

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.

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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 a little 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.

2016 Seed Selection Matrix										
				*based on 2014 and 2015 OVT data and field observations.						
Variety	Revenue per Ton	Revenue per Acre	Rec.Sugar per Ton	Rec.Sugar per Acre	Rhizoctonia Root Rot	Aphanomyces Root Rot	Cercospora	Rhizomania	Root Aphid	Fusarium
2016 Fully Approved Varieties										
Beta 92RR30										
Beta 92RR60										
Crystal M375										
Crystal M380										
Crystal RR270										
2016 Test Market Varieties										
Beta 9475										
Crystal M456										
Hilleshog 9528RR										
2016 Rhizoctonia, Aphanomyces, and Cercospora Specialty Varieties										
Beta 91RR01										
Beta 90RR54										
Crystal RR018										
Hilleshog 9093RR										
Hilleshog 9517RR										
Maribo MA109RR										
Green = Better than average Yellow = Near Average Red = Weaker than average										
Mark Bloomquist - Production Agronomist Scott Thaden - Agriculturist Les Plumley - Agriculturist										

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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.