

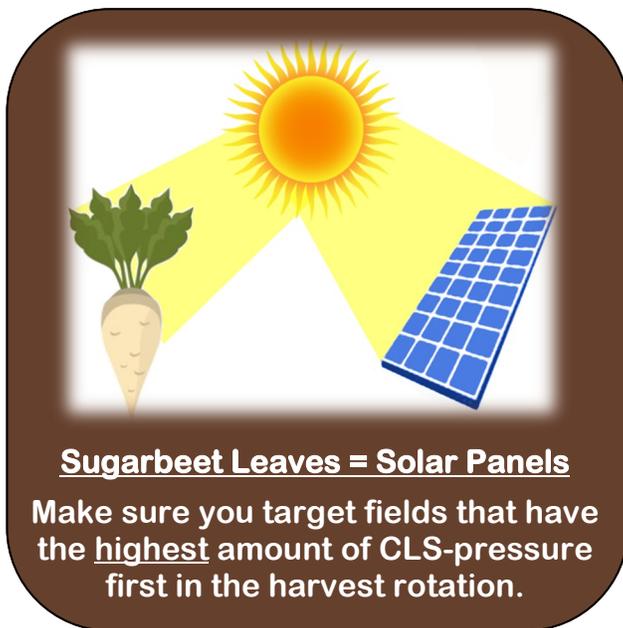


## Harvest the Worst...First!!!

It was Benjamin Franklin that famously quoted, "By failing to prepare, you are preparing to fail." Planning and preparation are two critical components to a successful sugarbeet harvest. From inspecting your equipment to having your harvest crew trained and ready to go, the effort put forth beforehand ALWAYS pays dividends in the long run and in my opinion, is some of the best time invested...

Planning your approach to field selection/harvest order this season needs to be carefully orchestrated in order to maximize this crop's quality potential. While your 'normal' field selection process for main harvest should still include heavy vs. light ground, tilled vs. non-tilled, distance from the farm, etc., we are also asking that you consider an incredibly important and often overlooked factor - harvesting the fields with the lowest potential for quality first.

Think of your sugarbeet canopy like a field of solar panels that charge a battery. Solar panels absorb particles of light to knock electrons free from atoms, thereby generating a flow of electricity that is sent down to charge the battery. A sugarbeet field's canopy works in a similar fashion. Individual leaves (solar panels) absorb light to fuel photosynthesis, which sends both sugar and yield down to the root (battery). When Cercospora Leaf Spot (CLS) is present on sugarbeet leaves, it acts like 'dust' or 'bird poop' on your solar panels, thereby decreasing their photosynthetic potential, and ultimately reducing the amount of 'charge' they send down into the root. As you start making your field selections for harvest, make sure you plan on harvesting fields that have the highest amount of CLS-pressure first in the rotation. This will allow fields that have the healthiest 'solar panels' more time to 'charge' prior to their defoliation/harvest...



## Slow and Steady Wins the Race...



Although flail type, condition and configuration play a major role in the defoliator's performance, operational ground speed continues to be the most overlooked aspect of this implement's operation. Year in and year out, revenue per acre can be dramatically decreased due to growers topping faster than the recommended 2-3 mph. Research conducted by Dr. Larry Smith indicates significant incremental losses in recoverable sugar as defoliator ground speed increases. As a rule of thumb, for each 1 mph increase in speed between 2 and 5 mph, approximately 7 pounds of recoverable sugar per ton is lost – that's roughly \$25 per acre lost for every 1 mph above the recommend operational ground speed. With the above in mind, make sure that your defoliator crew, and not just your truck drivers, understands that speed is a dangerous thing...

## Harvest Loss Appraisal - Find Out What's Really Going on...

The harvest loss appraisal technique was developed as a tool for both the grower and agriculturist to use as a method of evaluating what tonnage is actually being left out in the field. This quick analysis can (and has) saved Minn-Dak growers thousands of dollars by measuring tonnage not going into the truck and allowing for corrective action. It doesn't take much harvest loss to add up to big dollars - keep in mind that just one lost two-pound beet per 10' of row equates to a 2.4 ton per acre loss!!!

### Conducting a Harvest Loss Appraisal:

1. Pick a random spot in the field behind the last round of the harvester.
2. For 22" Rows mark out 110 square feet. This equates to:
  - 6 Row Lifter - 6 rows wide X 10 foot length
  - 8 Row Lifter - 8 rows wide X 7 ½ foot length
  - 12 Row Lifter - 12 rows wide X 5 foot length
3. Glean the area, picking up any small pieces which have been broken off of the beet due to the harvester or defoliator, down to the diameter of a dime. Dig down the rows looking for broken tails remaining in the ground.
4. Weigh up the collected pieces (A pocket fish scale works very well).
5. Subtract the weight of the bucket from the weight of bucket and beets.
6. Take the weight of the beets and divide it by 5. The result will equate ton per acre loss.

**Example:** A beet weight of 3.75 lbs. divided by 5 = **0.75 tons per acre of Harvest Loss**

### What is Considered an Acceptable Harvest Loss???

**LOW**  
0 to 1/2 Ton Per Acre

**ACCEPTABLE**  
1/2 to 1 Ton Per Acre

**HIGH**  
> 1 Ton Per Acre  
Adjustments Recommended

## Quick Review: Setting Lifter Wheel Pinch Points

Getting the beet out of the ground intact and without damage can be a big challenge as harvest conditions change from season to season, from field to field and even within the same field. Although each brand of harvester has multiple settings, one adjustment that remains constant between all lifter types and brands is each machine's pinch points.

22" Rows - 150 to 175 Beets / 100'	Avg Beet Wt. <i>Lbs.</i>	Pinch Point Setting <i>Inches</i>
18 to 22 ton	0.9 to 1.2	1 1/2 to 1 3/4
22 to 26 ton	1.1 to 1.5	1 3/4 to 1 7/8
26 to 30 ton	1.3 to 1.7	1 7/8 to 2

The 5-yr average beet weight for Minn-Dak is 1.64 lbs. With that in mind, most of the pinch points in this area should be set at 1 7/8" to 2" for most digging conditions. Wider points generally load more mud and snap beets while narrower points will

load less mud and typically slice beets. It is recommended that your pinch points be checked every year measured at the tightest point of the wheel with the lugs together.

Since consistency from row to row is vital in maximizing the harvester's extraction performance, take note to make sure each wheel is running true and is not bent or worn - also make sure that the unit's strut is not bent or twisted. While a 1/4" wobble in each wheel might not seem like a big deal, keep in mind that your pinch point on that row set for 1 7/8" will be running anywhere from 1 5/8" to 2 1/8" - if both wheels are bent then your point could be running from 1 3/8" to 2 3/8"!!!



Before measuring your pinch points, take the time to spin the wheels and check for bent wheels and bad and/or loose bearings. If you find a problem, make sure you correct it before taking your measurements.

The 'original' analogy of sugarbeet leaves as solar panels is credited to Tyler Grove from American Crystal Sugar Company. Tyler is a fellow Climax, MN native, a fantastic friend/colleague, and the General Manager of Crystal's Beet Seed Division.