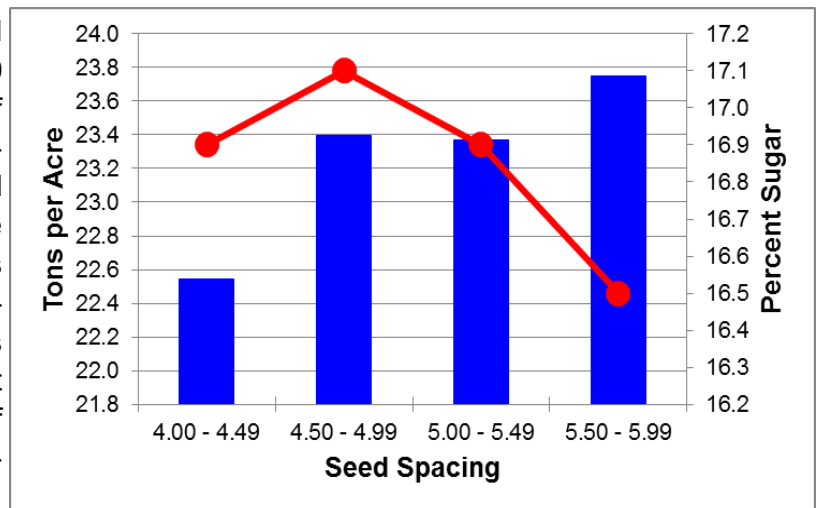




# Maximize Profits with Plant Population...

It is no secret that establishing exceptional stands early in the spring greatly enhances the profit potential for any sugarbeet field and as such, analysis of the Minn-Dak grower practice records indicate that planting date and plant population are the two factors that are most highly correlated with sugarbeet yield. The January 2012 issue of BEET TOPics indicated (based on a 15-yr average) that for each week that planting is delayed beyond May 12th, Minn-Dak growers **lose an average of \$120 per acre per week**. While not as dramatic and often overlooked, plant population can render the same significant on-farm losses.

The current NDSU and U of M recommended plant populations are between 170 - 180 beets per 100 foot of row at the 6 to 8 leaf stage. The graph to the right shows the relationship between sugarbeet seed spacing and yield at Minn-Dak averaged over the last five growing seasons. The blue bars indicate tons per acre and clearly shows that tonnage increases as the seed spacing increases. This shouldn't come as much of a surprise to most as it has been widely accepted as a "rule of thumb" for quite some time and the data clearly supports the positive correlation.



## Seed Spacing & Stand Loss

4.50"

5.00"

Beets per 100-foot of 22" Row

264      99%  
Seed Drop      238

251      95%  
Germination      226

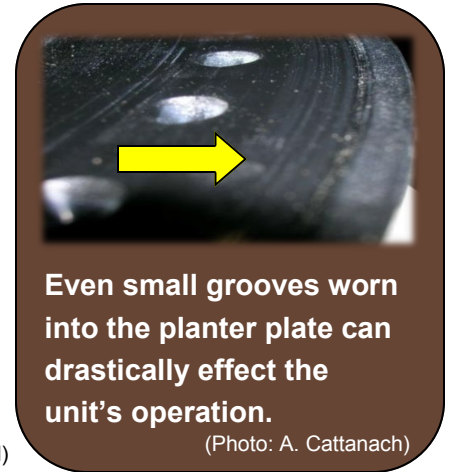
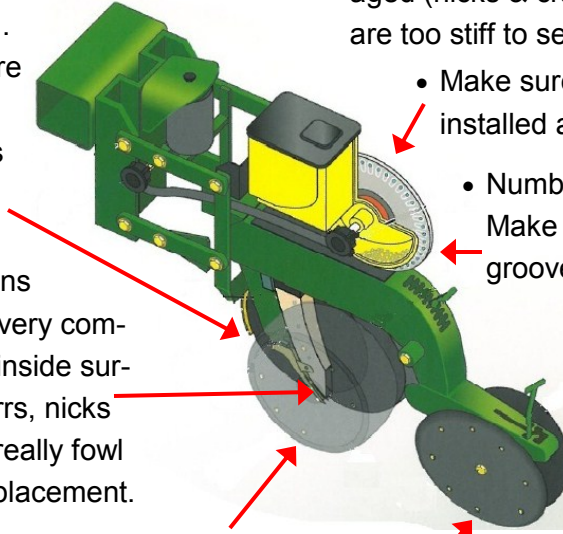
181      72%  
Emergence      163

172      5% Loss After  
Emergence      155

What is interesting to take note of is the red line, which indicates the negative relationship between percent sugar and increased seed spacing. The highest sugar percentage (17.1%) was found to be on fields that were sown with a seed spacing between 4.50 – 4.99" (at-plant populations of 57K – 63K seeds/acre). The sugar percentage dropped to 16.9% for fields sown with a seed spacing between 5.00 – 5.49" and to 16.5% for fields planted at seed spacing of 5.50 – 5.99". Taking the variations of both tonnage and purity into consideration, this decline in sugar percentage attributes to just over a **\$20 per acre loss in profit** by planting between 5.00 – 5.49" and a **\$50 per acre loss** for the 5.50-5.99" spacing. Even after you subtract the additional cost of seed (which is less than 0.06 units), a 500 acre grower can easily **add \$10,000 to \$25,000 to their bottom line** by simply switching around a couple of planter gears to tighten the spacing up.

## Profitable Plant Population Starts With A Properly Tuned Planter

- Check the overall condition of the hoppers, drives and chains. Make sure all of the bushings & bearings move freely. Lubricate planter regularly.
- Be sure row spacings are correct, equal, and row markers (if used) adjusted.
- Be sure disc furrow openers are clean and turn freely. Check if they are worn—replacement is recommended if they are less than 14.5" in diameter.
- Check seed tubes for restrictions or blockage - spider webs are very common after storage. Make sure inside surface is completely smooth. Burrs, nicks and other rough surfaces can really foul up the seed spacing & furrow placement.
- Check that the gauge wheels are in good condition & for older planters, arms mounted on the correct side of the unit.
- Make sure the press wheels are clean and turn freely. The distance between the inside of the press wheels (at narrowest point) should have no more than a 0.75" to 1.0" gap.
- Calibrate your vacuum gauge(s) and monitor(s).
- Check all the vacuum doors to make sure they close properly. Check over the door seals for damaged (nicks & cracks), excessive wear and if they are too stiff to seal properly.
- Make sure the seed knocker wheels are installed and not too worn out.
- Number plates to match planter units. Make sure the plates are not warped or grooved in any way (see below).



## 2013 NDSU Planter Test Stand

The NDSU Planter Test Stand will be held on March 5th, 6th and 7th (Tues - Wed - Thurs) at the Minn-Dak Seed Warehouse/Tare Lab. In the same fashion as previous years, it is requested that all growers make an appointment with their Agriculturist to help run all the units through in an organized manner and to alleviate congestion. The test stand hours will be from 8 AM - 4 PM all three days with the seed companies sponsoring coffee, rolls and a catered lunch each day. If it has been awhile since you've had your planter boxes tested, or have never done so in the past, please consider making an appointment and bringing them in - we are often able to find problems that would otherwise go undetected causing serious malfunctions that can not only delay planting, but cause significant stand losses by damaging and/or wasting expensive seed.

### 2013 NDSU Test Stand Locations

### Scheduled Dates

✓ Minn-Dak Tare Lab (Wahpeton, ND)

March 5th - 6th - 7th

RDO Equipment (Casselton, ND)

March 20th

Betaseed Research Farm (Moorhead, MN)

March 20th - 21st

Hilleshög Research Farm (Glyndon, MN)

March 26th - 27th

SES/VanderHave Seed Plant (Fargo, ND)

March 28th

Crystal Beet Seed Plant (Moorhead, MN)

April 1st - 2nd - 3rd

