

SMBSC OBSERVATIONS FOR 2022 VARIETIES

This document is a summary of field observations over the past few seasons, as well as Official Trial data, SMBSC Strip Trial data, and seed company information on the varieties approved for 2022. This summary was compiled to provide another tool to help your variety selection for the 2022 crop.

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CY22 Seed Selection Matrix

<u>Variety</u>	<u>% Revenue per Ton*</u>	<u>% Revenue per Acre*</u>	<u>Aphanomyces Root Rot</u>	<u>Cercospora</u>	<u>Rhizoctonia Root Rot</u>	<u>Rhizomania</u>	<u>Root Aphid</u>	<u>Fusarium</u>
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Fully Approved Varieties

Crystal M837	102.8	102.0	4.6	4.0	4.6			
SV 881	100.0	100.0	4.1	4.1	4.2			
SV 883	98.4	98.9	4.4	4.3	3.8			
SV RR862	98.3	98.3	4.4	3.6	3.8			
SV RR863	100.5	100.7	4.2	4.1	3.9			

Test Market Varieties

Beta 9044	108.5	106.6	4.6	4.2	4.0			
Beta 9088	106.9	105.8	4.5	4.2	4.0			
Crystal M028	105.4	104.9	4.3	4.0	4.1			
Crystal M089	95.9	101.6	4.3	2.6	3.7			
Hilleshog 2379	98.9	98.1	4.2	4.3	4.2			

Cercospora and Rhizoctonia Specialty Varieties

Beta 9952	95.3	92.2	4.2	2.8	3.3			
Beta 9986	93.7	100.4	4.4	2.3	4.1			
Beta 9098	101.1	105.5	4.9	2.5	4.6			
Crystal M951	94.6	101.4	4.7	2.6	4.4			
Crystal M977	97.3	106.0	4.1	4.4	3.7			
Crystal M002	99.5	103.8	4.5	2.0	4.4			
Hilleshog 2219	101.1	93.9	4.9	4.2	3.2			
Hilleshog 2327	98.6	100.9	4.1	4.1	3.9			
SV 894	97.8	98.8	4.6	4.4	3.9			

Dark Green = Better than average
Lime Green= Slightly above average
Yellow = Near Average
Orange=Slightly below average
Red = Weaker than average

*Calculations are done by averaging both revenue metrics of the 5 fully approved varieties and calculating the percent of the mean for each variety against the mean of the Fully Approved. Calculations were done using the Oct. 22, 2021 payment final for the 2020 crop.

All data is from **TWO YEARS of testing: 2020 and 2021.**

2022 FULL APPROVAL VARIETIES

Crystal M837:

Crystal M837 maintains Full Approval again in 2022 after being Fully Approved for 2021. M837 was planted on about 8,100 acres in 2021. M837 has above average sugar per ton and near average sugar per acre. M837 has an average CLS rating. M837 has weaker than average tolerance to Aphanomyces. Rhizoctonia ratings are weaker than average. M837 has had variable results in the Agriculturalists Strip Trials, at times being a strong performer and at times performing below average. An in-furrow or post-emerge fungicide application for Rhizoctonia suppression would be recommended with M837. ACH reports that M837 has tolerance to Fusarium and is very tolerant to root aphid.

SV RR862 (Rhizoctonia Specialty):

SV RR862 maintains Full Approval and Rhizoctonia Specialty Approval for 2022, the same approval it had in 2021. RR862 has near average sugar per ton and sugar per acre. RR862 has CLS and Rhizoctonia scores that are better than the average of the Fully Approved varieties. RR862 has weaker than average ratings for Aphanomyces.

SV RR863 (Rhizoctonia Specialty):

SV RR863 maintains Full Approval in 2022 after being planted on 21,000 acres in 2021 in its first year of full approval. RR863 has near average sugar per ton and above average sugar per acre. RR863 has near average CLS and Aphanomyces scores. RR863 has better than average Rhizoctonia scores.

SV 881 (Rhizoctonia Specialty):

SV 881 maintains Full Approval again in 2022 as well as being named a Rhizoctonia specialty variety. 881 was planted on 200 acres in 2021. Official Trial three year yield data show SV 881 to be near average sugar per ton and sugar per acre compared to the mean of the Fully Approved varieties. 881 has average CLS, Rhizoctonia, and Aphanomyces scores.

SV 883 (Rhizoctonia Specialty):

SV 883 maintains Full Approval and Rhizoctonia Specialty Approval for 2022 after being planted on approximately 1,300 acres in 2021. SV 883 has near average sugar per ton and sugar per acre. CLS and Aphanomyces ratings are near average with SV 883, while 883 has better than average ratings on Rhizoctonia root rot.

2022 TEST MARKET VARIETIES

Test Market Varieties usually possess one or two years of trial data and either have not been field-tested or require further observation. Varieties that have a Test Market designation may be planted on up to 10% of the Cooperative acreage. Test Market Status allows shareholders to get a look at new varieties on a limited acre basis as none of these varieties have been planted commercially in the SMBSC growing area.

Beta 9044:

Beta 9044 makes approval for test market for CY22 after being tested in the SMBSC trials for two seasons. 9044 has above average sugar per ton and sugar per acre, in 2 year data. Of all the varieties approved for sale, 9044 has the highest sugar per ton available on 2 year data. 9044 has shown slightly weaker than average tolerance to CLS and near average tolerance to Rhizoctonia in two years of testing. The Aphanomyces score for 9044 shows to be weaker than average. Two year data would indicate that 9044 is on track to potentially be fully approved for CY23.

Beta 9088:

Beta 9088 makes approval for test market for CY22 after being tested in the SMBSC trials for two seasons. 9088 has above average sugar per ton and sugar per acre, for 2 year data. 9088 has shown slightly weaker than average tolerance to CLS and average tolerance to Rhizoctonia in two years of testing. The Aphanomyces score for 9088 shows to be weaker than average. Two year data would indicate that 9088 is on track to potentially be fully approved for CY23.

Crystal M028:

Crystal M028 makes approval for test market for CY22 after being tested in the SMBSC trials for two seasons. M028 has above average sugar per ton and sugar per acre, in 2 year data. M028 has shown near average tolerance to APH, CLS, and RHC in two years of testing. Two year data would indicate that M028 is on track to potentially be fully approved for CY23.

Crystal M089:

Crystal M089 makes approval for test market for CY22 after being tested in the SMBSC trials for two seasons. M089 has below average sugar per ton and above average sugar per acre, in 2 year data. M089 has shown near average tolerance to APH, but better than average RHC tolerance and scores near the best CLS varieties available on two years of testing.

Hilleshog 2379:

Hilleshog 2379 makes approval for test market for CY22 after being tested in the SMBSC trials for two seasons. 2379 has near average sugar per ton and slightly below average sugar per acre, in 2 year data. 2379 has shown near average tolerance to APH, CLS, and RHC in two years of testing.

2022 Specialty Approved Varieties:

These varieties do not make the requirements for Full Approval; however, Aphanomyces, Rhizoctonia, or Cercospora nursery testing and field observations indicate these varieties possess better than average tolerance to these diseases.

Beta 9952 (Cercospora and Rhizoctonia Specialty):

Beta 9952 maintains CLS Specialty and gains RHC Specialty approval for CY22. 9952 has strong defensive characteristics, scoring very well in RHC and CLS and near average on APH. While better than average on CLS, SMBSC data has shown that the traditional spray program gives 9952 the best chance for success and to not treat 9952 like an HCT variety. While 9952 is very strong against CLS and RHC, it scores below average on sugar per ton and has poor sugar per acre in three years of testing. However, it should be recognized that in fields with high disease pressure, it is possible that 9952 is the best variety available. Full analysis of the agronomic setting should be done before passing this variety off as an underperformer. Additionally, 9952 has been observed to drop leaves later in the growing season. Betaseed reports that Fusarium tolerance for 9952 is moderate but that it is very tolerant to root aphid. 9952 was planted on about 1,200 acres in 2021.

Beta 9986 (Cercospora Specialty):

Beta 9986 maintains CLS Specialty approval for CY22. In three years of testing 9986 has had below average sugar per ton and above average sugar per acre. It is important to point out that 9986 ties for the lowest sugar per ton of varieties for sale in CY22. 9986 has near average Aphanomyces and Rhizoctonia scores, but a better than average CLS score in three years of testing. Betaseed reports that 9986 has tolerance to Fusarium and has very good tolerance to root aphid. 9986 was planted on 9,600 acres in 2021.

Beta 9098 (Cercospora Specialty):

Beta 9098 makes Cercospora specialty approval in CY22. 9098 was approved as a Test Market Variety in 2021 and was planted on 5,200 acres. Beta 9098 was near average in sugar per ton and above average in sugar per acre in two years of testing. 9098 scores better on CLS than our Fully Approved varieties. In two years of testing, 9098 scored weaker than average on Aphanomyces, so caution should be exercised when placing this variety and our Agronomic Best Management Practices should be followed to allow 9098 to be a success. Rhizoctonia scores are weaker than average. An in-furrow or post-emerge fungicide application for Rhizoctonia suppression would be recommended with 9098. Betaseed reports that 9098 is very tolerant to Fusarium and very tolerant to root aphid.

Crystal M977 (Rhizoctonia Specialty):

Crystal M977 has been tested for three years in the SMBSC Official Trials in 2021. For CY22, M977 was given Rhizoctonia Specialty Approval. M977 planted 13,000 acres in CY21. In three year data, M977 appears to perform near average on sugar per ton, but above average on sugar per acre and reports the highest sugar per acre of all varieties for sale. M977 also has an excellent Rhizoctonia score. The Aphanomyces score for M977 is also better than average. M977's Cercospora score is slightly weaker than average. ACH seeds reports that Fusarium tolerance for M977 is moderate and has very good tolerance to root aphid.

Crystal M951 (Cercospora Specialty):

Crystal M951 has been tested for three years and is given CLS Specialty approval for CY22. M951 has an excellent CLS score. M951 has above average sugar per acre. It is important to point out that M951 ties for the lowest sugar per ton of varieties for sale in CY22. M951 scores weaker than average on Aphanomyces and Rhizoctonia. You should consider an in-furrow fungicide, post-emerge fungicide for suppression of Rhizoctonia, or both an in-furrow and post-emerge application. ACH Seeds reports that 951 is very tolerant to Fusarium and has good tolerance to root aphid.

Crystal M002 (Cercospora Specialty):

Crystal M002 makes Cercospora Specialty Approval after being tested at SMBSC for two years and being test marketed in 2021. M002 planted 4,100 acres in CY21. M002 has an excellent CLS score. M002 saw near average sugar per ton, but above average sugar per acre. M002 score nears average for Aphanomyces and weaker than average on Rhizoctonia. An in-furrow or post-emerge application of fungicide for suppression of Rhizoctonia would be a good program with M002. ACH Seeds indicates that M002 is tolerant to Fusarium and is very tolerant to root aphid.

Hilleshog 2219 (Rhizoctonia Specialty): Hilleshog 2219 is approved as a Rhizoctonia specialty variety in CY22.

2219 was planted on 200 acres in CY21. 2219 is one of the strongest Rhizoctonia varieties in our market. However, sugar per acre is weaker than average. Aphanomyces ratings are weaker than average, so careful placement of this variety is needed to optimize revenue. When placed on farms with the potential for strong Rhizoctonia pressure, this variety may out-perform other varieties with higher revenue potential and weaker Rhizoctonia scores. CLS scores for 2219 are near average.

Hilleshog 2327 (Rhizoctonia Specialty):

Hilleshog 2327 has been tested for three years in the SMBSC Official Trials and makes Rhizoctonia Specialty status for CY22. 2327 was planted on approximately 11,800 acres in CY21. 2327 has near average sugar per ton but above average sugar per acre. The Aphanomyces score for 2327 is weaker than average, but the Rhizoctonia score is better than average. 2327 performs near average on CLS.

SV894 (Rhizoctonia Specialty):

SV894 has been tested for three years in the SMBSC Official Trials and makes Rhizoctonia Specialty status for CY22. In two years of testing, 894 has shown near average sugar per acre with slightly below average sugar per ton. 894 performs near average on APH, slightly weaker than average on CLS, and has a stronger than average Rhizoctonia score.