

Best Management Practices for Fields with Un-harvested Sugar Beets

John A. Lamb, Nutrient Management Extension Specialist, University of Minnesota
Mark Bloomquist, Research Director, Southern Minnesota Beet Sugar Cooperative

The yield of the 2017 sugar beet crop caused the set-aside program to be implemented this fall. Sugar beet fields will remain unharvested and the question has been asked what the best management practices are for these acres. During the PIK years of the early 2000's, SMBSC and the University of Minnesota set out a number of research studies to answer the main production question: "What should I do with these fields for next year?" The answer comes in a number of different steps:

1. Remove the foliage from the sugar beets. This can be accomplished with a defoliator or stalk chopper. This incorporates the foliage into the soil so the nutrients in the sugar beet foliage can be recycled back into the soil. The removal of the foliage from the sugar beet, also allows the beet root to degrade and dehydrate faster. Chopping up the foliage will also help prevent the petioles from being long and becoming rope-like next spring. The long rope-like petioles can wrap around tillage and planting equipment and cause issues in the spring.
2. Do not till the ground this fall. Research results indicate that it is better not to do tillage in the fall. Leave the root in the ground where it will deteriorate. As the root deteriorates in the ground, it will leave channels for water to move down and will help increase drainage of the field. Tilled beets on the surface of the ground can float away with any water ponding over the winter and spring and cause problems. **The best results come from delaying the first tillage to the spring and at that time use a field cultivator.**
3. Consider planting soybean in the field in 2018. Our research indicates that soybean will grow much better than corn following sugar beet, particularly when the sugar beet is not harvested. For soybean, take a soil test for phosphorus and potassium and apply fertilizer if the soil test results indicate a need.
4. If you must grow corn; get a soil test for phosphorus and potassium. Apply the potassium if the soil test results indicate a need. Potash can be broadcast applied in the fall or spring. Because sugar beet is not a host for fungi that facilitate uptake of phosphorus and zinc, no matter what the soil test indicates, you must use an in-furrow starter fertilizer of about 20 lb. P₂O₅/A and 2 lb. Zn/A. **It must be applied as an in-furrow starter band.** If your soil test indicates that you need more phosphate, broadcast apply the rest. Similar to fallow syndrome following harvested sugar beets, a broadcast application following unharvested sugar beets, will not work. As for nitrogen, fertilize the corn as if it were corn on corn situation.

With proper management of these acres you should be able to grow a good crop next year.