2019
Penn State/PDMP Corn Silage
Hybrid Performance Trial
Results

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Produced in cooperation with the Professional Dairy Managers of Pennsylvania (PDMP).

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**Penn State/PDMP Corn Silage Hybrid Testing Program 2019**

**Early maturity (85-103 day) RM silage hybrids**

**Combined Hybrid performance across Bradford and Centre County**

Notes: The preplant nitrogen application had diminished by grain fill time at Rock Springs and yields were a little lower than desired. There was moderate bear damage at Lance Shedden’s trial. Fertility and rainfall were adequate this year at both locations. The Cambria location was excluded from the combined data due to variability between reps.

**Cooperators:** Lance Shedden and PSU Agronomy Farm

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| Brand | Hybrid | Dry Matter % | Yield (Tons/Acre) | CP % | NDF % | Lignin % | Starch % | Ash % | Fat | NEL | 12hr | 30hr | 120hr | 240hr |
|-------|--------|--------------|-----------------|------|-------|---------|---------|------|-----|-----|------|------|-------|-------|------|
| Masters Choice | MCT3891 | 4 | 41.2 | 18.1 | 6.6 | 32.8 | 2.5 | 44.0 | 2.7 | 0.79 | 30.7 | 57.6 | 64.9 | 67.9 | 11.4 | 29,925 | 88 |
| Local Seeds | LC9888 VT2PRB | 31 | 40.4 | 18.8 | 6.6 | 32.3 | 2.5 | 44.0 | 2.7 | 0.78 | 29.9 | 56.8 | 64.6 | 67.3 | 10.6 | 33,000 | 98 |
| Hubner | H6124RCS | 34 | 40.4 | 18.0 | 6.6 | 33.7 | 2.5 | 42.5 | 2.7 | 0.79 | 30.6 | 57.3 | 66.2 | 69.1 | 10.5 | 33,750 | 96 |
| Dekalb | DCKCS-07RIB | 34 | 40.3 | 18.4 | 7.2 | 31.8 | 2.3 | 44.0 | 2.7 | 0.80 | 30.7 | 58.2 | 67.4 | 70.3 | 9.4 | 33,610 | 96 |
| MCT3891 | 34 | 38.0 | 19.6 | 6.2 | 34.5 | 2.6 | 40.5 | 2.7 | 0.79 | 30.8 | 57.7 | 66.3 | 69.2 | 10.3 | 33,000 | 99 |
| Channel | 199-115TXRIB | 34 | 39.5 | 21.4 | 6.4 | 33.4 | 2.5 | 42.8 | 2.8 | 0.79 | 31.5 | 58.1 | 67.0 | 69.8 | 10.4 | 33,500 | 96 |
| Micogenc | TMF2Q419 | 34 | 39.7 | 18.6 | 6.6 | 34.9 | 2.6 | 41.0 | 2.9 | 0.79 | 33.5 | 58.5 | 68.3 | 71.2 | 10.0 | 33,560 | 96 |
| Hubner | H6124RCS | 34 | 37.8 | 20.6 | 6.9 | 34.8 | 2.6 | 40.6 | 2.9 | 0.78 | 29.5 | 57.0 | 65.7 | 69.3 | 10.8 | 33,167 | 98 |
| Local Seeds | FS 5500X RIB | 34 | 37.8 | 19.8 | 6.8 | 33.3 | 2.4 | 41.5 | 2.9 | 0.79 | 30.7 | 58.0 | 67.0 | 69.9 | 10.1 | 33,172 | 100 |
| Seed Consultants, Inc. | 3S978AMX | 34 | 37.7 | 20.3 | 6.8 | 32.5 | 2.6 | 43.1 | 2.9 | 0.79 | 28.6 | 55.3 | 63.7 | 66.4 | 9.9 | 33,750 | 97 |
| Agri-Gold | A6327STX | 34 | 37.5 | 20.4 | 6.4 | 34.3 | 2.5 | 40.9 | 2.6 | 0.79 | 32.0 | 58.5 | 67.6 | 70.5 | 10.2 | 33,500 | 102 |
| LG Seeds | LGS1C48VT2PRO | 31 | 37.2 | 20.4 | 6.5 | 34.2 | 2.4 | 40.8 | 2.6 | 0.79 | 32.6 | 59.4 | 68.4 | 71.3 | 9.8 | 33,417 | 101 |
| Pioneer | P9998AMX | 27 | 36.5 | 17.5 | 6.7 | 33.4 | 2.7 | 41.8 | 3.0 | 0.79 | 29.7 | 57.3 | 65.9 | 68.7 | 10.5 | 32,917 | 98 |
| Agri-Gold | A6267STX | 34 | 35.8 | 21.3 | 6.6 | 35.4 | 2.7 | 38.8 | 3.0 | 0.78 | 29.6 | 57.2 | 65.4 | 68.2 | 11.3 | 33,417 | 102 |
| Dekalb | DCKCS-07RIB | 34 | 35.6 | 18.4 | 6.6 | 34.5 | 2.5 | 39.6 | 2.8 | 0.79 | 32.2 | 58.3 | 66.5 | 69.3 | 10.3 | 33,750 | 103 |
| Micogenc | TMF01R87 | 34 | 34.9 | 21.2 | 6.3 | 39.6 | 2.7 | 34.6 | 2.8 | 0.77 | 31.6 | 58.1 | 66.7 | 69.6 | 12.1 | 33,667 | 101 |
| Pioneer | P0242AMX | 27 | 34.8 | 17.5 | 6.4 | 34.3 | 2.4 | 40.8 | 3.0 | 0.78 | 30.8 | 58.2 | 68.6 | 71.5 | 9.8 | 30,583 | 102 |
| Blue River Organic Seed | 48G3 | Conv. | 34.8 | 18.7 | 6.5 | 36.8 | 2.6 | 37.2 | 3.1 | 0.77 | 30.9 | 57.6 | 67.1 | 70.0 | 11.1 | 33,417 | 102 |
| Seed Consultants, Inc. | SCS1018YHR | 16 | 34.6 | 21.3 | 6.8 | 33.8 | 2.2 | 41.0 | 2.9 | 0.79 | 33.8 | 61.1 | 71.5 | 74.6 | 8.7 | 33,500 | 101 |
| Seed Consultants, Inc. | EX-SC 105YHR | 21 | 32.6 | 19.5 | 7.0 | 35.2 | 2.3 | 37.8 | 3.1 | 0.79 | 32.3 | 60.4 | 69.4 | 72.4 | 9.7 | 32,917 | 104 |

**95-103 day means**: 37.5 | 19.5 | 6.6 | 34.2 | 2.5 | 41.0 | 2.9 | 0.79 | 31.1 | 58.0 | 66.9 | 69.8 | 10.3 | 33,169

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**Overall Mean**: 38.1 | 19.1 | 6.7 | 34.1 | 2.5 | 41.3 | 2.9 | 0.79 | 30.9 | 57.8 | 66.9 | 69.6 | 10.4 | 33,112

**LSD(0.1)**: 2.5 | 2.7 | 0.6 | 2.8 | 0.3 | 3.9 | 0.3 | 0.02 | 1.5 | 1.8 | 2.1 | 2.2 | 1.4 | 1.510

**CV%**: 4.9 | 10.5 | 6.1 | 6.1 | 7.6 | 7.0 | 8.2 | 6.2 | 1.74 | 3.5 | 2.3 | 2.3 | 2.4 | 10.2 | 3

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*See tab "Trait Key" for individual trait designation.

**Tables are sorted by dry matter. Avoid making comparisons with hybrids that differ significantly in dry matter.

***Silage yields are expressed on a 35 percent DM basis; all other parameters are expressed on a dry matter basis. CP=crude protein, NDF=neutral detergent fiber, NEL=net energy for lactation, and NDF4=neutral detergent fiber digestibility.

1 - NS = Not Significant , 2 Fat = Total Fatty Acids

Prepared by Jessica Williamson, Alan Cook, and James Breining (Department of Plant Science).
<table>
<thead>
<tr>
<th>Table Key #</th>
<th>Trait Family Product</th>
<th>Bt protein(s)</th>
<th>Marketed for control of:</th>
<th>Resistance to a Bt protein in the trait package has developed in:</th>
<th>Herbicide tolerant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conv.</td>
<td>Conventional</td>
<td>None</td>
<td>None</td>
<td>---</td>
<td>No</td>
</tr>
<tr>
<td>RR2</td>
<td>Roundup Ready 2</td>
<td>None</td>
<td>None</td>
<td>---</td>
<td>GT</td>
</tr>
</tbody>
</table>

**Agrisure**

1. Agrisure GT  
   - Bt protein(s): None  
   - Marketed for control of: ECB, SWCB  
   - Herbicide tolerant?: No

2. Agrisure 3010 & 3010A  
   - Bt protein(s): Cry1Ab  
   - Marketed for control of: ECB, SWCB  
   - Herbicide tolerant?: GT, LL

3. Agrisure 3000 GT, 3011A  
   - Bt protein(s): Cry1Ab, mCry3A  
   - Marketed for control of: ECB, SWCB, RW  
   - Herbicide tolerant?: GT, LL

4. Agrisure Viptera 3110  
   - Bt protein(s): Cry1Ab, Vip3A  
   - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
   - Herbicide tolerant?: --

5. Agrisure Viptera 3111  
   - Bt protein(s): Cry1Ab, mCry3A, Vip3A  
   - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC, RW  
   - Herbicide tolerant?: GT, LL

6. Agrisure 3120 E-Z Refuge  
   - Bt protein(s): Cry1Ab, Cry1F  
   - Marketed for control of: BCW, ECB, FAW, SB, SWCB  
   - Herbicide tolerant?: FAW, WBC

7. Agrisure 3122 E-Z Refuge  
   - Bt protein(s): Cry1Ab, Cry1F, mCry3A, Cry34/35Ab1  
   - Marketed for control of: BCW, ECB, FAW, SB, SWCB, RW  
   - Herbicide tolerant?: FAW, WBC, RW

8. Agrisure Viptera 3220 E-Z Refuge  
   - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
   - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
   - Herbicide tolerant?: --

9. Agrisure Viptera 3330 E-Z Refuge  
   - Bt protein(s): CryAb, Vip3A, Cry1A.105+CryAb2  
   - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
   - Herbicide tolerant?: --

10. Agrisure Duracade 5122 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, mCry3A, eCry3.1Ab  
    - Marketed for control of: BCW, ECB, FAW, SB, SWCB, RW, FAW, WBC  
    - Herbicide tolerant?: --

11. Agrisure Viptera 3111  
    - Bt protein(s): Cry1Ab, Vip3A, mCry3A, eCry3.1Ab  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC, RW  
    - Herbicide tolerant?: GT, LL

12. Agrisure Viptera 3110  
    - Bt protein(s): Cry1Ab, Vip3A, mCry3A, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

13. Agrisure Viptera 3111  
    - Bt protein(s): Cry1Ab, Vip3A, mCry3A, eCry3.1Ab  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC, RW  
    - Herbicide tolerant?: GT, LL

14. Agrisure Viptera 3220 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: --

15. Agrisure Viptera 3330 E-Z Refuge  
    - Bt protein(s): CryAb, Vip3A, Cry1A.105+CryAb2  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: --

16. Agrisure Duracade 5122 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

17. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A, mCry3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

18. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A, mCry3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

19. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A, mCry3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

20. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

21. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

22. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

23. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

24. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

25. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

26. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

27. Agrisure Duracade 5222 E-Z Refuge  
    - Bt protein(s): Cry1Ab, Cry1F, Vip3A  
    - Marketed for control of: BCW, CEW, ECB, FAW, SB, SWCB, TAW, WBC  
    - Herbicide tolerant?: GT, LL

28. YieldGard CB (YGCB)  
    - Bt protein(s): Cry1Ab  
    - Marketed for control of: ECB SWCB  
    - Herbicide tolerant?: --

29. YieldGard VT Rootworm (YGRW)  
    - Bt protein(s): Cry3Bb1  
    - Marketed for control of: ECB SWCB  
    - Herbicide tolerant?: RW

30. YieldGard VT Triple  
    - Bt protein(s): Cry1Ab, Cry3Bb1  
    - Marketed for control of: ECB SWCB  
    - Herbicide tolerant?: RW

31. VT Double PRO  
    - Bt protein(s): Cry1A.105, Cry2Ab2  
    - Marketed for control of: ECB FAW SB SWCB  
    - Herbicide tolerant?: CEW

32. VT Triple PRO  
    - Bt protein(s): Cry1A.105, Cry2Ab2, Cry3Bb1  
    - Marketed for control of: ECB FAW SB SWCB  
    - Herbicide tolerant?: CEW RW

33. Trecepta (or RIB complete)  
    - Bt protein(s): Cry1A.105, Cry2Ab2, Vip3A  
    - Marketed for control of: ECB FAW SB SWCB  
    - Herbicide tolerant?: --

**Others**

34. Smartstax  
    - Bt protein(s): Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1  
    - Marketed for control of: ECB FAW SB SWCB  
    - Herbicide tolerant?: CEW WBC RW, LL

35. Powercore (or Refuge Advanced)  
    - Bt protein(s): Cry1A.105, Cry2Ab2, Cry1F  
    - Marketed for control of: ECB FAW SB SWCB  
    - Herbicide tolerant?: CEW WBC, LL

36. QROME (Q)  
    - Bt protein(s): Cry1Ab, Cry1F, mCry3A, Cry34/35Ab1  
    - Marketed for control of: ECB FAW SB SWCB  
    - Herbicide tolerant?: FAW WBC RW, LL

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**Source:**  
**Very Early (85-94 day) RM Silage Hybrids**

**Yield and Starch (NIR %)**

*How to use this chart: This chart can be used to determine yield (tons/ac) and Starch (NIR%) of corn silage hybrids. The horizontal line represents the Starch (NIR%) mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to Starch (NIR%). The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.*

1. MCT3881
2. FS 4095X RIB
3. PZ977AMXT
4. H6038RCS5
5. AV4994 AM
6. LC9278 5SX81B
7. LG44C27VT2R10
8. 192-985XR81B

**Lower Yield & Higher Starch**

**Early (95-103 day) RM Silage Hybrids**

**Yield and Starch (NIR %)**

*How to use this chart: This chart can be used to determine yield (tons/ac) and Starch (NIR%) of corn silage hybrids. The horizontal line represents the Starch (NIR%) mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to Starch (NIR%). The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.*

1. MCT4572
2. L95088 VT2 PRIB
3. H6126RCSS
4. 6K4C45-07RIB
5. DK47-55RIB
6. TMF2G0419
7. 139-11STXR81B
8. 5990RSX
9. WH002 GENSS (RIS)
10. H6173RCSS
11. FS 5909X RIB
12. Z56976 5Z30CLZ
13. SCC 978AMX7
14. A682-075TX
15. LGS1C48VT2PRO
16. P9998AMXT
17. A52075LTRX81B
18. D4K3-27RIB
19. 78AF01887
20. PD242AMXT
21. 148G3S
22. SCC 1038YHR
23. EX-SC 105YHR

**Lower Yield & Higher Starch**
**Very Early (85-94 day) RM Silage Hybrids**

Yield and NDFD30hr(%)%

**Legend**
1. MCT5891
2. FS4095X RIB
3. PG977AMXT
4. H0031RRCS
5. A04894 AM
6. LC927855RIB
7. LG44C217Y2RIB
8. 192-981TXRIB

*How to use this chart: This chart can be used to determine yield (tons/acre) and NDFD30(%) of corn silage hybrids. The horizontal line represents NDFD30 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects yield to NDFD30. The number beside the data point can be referenced to the hybrid name located within the legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.*

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**Early (95-108 day) RM Silage Hybrids**

Yield and NDFD30hr(%)%

**Legend**
1. MCT4072
2. LC1888 Y72PRIB
3. HS124RCSS
4. DKC65-07RIB
5. DKC47-55RIB
6. TMF20419
7. 199-131TXRIB
8. 5990RIB
9. 5X4000 GENSS (RIB)
10. H0179RCCS
11. FS 5090X RIB
12. ZS9796 3220EZ
13. 5C 978AMXT
14. A652-07STX
15. G5140RVT2PRO
16. PG999AMXT
17. A62675TXRIB
18. DKC33-27RIB
19. TMF018R7
20. PMX421AMXT
21. 48635
22. 5C 101BYHR
23. EX-5C 105YHR

*How to use this chart: This chart can be used to determine yield (tons/acre) and NDFD30(%) of corn silage hybrids. The horizontal line represents NDFD30 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects yield to NDFD30. The number beside the data point can be referenced to the hybrid name located within the legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.*
**Very Early (85-94 day) RM Silage Hybrids Yield and uNDF240hr(\%DM)**

- Higher Yield & Lower uNDF240
- Lower Yield & Higher uNDF240

LSD = 1.4

* How to use this chart: This chart can be used to determine yield (tons/ac) and uNDF240hr(\%DM) of corn silage hybrids. The horizontal line represents the uNDF240 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to uNDF240. The number beside the data point can be referenced to the hybrid name located within the legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.

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**Early (95-103 day) RM Silage Hybrids Yield and uNDF240hr(\%DM)**

- Higher Yield & Lower uNDF240
- Lower Yield & Higher uNDF240

LSD = 1.43

* How to use this chart: This chart can be used to determine yield (tons/ac) and uNDF240hr(\%DM) of corn silage hybrids. The horizontal line represents the uNDF240 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to uNDF240. The number beside the data point can be referenced to the hybrid name located within the legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.