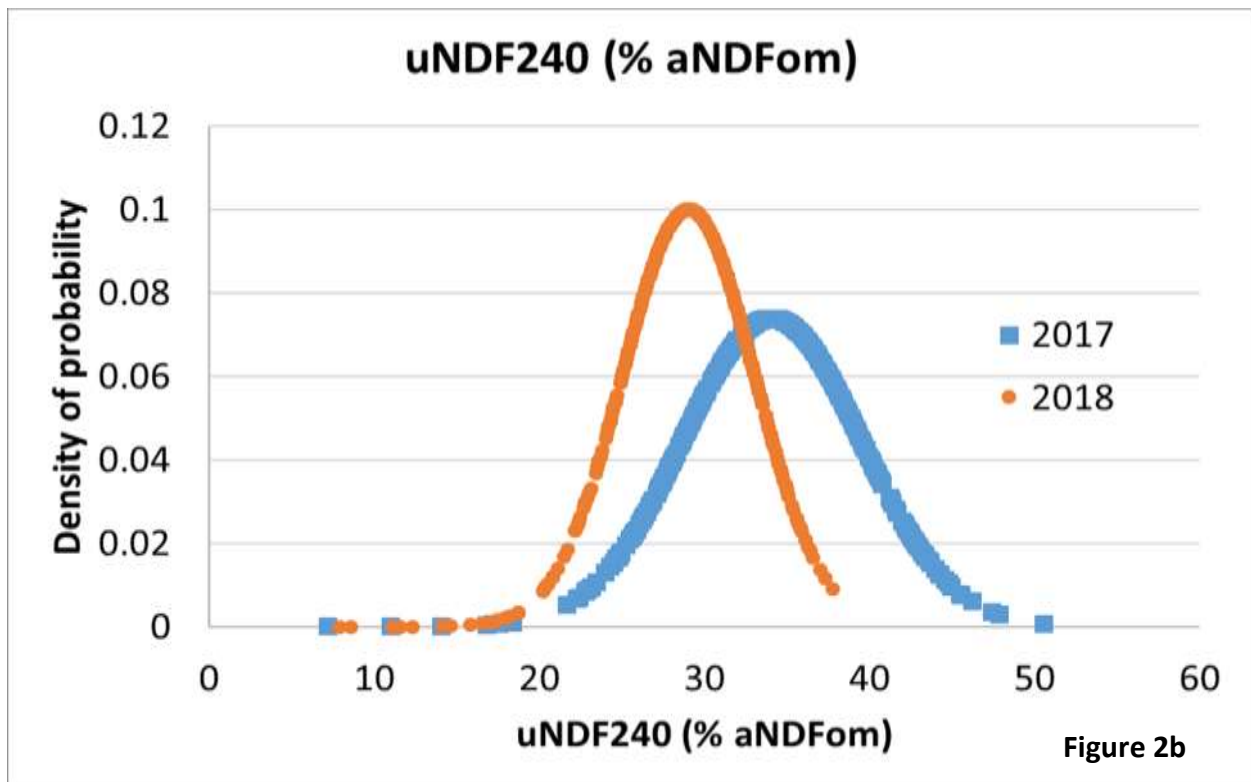
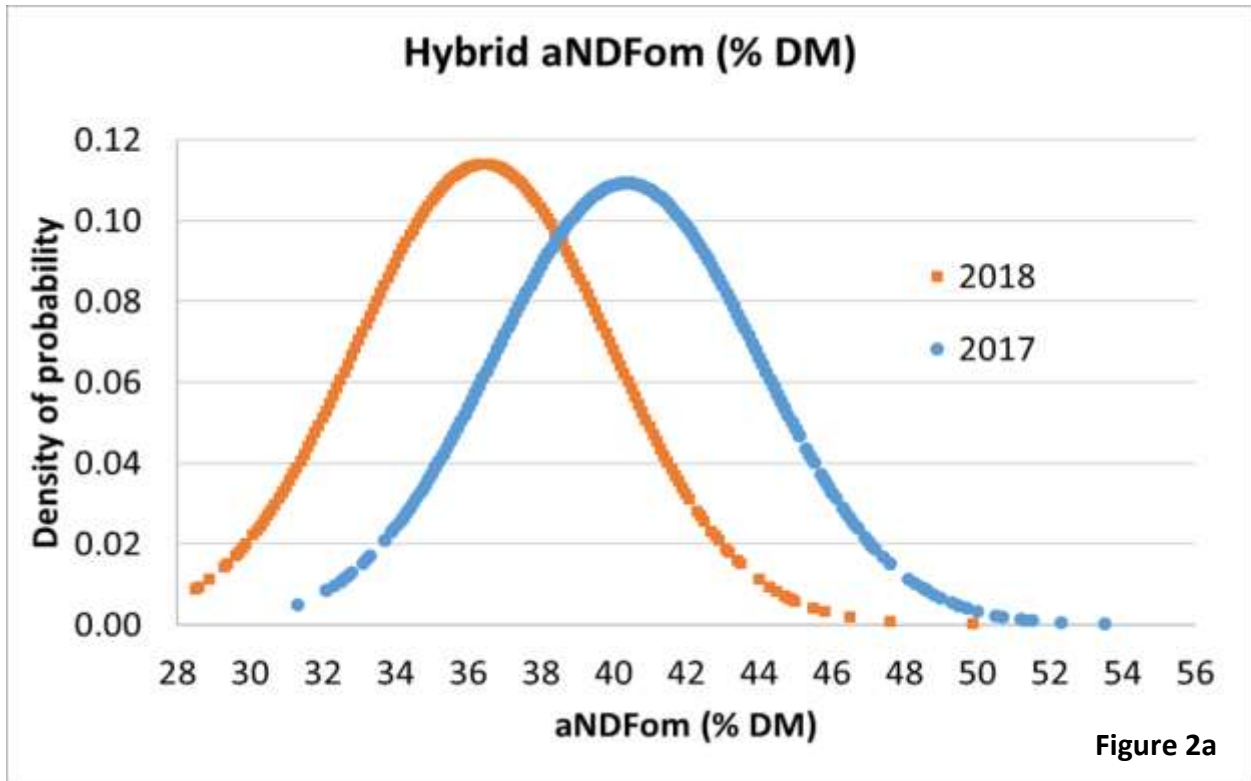


Table 3:

Hybrid field and forage quality data for 80-95 day relative maturity (RM) hybrids planted at Albion, NY (3a), Willsboro, NY (3b) and Alburgh, VT (3c). Hybrids are sorted by dry matter content at harvest.

Table 4.

Hybrid field and forage quality data for 96-110 day relative maturity (RM) hybrids planted at Alburgh, VT (4a), Madrid, NY (4b), Aurora, NY (4c). Hybrids are sorted by dry matter content at harvest. Note: Two hybrids were not entered at the Alburgh, VT locations: Mycogen BMR06B58 and Mycogen BMR10B27.

Footnotes for Tables 3 and 4.

* All nutrient parameters analyzed by NIR methods, except where indicated. Select companies opted to receive wet chemistry information for an additional fee.

** Tables are sorted by descending dry matter for comparison purposes

*** NDF = neutral detergent fiber, aNDFom = ash corrected neutral detergent fiber, NDFD = neutral detergent fiber digestibility, uNDF = undigested neutral detergent fiber

¹ RFC-Fill Ratio = Rumen Fermentable Carbohydrate - Fill Ratio, defined as $((\text{NDFd30} + \text{starch})/\text{uNDF30})$. Jones, L.R., and J. Siciliano-Jones. 2015. Index useful for ranking silage samples. Feedstuffs 17, 19.

² NS = Not Significant

³ One plot replicate had a harvest population count < 25,000

⁴ Yield data removed due to 2 plot replicates having missing yield data during harvest

⁵ Yield and harvest population data removed due to 2 plot replicates having a harvest population count < 25,000

[†] See Table 5: Trait Key

Note: The following companies paid an additional fee for laboratory analysis of NDF Digestibility at 30 hours (NDFD30) by wet chemistry; Augusta Seed, Dairyland, Doeblers, Dyna-Gro, Growmark FS, Hubner Seed, Mycogen, and Syngenta NK. At the time of publication, laboratory work was on going for analysis and an updated report will be released as soon as that is complete.

Table 3a: Hybrid traits and performance for 80 – 95 day RM groups at Albion, NY.

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 30 hr NDFD | 120 hr NDFD | 240 hr NDFD | 240 hr uNDFom | RFC - Fill | CNCPS v. 7.0 | CNCPS v. 7.0 |
|--------------------------|--------------------|--------------|-------------------|--------------|-------------|-----------------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|-------------|---------------|--------------------------------|-----------------------------|--------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | Ratio ¹ | | | | | | Predicted Allowable Milk Yield | Predicted Dry Matter Intake | |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % NDF | % NDF | % NDFom | % NDFom | % NDFom | % DM | | lbs/day | lbs/day |
| Syngenta NK | NK9227-3220A | 20 | 92 | 33167 | 33.6 | 18.6 | 38.3 | 8.5 | 2.5 | 3.5 | 2.8 | 34.5 | 35.0 | 38.4 | | 56.0 | 68.6 | 70.0 | 10.4 | 3.7 | 106.9 | 61.5 | |
| Syngenta NK | NK8920-3120 | 18 | 89 | 35833 | 34.3 | 18.8 | 36.8 | 8.6 | 2.6 | 3.5 | 2.6 | 36.1 | 36.6 | 37.6 | | 55.2 | 67.6 | 69.1 | 11.2 | 3.5 | 102.2 | 59.9 | |
| Channel | 192-98VT2PRIB | 42 | 92 | 32167 | 34.4 | 21.7 | 37.9 | 8.8 | 2.4 | 3.5 | 2.7 | 34.6 | 35.1 | 38.8 | | 56.4 | 69.5 | 71.0 | 10.0 | 3.8 | 107.8 | 61.9 | |
| Seedway | SW3654RR | 2 | 91 | 35333 | 36.4 | 20.1 | 39.7 | 8.0 | 2.2 | 3.4 | 2.5 | 34.7 | 35.2 | 41.0 | | 60.2 | 72.9 | 74.4 | 9.0 | 4.3 | 114.7 | 64.5 | |
| Growmark FS | FS 42R88VT2P | 41 | 92 | 33500 | 36.4 | 22.2 | 39.3 | 8.2 | 2.5 | 3.5 | 2.9 | 34.5 | 35.1 | 38.7 | | 56.0 | 68.8 | 70.3 | 10.3 | 3.8 | 106.7 | 61.3 | |
| Dekalb | DKC40-77RIB | 36 | 90 | 36000 | 37.1 | 17.9 | 41.0 | 8.0 | 2.4 | 3.2 | 2.9 | 33.6 | 34.1 | 37.8 | | 55.6 | 68.3 | 69.8 | 10.2 | 3.9 | 108.1 | 61.7 | |
| Local Seed Company | LC9278 SXRIB | 36 | 92 | 36333 | 37.2 | 18.6 | 40.8 | 7.8 | 2.3 | 3.2 | 3.0 | 33.6 | 34.2 | 39.8 | | 58.1 | 70.7 | 72.6 | 9.3 | 4.2 | 113.7 | 64.0 | |
| Local Seed Company | ZS8926 VIP3111 | 17 | 89 | 31500 | 38.7 | 19.6 | 41.0 | 8.2 | 2.5 | 3.3 | 3.2 | 32.0 | 32.6 | 36.3 | | 55.3 | 67.5 | 68.8 | 10.1 | 4.0 | 109.8 | 62.4 | |
| Hubner | H4062RC2P | 42 | 86 | 35167 | 39.7 | 18.3 | 42.8 | 8.0 | 2.4 | 3.0 | 3.1 | 31.8 | 32.3 | 38.2 | | 56.2 | 68.1 | 69.9 | 9.7 | 4.3 | 113.9 | 63.8 | |
| Dekalb | DKC36-28RIB | 36 | 86 | 35167 | 40.1 | 17.3 | 41.4 | 8.1 | 2.3 | 3.0 | 3.0 | 33.2 | 33.7 | 39.0 | | 56.7 | 68.6 | 70.4 | 10.0 | 4.1 | 110.8 | 62.7 | |
| Masters Choice | MCT3891 | 10 | 88 | 32667 | 40.2 | 16.4 | 39.3 | 8.5 | 2.4 | 3.3 | 2.9 | 33.2 | 33.7 | 38.2 | | 57.1 | 68.0 | 69.5 | 10.1 | 4.0 | 111.5 | 63.1 | |
| 86-92 day RM Mean | | | | 34258 | 37.1 | 19.0 | 39.8 | 8.2 | 2.4 | 3.3 | 2.9 | 33.8 | 34.3 | 38.5 | | 56.6 | 69.0 | 70.5 | 10.0 | 4.0 | 109.7 | 62.4 | |
| Dekalb | DKC44-80RIB | 42 | 94 | 34333 | 34.1 | 20.2 | 42.1 | 7.6 | 2.3 | 3.5 | 2.9 | 32.4 | 32.9 | 37.7 | | 55.7 | 69.8 | 71.8 | 9.2 | 4.1 | 112.2 | 63.4 | |
| Wolf River Valley | 3995FL | 48 | 95 | 34833 | 34.4 | 19.9 | 29.1 | 8.4 | 2.7 | 3.9 | 2.2 | 41.9 | 42.5 | 40.5 | | 57.1 | 70.0 | 71.7 | 12.0 | 2.9 | 94.5 | 57.4 | |
| Seedway | SW3600GENSS | 36 | 93 | 34833 | 34.5 | 18.8 | 36.1 | 8.3 | 2.5 | 3.9 | 2.7 | 36.3 | 36.8 | 38.7 | | 57.0 | 70.3 | 71.5 | 10.4 | 3.6 | 105.0 | 61.1 | |
| Dekalb | DKC45-07RIB | 36 | 95 | 35000 | 34.9 | 19.9 | 39.9 | 8.4 | 2.3 | 3.7 | 2.6 | 33.1 | 33.6 | 38.5 | | 57.4 | 71.8 | 73.4 | 8.9 | 4.1 | 113.4 | 64.0 | |
| Augusta Seed Corp. | A2843 ⁴ | 16 | 93 | 31167 | 35.0 | — | 37.3 | 8.7 | 2.6 | 3.5 | 2.7 | 34.8 | 35.3 | 37.2 | | 55.4 | 66.5 | 68.6 | 11.0 | 3.6 | 102.4 | 59.8 | |
| Dyna-Gro | D35SS58 | 34 | 95 | 35167 | 35.2 | 18.5 | 41.5 | 8.3 | 2.3 | 3.4 | 2.9 | 32.6 | 33.1 | 39.1 | | 57.5 | 70.6 | 72.2 | 9.1 | 4.2 | 114.5 | 64.2 | |
| Masters Choice | MCT4572 | 16 | 95 | 31667 | 35.3 | 20.3 | 39.6 | 8.9 | 2.5 | 3.6 | 2.7 | 33.3 | 33.8 | 36.3 | | 54.6 | 66.6 | 68.1 | 10.7 | 3.7 | 106.3 | 61.4 | |
| Seedway | SW3768GENSS | 36 | 95 | 34000 | 35.9 | 20.2 | 39.1 | 8.5 | 2.1 | 3.5 | 2.7 | 33.5 | 34.0 | 39.0 | | 59.1 | 72.7 | 74.4 | 8.6 | 4.2 | 115.5 | 64.7 | |
| Pioneer | P9330AM | 3 | 93 | 34333 | 36.1 | 19.0 | 40.5 | 8.6 | 2.3 | 3.4 | 2.8 | 33.5 | 34.0 | 40.5 | | 57.8 | 70.5 | 72.0 | 9.5 | 4.2 | 112.6 | 63.6 | |
| 93-95 day RM Mean | | | | 33926 | 35.0 | 19.6 | 38.4 | 8.4 | 2.4 | 3.6 | 2.7 | 34.6 | 35.1 | 38.6 | | 56.8 | 69.9 | 71.5 | 9.9 | 3.8 | 108.5 | 62.2 | |
| LSD (0.10) | | | | 2880 | 2.7 | NS² | 5.1 | 0.5 | 0.3 | 0.3 | 0.3 | NS | NS | 1.8 | | 2.3 | 3.2 | 3.0 | NS | NS | NS | NS | |
| Overall Mean | | | | 34108 | 36.2 | 19.3 | 39.2 | 8.3 | 2.4 | 3.4 | 2.8 | 34.2 | 34.7 | 38.6 | | 56.7 | 69.4 | 71.0 | 10.0 | 3.9 | 109.1 | 62.3 | |

Table 3b: Hybrid traits and performance for 80 – 95 day RM groups at Willsboro, NY.

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 120 hr NDFD | 240 hr NDFD | 240 hr uNDFom | RFC - Fill | CNCPS v. 7.0 | CNCPS v. 7.0 |
|--------------------------|----------------|--------------|-------------------|--------------|-------------|-----------------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|---------------|--------------------------------|-----------------------------|--------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | Ratio ¹ | | | | | Predicted Allowable Milk Yield | Predicted Dry Matter Intake | |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % NDF | % NDF | % NDFom | % NDFom | % NDFom | % DM | lbs/day | lbs/day |
| Syngenta NK | NK9227-3220A | 20 | 92 | 32960 | 32.2 | 20.4 | 35.5 | 8.5 | 2.6 | 3.2 | 2.6 | 34.6 | 35.4 | 36.7 | | 60.5 | 67.5 | 70.3 | 10.4 | 3.9 | 111.5 | 63.2 |
| Channel | 192-98VT2PRIB | 42 | 92 | 31654 | 33.0 | 17.8 | 36.4 | 8.7 | 2.4 | 3.1 | 2.7 | 34.1 | 34.7 | 38.7 | | 63.2 | 71.5 | 74.6 | 8.8 | 4.5 | 120.0 | 66.3 |
| Local Seed Company | LC9278 SXRIB | 36 | 92 | 34122 | 33.2 | 18.2 | 35.0 | 7.9 | 2.4 | 3.1 | 2.6 | 35.9 | 36.5 | 39.8 | | 63.7 | 70.3 | 73.4 | 9.6 | 4.3 | 117.9 | 65.6 |
| Syngenta NK | NK8920-3120 | 18 | 89 | 32234 | 34.3 | 20.1 | 32.1 | 8.4 | 2.8 | 3.5 | 2.4 | 38.4 | 39.0 | 37.4 | | 60.4 | 67.7 | 70.7 | 11.3 | 3.5 | 103.2 | 60.4 |
| Dekalb | DKC40-77RIB | 36 | 90 | 32525 | 35.2 | 18.5 | 35.2 | 8.3 | 2.5 | 3.2 | 2.5 | 35.0 | 35.6 | 38.4 | | 63.1 | 69.9 | 72.9 | 9.6 | 4.3 | 117.4 | 65.6 |
| Dekalb | DKC36-28RIB | 36 | 86 | 33541 | 35.3 | 16.5 | 31.8 | 8.5 | 2.6 | 3.6 | 2.5 | 38.9 | 39.5 | 40.8 | | 65.0 | 72.1 | 75.2 | 9.7 | 4.1 | 113.9 | 64.6 |
| Seedway | SW3654RR | 2 | 91 | 32089 | 35.4 | 18.1 | 33.6 | 8.1 | 2.7 | 3.1 | 2.3 | 37.9 | 38.5 | 39.3 | | 61.9 | 69.0 | 71.8 | 10.7 | 3.9 | 108.8 | 62.4 |
| Local Seed Company | ZS8926 VIP3111 | 17 | 89 | 30492 | 37.4 | 18.2 | 34.6 | 7.6 | 2.6 | 3.0 | 2.5 | 36.2 | 36.9 | 37.3 | | 61.3 | 68.2 | 71.1 | 10.5 | 3.9 | 110.9 | 62.8 |
| Hubner | H4062RC2P | 42 | 86 | 32815 | 37.9 | 19.3 | 39.6 | 7.9 | 2.4 | 3.2 | 2.7 | 33.2 | 33.7 | 40.1 | | 62.2 | 70.7 | 73.8 | 8.7 | 4.7 | 121.0 | 66.7 |
| Growmark FS | FS 42R88VT2P | 41 | 92 | 32380 | 37.9 | 18.3 | 39.0 | 7.9 | 2.2 | 3.1 | 2.8 | 33.4 | 33.9 | 40.2 | | 64.3 | 71.5 | 74.5 | 8.6 | 5.0 | 124.9 | 68.2 |
| Masters Choice | MCT3891 | 10 | 88 | 32089 | 38.4 | 18.5 | 37.8 | 8.3 | 2.4 | 2.9 | 2.8 | 34.4 | 35.0 | 38.7 | | 62.7 | 69.1 | 72.0 | 9.7 | 4.5 | 118.2 | 65.5 |
| 86-92 day RM Mean | | | | 32446 | 35.5 | 18.5 | 35.5 | 8.2 | 2.5 | 3.2 | 2.6 | 35.6 | 36.2 | 38.9 | | 62.6 | 69.8 | 72.8 | 9.8 | 4.2 | 115.2 | 64.7 |
| Dekalb | DKC45-07RIB | 36 | 95 | 31654 | 32.7 | 18.2 | 35.5 | 8.4 | 2.3 | 3.4 | 2.5 | 35.1 | 35.8 | 40.7 | | 64.9 | 72.0 | 75.2 | 8.7 | 4.5 | 122.1 | 67.4 |
| Seedway | SW3600GENSS | 36 | 93 | 31073 | 33.0 | 17.6 | 30.8 | 8.2 | 2.6 | 3.4 | 2.3 | 37.9 | 38.8 | 38.0 | | 64.0 | 73.1 | 76.2 | 9.1 | 3.8 | 115.3 | 65.2 |
| Seedway | SW3768GENSS | 36 | 95 | 29185 | 33.9 | 17.6 | 34.5 | 8.5 | 2.4 | 3.2 | 2.5 | 35.5 | 36.1 | 39.1 | | 63.9 | 69.8 | 72.7 | 9.8 | 4.3 | 117.6 | 65.6 |
| Masters Choice | MCT4572 | 16 | 95 | 32815 | 33.9 | 19.0 | 34.8 | 8.5 | 2.4 | 3.1 | 2.4 | 33.9 | 34.8 | 37.4 | | 63.6 | 69.4 | 72.5 | 9.3 | 4.3 | 121.0 | 66.9 |
| Dyna-Gro | D35SS58 | 34 | 95 | 32089 | 34.1 | 16.5 | 35.4 | 8.5 | 2.4 | 3.3 | 2.4 | 35.1 | 35.8 | 40.5 | | 64.6 | 71.5 | 74.5 | 9.1 | 4.5 | 120.6 | 66.7 |
| Augusta Seed Corp. | A2843 | 16 | 93 | 27733 | 34.5 | 18.4 | 35.5 | 8.6 | 2.6 | 3.0 | 2.6 | 34.1 | 34.8 | 37.1 | | 60.7 | 68.9 | 71.9 | 9.7 | 4.0 | 112.2 | 63.2 |
| Dekalb | DKC44-80RIB | 42 | 94 | 33541 | 34.5 | 18.6 | 36.7 | 7.4 | 2.3 | 3.2 | 2.4 | 34.3 | 35.0 | 39.9 | | 64.1 | 72.4 | 75.5 | 8.4 | 4.5 | 122.6 | 67.4 |
| Wolf River Valley | 3995FL | 48 | 95 | 31799 | 35.3 | 20.2 | 29.9 | 8.0 | 2.8 | 3.2 | 2.2 | 39.5 | 40.1 | 37.0 | | 61.1 | 67.6 | 70.6 | 11.7 | 3.4 | 101.3 | 59.7 |
| Pioneer | P9330AM | 3 | 93 | 32960 | 38.5 | 19.2 | 34.8 | 7.9 | 2.6 | 3.0 | 2.3 | 36.8 | 37.4 | 38.7 | | 61.4 | 68.4 | 71.3 | 10.6 | 4.0 | 110.7 | 63.0 |
| 93-95 day RM Mean | | | | 31428 | 34.5 | 18.4 | 34.2 | 8.2 | 2.5 | 3.2 | 2.4 | 35.8 | 36.5 | 38.7 | | 63.1 | 70.4 | 73.4 | 9.6 | 4.1 | 115.9 | 65.0 |
| LSD (0.10) | | | | 2150 | 1.6 | NS² | 4.0 | 0.5 | 0.3 | 0.3 | 0.3 | 2.9 | 2.9 | 1.9 | | NS | NS | NS | NS | 0.6 | 11.3 | 4.3 |
| Overall Mean | | | | 31988 | 35.0 | 18.4 | 34.9 | 8.2 | 2.5 | 3.2 | 2.5 | 35.7 | 36.4 | 38.8 | | 62.8 | 70.0 | 73.0 | 9.7 | 4.2 | 115.6 | 64.8 |

Table 3c: Hybrid traits and performance for 80 – 95 day RM groups at Alburgh, VT.

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 30 hr NDFD | 120 hr NDFD | 240 hr NDFD | 240 hr uNDFom | RFC - Fill Ratio ¹ | CNCPS v. 7.0 | CNCPS v. 7.0 | |
|--------------------------|-----------------------------|--------------|-------------------|-----------------------|-------------|-------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|------------|------------|------------|-------------|-------------|---------------|-------------------------------|--------------------------------|-----------------------------|-------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | 30 hr NDFD | | | | | | | Predicted Allowable Milk Yield | Predicted Dry Matter Intake | |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | lbs/day | lbs/day | |
| Syngenta NK | NK9227-3220A | 20 | 92 | 27733 | 29.2 | 15.3 | 27.8 | 8.0 | 3.1 | 4.1 | 2.1 | 39.7 | 40.2 | 34.9 | | | | 57.6 | 67.1 | 69.9 | 12.0 | 3.0 | 96.2 | 58.1 |
| Syngenta NK | NK8920-3120 | 18 | 89 | 30347 | 32.1 | 22.0 | 32.0 | 7.5 | 3.3 | 4.2 | 2.3 | 39.3 | 39.9 | 33.7 | | | | 54.0 | 64.6 | 67.4 | 12.9 | 2.9 | 90.4 | 55.8 |
| Channel | 192-98VT2PRIB | 42 | 92 | 29040 | 32.4 | 18.2 | 31.3 | 7.9 | 2.8 | 4.3 | 2.2 | 38.6 | 39.2 | 37.8 | | | | 59.3 | 69.3 | 72.2 | 10.8 | 3.4 | 103.1 | 60.7 |
| Local Seed Company | ZS8926 VIP3111 ³ | 17 | 89 | 28024 | 32.7 | 21.1 | 31.3 | 7.8 | 3.0 | 4.1 | 2.6 | 37.9 | 38.5 | 35.7 | | | | 56.9 | 66.6 | 69.3 | 11.7 | 3.2 | 98.7 | 58.7 |
| Local Seed Company | LC9278 SSXRIB ³ | 36 | 92 | 25991 | 33.1 | 16.8 | 28.9 | 7.6 | 3.1 | 4.5 | 2.3 | 41.0 | 41.6 | 37.2 | | | | 57.8 | 68.3 | 71.2 | 11.9 | 3.0 | 95.9 | 58.0 |
| Growmark FS | FS 42R88VT2P | 41 | 92 | 28314 | 33.7 | 18.1 | 32.4 | 8.0 | 2.8 | 4.5 | 2.4 | 37.6 | 38.4 | 37.7 | | | | 60.1 | 70.1 | 73.2 | 10.1 | 3.5 | 106.2 | 61.7 |
| Dekalb | DKC40-77RIB | 36 | 90 | 28169 | 34.0 | 17.3 | 31.7 | 7.5 | 3.1 | 4.2 | 2.2 | 39.0 | 39.7 | 35.7 | | | | 56.0 | 66.8 | 69.6 | 11.9 | 3.0 | 96.3 | 58.2 |
| Seedway | SW3654RR ³ | 2 | 91 | 28314 | 34.0 | 20.3 | 28.1 | 7.6 | 3.1 | 4.5 | 1.9 | 42.2 | 42.9 | 36.4 | | | | 57.5 | 68.6 | 71.6 | 12.1 | 2.9 | 92.6 | 56.8 |
| Dekalb | DKC36-28RIB | 36 | 86 | 29185 | 35.2 | 17.5 | 32.6 | 8.1 | 3.0 | 4.5 | 2.5 | 38.7 | 39.3 | 36.8 | | | | 57.1 | 67.7 | 70.7 | 11.4 | 3.2 | 99.1 | 59.2 |
| Hubner | H4062RC2P ³ | 42 | 86 | 28459 | 38.0 | 19.7 | 35.3 | 7.3 | 3.0 | 4.1 | 2.5 | 37.9 | 38.5 | 36.1 | | | | 56.7 | 67.0 | 70.0 | 11.4 | 3.4 | 99.0 | 58.9 |
| Masters Choice | MCT3891 | 10 | 88 | 28604 | 38.5 | 20.4 | 35.3 | 7.5 | 3.1 | 3.7 | 2.4 | 37.8 | 38.4 | 35.9 | | | | 55.9 | 65.3 | 68.0 | 12.2 | 3.4 | 95.7 | 57.4 |
| 86-92 day RM Mean | | | | 28380 | 33.9 | 18.8 | 31.5 | 7.7 | 3.1 | 4.2 | 2.3 | 39.1 | 39.7 | 36.2 | | | | 57.2 | 67.4 | 70.3 | 11.7 | 3.2 | 97.6 | 58.5 |
| Wolf River Valley | 3995FL | 48 | 95 | 27588 | 30.1 | 15.6 | 20.2 | 8.2 | 3.3 | 4.7 | 1.7 | 45.0 | 45.7 | 36.1 | | | | 58.6 | 69.1 | 72.0 | 12.7 | 2.4 | 89.6 | 56.1 |
| Dekalb | DKC45-07RIB ³ | 36 | 95 | 28895 | 31.5 | 19.3 | 30.3 | 7.9 | 3.1 | 4.9 | 2.2 | 38.6 | 39.4 | 35.5 | | | | 57.8 | 67.8 | 70.8 | 11.4 | 3.1 | 98.7 | 59.2 |
| Seedway | SW3600GENSS | 36 | 93 | 28750 | 32.0 | 18.4 | 31.0 | 8.1 | 3.0 | 4.5 | 2.2 | 38.1 | 38.7 | 36.3 | | | | 57.1 | 67.6 | 70.4 | 11.3 | 3.1 | 98.9 | 59.1 |
| Augusta Seed Corp. | A2843 ⁵ | 16 | 93 | — | 32.6 | — | 29.0 | 8.1 | 3.3 | 4.4 | 2.2 | 39.8 | 40.4 | 33.5 | | | | 55.8 | 65.3 | 68.0 | 12.8 | 2.9 | 91.1 | 56.1 |
| Masters Choice | MCT4572 | 16 | 95 | 27007 | 32.8 | 18.2 | 31.9 | 7.8 | 3.2 | 4.0 | 2.3 | 38.4 | 38.9 | 34.2 | | | | 55.1 | 64.7 | 67.6 | 12.5 | 3.0 | 92.9 | 56.5 |
| Dyna-Gro | D35SS58 ³ | 34 | 95 | 27733 | 33.0 | 16.4 | 33.2 | 8.1 | 2.8 | 4.5 | 2.3 | 35.8 | 36.7 | 37.5 | | | | 60.4 | 69.5 | 72.5 | 9.9 | 3.7 | 109.7 | 63.1 |
| Dekalb | DKC44-80RIB | 42 | 94 | 28459 | 33.0 | 17.8 | 34.0 | 7.5 | 2.8 | 4.1 | 2.4 | 36.7 | 37.3 | 37.9 | | | | 59.0 | 69.6 | 72.6 | 10.1 | 3.6 | 106.8 | 61.8 |
| Seedway | SW3768GENSS ³ | 36 | 95 | 25991 | 33.6 | 16.8 | 32.0 | 7.9 | 2.8 | 4.4 | 2.3 | 37.7 | 38.3 | 37.1 | | | | 58.8 | 69.0 | 72.0 | 10.6 | 3.4 | 103.3 | 60.7 |
| Pioneer | P9330AM | 3 | 93 | 29330 | 35.8 | 19.6 | 31.3 | 7.3 | 3.5 | 4.1 | 2.1 | 41.9 | 42.5 | 33.4 | | | | 52.2 | 63.7 | 66.4 | 14.2 | 2.7 | 81.8 | 52.5 |
| 93-95 day RM Mean | | | | 27969 | 32.7 | 17.8 | 30.3 | 7.9 | 3.1 | 4.4 | 2.2 | 39.1 | 39.8 | 35.7 | | | | 57.2 | 67.4 | 70.3 | 11.7 | 3.1 | 97.0 | 58.3 |
| LSD (0.10) | | | | NS² | 2.0 | 2.9 | 4.9 | 0.5 | 0.4 | NS | 0.3 | 3.8 | 3.8 | 2.6 | | | | 2.9 | 2.6 | 2.8 | 1.9 | NS | 12.2 | 4.4 |
| Overall Mean | | | | 28207 | 33.4 | 18.4 | 31.0 | 7.8 | 3.1 | 4.3 | 2.3 | 39.1 | 39.7 | 36.0 | | | | 57.2 | 67.4 | 70.3 | 11.7 | 3.1 | 97.3 | 58.4 |

Table 4a: Hybrid traits and performance for 96-110 day RM groups at Alburgh, VT.

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 120 hr NDFD | 240 hr uNDFom | RFC - Fill Ratio ¹ | CNCPS v. 7.0 | CNCPS v. 7.0 | | |
|--------------------|---------------------|--------------|-------------------|---------------------------|-----------------------|-------------|-------------|-------------|------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|---------------|-------------------------------|--------------|--------------------------------|-----------------------------|-------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | 30 hr NDFD | | | | | 240 hr NDFD | Predicted Allowable Milk Yield | Predicted Dry Matter Intake | |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | lbs/day | lbs/day | | |
| Mycogen | BMR97B37 | 35 | 97 | 36736 | 32.6 | 21.2 | 29.6 | 7.1 | 2.8 | 3.4 | 2.5 | 41.3 | 41.9 | 40.3 | | 65.4 | 72.6 | 75.7 | 10.1 | 3.8 | 110.3 | 63.2 | |
| Wolf River Valley | 3900FL | 48 | 100 | 28024 | 33.0 | 23.2 | 24.2 | 7.3 | 3.8 | 3.7 | 1.9 | 45.2 | 45.9 | 31.4 | | 53.3 | 63.2 | 66.0 | 15.5 | 2.3 | 74.8 | 49.8 | |
| CROPLAN | 4004 | 1 | 100 | 30637 | 33.1 | 22.5 | 34.8 | 6.9 | 3.1 | 3.7 | 2.5 | 39.5 | 40.1 | 35.0 | | 55.4 | 65.2 | 67.9 | 12.7 | 3.1 | 91.7 | 55.9 | |
| Albert Lea Viking | O.79-00 | 1 | 100 | 28604 | 33.3 | 22.1 | 38.3 | 7.3 | 3.0 | 3.7 | 2.6 | 35.3 | 35.8 | 34.7 | | 55.0 | 64.5 | 67.2 | 11.6 | 3.6 | 100.0 | 58.9 | |
| Doebler's | 4018AMXT | 9 | 100 | 32525 | 34.2 | 19.5 | 31.1 | 6.9 | 3.2 | 4.3 | 2.2 | 41.3 | 42.0 | 37.4 | | 57.2 | 68.5 | 71.4 | 11.9 | 3.0 | 94.7 | 57.5 | |
| Pioneer | P9998AMXT | 9 | 99 | 31508 | 34.2 | 21.8 | 35.0 | 7.6 | 3.1 | 4.1 | 2.5 | 36.7 | 37.2 | 34.9 | | 55.8 | 65.2 | 68.0 | 11.8 | 3.4 | 99.1 | 58.9 | |
| Mycogen | F2F499 ³ | 34 | 99 | 30347 | 34.3 | 23.8 | 38.9 | 7.5 | 2.4 | 3.5 | 2.6 | 34.2 | 34.7 | 40.9 | | 63.7 | 73.8 | 77.1 | 7.9 | 4.8 | 122.0 | 67.2 | |
| Hubner | H6225RCSS | 36 | 102 | 30782 | 34.5 | 22.6 | 33.9 | 7.0 | 3.3 | 3.9 | 2.4 | 38.7 | 39.3 | 34.3 | | 53.5 | 64.6 | 67.4 | 12.7 | 3.0 | 92.3 | 56.4 | |
| Doebler's | 3618AMXT | 9 | 96 | 31508 | 34.7 | 22.5 | 32.3 | 7.2 | 3.3 | 4.5 | 2.5 | 40.7 | 41.3 | 34.8 | | 55.5 | 65.9 | 68.9 | 12.7 | 3.0 | 90.8 | 56.1 | |
| Growmark FS | FS 49R79SS | 34 | 99 | 30056 | 34.9 | 23.7 | 33.6 | 7.4 | 3.3 | 4.2 | 2.3 | 38.5 | 39.1 | 33.8 | | 54.4 | 64.9 | 67.6 | 12.5 | 3.0 | 90.6 | 55.7 | |
| Masters Choice | MCT4934 | 17 | 99 | 30492 | 34.9 | 24.1 | 32.7 | 7.3 | 3.0 | 4.3 | 2.2 | 38.3 | 38.9 | 35.0 | | 57.1 | 67.6 | 70.5 | 11.4 | 3.3 | 99.4 | 59.3 | |
| Channel | 202-81STXRIB | 36 | 102 | 31508 | 35.1 | 21.8 | 34.3 | 7.3 | 3.1 | 3.9 | 2.4 | 39.1 | 39.7 | 35.5 | | 56.4 | 66.2 | 69.1 | 12.1 | 3.2 | 96.1 | 57.8 | |
| Local Seed Company | ZS9725 VIP3111 | 17 | 97 | 31073 | 35.2 | 24.7 | 36.3 | 7.1 | 3.3 | 3.9 | 2.9 | 37.3 | 37.9 | 32.9 | | 53.6 | 63.4 | 66.1 | 12.8 | 3.2 | 91.6 | 55.8 | |
| Masters Choice | MCT4632 | 16 | 96 | 29911 | 35.5 | 19.1 | 36.0 | 7.6 | 3.0 | 3.9 | 2.6 | 35.7 | 36.2 | 35.1 | | 55.1 | 65.5 | 68.1 | 11.5 | 3.4 | 99.7 | 58.9 | |
| Dekalb | DKC50-09RIB | 42 | 100 | 31508 | 35.7 | 24.3 | 38.8 | 7.2 | 2.8 | 3.7 | 2.6 | 35.0 | 35.5 | 36.1 | | 57.2 | 66.7 | 69.7 | 10.7 | 3.8 | 106.9 | 61.5 | |
| CROPLAN | 3899 | 42 | 98 | 32815 | 35.8 | 28.0 | 32.7 | 6.9 | 3.3 | 4.1 | 2.3 | 40.9 | 41.5 | 34.8 | | 54.7 | 65.9 | 68.7 | 12.9 | 2.9 | 89.9 | 55.6 | |
| Augusta Seed Corp. | A3750 | 16 | 100 | 32380 | 35.8 | 21.9 | 37.2 | 7.3 | 2.8 | 3.6 | 2.8 | 35.1 | 35.7 | 36.8 | | 57.4 | 67.2 | 70.0 | 10.6 | 3.8 | 107.2 | 61.6 | |
| Dekalb | DKC51-40RIB | 42 | 101 | 32960 | 36.0 | 24.2 | 35.0 | 6.9 | 3.1 | 3.9 | 2.4 | 38.6 | 39.2 | 35.8 | | 55.6 | 65.6 | 68.4 | 12.3 | 3.3 | 95.0 | 57.2 | |
| Doebler's | 4115AMXT | 9 | 101 | 30347 | 36.4 | 26.2 | 35.7 | 7.1 | 3.1 | 3.8 | 2.2 | 37.5 | 38.1 | 36.5 | | 55.4 | 67.5 | 70.5 | 11.2 | 3.4 | 100.1 | 59.3 | |
| Syngenta NK | NK9738-3220 | 20 | 97 | 32380 | 36.7 | 26.9 | 33.3 | 7.6 | 3.3 | 3.7 | 2.3 | 38.4 | 39.0 | 32.5 | | 53.9 | 63.6 | 66.3 | 13.0 | 3.0 | 89.4 | 55.0 | |
| Hubner | H6219RCSS | 36 | 100 | 33686 | 36.9 | 23.1 | 34.9 | 7.1 | 3.1 | 3.7 | 2.4 | 38.0 | 38.6 | 36.0 | | 56.3 | 67.3 | 70.1 | 11.5 | 3.3 | 100.0 | 59.2 | |
| Channel | 197-90STXRIB | 36 | 97 | 33106 | 37.0 | 23.4 | 33.1 | 7.0 | 3.5 | 4.1 | 2.2 | 39.9 | 40.5 | 32.7 | | 53.1 | 63.1 | 65.7 | 13.7 | 2.9 | 84.9 | 53.5 | |
| Hubner | H6124RCSS | 36 | 96 | 30637 | 37.1 | 22.4 | 35.9 | 7.1 | 3.1 | 4.2 | 2.4 | 37.1 | 37.7 | 35.7 | | 54.7 | 66.3 | 69.2 | 11.5 | 3.3 | 98.4 | 58.7 | |
| Dairyland | HiDF-3197RA | 35 | 97 | 31363 | 37.3 | 20.5 | 36.8 | 7.6 | 2.9 | 3.7 | 2.6 | 37.4 | 38.0 | 38.0 | | 57.2 | 68.4 | 71.3 | 10.9 | 3.6 | 103.0 | 60.2 | |
| Dairyland | HiDF-3202P | 31 | 102 | 34122 | 37.3 | 24.5 | 32.0 | 7.4 | 3.1 | 4.0 | 2.4 | 40.0 | 40.7 | 36.4 | | 56.9 | 67.7 | 70.5 | 11.9 | 3.1 | 96.3 | 58.0 | |
| Augusta Seed Corp. | A2448 | 20 | 98 | 31944 | 37.7 | 24.2 | 36.9 | 6.9 | 3.3 | 3.8 | 2.5 | 36.3 | 36.8 | 31.8 | | 51.4 | 61.9 | 64.4 | 12.9 | 3.1 | 89.8 | 55.1 | |
| Growmark FS | FS 46R77SS | 34 | 96 | 31508 | 38.5 | 22.5 | 33.6 | 7.1 | 3.3 | 4.1 | 2.4 | 39.4 | 40.0 | 34.0 | | 53.6 | 63.6 | 66.3 | 13.3 | 3.0 | 87.8 | 54.6 | |
| Dekalb | DKC47-27RIB | 42 | 97 | 29621 | 39.5 | 21.7 | 40.6 | 7.5 | 2.9 | 3.6 | 2.6 | 34.0 | 34.5 | 35.8 | | 56.9 | 66.5 | 69.3 | 10.5 | 4.1 | 107.1 | 61.5 | |
| | | | | 96-102 day RM Mean | 31503 | 35.6 | 23.1 | 34.6 | 7.2 | 3.1 | 3.9 | 2.4 | 38.2 | 38.8 | 35.3 | | 55.9 | 66.2 | 69.0 | 11.9 | 3.3 | 96.8 | 57.9 |
| | | | | LSD (0.10) | NS² | 2.9 | NS | 4.8 | NS | 0.3 | 0.5 | 0.3 | 3.8 | 3.9 | 2.6 | | 3.0 | 3.0 | 3.1 | 1.8 | 0.6 | 12.0 | 4.4 |
| | | | | Overall Mean | 31347 | 34.8 | 23.3 | 34.2 | 7.2 | 3.1 | 3.9 | 2.4 | 38.4 | 39.0 | 35.3 | | 55.9 | 66.0 | 68.9 | 12.0 | 3.2 | 96.1 | 57.7 |

Table 4a: Hybrid traits and performance for 96-110 day RM groups at Alburgh, VT (cont).

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 120 hr NDFD | 240 hr NDFD | 240 hr uNDFom | RFC - Fill Ratio ¹ | CNCPS v. 7.0 | CNCPS v. 7.0 |
|----------------------------|--------------------------|--------------|-------------------|-----------------------|-------------|-------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|--------------------------------|-------------|-------------|-------------|---------------|-------------------------------|-----------------------------|--------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | Predicted Allowable Milk Yield | | | | | | Predicted Dry Matter Intake | |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | | lbs/day | lbs/day |
| Channel | 210-98STXRIB | 36 | 110 | 30637 | 30.8 | 27.2 | 31.6 | 7.1 | 3.3 | 3.7 | 2.2 | 41.0 | 41.7 | 35.3 | | 55.0 | 65.1 | 67.8 | 13.3 | 2.9 | 88.9 | 55.1 |
| Masters Choice | MCT5790 | 1 | 107 | 28750 | 31.6 | 22.5 | 31.2 | 7.7 | 2.9 | 4.3 | 2.3 | 39.1 | 39.7 | 37.5 | | 59.3 | 69.3 | 72.3 | 10.9 | 3.4 | 101.5 | 60.0 |
| Growmark FS | FS 55R25SS ³ | 34 | 105 | 31073 | 32.1 | 24.3 | 30.0 | 7.5 | 3.3 | 4.5 | 2.2 | 40.2 | 40.8 | 34.5 | | 55.0 | 66.2 | 69.0 | 12.5 | 2.8 | 92.2 | 56.8 |
| Doebler's | 5018AM | 3 | 110 | 32234 | 32.2 | 26.2 | 32.3 | 7.3 | 3.2 | 4.0 | 2.3 | 39.2 | 39.8 | 36.3 | | 56.2 | 67.5 | 70.4 | 11.7 | 3.1 | 97.0 | 58.3 |
| Doebler's | 4717AMX | 8 | 107 | 29330 | 32.8 | 22.2 | 35.9 | 7.5 | 2.9 | 3.6 | 2.4 | 36.2 | 36.7 | 37.3 | | 57.6 | 68.0 | 70.8 | 10.6 | 3.6 | 105.3 | 60.9 |
| CROPLAN | 4549 | 1 | 105 | 32234 | 32.9 | 21.1 | 35.1 | 7.3 | 3.0 | 3.9 | 2.5 | 37.4 | 37.9 | 35.7 | | 57.5 | 66.5 | 69.4 | 11.5 | 3.5 | 99.6 | 58.8 |
| Doebler's | 4318AMXT | 9 | 103 | 30782 | 33.0 | 22.4 | 33.0 | 7.2 | 3.2 | 3.9 | 2.1 | 38.7 | 39.3 | 34.3 | | 54.8 | 66.1 | 69.0 | 12.0 | 3.0 | 94.2 | 57.1 |
| Albert Lea Viking | O.48-08GS | 1 | 108 | 32960 | 33.1 | 23.7 | 34.9 | 7.6 | 3.1 | 4.1 | 2.4 | 38.0 | 38.6 | 34.7 | | 55.6 | 65.2 | 68.1 | 12.2 | 3.3 | 95.5 | 57.5 |
| Seedway | SW6614RR | 2 | 109 | 32815 | 33.1 | 20.2 | 33.3 | 7.0 | 3.5 | 3.9 | 2.3 | 40.0 | 40.6 | 33.4 | | 52.4 | 63.2 | 66.0 | 13.7 | 2.8 | 85.8 | 53.8 |
| Dekalb | DKC54-40RIB ³ | 42 | 104 | 31363 | 33.3 | 22.1 | 32.0 | 6.9 | 3.4 | 4.1 | 2.3 | 40.3 | 40.9 | 32.8 | | 53.6 | 64.5 | 67.2 | 13.4 | 2.9 | 88.0 | 54.7 |
| Channel | 209-15STXRIB | 36 | 109 | 33396 | 33.4 | 27.7 | 37.0 | 7.5 | 3.1 | 3.7 | 2.8 | 36.4 | 37.0 | 34.5 | | 54.7 | 63.8 | 66.4 | 12.3 | 3.4 | 94.6 | 56.7 |
| Dyna-Gro | D49VC70 | 41 | 109 | 30492 | 33.4 | 22.3 | 34.0 | 7.6 | 2.9 | 3.8 | 2.6 | 36.9 | 37.5 | 36.9 | | 58.0 | 67.2 | 69.9 | 11.2 | 3.6 | 101.0 | 59.3 |
| Hubner | H6257RCSS | 36 | 105 | 30928 | 33.5 | 21.7 | 31.9 | 7.4 | 2.9 | 3.8 | 2.4 | 38.3 | 38.9 | 36.8 | | 58.4 | 67.6 | 70.5 | 11.4 | 3.3 | 101.4 | 59.7 |
| Channel | 203-01STXRIB | 36 | 103 | 30202 | 33.8 | 20.8 | 32.7 | 7.1 | 3.1 | 4.8 | 2.6 | 40.0 | 40.6 | 36.8 | | 57.3 | 67.8 | 70.7 | 11.8 | 3.2 | 96.7 | 58.4 |
| Pioneer | P0789AMXT | 9 | 107 | 31073 | 33.8 | 21.2 | 34.6 | 7.5 | 3.4 | 3.8 | 2.5 | 38.4 | 39.0 | 32.1 | | 53.0 | 63.1 | 65.9 | 13.2 | 3.0 | 89.5 | 55.2 |
| Dekalb | DKC57-75RIB | 36 | 107 | 32670 | 33.9 | 23.9 | 33.0 | 7.0 | 3.3 | 4.1 | 2.3 | 40.0 | 40.6 | 34.6 | | 55.2 | 65.5 | 68.2 | 12.8 | 3.0 | 91.6 | 56.2 |
| Pioneer | P0414AM | 3 | 104 | 31654 | 34.0 | 24.6 | 36.9 | 7.3 | 2.9 | 3.7 | 2.4 | 36.3 | 36.9 | 36.4 | | 57.1 | 67.4 | 70.3 | 10.8 | 3.6 | 103.6 | 60.3 |
| Masters Choice | MCT5371 | 10 | 103 | 31363 | 34.3 | 22.6 | 31.6 | 7.0 | 3.2 | 3.7 | 2.1 | 39.5 | 40.1 | 34.1 | | 55.8 | 65.3 | 68.1 | 12.6 | 3.0 | 92.0 | 56.1 |
| Dekalb | DKC59-07RIB | 36 | 109 | 30782 | 34.4 | 26.1 | 35.0 | 7.0 | 3.2 | 3.5 | 2.4 | 37.2 | 37.8 | 34.1 | | 54.2 | 63.9 | 66.6 | 12.5 | 3.2 | 92.8 | 56.1 |
| Channel | 206-11STXRIB | 36 | 106 | 32815 | 35.5 | 24.7 | 34.9 | 7.3 | 3.0 | 3.9 | 2.5 | 37.8 | 38.4 | 36.6 | | 57.4 | 66.4 | 69.3 | 11.7 | 3.4 | 98.0 | 58.3 |
| Seedway | SW5440GENSS | 36 | 105 | 30782 | 35.5 | 22.5 | 32.5 | 7.1 | 3.4 | 4.0 | 2.5 | 40.0 | 40.6 | 33.2 | | 53.0 | 63.8 | 66.6 | 13.4 | 2.8 | 87.3 | 54.5 |
| Seedway | SW5554GT | 10 | 105 | 28314 | 35.6 | 25.1 | 36.8 | 7.0 | 2.8 | 3.5 | 2.3 | 36.9 | 37.4 | 36.6 | | 57.4 | 67.8 | 70.7 | 10.9 | 3.6 | 103.8 | 60.5 |
| Albert Lea Viking | O.51-04GS | 1 | 104 | 29766 | 35.7 | 21.1 | 34.7 | 6.6 | 3.1 | 3.6 | 2.6 | 38.6 | 39.1 | 35.2 | | 55.1 | 65.7 | 68.4 | 12.3 | 3.2 | 94.9 | 57.0 |
| Growmark FS | FS 53R85SS | 34 | 103 | 31073 | 35.8 | 24.2 | 35.1 | 7.0 | 3.2 | 3.8 | 2.5 | 37.7 | 38.3 | 35.6 | | 55.5 | 66.1 | 68.9 | 11.8 | 3.3 | 97.8 | 58.3 |
| Channel | 207-90STXRIB | 36 | 107 | 30928 | 36.1 | 24.2 | 34.9 | 7.6 | 3.2 | 4.0 | 2.5 | 38.3 | 38.9 | 35.1 | | 55.7 | 64.6 | 67.4 | 12.6 | 3.2 | 92.9 | 56.4 |
| Syngenta NK | NK0968-3000GT | 14 | 109 | 32380 | 36.7 | 24.0 | 32.3 | 7.1 | 3.2 | 3.8 | 2.1 | 40.4 | 41.0 | 36.8 | | 57.1 | 67.3 | 70.1 | 12.1 | 3.1 | 95.0 | 57.4 |
| Local Seed Company | LC0488 SXXRIB | 36 | 104 | 31218 | 38.9 | 25.6 | 34.1 | 6.8 | 3.1 | 4.0 | 2.3 | 38.9 | 39.5 | 35.0 | | 55.6 | 65.6 | 68.4 | 12.4 | 3.2 | 95.0 | 57.4 |
| 103-110 day RM Mean | | | | 31186 | 34.1 | 23.5 | 33.8 | 7.2 | 3.1 | 3.9 | 2.4 | 38.6 | 39.2 | 35.3 | | 55.8 | 65.9 | 68.8 | 12.1 | 3.2 | 95.4 | 57.4 |
| LSD (0.10) | | | | NS² | 2.9 | NS | 4.8 | NS | 0.3 | 0.5 | 0.3 | 3.8 | 3.9 | 2.6 | | 3.0 | 3.0 | 3.1 | 1.8 | 0.6 | 12.0 | 4.4 |
| Overall Mean | | | | 31347 | 34.8 | 23.3 | 34.2 | 7.2 | 3.1 | 3.9 | 2.4 | 38.4 | 39.0 | 35.3 | | 55.9 | 66.0 | 68.9 | 12.0 | 3.2 | 96.1 | 57.7 |

Table 4b: Hybrid traits and performance for 96-110 day RM groups at Madrid, NY.

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 120 hr NDFD | 240 hr NDFD | 240 hr uNDFom | RFC - Fill Ratio ¹ | CNCPS v. 7.0 | CNCPS v. 7.0 |
|--------------------|----------------|--------------|---------------------------|--------------|-------------|-------------|-------------|------------|------------|------------|------------|-------------|-------------|-------------|----------|-------------|-------------|-------------|---------------|-------------------------------|--------------|--------------------------------|
| | | | | Population | Matter | 35% DM | % DM | % DM | % DM | % DM | % DM | | | | % DM | | | | | | 30 hr NDFD | Predicted Allowable Milk Yield |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | lbs/day | lbs/day | |
| Mycogen | F2F499 | 34 | 99 | 31833 | 31.6 | 24.9 | 36.6 | 7.4 | 1.9 | 3.0 | 2.5 | 35.2 | 35.8 | 44.5 | | 69.1 | 77.4 | 80.8 | 6.8 | 5.4 | 133.6 | 71.5 |
| Growmark FS | FS 49R79SS | 34 | 99 | 33833 | 32.0 | 28.8 | 31.5 | 8.3 | 2.8 | 3.6 | 2.3 | 38.3 | 38.9 | 36.7 | | 60.2 | 67.6 | 70.7 | 11.3 | 3.5 | 102.6 | 60.3 |
| Viking | O.79-00 | 1 | 100 | 33000 | 32.1 | 27.3 | 37.5 | 7.2 | 2.7 | 3.2 | 2.8 | 35.7 | 36.2 | 38.6 | | 59.3 | 67.8 | 70.8 | 10.5 | 3.9 | 109.0 | 61.9 |
| Mycogen | BMR97B37 | 35 | 97 | 34167 | 32.3 | 25.2 | 34.5 | 7.4 | 2.2 | 3.1 | 2.5 | 37.5 | 38.1 | 43.2 | | 68.2 | 75.7 | 78.9 | 8.0 | 4.9 | 127.0 | 69.2 |
| Dairyland | HiDF-3197RA | 35 | 97 | 35333 | 32.6 | 29.0 | 36.4 | 7.7 | 2.6 | 3.3 | 2.5 | 36.7 | 37.2 | 39.5 | | 60.8 | 69.5 | 72.5 | 10.1 | 4.0 | 110.2 | 62.7 |
| Channel | 197-90STXRIB | 36 | 97 | 35167 | 32.7 | 29.1 | 33.4 | 8.0 | 2.7 | 3.2 | 2.3 | 37.2 | 37.8 | 36.7 | | 60.8 | 67.8 | 70.7 | 10.9 | 3.8 | 107.7 | 61.9 |
| Wolf River Valley | 3900FL | 48 | 100 | 34667 | 32.7 | 31.5 | 26.9 | 7.8 | 3.2 | 3.5 | 2.2 | 41.6 | 42.2 | 35.1 | | 57.8 | 64.9 | 67.7 | 13.5 | 2.8 | 88.0 | 54.5 |
| CROPLAN | 4004 | 1 | 100 | 33333 | 32.8 | 26.9 | 34.7 | 7.3 | 2.7 | 3.3 | 2.7 | 37.7 | 38.3 | 38.6 | | 60.5 | 68.3 | 71.3 | 10.9 | 3.8 | 107.6 | 61.8 |
| Doebler's | 4018AMXT | 9 | 100 | 35833 | 33.2 | 29.3 | 37.1 | 7.4 | 2.4 | 3.2 | 2.6 | 34.9 | 35.4 | 39.6 | | 62.3 | 70.8 | 73.9 | 9.2 | 4.4 | 117.6 | 65.4 |
| Augusta Seed Corp. | A2448 | 20 | 98 | 35333 | 33.3 | 28.5 | 33.6 | 8.0 | 2.8 | 3.3 | 2.6 | 36.8 | 37.3 | 35.3 | | 57.4 | 64.6 | 67.4 | 12.0 | 3.5 | 98.4 | 58.2 |
| Dekalb | DKC51-40RIB | 42 | 101 | 33167 | 33.4 | 27.5 | 35.0 | 7.5 | 2.6 | 3.5 | 2.5 | 36.1 | 36.6 | 38.0 | | 60.5 | 69.1 | 72.2 | 10.1 | 3.9 | 111.1 | 63.2 |
| Local Seed Company | ZS9725 VIP3111 | 17 | 97 | 32833 | 33.4 | 27.3 | 37.2 | 8.0 | 2.7 | 3.7 | 3.0 | 33.8 | 34.3 | 35.7 | | 58.6 | 66.9 | 69.6 | 10.3 | 4.0 | 110.5 | 62.8 |
| Hubner | H6219RCSS | 36 | 100 | 34333 | 33.5 | 26.8 | 34.4 | 7.8 | 2.6 | 3.3 | 2.2 | 36.9 | 37.4 | 38.3 | | 61.6 | 69.0 | 71.9 | 10.4 | 4.0 | 110.8 | 63.1 |
| Dekalb | DKC50-09RIB | 42 | 100 | 33333 | 33.7 | 27.8 | 38.1 | 7.7 | 2.5 | 3.3 | 2.8 | 33.9 | 34.4 | 38.7 | | 61.7 | 69.7 | 72.7 | 9.3 | 4.4 | 118.3 | 65.7 |
| Dairyland | HiDF-3202P | 31 | 102 | 32667 | 33.7 | 29.2 | 37.9 | 8.0 | 2.3 | 3.0 | 3.0 | 34.2 | 34.7 | 40.3 | | 62.6 | 69.8 | 72.9 | 9.3 | 4.5 | 120.4 | 66.4 |
| Channel | 202-81STXRIB | 36 | 102 | 33667 | 33.9 | 30.2 | 34.8 | 7.6 | 2.6 | 3.2 | 2.6 | 36.4 | 36.9 | 38.3 | | 62.3 | 70.2 | 73.2 | 9.8 | 4.1 | 115.1 | 64.7 |
| Hubner | H6225RCSS | 36 | 102 | 33833 | 33.9 | 27.8 | 37.1 | 7.5 | 2.4 | 3.2 | 2.4 | 35.5 | 36.0 | 39.8 | | 62.1 | 71.4 | 74.5 | 9.2 | 4.3 | 116.0 | 65.0 |
| Masters Choice | MCT4934 | 17 | 99 | 27167 | 34.0 | 23.5 | 31.9 | 8.1 | 2.5 | 3.3 | 2.1 | 36.9 | 37.8 | 36.9 | | 62.9 | 71.1 | 74.2 | 9.6 | 3.8 | 113.0 | 63.9 |
| Augusta Seed Corp. | A3750 | 16 | 100 | 35000 | 34.4 | 28.5 | 34.3 | 7.4 | 2.8 | 3.4 | 2.5 | 37.8 | 38.3 | 36.0 | | 58.4 | 66.3 | 69.1 | 11.7 | 3.5 | 100.4 | 59.0 |
| Hubner | H6124RCSS | 36 | 96 | 34333 | 34.8 | 30.2 | 33.6 | 7.9 | 2.7 | 3.2 | 2.3 | 37.8 | 38.3 | 38.1 | | 61.1 | 68.2 | 71.1 | 11.0 | 3.8 | 107.0 | 61.6 |
| Syngenta NK | NK9738-3220 | 20 | 97 | 33167 | 34.9 | 27.8 | 35.0 | 8.1 | 2.5 | 3.3 | 2.5 | 35.3 | 35.8 | 37.3 | | 61.1 | 67.7 | 70.6 | 10.5 | 4.0 | 109.9 | 62.5 |
| Pioneer | P9998AMXT | 9 | 99 | 33833 | 34.9 | 31.3 | 42.9 | 8.0 | 2.4 | 3.0 | 2.8 | 29.5 | 29.9 | 37.1 | | 59.7 | 67.6 | 70.6 | 8.7 | 5.0 | 124.6 | 68.0 |
| Doebler's | 3618AMXT | 9 | 96 | 34000 | 34.9 | 28.8 | 37.4 | 8.2 | 2.4 | 3.2 | 2.4 | 33.9 | 34.4 | 37.9 | | 60.9 | 68.6 | 71.6 | 9.7 | 4.3 | 115.9 | 65.0 |
| Doebler's | 4115AMXT | 9 | 101 | 33833 | 35.1 | 30.1 | 36.6 | 7.0 | 2.5 | 3.2 | 2.2 | 36.5 | 37.1 | 39.0 | | 61.5 | 71.0 | 74.0 | 9.5 | 4.1 | 112.6 | 63.7 |
| CROPLAN | 3899 | 42 | 98 | 33167 | 35.5 | 28.7 | 40.6 | 7.5 | 2.2 | 2.9 | 2.8 | 32.4 | 32.9 | 40.0 | | 62.7 | 71.0 | 74.0 | 8.5 | 4.9 | 123.8 | 67.6 |
| Growmark FS | FS 46R77SS | 34 | 96 | 33500 | 35.8 | 26.7 | 31.4 | 7.5 | 2.7 | 3.1 | 2.1 | 39.5 | 40.1 | 37.1 | | 61.5 | 68.2 | 71.1 | 11.5 | 3.6 | 103.6 | 60.4 |
| Dekalb | DKC47-27RIB | 42 | 97 | 34333 | 36.1 | 28.4 | 36.8 | 7.5 | 2.5 | 3.4 | 2.4 | 35.5 | 36.0 | 38.5 | | 61.3 | 69.4 | 72.4 | 9.8 | 4.1 | 113.9 | 64.1 |
| Masters Choice | MCT4632 | 16 | 96 | 30000 | 36.5 | 27.5 | 38.6 | 8.7 | 2.3 | 3.4 | 2.4 | 32.0 | 32.5 | 39.4 | | 63.0 | 72.0 | 75.2 | 8.2 | 5.1 | 125.1 | 68.7 |
| | | | 96-102 day RM Mean | 33524 | 33.9 | 28.2 | 35.6 | 7.7 | 2.5 | 3.2 | 2.5 | 35.9 | 36.5 | 38.4 | | 61.4 | 69.3 | 72.3 | 10.0 | 4.1 | 112.6 | 63.7 |
| | | | LSD (0.10) | 2099 | 2.2 | 2.8 | 4.9 | 0.5 | 0.3 | 0.3 | 0.3 | 4.0 | 4.0 | 2.1 | | 2.3 | 2.7 | 2.9 | 1.7 | 0.8 | 12.3 | 4.5 |
| | | | Overall Mean | 33576 | 32.9 | 28.5 | 35.4 | 7.7 | 2.5 | 3.2 | 2.5 | 35.9 | 36.4 | 38.6 | | 61.8 | 69.9 | 72.9 | 9.8 | 4.2 | 114.0 | 64.2 |

Table 4b: Hybrid traits and performance for 96-110 day RM groups at Madrid, NY (cont.).

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem | 30 hr NDFD | 120 hr NDFD | 240 hr uNDFom | RFC - Fill Ratio ¹ | CNCPS v. 7.0 | CNCPS v. 7.0 | | |
|--------------------|----------------|--------------|-------------------|----------------------------|--------------|-------------|-------------|-------------|------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|---------------|-------------------------------|--------------------------------|-----------------------------|--------------|-------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | 30 hr NDFD | | | | | Predicted Allowable Milk Yield | Predicted Dry Matter Intake | | |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | lbs/day | lbs/day | | |
| Channel | 210-98STXRIB | 36 | 110 | 33500 | 28.7 | 27.6 | 33.8 | 7.9 | 2.6 | 3.2 | 2.5 | 36.8 | 37.4 | 37.3 | | 60.9 | 68.4 | 71.3 | 10.6 | 3.8 | 108.1 | 61.8 | |
| Mycogen | BMR10B27 | 35 | 110 | 32667 | 28.9 | 24.8 | 31.8 | 7.5 | 1.8 | 2.8 | 2.2 | 38.1 | 38.7 | 45.2 | | 71.5 | 78.9 | 82.3 | 6.8 | 5.2 | 133.2 | 71.8 | |
| Doebler's | 5018AM | 3 | 110 | 35167 | 29.0 | 29.7 | 35.5 | 7.6 | 2.4 | 3.0 | 2.4 | 35.8 | 36.4 | 40.0 | | 61.6 | 70.4 | 73.3 | 9.6 | 4.1 | 113.7 | 63.9 | |
| Mycogen | BMR06B58 | 37 | 106 | 31667 | 30.1 | 25.7 | 30.9 | 7.9 | 1.9 | 3.1 | 2.3 | 40.7 | 41.3 | 47.7 | | 72.6 | 83.1 | 86.7 | 5.5 | 5.2 | 133.2 | 71.9 | |
| Hubner | H6257RCSS | 36 | 105 | 32833 | 30.5 | 25.5 | 31.6 | 8.0 | 2.4 | 3.5 | 2.4 | 37.4 | 37.9 | 39.9 | | 63.7 | 71.3 | 74.4 | 9.7 | 4.0 | 114.3 | 64.5 | |
| Doebler's | 4717AMX | 8 | 107 | 35333 | 30.6 | 29.5 | 32.4 | 7.5 | 2.8 | 3.2 | 2.2 | 39.2 | 39.8 | 37.4 | | 60.2 | 68.6 | 71.5 | 11.2 | 3.5 | 103.7 | 60.5 | |
| Seedway | SW5554GT | 10 | 105 | 31667 | 30.7 | 29.4 | 33.6 | 7.6 | 2.6 | 3.3 | 2.2 | 38.3 | 38.9 | 39.3 | | 62.0 | 70.6 | 73.7 | 10.1 | 3.8 | 110.1 | 62.8 | |
| Channel | 209-15STXRIB | 36 | 109 | 33667 | 30.7 | 29.3 | 35.1 | 7.8 | 2.7 | 3.2 | 2.5 | 36.8 | 37.3 | 38.1 | | 60.4 | 68.3 | 71.2 | 10.6 | 3.9 | 108.7 | 62.0 | |
| Growmark FS | FS 55R25SS | 34 | 105 | 32833 | 31.0 | 30.0 | 34.5 | 7.6 | 2.5 | 3.3 | 2.4 | 36.5 | 37.0 | 37.3 | | 60.6 | 68.7 | 71.8 | 10.4 | 3.9 | 108.5 | 62.2 | |
| Syngenta NK | NK0968-3000GT | 14 | 109 | 33167 | 31.1 | 26.6 | 32.9 | 7.8 | 2.7 | 3.1 | 2.3 | 38.7 | 39.2 | 38.6 | | 60.3 | 67.8 | 70.8 | 11.4 | 3.7 | 102.6 | 59.8 | |
| Dekalb | DKC57-75RIB | 36 | 107 | 36333 | 31.4 | 28.4 | 31.2 | 7.4 | 2.6 | 3.1 | 2.4 | 38.6 | 39.2 | 38.9 | | 63.7 | 71.3 | 74.4 | 9.9 | 3.8 | 112.6 | 63.8 | |
| Doebler's | 4318AMXT | 9 | 103 | 34000 | 31.6 | 30.1 | 36.3 | 7.8 | 2.6 | 3.3 | 2.3 | 34.8 | 35.4 | 36.7 | | 59.4 | 68.9 | 71.7 | 9.9 | 4.0 | 111.4 | 63.2 | |
| Masters Choice | MCT5790 | 1 | 107 | 32167 | 31.7 | 30.0 | 33.2 | 8.2 | 2.5 | 3.3 | 2.3 | 36.2 | 36.8 | 37.1 | | 62.0 | 69.7 | 72.8 | 9.9 | 3.9 | 114.6 | 64.7 | |
| Channel | 203-01STXRIB | 36 | 103 | 33167 | 31.8 | 24.5 | 35.8 | 7.5 | 2.3 | 3.2 | 2.7 | 34.8 | 35.4 | 40.2 | | 64.4 | 72.1 | 75.2 | 8.6 | 4.5 | 122.2 | 67.1 | |
| Channel | 207-90STXRIB | 36 | 107 | 33833 | 31.8 | 29.5 | 31.5 | 7.9 | 2.6 | 3.5 | 2.2 | 38.8 | 39.4 | 38.7 | | 62.5 | 70.1 | 73.2 | 10.5 | 3.8 | 108.3 | 62.2 | |
| Pioneer | P0789AMXT | 9 | 107 | 35000 | 31.8 | 30.6 | 32.4 | 7.6 | 2.8 | 3.4 | 2.3 | 37.9 | 38.5 | 36.3 | | 60.4 | 68.6 | 71.6 | 10.8 | 3.6 | 106.1 | 61.5 | |
| Channel | 206-11STXRIB | 36 | 106 | 33333 | 32.1 | 28.3 | 36.0 | 8.0 | 2.4 | 3.2 | 2.9 | 33.7 | 34.2 | 39.0 | | 63.0 | 68.9 | 71.9 | 9.5 | 4.5 | 120.2 | 66.3 | |
| Dyna-Gro | D49VC70 | 41 | 109 | 34500 | 32.3 | 30.1 | 40.8 | 7.8 | 2.3 | 3.1 | 2.8 | 30.6 | 31.1 | 38.9 | | 61.2 | 69.0 | 72.2 | 8.6 | 4.9 | 125.2 | 68.3 | |
| Dekalb | DKC59-07RIB | 36 | 109 | 34167 | 32.3 | 29.7 | 33.8 | 7.6 | 2.4 | 3.1 | 2.4 | 35.5 | 36.0 | 37.2 | | 62.3 | 69.5 | 72.5 | 9.8 | 4.1 | 116.2 | 65.1 | |
| Pioneer | P0414AM | 3 | 104 | 33833 | 32.9 | 30.0 | 37.8 | 7.6 | 2.4 | 3.3 | 2.5 | 34.2 | 34.9 | 38.5 | | 61.7 | 71.8 | 74.8 | 8.7 | 4.3 | 118.0 | 65.6 | |
| Masters Choice | MCT5371 | 10 | 103 | 32833 | 33.1 | 28.8 | 29.8 | 7.2 | 2.7 | 3.2 | 2.1 | 40.1 | 40.6 | 37.5 | | 62.3 | 70.2 | 73.2 | 10.8 | 3.6 | 106.0 | 61.4 | |
| Seedway | SW5440GENSS | 36 | 105 | 33833 | 33.3 | 29.6 | 38.0 | 7.9 | 2.4 | 3.0 | 2.6 | 32.8 | 33.4 | 37.7 | | 61.5 | 69.6 | 72.7 | 9.0 | 4.4 | 120.4 | 66.5 | |
| Albert Lea Viking | O.51-04GS | 1 | 104 | 34000 | 33.3 | 29.8 | 41.3 | 7.7 | 2.2 | 3.1 | 3.0 | 30.7 | 31.2 | 39.5 | | 62.2 | 71.0 | 74.1 | 8.0 | 5.1 | 127.1 | 68.9 | |
| Local Seed Company | LC0488 SSSXRIB | 36 | 104 | 31667 | 33.8 | 28.3 | 37.1 | 7.6 | 2.5 | 3.0 | 2.6 | 33.8 | 34.3 | 36.7 | | 60.3 | 67.5 | 70.3 | 10.1 | 4.3 | 115.0 | 64.4 | |
| Seedway | SW6614RR | 2 | 109 | 34333 | 33.9 | 29.6 | 37.7 | 7.3 | 2.7 | 3.1 | 2.4 | 34.9 | 35.5 | 36.0 | | 58.2 | 67.1 | 69.9 | 10.6 | 3.9 | 107.7 | 61.7 | |
| Dekalb | DKC54-40RIB | 42 | 104 | 34167 | 34.2 | 28.6 | 36.4 | 7.5 | 2.5 | 3.2 | 2.5 | 35.1 | 35.7 | 38.4 | | 62.2 | 70.2 | 73.2 | 9.5 | 4.3 | 116.5 | 65.0 | |
| Albert Lea Viking | O.48-08GS | 1 | 108 | 34000 | 34.6 | 30.1 | 39.2 | 7.6 | 2.4 | 3.1 | 2.5 | 32.5 | 33.0 | 38.2 | | 60.5 | 69.4 | 72.2 | 9.1 | 4.5 | 119.1 | 66.0 | |
| CROPLAN | 4549 | 1 | 105 | 34000 | 34.9 | 30.1 | 41.6 | 7.3 | 2.2 | 3.1 | 2.7 | 31.7 | 32.2 | 39.8 | | 61.7 | 70.7 | 73.7 | 8.4 | 4.9 | 123.6 | 67.6 | |
| Growmark FS | FS 53R85SS | 34 | 103 | 33500 | 35.0 | 29.4 | 36.8 | 7.5 | 2.5 | 2.9 | 2.6 | 34.9 | 35.4 | 38.9 | | 61.3 | 69.1 | 72.1 | 9.8 | 4.3 | 115.7 | 64.8 | |
| | | | | 103-110 day RM Mean | 33626 | 32.0 | 28.7 | 35.1 | 7.7 | 2.5 | 3.2 | 2.5 | 35.9 | 36.4 | 38.8 | | 62.2 | 70.4 | 73.4 | 9.6 | 4.2 | 115.2 | 64.7 |
| | | | | LSD (0.10) | 2099 | 2.2 | 2.8 | 4.9 | 0.5 | 0.3 | 0.3 | 0.3 | 4.0 | 4.0 | 2.1 | | 2.3 | 2.7 | 2.9 | 1.7 | 0.8 | 12.3 | 4.5 |
| | | | | Overall Mean | 33576 | 32.9 | 28.5 | 35.4 | 7.7 | 2.5 | 3.2 | 2.5 | 35.9 | 36.4 | 38.6 | | 61.8 | 69.9 | 72.9 | 9.8 | 4.2 | 114.0 | 64.2 |

Table 4c: Hybrid traits and performance for 96-110 day RM groups at Aurora, NY.

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr NDFD | Wet Chem 30 hr NDFD | 30 hr NDFD | 120 hr NDFD | 240 hr NDFD | 240 hr uNDFom | RFC - Fill Ratio ¹ | CNCPS v. 7.0 | CNCPS v. 7.0 | |
|--------------------|----------------|--------------|---------------------------|--------------|-------------|-------------|-------------|------------|------------|------------|------------|-------------|-------------|-------------|---------------------|-------------|-------------|-------------|---------------|-------------------------------|--------------|----------------------|-------------------|
| | | | | Population | Matter | 35% DM | % DM | % DM | % DM | % DM | % DM | | | | | | | | | | % DM | Predicted | Predicted |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | | | | | | | | | | % DM | Allowable Milk Yield | Dry Matter Intake |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | lbs/day | lbs/day | | | |
| Hubner | H6225RCSS | 36 | 102 | 34333 | 36.9 | 21.5 | 37.2 | 7.6 | 2.8 | 2.6 | 2.5 | 36.6 | 37.1 | 36.8 | | 59.2 | 67.2 | 70.1 | 10.9 | 3.8 | 104.5 | 60.1 | |
| Doebler's | 4018AMXT | 9 | 100 | 32500 | 37.3 | 21.9 | 39.3 | 7.2 | 2.4 | 2.6 | 2.5 | 34.6 | 35.1 | 39.3 | | 62.0 | 68.4 | 71.5 | 9.9 | 4.5 | 116.0 | 64.6 | |
| Mycogen | F2F499 | 34 | 99 | 33667 | 37.8 | 19.7 | 40.1 | 7.6 | 1.9 | 2.5 | 3.0 | 33.9 | 34.4 | 44.3 | | 69.6 | 79.0 | 82.4 | 5.9 | 6.0 | 139.4 | 73.4 | |
| Wolf River Valley | 3900FL | 48 | 100 | 32500 | 37.9 | 24.2 | 31.8 | 6.9 | 3.1 | 2.6 | 2.3 | 40.1 | 40.8 | 34.1 | | 57.2 | 62.4 | 65.3 | 14.0 | 3.1 | 85.9 | 53.1 | |
| Mycogen | BMR97B37 | 35 | 97 | 33833 | 38.1 | 19.6 | 36.4 | 7.3 | 2.1 | 2.3 | 2.7 | 37.1 | 37.7 | 43.6 | | 69.4 | 83.2 | 86.7 | 4.9 | 5.3 | 133.0 | 70.9 | |
| Channel | 197-90STXRIB | 36 | 97 | 32667 | 38.2 | 22.1 | 38.8 | 7.5 | 2.7 | 2.8 | 2.8 | 34.7 | 35.2 | 36.6 | | 59.0 | 64.1 | 67.0 | 11.5 | 4.1 | 103.0 | 59.3 | |
| Hubner | H6219RCSS | 36 | 100 | 35167 | 38.2 | 21.6 | 38.0 | 7.2 | 2.8 | 2.4 | 2.7 | 35.8 | 36.3 | 36.6 | | 58.9 | 66.1 | 68.9 | 11.2 | 3.9 | 102.6 | 59.1 | |
| Channel | 202-81STXRIB | 36 | 102 | 34333 | 38.5 | 22.3 | 36.8 | 7.4 | 2.6 | 3.1 | 2.7 | 36.1 | 36.7 | 39.2 | | 62.2 | 70.9 | 73.9 | 9.4 | 4.2 | 113.9 | 64.0 | |
| Pioneer | P9998AMXT | 9 | 99 | 33333 | 38.8 | 20.4 | 39.6 | 7.7 | 2.5 | 2.6 | 2.8 | 34.1 | 34.6 | 37.5 | | 60.4 | 67.5 | 70.6 | 10.1 | 4.3 | 111.2 | 62.4 | |
| Growmark FS | FS 49R79SS | 34 | 99 | 32833 | 38.8 | 22.3 | 38.3 | 7.9 | 2.8 | 2.5 | 2.8 | 35.5 | 36.1 | 36.1 | | 58.2 | 67.4 | 70.3 | 10.7 | 3.9 | 105.0 | 60.2 | |
| Masters Choice | MCT4632 | 16 | 96 | 31000 | 38.8 | 18.4 | 38.2 | 7.8 | 2.4 | 2.9 | 2.4 | 35.2 | 35.7 | 37.9 | | 61.0 | 67.0 | 69.8 | 10.7 | 4.2 | 109.9 | 62.3 | |
| Augusta Seed Corp. | A3750 | 16 | 100 | 34333 | 39.2 | 19.5 | 38.2 | 7.1 | 2.7 | 2.6 | 2.7 | 35.5 | 36.1 | 35.2 | | 58.0 | 65.5 | 68.4 | 11.3 | 3.9 | 104.0 | 59.8 | |
| Dairyland | HiDF-3202P | 31 | 102 | 32000 | 39.2 | 22.6 | 39.5 | 7.6 | 2.5 | 2.5 | 2.8 | 34.8 | 35.4 | 38.2 | | 60.5 | 66.1 | 68.9 | 10.9 | 4.3 | 109.0 | 61.6 | |
| Viking | O.79-00 | 1 | 100 | 31833 | 39.3 | 19.3 | 41.2 | 7.1 | 2.6 | 2.6 | 2.8 | 34.8 | 35.3 | 37.7 | | 59.8 | 67.5 | 70.5 | 10.2 | 4.3 | 111.6 | 62.7 | |
| Local Seed Company | ZS9725 VIP3111 | 17 | 97 | 33167 | 40.0 | 19.7 | 33.9 | 7.1 | 3.0 | 2.9 | 2.8 | 39.2 | 39.8 | 35.1 | | 57.5 | 66.9 | 70.0 | 11.8 | 3.3 | 96.4 | 57.2 | |
| Doebler's | 4115AMXT | 9 | 101 | 31667 | 40.1 | 21.2 | 35.8 | 6.5 | 2.6 | 2.7 | 2.2 | 38.7 | 39.2 | 37.4 | | 60.3 | 67.1 | 69.8 | 11.7 | 3.8 | 101.3 | 59.2 | |
| Dekalb | DKC51-40RIB | 42 | 101 | 35333 | 40.2 | 23.7 | 39.8 | 7.3 | 2.5 | 2.6 | 2.7 | 34.5 | 35.0 | 38.5 | | 60.7 | 69.4 | 72.3 | 9.5 | 4.4 | 115.9 | 64.5 | |
| CROPLAN | 3899 | 42 | 98 | 35500 | 40.4 | 22.7 | 37.7 | 6.8 | 2.6 | 2.4 | 2.5 | 37.2 | 37.7 | 39.7 | | 61.5 | 67.9 | 70.7 | 10.9 | 4.1 | 108.0 | 61.3 | |
| CROPLAN | 4004 | 1 | 100 | 32833 | 40.4 | 21.9 | 41.4 | 6.8 | 2.8 | 2.5 | 2.6 | 35.7 | 36.3 | 36.6 | | 57.1 | 63.4 | 67.0 | 11.8 | 4.0 | 101.1 | 58.7 | |
| Dekalb | DKC50-09RIB | 42 | 100 | 35000 | 40.8 | 19.8 | 39.2 | 7.3 | 2.6 | 2.6 | 2.9 | 34.7 | 35.2 | 37.8 | | 61.0 | 71.0 | 74.0 | 8.9 | 4.4 | 117.3 | 65.0 | |
| Augusta Seed Corp. | A2448 | 20 | 98 | 32000 | 41.2 | 21.3 | 40.4 | 7.6 | 2.7 | 2.6 | 2.8 | 33.2 | 33.7 | 34.7 | | 57.3 | 62.1 | 65.0 | 11.7 | 4.1 | 101.8 | 58.7 | |
| Masters Choice | MCT4934 | 17 | 99 | 32500 | 41.3 | 22.0 | 37.2 | 7.3 | 2.7 | 2.7 | 2.4 | 36.0 | 36.5 | 34.7 | | 57.1 | 63.5 | 66.3 | 12.2 | 3.7 | 97.8 | 57.6 | |
| Growmark FS | FS 46R77SS | 34 | 96 | 33333 | 41.6 | 21.2 | 39.6 | 8.3 | 2.6 | 2.7 | 2.6 | 34.1 | 34.7 | 36.4 | | 59.3 | 66.5 | 69.4 | 10.5 | 4.3 | 110.6 | 62.7 | |
| Doebler's | 3618AMXT | 9 | 96 | 34167 | 42.1 | 20.0 | 40.5 | 7.0 | 2.6 | 2.5 | 2.7 | 34.8 | 35.3 | 36.9 | | 58.5 | 64.2 | 67.1 | 11.5 | 4.1 | 103.5 | 59.4 | |
| Dekalb | DKC47-27RIB | 42 | 97 | 34667 | 42.2 | 21.8 | 44.1 | 7.3 | 2.5 | 2.4 | 2.7 | 31.3 | 31.8 | 36.8 | | 59.2 | 65.0 | 68.0 | 10.1 | 4.7 | 116.7 | 64.7 | |
| Hubner | H6124RCSS | 36 | 96 | 33667 | 42.7 | 22.4 | 45.0 | 7.4 | 2.4 | 2.8 | 2.9 | 31.2 | 31.7 | 36.7 | | 58.2 | 63.8 | 67.3 | 10.3 | 4.7 | 115.2 | 64.1 | |
| Syngenta NK | NK9738-3220 | 20 | 97 | 35333 | 43.0 | 21.5 | 42.4 | 7.6 | 2.5 | 2.4 | 2.7 | 33.3 | 33.8 | 36.4 | | 59.3 | 67.1 | 70.3 | 9.9 | 4.5 | 114.6 | 63.8 | |
| Dairyland | HiDF-3197RA | 35 | 97 | 34667 | 45.6 | 22.4 | 43.4 | 6.8 | 2.5 | 2.6 | 2.7 | 34.5 | 35.0 | 38.7 | | 59.4 | 66.5 | 69.5 | 10.6 | 4.4 | 111.0 | 62.5 | |
| | | | 96-102 day RM Mean | 33506 | 39.9 | 21.3 | 39.1 | 7.3 | 2.6 | 2.6 | 2.7 | 35.3 | 35.8 | 37.5 | | 60.1 | 67.4 | 70.4 | 10.5 | 4.2 | 109.3 | 61.9 | |
| | | | LSD (0.10) | 2300 | 2.6 | 2.4 | 4.7 | 0.4 | 0.2 | 0.3 | 0.3 | 3.7 | 3.8 | 1.5 | | 1.8 | 4.0 | 4.1 | 1.6 | 0.6 | 10.7 | 4.1 | |
| | | | Overall Mean | 33424 | 38.2 | 21.7 | 38.8 | 7.3 | 2.6 | 2.6 | 2.6 | 35.3 | 21.2 | 37.9 | | 60.5 | 67.7 | 70.7 | 10.4 | 4.3 | 110.2 | 62.2 | |

Table 4c: Hybrid traits and performance for 96-110 day RM groups at Aurora, NY (cont.).

| Company/Brand | Hybrid | Trait Code † | Relative Maturity | Harvest | Dry | Yield, | Starch | Crude | Lignin | Ash | Total | aNDFom | NDF | 12 hr | Wet Chem | 30 hr | 120 hr | 240 hr | 240 hr | RFC - Fill | CNCPS v. 7.0 | CNCPS v. 7.0 |
|----------------------------|---------------|--------------|-------------------|--------------|-------------|-------------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|----------|-------------|-------------|-------------|-------------|------------|--------------|--------------------|
| | | | | Population | Matter | 35% DM | | Protein | | | Fatty Acids | | | | 30 hr | | | | | | uNDFom | Ratio ¹ |
| | | | | plants/ac | % | tons/ac | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | % DM | lbs/day | lbs/day |
| Doebler's | 5018AM | 3 | 110 | 34333 | 32.0 | 23.1 | 33.6 | 7.1 | 2.6 | 2.6 | 2.2 | 38.7 | 7.1 | 38.5 | | 61.5 | 67.8 | 70.6 | 11.4 | 3.8 | 104.4 | 60.4 |
| Masters Choice | MCT5790 | 1 | 107 | 32333 | 33.0 | 20.3 | 38.0 | 7.8 | 2.6 | 2.8 | 2.6 | 35.2 | 7.8 | 35.8 | | 59.8 | 67.2 | 70.1 | 10.5 | 4.1 | 107.4 | 61.1 |
| Channel | 210-98STXRIB | 36 | 110 | 33000 | 33.6 | 22.9 | 37.4 | 7.3 | 2.7 | 2.6 | 2.6 | 36.4 | 7.3 | 37.0 | | 60.1 | 65.3 | 68.3 | 11.6 | 4.0 | 103.3 | 59.6 |
| Growmark FS | FS 55R25SS | 34 | 105 | 31667 | 34.4 | 21.7 | 35.4 | 7.3 | 2.7 | 2.8 | 2.4 | 37.6 | 7.3 | 36.2 | | 60.0 | 65.7 | 68.6 | 11.9 | 3.8 | 100.4 | 58.6 |
| Mycogen | BMR10B27 | 35 | 110 | 33167 | 34.4 | 21.3 | 37.1 | 7.4 | 2.0 | 2.6 | 2.6 | 35.7 | 7.4 | 44.1 | | 68.7 | 78.1 | 81.4 | 6.4 | 5.4 | 132.4 | 70.9 |
| Pioneer | P0414AM | 3 | 104 | 32667 | 34.6 | 21.7 | 38.9 | 7.0 | 2.4 | 2.6 | 2.4 | 35.8 | 7.0 | 39.5 | | 62.0 | 69.4 | 72.3 | 10.0 | 4.4 | 114.2 | 64.0 |
| Channel | 209-15STXRIB | 36 | 109 | 32833 | 34.7 | 20.4 | 40.4 | 7.6 | 2.4 | 2.5 | 2.9 | 33.3 | 7.6 | 39.3 | | 61.2 | 71.5 | 74.5 | 8.4 | 4.6 | 121.0 | 66.4 |
| Mycogen | BMR06B58 | 37 | 106 | 32500 | 35.0 | 21.7 | 34.5 | 7.4 | 1.9 | 2.5 | 2.5 | 39.3 | 7.4 | 46.1 | | 72.2 | 83.7 | 87.2 | 5.0 | 5.5 | 135.2 | 72.0 |
| Doebler's | 4318AMXT | 9 | 103 | 34167 | 35.2 | 22.2 | 36.5 | 7.2 | 2.8 | 2.9 | 2.2 | 35.9 | 7.2 | 35.9 | | 58.1 | 64.6 | 67.4 | 11.7 | 3.7 | 100.8 | 58.9 |
| Dyna-Gro | D49VC70 | 41 | 109 | 32167 | 35.3 | 21.9 | 39.7 | 7.0 | 2.5 | 2.3 | 3.0 | 33.9 | 7.0 | 36.9 | | 60.0 | 69.7 | 72.6 | 9.3 | 4.4 | 116.1 | 64.4 |
| Pioneer | P0789AMXT | 9 | 107 | 34500 | 35.3 | 25.0 | 35.6 | 6.9 | 2.8 | 2.8 | 2.4 | 38.2 | 6.9 | 36.7 | | 59.2 | 65.2 | 68.0 | 12.3 | 3.7 | 96.9 | 57.2 |
| Dekalb | DKC57-75RIB | 36 | 107 | 35167 | 35.6 | 23.4 | 39.6 | 7.5 | 2.4 | 2.6 | 2.7 | 33.5 | 7.5 | 38.6 | | 61.0 | 66.5 | 69.4 | 10.3 | 4.5 | 114.6 | 63.9 |
| Doebler's | 4717AMX | 8 | 107 | 33167 | 35.7 | 22.9 | 39.0 | 7.2 | 2.7 | 2.5 | 2.7 | 34.8 | 7.2 | 35.7 | | 58.8 | 66.6 | 69.5 | 10.8 | 4.1 | 105.6 | 60.3 |
| Dekalb | DKC59-07RIB | 36 | 109 | 32833 | 35.8 | 22.0 | 37.4 | 7.5 | 2.6 | 2.7 | 2.7 | 35.1 | 7.5 | 37.9 | | 60.8 | 66.2 | 68.9 | 11.0 | 4.1 | 107.9 | 61.3 |
| Hubner | H6257RCSS | 36 | 105 | 34333 | 35.8 | 20.7 | 40.3 | 7.3 | 2.4 | 2.2 | 2.8 | 33.4 | 7.3 | 39.2 | | 60.5 | 67.8 | 70.8 | 9.9 | 4.5 | 113.7 | 63.2 |
| Seedway | SW5554GT | 10 | 105 | 31500 | 35.8 | 19.7 | 35.4 | 6.9 | 2.7 | 2.5 | 2.2 | 38.8 | 6.9 | 37.6 | | 60.3 | 66.3 | 69.2 | 12.0 | 3.7 | 100.0 | 58.5 |
| Seedway | SW6614RR | 2 | 109 | 34667 | 36.8 | 22.3 | 38.6 | 6.6 | 2.8 | 2.7 | 2.5 | 35.9 | 6.6 | 35.7 | | 57.8 | 63.8 | 66.6 | 12.0 | 3.8 | 99.3 | 58.0 |
| Seedway | SW5440GENSS | 36 | 105 | 33167 | 37.0 | 20.5 | 38.1 | 7.6 | 2.6 | 2.8 | 2.8 | 34.8 | 7.6 | 36.4 | | 59.1 | 64.8 | 67.7 | 11.3 | 4.0 | 104.7 | 60.0 |
| Albert Lea Viking | O.48-08GS | 1 | 108 | 32500 | 37.3 | 21.1 | 37.6 | 6.5 | 2.6 | 2.6 | 2.3 | 36.6 | 6.5 | 38.1 | | 59.9 | 67.0 | 69.8 | 11.1 | 3.9 | 105.8 | 60.6 |
| Channel | 203-01STXRIB | 36 | 103 | 34667 | 37.4 | 23.1 | 40.4 | 7.2 | 2.3 | 2.6 | 3.0 | 32.8 | 7.2 | 41.3 | | 63.5 | 69.3 | 72.2 | 9.2 | 5.0 | 123.4 | 67.2 |
| Channel | 206-11STXRIB | 36 | 106 | 33333 | 37.5 | 22.7 | 37.5 | 7.4 | 2.5 | 2.7 | 2.6 | 35.9 | 7.4 | 39.9 | | 62.2 | 70.2 | 73.2 | 9.7 | 4.3 | 114.5 | 64.0 |
| Local Seed Company | LC0488 S5XRIB | 36 | 104 | 33000 | 37.6 | 21.8 | 40.5 | 7.2 | 2.6 | 2.5 | 2.7 | 33.8 | 7.2 | 35.5 | | 58.8 | 65.7 | 68.5 | 10.8 | 4.2 | 106.8 | 60.7 |
| Masters Choice | MCT5371 | 10 | 103 | 30833 | 37.7 | 21.0 | 36.0 | 6.7 | 2.7 | 2.6 | 2.4 | 37.5 | 6.7 | 36.3 | | 59.0 | 65.7 | 68.4 | 11.9 | 3.7 | 100.1 | 58.4 |
| Channel | 207-90STXRIB | 36 | 107 | 32833 | 37.8 | 23.1 | 37.7 | 8.0 | 2.5 | 2.6 | 2.7 | 35.5 | 8.0 | 38.9 | | 62.6 | 70.4 | 73.4 | 9.5 | 4.4 | 115.7 | 64.4 |
| Syngenta NK | NK0968-3000GT | 14 | 109 | 35000 | 39.2 | 23.5 | 40.1 | 7.1 | 2.6 | 2.5 | 2.4 | 35.2 | 7.1 | 37.0 | | 58.0 | 64.4 | 67.1 | 11.6 | 4.0 | 101.8 | 58.9 |
| Albert Lea Viking | O.51-04GS | 1 | 104 | 34667 | 39.5 | 21.6 | 43.5 | 7.2 | 2.3 | 2.4 | 3.0 | 31.4 | 7.2 | 39.6 | | 61.0 | 67.9 | 70.9 | 9.2 | 5.0 | 124.2 | 67.5 |
| Growmark FS | FS 53R85SS | 34 | 103 | 32000 | 40.0 | 21.1 | 42.0 | 7.1 | 2.5 | 2.4 | 2.7 | 32.4 | 7.1 | 38.7 | | 59.9 | 65.8 | 68.7 | 10.2 | 4.6 | 115.2 | 64.0 |
| Dekalb | DKC54-40RIB | 42 | 104 | 34000 | 41.1 | 23.7 | 43.9 | 7.0 | 2.5 | 2.6 | 2.9 | 31.3 | 7.0 | 37.1 | | 58.8 | 66.3 | 69.0 | 9.8 | 4.7 | 119.1 | 65.7 |
| CROPLAN | 4549 | 1 | 105 | 36000 | 45.6 | 22.4 | 42.9 | 6.7 | 2.4 | 2.4 | 2.5 | 33.9 | 6.7 | 40.0 | | 60.8 | 68.7 | 71.8 | 9.7 | 4.7 | 116.0 | 64.4 |
| 103-110 day RM Mean | | | | 33345 | 36.6 | 22.0 | 38.5 | 7.2 | 2.5 | 2.6 | 2.6 | 35.3 | 7.2 | 38.3 | | 60.9 | 68.0 | 70.9 | 10.3 | 4.3 | 111.0 | 62.6 |
| LSD (0.10) | | | | 2300 | 2.6 | 2.4 | 4.7 | 0.4 | 0.2 | 0.3 | 0.3 | 3.7 | 3.8 | 1.5 | | 1.8 | 4.0 | 4.1 | 1.6 | 0.6 | 10.7 | 4.1 |
| Overall Mean | | | | 33424 | 38.2 | 21.7 | 38.8 | 7.3 | 2.6 | 2.6 | 2.6 | 35.3 | 21.2 | 37.9 | | 60.5 | 67.7 | 70.7 | 10.4 | 4.3 | 110.2 | 62.2 |

Figure 3. Interpretation of quartile plots used in Figures 4 and 5.

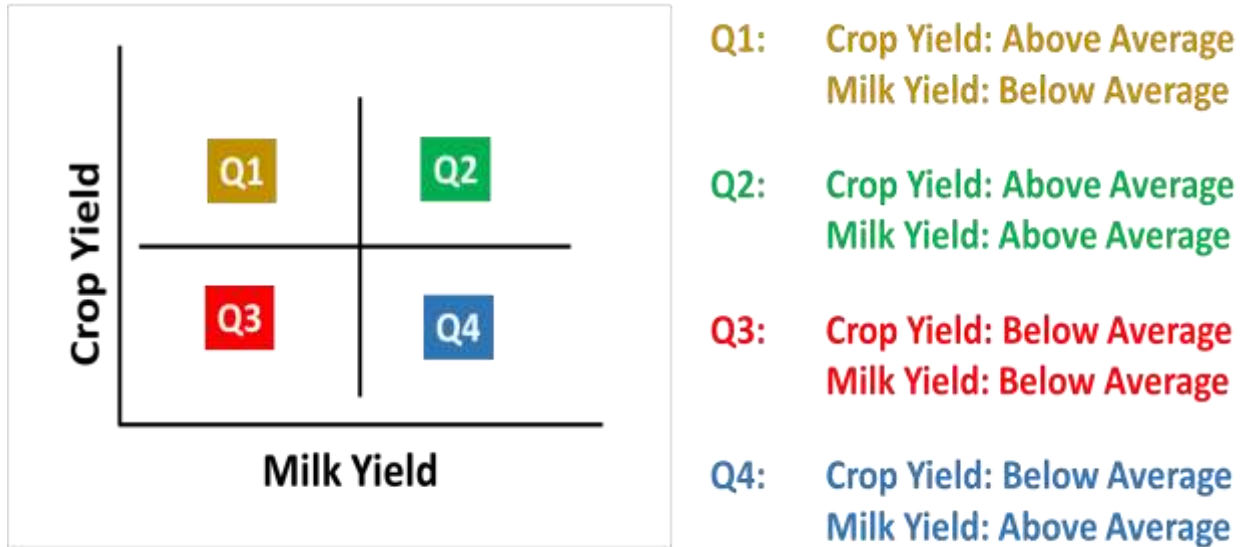


Figure 4.

Relationship between crop yield and predicted milk yield (PMY) for 80-95 day relative maturity (RM) hybrids planted at Albion, NY (4a), Willsboro, NY (4b) and Alburgh, VT (4c). Hybrids located in the top right quadrant were above the overall mean for both crop yield and PMY and are considered good performers. Hybrids located in the bottom left quadrant were below the mean for yield and milk production potential. Hybrids in the top left quadrant were below the mean for yield and above the mean for milk production potential and hybrids in the bottom right quadrant were above the mean for yield and below the mean for milk production potential.

Figure 5.

Relationship between crop yield and predicted milk yield (PMY) for 96-110 day relative maturity (RM) hybrids planted at Alburgh, VT (5a), Madrid, NY (5b), Aurora, NY (5c). Hybrids located in the top right quadrant were above the overall mean for both crop yield and PMY and are considered good performers. Hybrids located in the bottom left quadrant were below the mean for yield and milk production potential. Hybrids in the top left quadrant were below the mean for yield and above the mean for milk production potential and hybrids in the bottom right quadrant were above the mean for yield and below the mean for milk production potential.

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Figure 4a: Albion, NY 80-95 day RM hybrids.

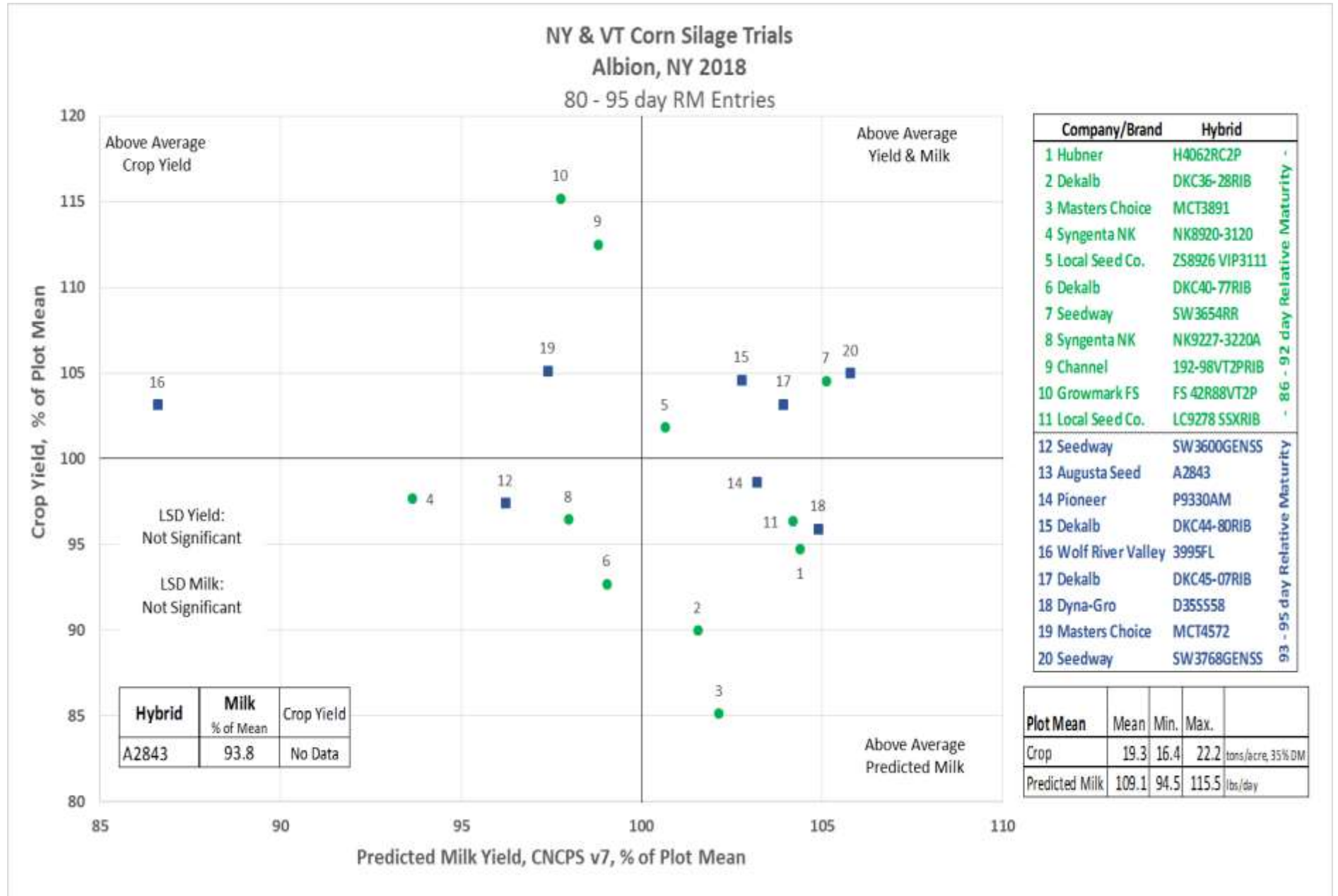


Figure 4b: Willsboro, NY 80-95 day RM hybrids.

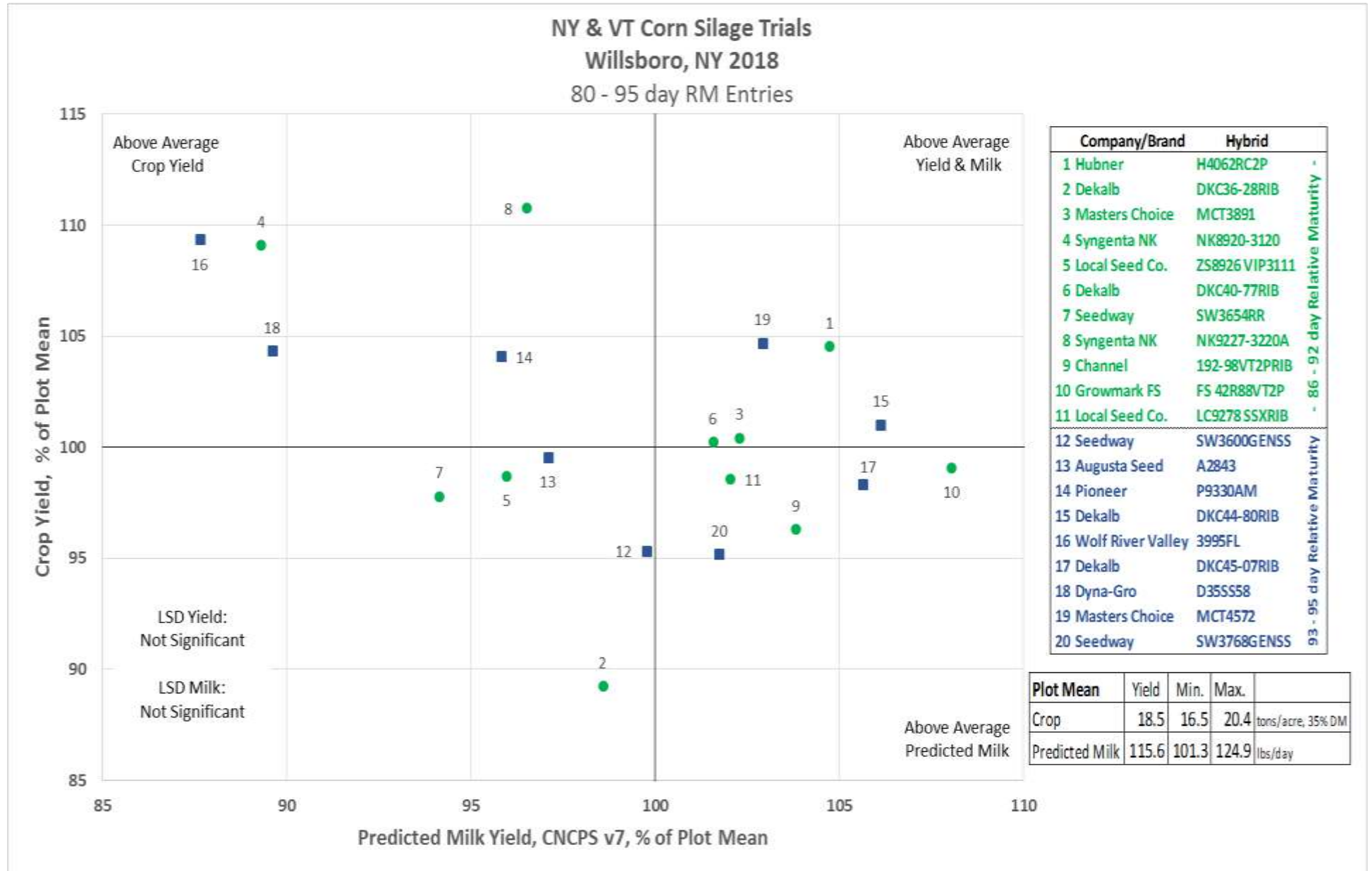
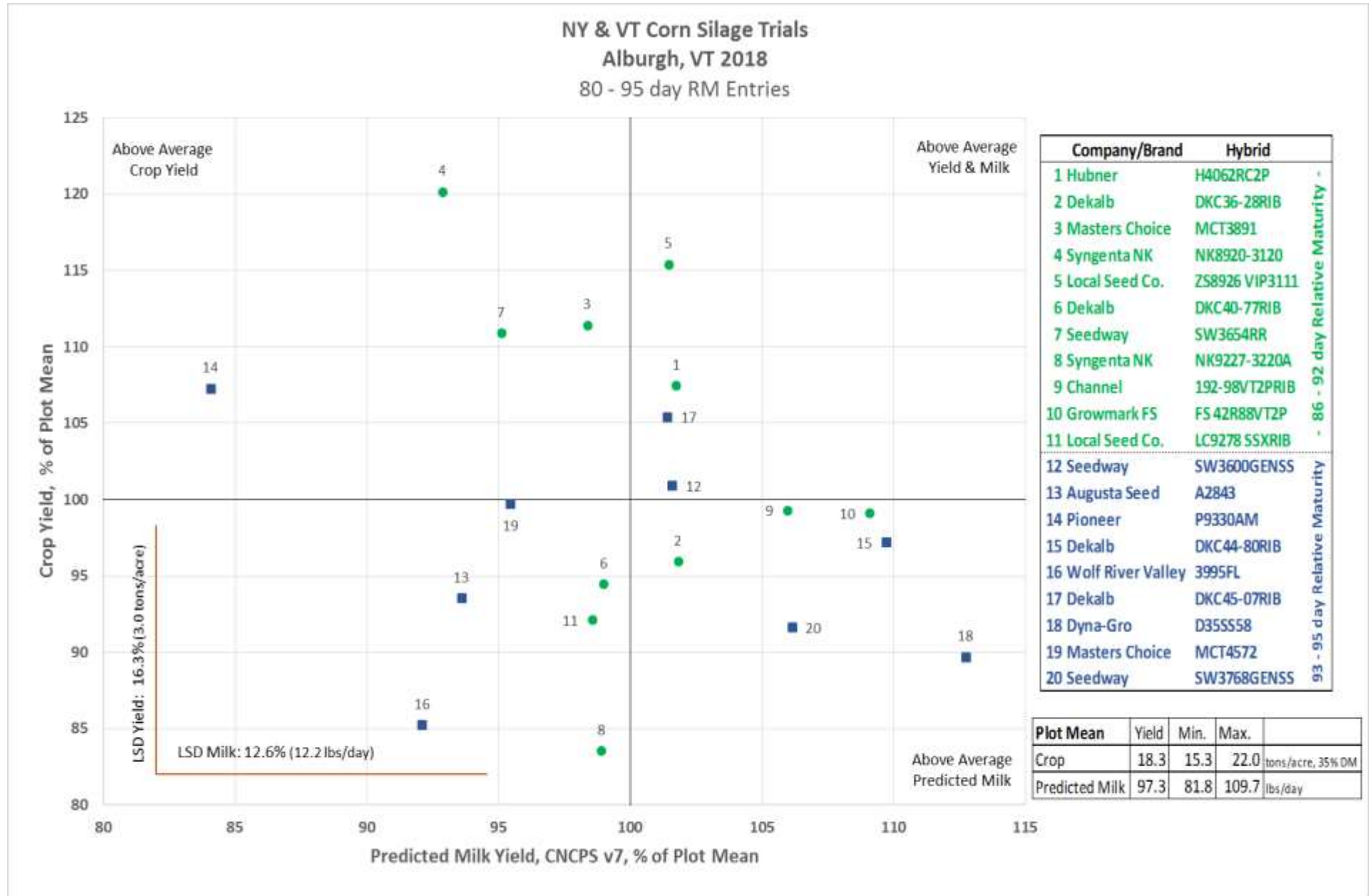


Figure 4c: Alburgh, VT 80-95 day RM hybrids.



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Figure 5a: Alburgh, VT 96-110 day RM hybrids, 96-102 day RM entries.

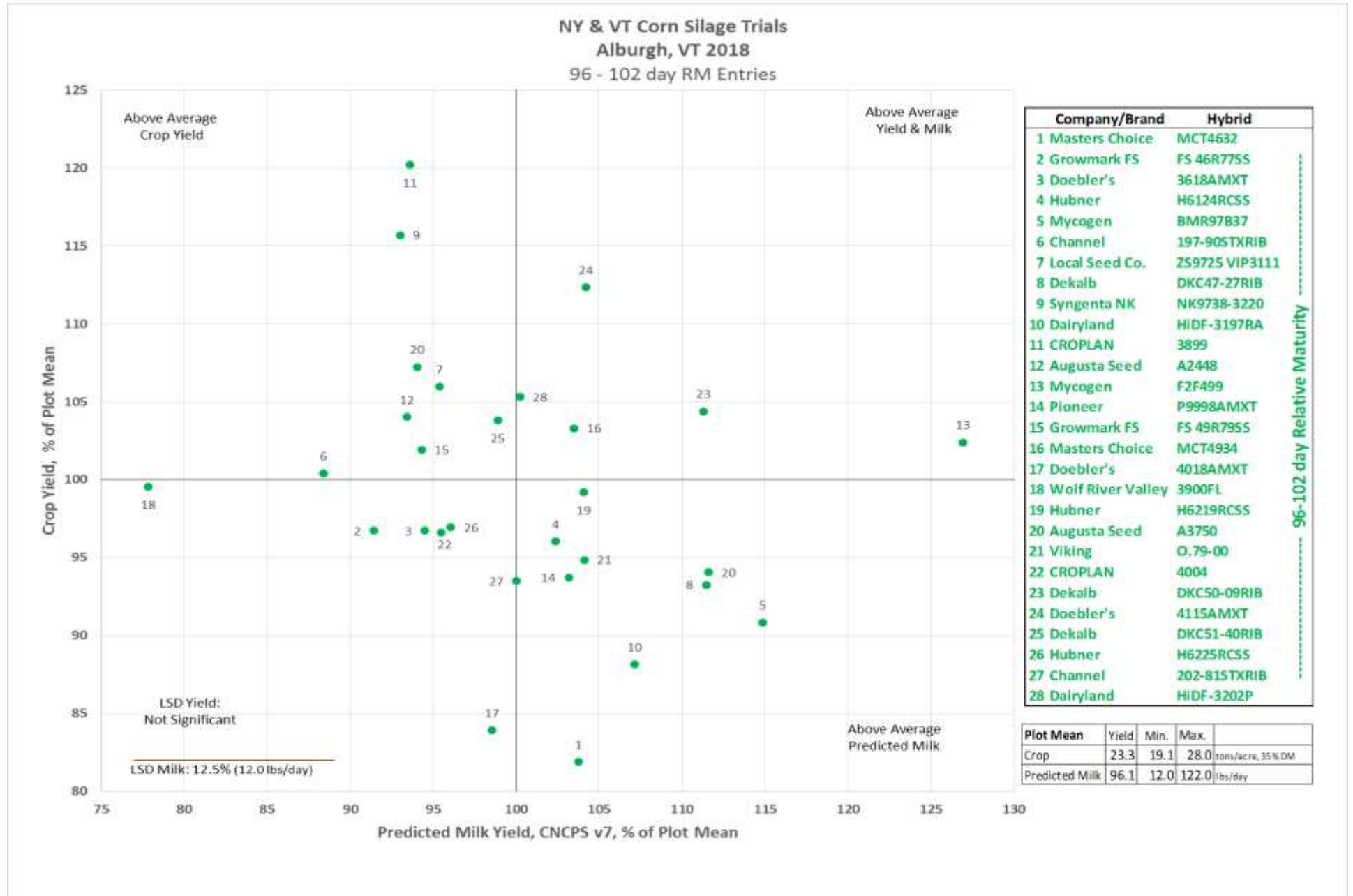


Figure 5a: Alburgh, VT 96-110 day RM hybrids, 103-110 day RM entries.

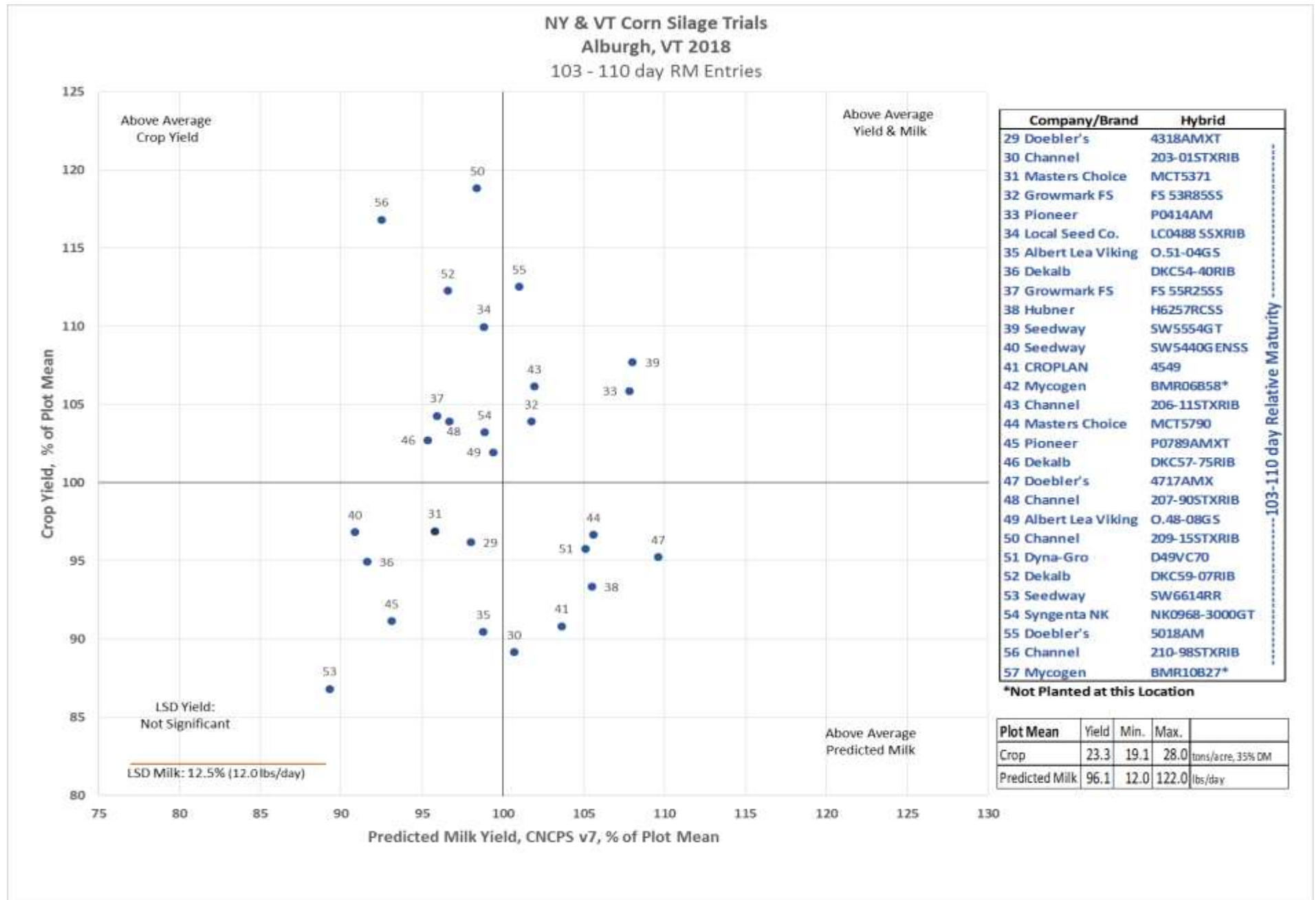


Figure 5b: Madrid, NY 96-110 day RM hybrids, 96-102 day RM entries.

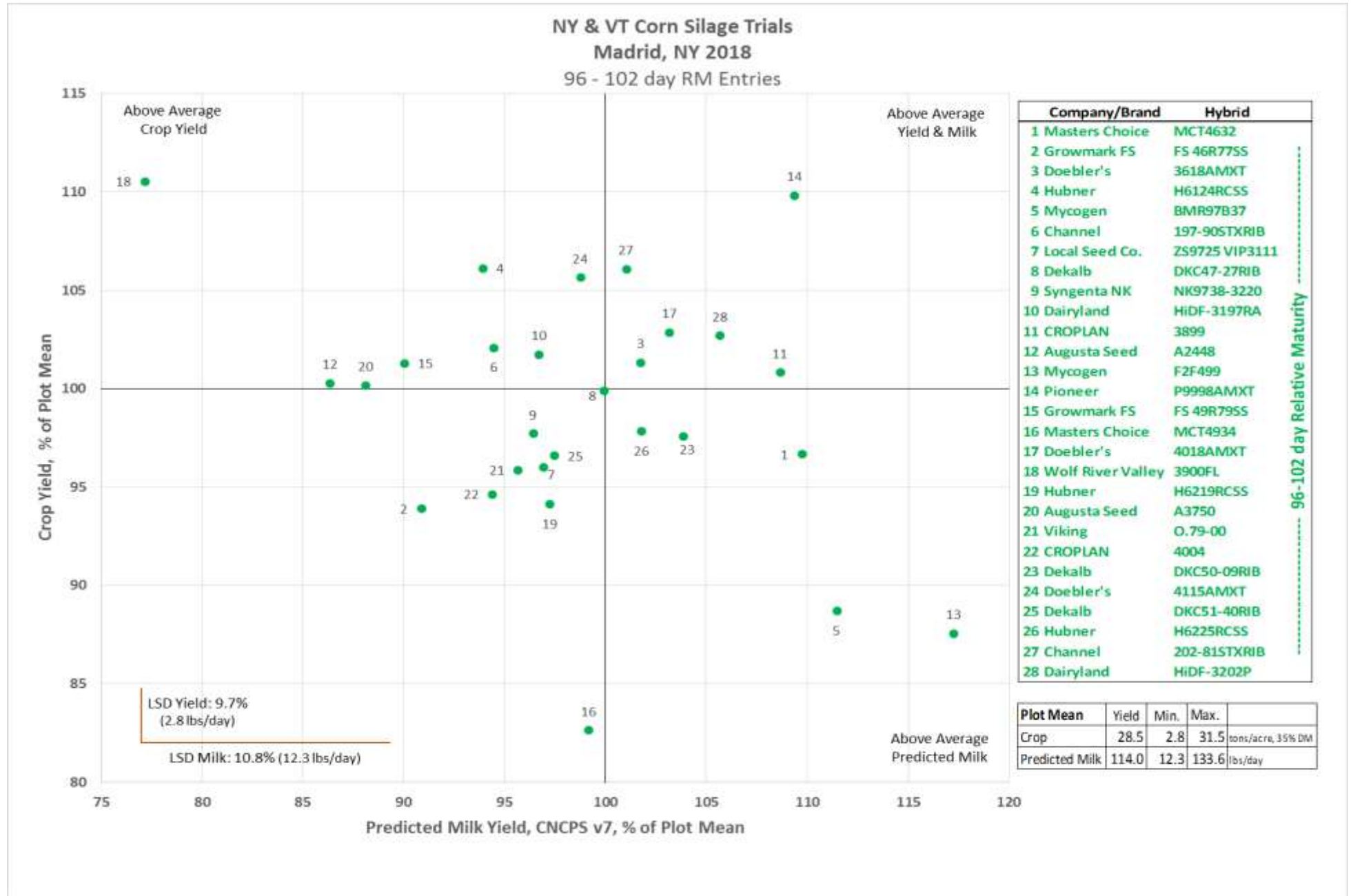


Figure 5b: Madrid, NY 96-110 day RM hybrids, 103-110 day RM entries.

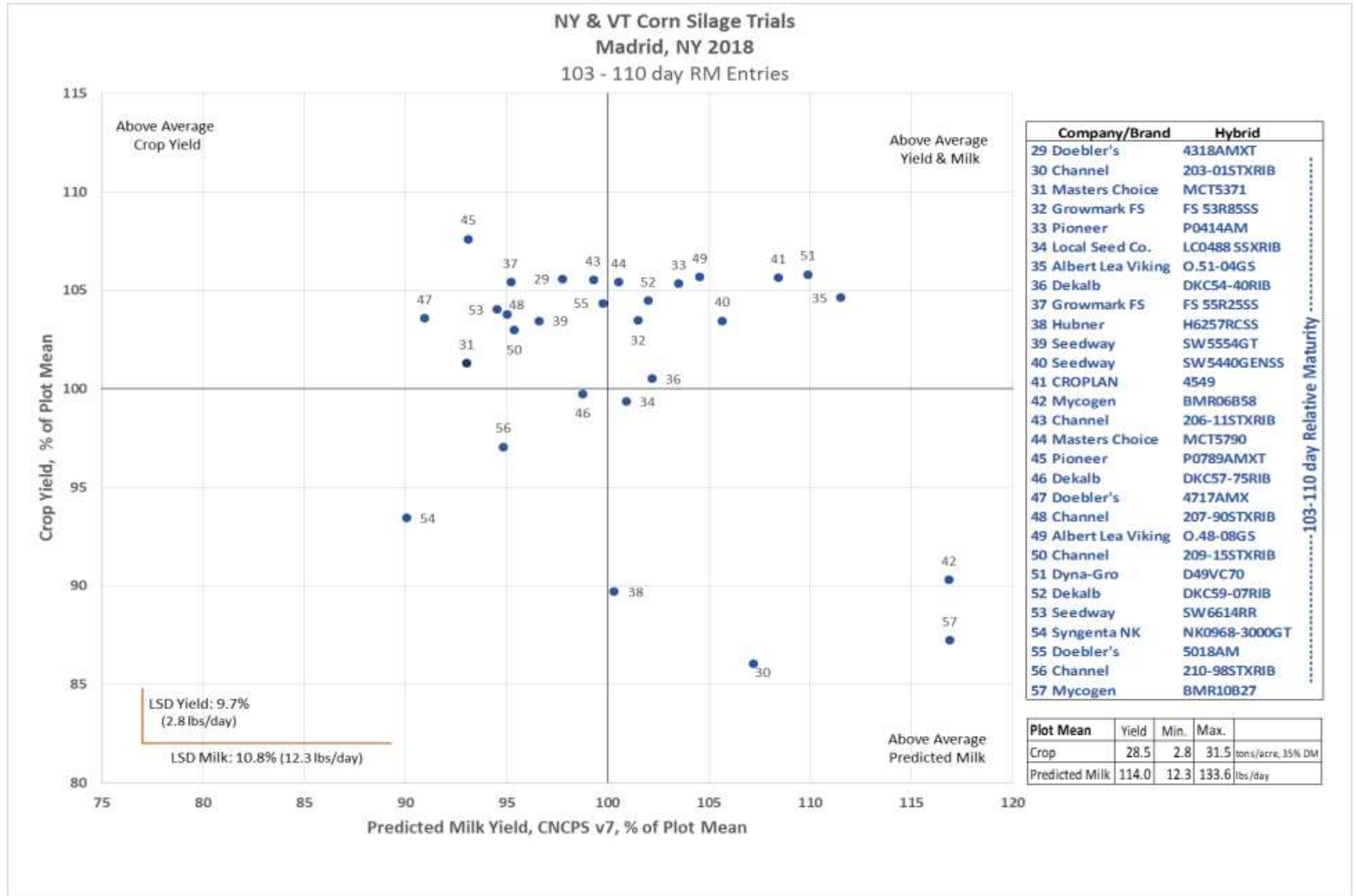


Figure 5c: Aurora, NY 96-110 day RM hybrids, 96-102 day RM entries.

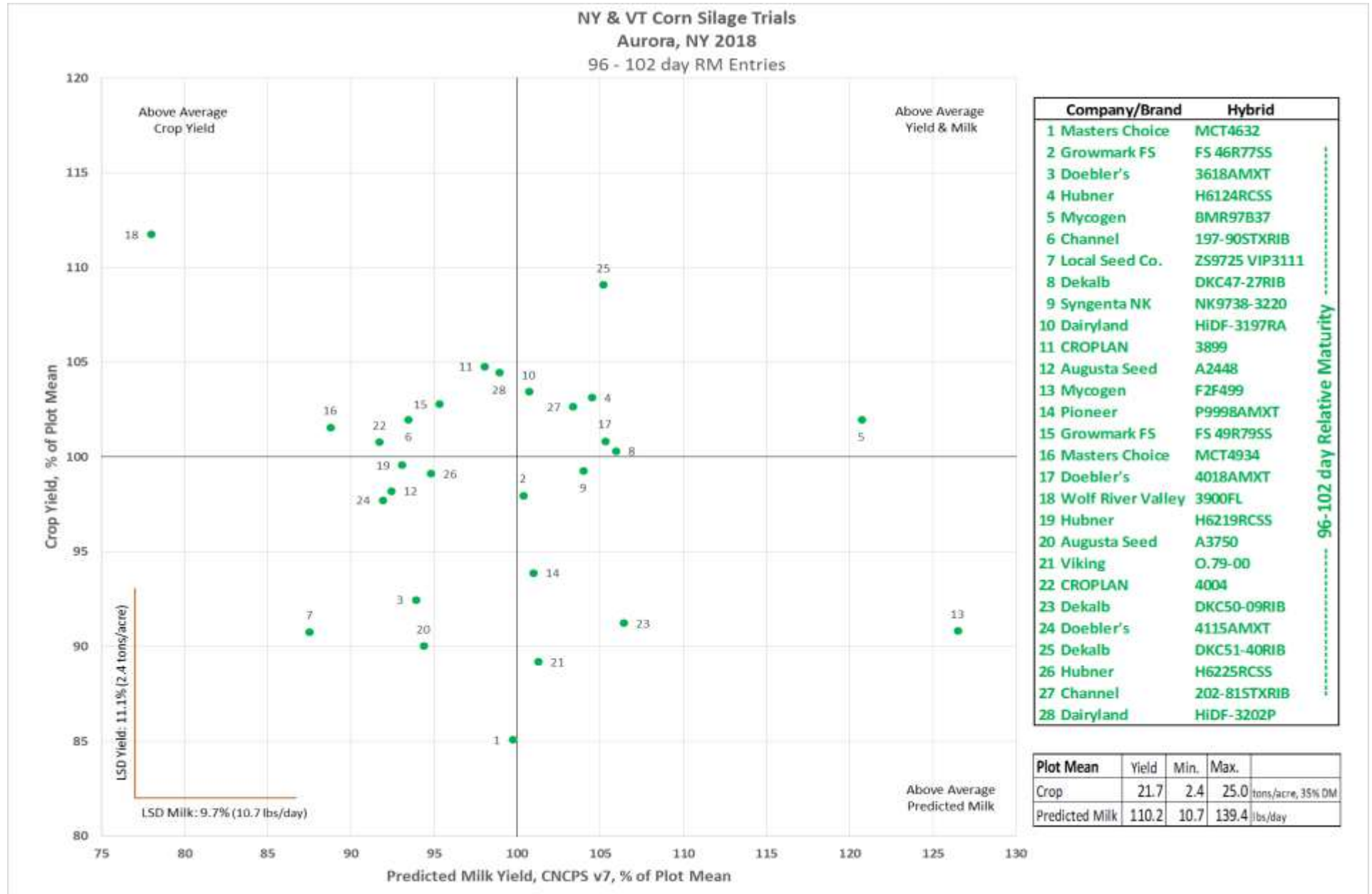


Figure 5c: Aurora, NY 96-110 day RM hybrids, 103-110 day RM entries.

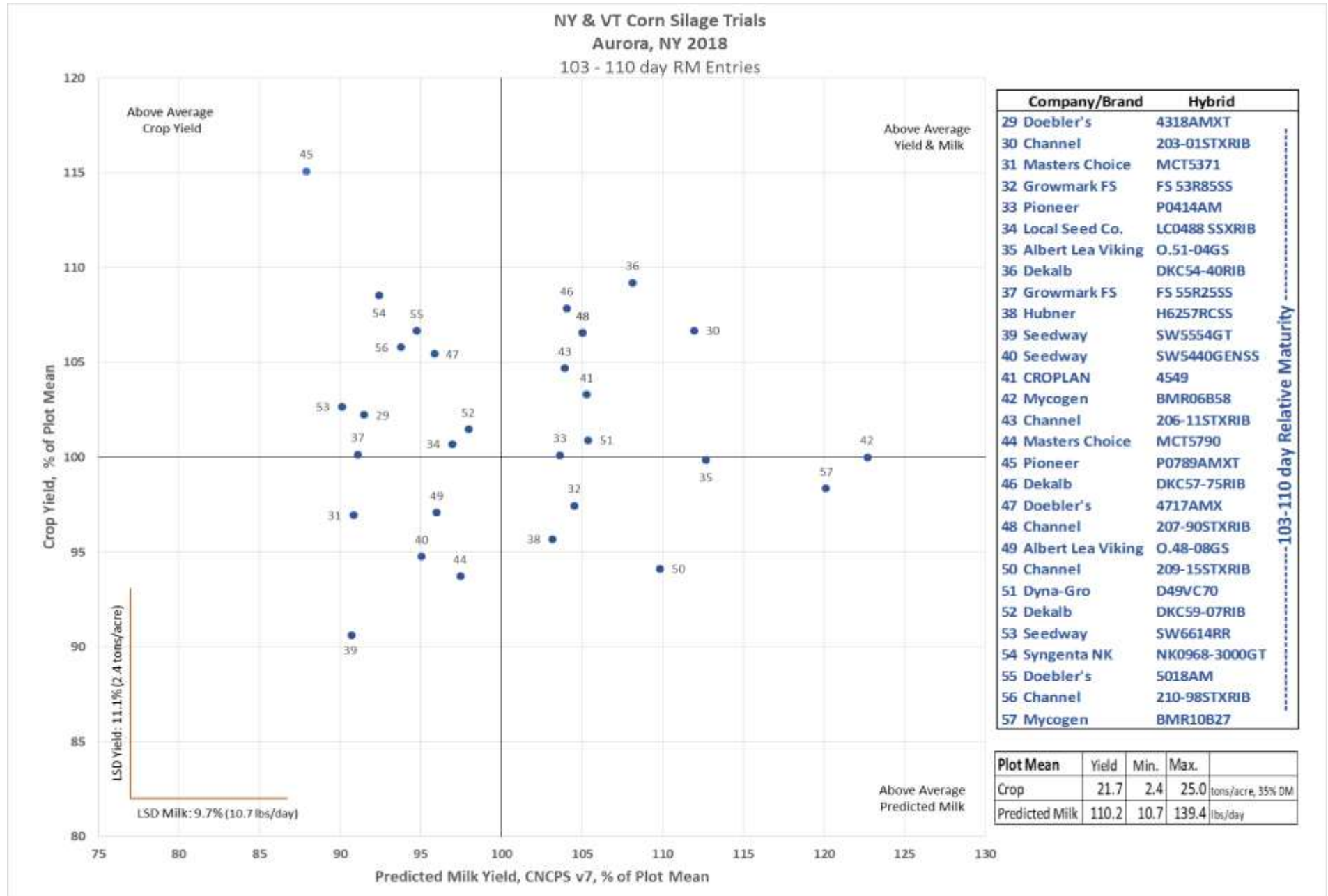


Table 5: Trait key for trait codes in Tables 3 and 4.

| Trait Code | Trait |
|------------|---|
| 1 | Conventional |
| 2 | Roundup Ready (RR), Roundup Ready 2 (RR2) |
| 3 | AcreMax (AM) |
| 4 | AcreMax CRW (AMRW) |
| 5 | AcreMax1 (AM1) |
| 6 | AcreMax Leptra (AML) |
| 7 | AcreMax TRIsect (AMT) |
| 8 | AcreMax Xtra (AMX) |
| 9 | AcreMax Xtreme (AMXT) |
| 10 | Agrisure GT |
| 11 | Agrisure GT/RW |
| 12 | Agrisure 3010 |
| 13 | Agrisure 3010A |
| 14 | Agrisure 3000GT |
| 15 | Agrisure 3011A |
| 16 | Agrisure Viptera 3110 and 3110A |
| 17 | Agrisure Viptera 3111 |
| 18 | Agrisure3120 EZ Refuge |
| 19 | Agrisure3122 EZ Refuge |
| 20 | Agrisure Viptera 3220 EZ Refuge |
| 21 | Agrisure Duracade 5122 EZ Refuge |
| 22 | Agrisure Duracade 5222 EZ Refuge |
| 23 | Herculex I (HXI) |
| 24 | Herculex RW (HXRW) |
| 25 | Herculex XTRA (HXX) |
| 26 | Intrasect (YHR) |
| 27 | Intrasect TRIsect (CYHR) |
| 28 | Intrasect Xtra (YXR) |
| 29 | Intrasect Xtreme (CYXR) |
| 30 | Leptra (VYHR) |
| 31 | Powercore |
| 32 | Powercore Refuge Advanced |
| 33 | QROME (Q) |
| 34 | SmartStax |
| 35 | Smartstax Refuge Advanced |
| 36 | SmartStax RIB Complete |
| 37 | SmartStax Enlist |
| 38 | Trecepta |
| 39 | Trecepta RIB Complete |
| 40 | TRIssect (CHR) |
| 41 | VT Double PRO |
| 42 | VT Double PRO RIB Complete |
| 43 | VT Triple PRO |
| 44 | VT Triple PRO RIB Complete |
| 45 | Yieldgard Corn Borer (YGCB) |
| 46 | Yieldgard Rootworm (YGRW) |
| 47 | Yieldgard VT Triple |
| 48 | Floury Leafy |

Table 6: Trait descriptions

The Handy Bt Trait Table for U.S. Corn Production, updated January 2018

| Trait packages in alphabetical order (acronym) | Bt protein(s) in the trait package | Marketed for control of: | | | | | | | | | | | Resistance to a Bt protein in the trait package has developed in: * | Herbicide trait | | Non-Bt Refuge % (cornbelt) | |
|---|---|--------------------------|---|---|---|---|---|---|---|---|---|---|---|------------------|---|----------------------------|---|
| | | B | C | E | F | S | S | S | T | W | W | C | | GT RR2 | LL | | |
| | | C | E | C | A | B | C | W | A | B | R | W | | | | | |
| AcreMax (AM) | Cry1Ab Cry1F | x | | x | x | x | x | x | | | | | | FAW WBC | x | x | 5% in bag |
| AcreMax CRW (AMRW) | Cry34/35Ab1 | | | | | | | | | | | | x | CRW | x | x | 10% in bag |
| AcreMax1 (AM1) | Cry1F Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW SWCB WBC CRW | x | x | 10% in bag 20% ECB |
| AcreMax Leptra (AML) | Cry1Ab Cry1F Vip3A | x | x | x | x | x | x | x | x | x | | | | | x | x | 5% in bag |
| AcreMax TRIssect (AMT) | Cry1Ab Cry1F mCry3A | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 10% in bag |
| AcreMax Xtra (AMX) | Cry1Ab Cry1F Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 10% in bag |
| AcreMax Xtreme (AMXT) | Cry1Ab Cry1F mCry3A Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 5% in bag |
| Agrisure 3010 and 3010A | Cry1Ab | | | x | | | | x | x | | | | | | x | x | 20% |
| Agrisure 3000GT and 3011A | Cry1Ab mCry3A | | | x | | | | x | x | | | | x | CRW | x | x | 20% |
| Agrisure Viptera 3110 | Cry1Ab Vip3A | x | x | x | x | x | x | x | x | x | | | | | x | x | 20% |
| Agrisure Viptera 3111 | Cry1Ab Vip3A mCry3A | x | x | x | x | x | x | x | x | x | x | | | CRW | x | x | 20% |
| Agrisure 3120 EZ Refuge | Cry1Ab Cry1F | x | | x | x | x | x | x | | | | | | FAW WBC | Depends on hybrid; see bag for code EZ0 (GT) or EZ1 (GT LL) | | 5% in bag |
| Agrisure 3122 EZ Refuge | Cry1Ab Cry1F mCry3A Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | | | 5% in bag |
| Agrisure Viptera 3220 EZ Refuge | Cry1Ab Cry1F Vip3A | x | x | x | x | x | x | x | x | x | | | | | | | 5% in bag |
| Agrisure Duracade 5122 EZ Refuge | Cry1Ab Cry1F mCry3A eCry3.1Ab | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | | | 5% in bag |
| Agrisure Duracade 5222 EZ Refuge | Cry1Ab Cry1F Vip3A mCry3A eCry3.1Ab | x | x | x | x | x | x | x | x | x | | | x | CRW | | | 5% in bag |
| Herculex I (HXI) | Cry1F | x | | x | x | x | x | x | | | | | | FAW SWCB WBC | x | x | 20% |
| Herculex RW (HXRW) | Cry34/35Ab1 | | | | | | | | | | | | x | CRW | x | x | 20% |
| Herculex XTRA (HXX) | Cry1F Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW SWCB WBC CRW | x | x | 20% |
| Intrasect (YHR) | Cry1Ab Cry1F | x | | x | x | x | x | x | | | | | | FAW WBC | x | x | 5% |
| Intrasect TRIssect (CYHR) | Cry1Ab Cry1F mCry3A | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 20% |
| Intrasect Xtra (YXR) | Cry1Ab Cry1F Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 20% |
| Intrasect Xtreme (CYXR) | Cry1Ab Cry1F mCry3A Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 5% |
| Leptra (VYHR) | Cry1Ab Cry1F Vip3A | x | x | x | x | x | x | x | x | x | | | | | x | x | 5% |
| Powercore ^a Powercore Refuge Advanced ^b | Cry1A.105 Cry2Ab2 Cry1F | x | x | x | x | x | x | x | | | | | | CEW WBC | x | x | ^a 5% ^b 5% in bag |
| QROME (Q) | Cry1Ab Cry1F mCry3A Cry34/35Ab1 | x | | x | x | x | x | x | | | | | x | FAW WBC CRW | x | x | 5% in bag |
| SmartStax ^a Smartstax Refuge Advanced ^b SmartStax RIB Complete ^b | Cry1A.105 Cry2Ab2 Cry1F Cry3Bb1 Cry34/35Ab1 | x | x | x | x | x | x | x | | | | | x | CEW WBC CRW | x | x | ^a 5% ^b 5% in bag |
| Trecepta ^a Trecepta RIB Complete ^b | Cry1A.105 Cry2Ab2 Vip3A | x | x | x | x | x | x | x | x | x | | | | | x | | ^a 5% ^b 5% in bag |
| TRIssect (CHR) | Cry1F mCry3A | x | | x | x | x | x | x | | | | | x | FAW SWCB WBC CRW | x | x | 20% |
| VT Double PRO ^a VT Double PRO RIB Complete ^b | Cry1A.105 Cry2Ab2 | | x | x | x | x | x | x | | | | | | CEW | x | | ^a 5% ^b 5% in bag |
| VT Triple PRO ^c VT Triple PRO RIB Complete ^d | Cry1A.105 Cry2Ab2 Cry3Bb1 | | x | x | x | x | x | x | | | | | x | CEW CRW | x | | ^c 20% ^d 10% in bag |
| Yieldgard Corn Borer (YGCB) | Cry1Ab | | | x | | | | x | x | | | | | | x | | 20% |
| Yieldgard Rootworm (YGRW) | Cry3Bb1 | | | | | | | | | | | | x | CRW | x | | 20% |
| Yieldgard VT Triple | Cry1Ab Cry3Bb1 | | | x | | | | x | x | | | | x | CRW | x | | 20% |

*Check with local extension educators and seed dealers to determine the status of Bt resistance in your particular region.

Source: Michigan State University http://msue.anr.msu.edu/news/handy_bt_trait_table