SMBSC OBSERVATIONS FOR 2016 VARIETIES

These three pages are 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 2016. This summary was compiled to provide another tool to help your variety selection for the 2016 crop.

Mark Bloomquist
Production Agronomist

2016 FULL APPROVAL VARIETIES

Beta 92RR30: Beta 92RR30 was planted on approximately 10,000 acres in 2015 in its first year of Full Approval. 92RR30 performed well in the 2014 SMBSC Variety Strip Trials and SMBSC Official Trials. Rhizoctonia ratings have been somewhat erratic in the Rhizoctonia nurseries; consider a foliar Rhizoctonia fungicide application at 4-8 leaf when planting 92RR30. 92RR30 has shown above average tolerance to Aphanomyces root rot in the 2013 - 2015 Aphanomyces nursery results and is considered an Aphanomyces specialty variety. Tolerance to Cercospora leaf spot is also better than average. 92RR30 has a stronger total disease package than most of the Fully Approved Varieties. Betaseed reports 92RR30 has strong root aphid tolerance and low to moderate Fusarium root rot tolerance.

Beta 92RR60: Beta 92RR60 has been a top performer in the SMBSC Official Trials the past three years. In 2015, 92RR60 was planted on 8,500 acres. 92RR60 has above average sugar and yield potential. Cercospora tolerance is weaker than average with 92RR60 which makes an aggressive CLS spray program important with this variety. In 2016, do not plant 92RR60 on fields that are adjacent to 2015 sugar beet fields that developed high levels of Cercospora. Rhizoctonia and Aphanomyces nursery data indicate 92RR60 is average or weaker than average on these diseases. A post-emerge application of a fungicide for Rhizoctonia suppression is an important practice with 92RR60. Betaseed reports 92RR60 has strong root aphid tolerance with moderate or lower tolerance to Fusarium root rot.

Crystal RR270: Crystal RR270 was a Fully Approved Variety in 2015 and was planted on approximately 10,000 acres. RR270 has high sugar and yield potential; however, the Cercospora and Rhizoctonia disease tolerance requires additional management. Cercospora tolerance is weaker than average with RR270 which makes an aggressive CLS spray program important with this variety. In 2016, do not plant RR270 on fields that are adjacent to 2015 sugar beet fields that developed high levels of Cercospora. Rhizoctonia tolerance is weaker than average. A post-emerge application of a fungicide for Rhizoctonia suppression would be a good practice with RR270. RR270 has multi-source resistance to rhizomania. ACH reports that RR270 has some resistance to root aphid.

Crystal M375: Crystal M375 had Test Market status in 2015 and was planted on approximately 9,000 acres. M375 showed strong yield and sugar potential in both the Official Trials, as well as the strip trials in 2015. The disease nursery data, as well as field observations, indicate that M375 is weak on Rhizoctonia, Cercospora, and Aphanomyces. Because of these traits, careful placement of this variety and additional management practices are required to be successful. Fields with low beet history and low disease potential are a good fit for M375. An aggressive CLS spray program is important with M375. In 2016, do not plant M375 on fields that are adjacent to 2015 sugar beet fields that developed high levels of Cercospora. A post-emerge application of a fungicide for Rhizoctonia suppression should be considered necessary for M375. Aphanomyces root rot tolerance is weaker than average and thus, fields with high Aphanomyces potential should be avoided with M375. ACH Seeds reports that M375 has root aphid resistance and is a multisource rhizomania resistant variety.

Crystal M380: Crystal M380 was a Test Market Variety for 2015 and was planted on 10,000 acres. M380 has strong yield and sugar potential. M380 has a stronger total disease package than most of the Fully Approved Varieties. Aphanomyces resistance looks to be better than average with M380 and thus, it was given Aphanomyces Specialty Status. Cercospora tolerance is near average with M380. Rhizoctonia root rot ratings from the disease nurseries have been erratic over the past three years for M380. The application of a post-emerge fungicide treatment for Rhizoctonia suppression would be a good practice with M380. ACH Seeds reports that M380 has tolerance to root aphid and Fusarium root rot. M380 is a multisource rhizomania resistant variety.
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2016 TEST MARKET VARIETIES

Test Market Varieties usually possess two or more 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 9475:** Beta 9475 is a Test Market Variety for 2016. The two year Official Trial data show 9475 to be near average of the approved varieties on sugar per ton and sugar per acre. Disease nursery data shows 9475 to be better than average on Cercospora leaf spot. Aphanomyces ratings are weaker than average and thus, 9475 should not be planted on high Aphanomyces potential fields in 2016. Rhizoctonia ratings are average to weaker than average for 9475. A post-emerge fungicide application for suppression of Rhizoctonia root rot would be recommended for 9475. Betaseed reports that 9475 has good root aphid tolerance.

**Crystal M456:** Crystal M456 is a Test Market Variety for 2016. In the two year Official Trial Data, M456 showed near average sugar and yield potential. The disease nursery data show M456 to be weaker than average on Aphanomyces and Rhizoctonia. For 2016, avoid fields with high Aphanomyces disease potential with M456. A post-emerge fungicide application for suppression of Rhizoctonia root rot would be recommended for M456. Cercospora leaf spot ratings for M456 are average. M456 is a multi-source rhizomania tolerant variety.

**Hilleshog 9528RR:** Hilleshog 9528RR is a Test Market Variety for 2016. In 2015, 9528RR was also a Test Market variety and was included in the SMBSC Variety Strip Trials. 9528RR has below average sugar content but strong ton potential. Aphanomyces and Rhizoctonia disease ratings are near average with 9528RR. A post-emerge fungicide application for suppression of Rhizoctonia root rot would be recommended for 9528RR. Cercospora leaf spot ratings are weaker than average. For 2016, avoid planting 9528RR adjacent to any 2015 fields that had high levels of Cercospora leaf spot. An aggressive CLS spray program is important with 9528RR.

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**2016 Seed Selection Matrix**

*based on 2014 and 2015 OVT data and field observations.

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<thead>
<tr>
<th>Variety</th>
<th>Revenue per Ton</th>
<th>Revenue per Acre</th>
<th>Rec. Sugar per Ton</th>
<th>Rec. Sugar per Acre</th>
<th>Rhizoctonia Root Rot</th>
<th>Aphanomyces Root Rot</th>
<th>Cercospora</th>
<th>Rhizomania</th>
<th>Aphid</th>
<th>Fusarium</th>
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**2016 Fully Approved Varieties**

**2016 Test Market Varieties**

**2016 Rhizoctonia, Aphanomyces, and Cercospora Specialty Varieties**

*Green = Better than average  
Yellow = Near Average  
Red = Weaker than average*

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Scott Thaden - Agriculturist  
Les Plumley - Agriculturist
SMBSC OBSERVATIONS FOR 2016 VARIETIES

2016 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 91RR01 (Cercospora and Rhizoctonia Specialty Variety): Beta 91RR01 was a Rhizoctonia and Aphanomyces Specialty Variety in 2015 and was planted on approximately 8,000 acres. 91RR01 has become one of the varieties planted on high disease potential fields. In 2016, 91RR01 is a Cercospora Specialty Variety and would be a good fit to plant in fields adjacent to 2015 fields that had high levels of Cercospora. This will not allow you to reduce your CLS spray program but will supplement an aggressive spray program in high CLS potential fields. Betaseed reports 91RR01 has moderate tolerance to both root aphid and Fusarium root rot. 91RR01 possesses multi-source tolerance to rhizomania.

Beta 90RR54 (Rhizoctonia Specialty Variety): Beta 90RR54 was a Fully Approved Variety in 2015 and was planted on approximately 33,000 acres. 90RR54 has been a strong performer in the field the past several years. 90RR54 has multi-source rhizomania resistance and its Aphanomyces and Cercospora leafspot ratings both meet approval levels. Rhizoctonia root rot ratings indicate 90RR54 is stronger than average and thus, it was granted Rhizoctonia Specialty Approval. Betaseed reports that 90RR54 should have some tolerance to root aphid. Beta 90RR54 is rated moderate to good on Fusarium root rot.

Crystal RR018 (Rhizoctonia Specialty Variety): Crystal RR018 was a Fully Approved Variety in 2015 and was planted on approximately 50,000 acres. RR018 has performed strongly in the field the past several seasons. RR018 has average ratings for Aphanomyces and stronger than average ratings for Cercospora leaf spot. The Rhizoctonia root rot ratings are stronger than average and it was granted Rhizoctonia Specialty Approval for 2016. ACH reports that RR018 has some resistance to root aphid and is rated as good on Fusarium root rot. RR018 has multi-source resistance to rhizomania.

Hilleshog 9517RR (Cercospora and Rhizoctonia Specialty Variety): Hilleshog 9517RR is a Rhizoctonia and Cercospora Specialty Approved Variety for 2016. 9517RR has shown better than average ratings in the Rhizoctonia nurseries. Cercospora leaf spot ratings are also better than average. In 2016, 9517RR would be a good fit to plant in fields adjacent to 2015 fields that had high levels of Cercospora. This will not allow you to reduce your CLS spray program but will supplement an aggressive spray program in high CLS potential fields. Hilleshog reports that 9517RR has Fusarium root rot tolerance.

Hilleshog 9093RR (Rhizoctonia Specialty Variety): Hilleshog 9093RR has been a Rhizoctonia Specialty Variety from 2009 - 2016. 9093RR continues to show strong resistance ratings to Rhizoctonia root rot in the disease nurseries. 9093RR is weaker than average on Aphanomyces and has average Cercospora leaf spot ratings.

Maribo MA109RR (Rhizoctonia Specialty Variety): Maribo MA109RR has been a Rhizoctonia Specialty Variety for the past several years. MA109RR has the best ratings on Rhizoctonia Root Rot of any variety in the SMBSC Official Trials in each of the past three years. MA109RR has the highest sugar per ton and revenue per ton of any of the Specialty Approved Varieties. MA109RR is near average sugar per ton of the Fully Approved Varieties. It has average ratings on Aphanomyces root rot. MA109RR has a smaller canopy than most varieties which is readily apparent when planted side by side to other varieties.