



## *Sugarbeets Damaged by Heavy Rain; Can We Help Them Recover?*

*Sugarbeets damaged from heavy rainfall often exhibit stunting, nutrient deficiency and root diseases. Managing for this is often difficult to produce positive results.*

In the last 3 weeks, some beet growing areas have received in excess of six inches of rainfall. It is apparent that every year, exceedingly heavy rainfall occurs sporadically in the Michigan/Ontario sugarbeet growing area. Some areas like Gratiot County seem to get more than their share of excessive rainfall events. High intensity rainfalls that cause ponding water are extremely damaging to young crops. Fortunately this year, most of the Michigan/Ontario sugarbeet crop growth was larger and had in-furrow and/or foliar Quadris. Larger plants tolerate saturated soils better and Quadris will help reduce Rhizoctonia issues.

Long term planning and management can be helpful in reducing the impacts of these extreme events, but will not eliminate all the damage. Sugarbeet producers have been very aggressive in narrowing tile spacing, creating surface drains, minimizing tillage and utilizing deep rooted cover crops such as oilseed radish. In combination, this will create the best opportunity for plants to survive a high intensity rainfall. The faster standing water or saturated soils are eliminated the less damage that will occur. High temperatures combined with excess moisture increases crop damage.

Sugarbeets damaged from heavy rainfall will often exhibit stunting, yellowing and an increase in root diseases. Trying to correct these symptoms after a near death experience is difficult at best. The plant's metabolism is not functioning well and extra energy is utilized just to stay alive. Often the roots are damaged and not allowing for proper uptake of nutrients or moisture once it does dry out. Standing water will either denitrify nitrogen or flush it through the soil profile, making it unavailable for root uptake.

A complex of root diseases often become the result of extreme heavy rainfall. These diseases include: Aphanomyces, Fusarium, Rhizoctonia, Rhizopus or Pythium. Most root diseases like excess soil moisture and damaged roots allow the disease a pathway to enter. It is virtually impossible to control root diseases once they have entered the plant. We have seen Quadris applied T-band in furrow offer some early season benefit when these conditions exist. Michigan State University Extension Sugarbeet Advancement trials have also shown that varieties with tolerance to Aphanomyces and probably Fusarium tolerate saturated soils the best.

Correcting water damaged plants is difficult at best. With symptoms of nitrogen deficiency mid-season you may want to consider one or more foliar applications such as CoRoN, NDemand, Gradual-N and others. Results may depend on how damaged the roots are and whether the plants can uptake needed moisture and other nutrients during the season. Sugarbeet Advancement's experience in applying a single application of some of these nitrogen/fertilizer products did not significantly green up

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healthy plants that were exhibiting N deficiency. Earlier in the season, side dress application of 28% nitrogen may be more effective if you feel nitrogen has been lost.

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