

Sugarbeet Production Tips Learned from the 2013 Growing Season

Research and observations in 2013 can help producers improve sugarbeet management for future crops.

Every year new research is conducted that can help producers fine tune production practices. Each season the sugarbeet crop reacts to a unique set of environmental factors. Observations from research and environmental conditions can help us improve management techniques that will enhance yield and quality. The 2013 growing season has provided some interesting results/observations.

Traditionally, in Michigan most of the sugarbeets are planted in April in relatively cool soil. In 2013, due to extremely wet April conditions, the majority of the beets were planted in May into warm moist soils. These conditions can and did cause more seedling disease, especially *Rhizoctonia* and *Aphanomyces*. Research conducted by Michigan State University Extension indicated that Quadris applied in a T-band in furrow was more effective than seed treatments for both seedling and long term *Rhizoctonia*. Research confirmed that the 3-4 inch T-band was as effective as the full 7 inch band. However, it was found that putting a full rate of Quadris in-furrow (14.3 oz/acre in 22" rows) in a 3-4 inch band can significantly reduce emergence. This was especially damaging on light textured soils.

Cercospora leaf spot levels in 2013 were substantially less than in previous years and allowed most growers to have excellent control. Several reasons exist why disease levels were lower including: late planting, lower inoculum level and environmental conditions. Most growers are also tank mixing fungicides that will help improve leaf spot control. We have seen an increase in the number of growers utilizing "Tin" products in their spray programs. This product has been used safely for years in the Red River Valley. Utilizing a different chemistry in our fungicide program is important to effectively manage *Cercospora* resistance.

Growers have become so frustrated with the mixing problems of the EBDC products that they have turned to using the unproven fungicide Ballad. Be careful using this product until the effectiveness can be demonstrated by research, especially when using it with Headline and GEM.

Also in 2013 foliage of several fields were significantly burned from tank mixing glyphosate with copper materials. This combination can cause significant injury to foliage and is not recommended. Because of the difference in recommended water volumes and spray pressure between herbicides and fungicides, separate applications are recommended.

Cover crop use continues to increase with beet growers, with the largest used cover crops being clover and oil seed radish. Again in 2013, clover prior to beets has shown reduced quality due to excess nitrogen. Clover will increase yields, but if nitrogen rates are not reduced, quality will suffer. The amount to reduce rates is unknown, but the current recommendation would be to lower rates by 40-50 pounds for a good clover stand that is plowed late in the fall.

In regards to oil seed radish, Michigan State University research has shown huge differences in sugarbeet cyst nematode reproduction on different oil seed radish varieties. Some varieties will increase cyst nematode numbers, while others will act as a trap crop and reduce cyst numbers. One of the best trap crop varieties is Defender.

Research in 2013 by Sugarbeet Advancement demonstrated the loss in quality that is associated with beets that have significant scarring at harvest from *Aphanomyces*. When a single beet in a quality sample had significant scarring, the recoverable sugar was reduced by 2.5 pounds per ton and percent sugar by 0.15 points. If all the beets in a quality sample had significant scarring the recoverable sugar was reduced by 25 pounds per ton and sugar 1.5 points.

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