Productive Planting Practices...

Two of the most profitable aspects of sugarbeet production are stand establishment and plant population - neither of which can be achieved without proper planter maintenance and operation. Your beet planter(s) needs to be viewed as a precision tool and certainly needs to be treated as such. Planter malfunctions and/or incorrect operation can significantly reduce both plant population and stand establishment. Research has shown that if 10% of the seed sown at a 4.7 inch spacing does not establish a harvestable root, **losses could easily top $100 per acre**. These types of malfunctions and operation errors can also delay planting - planting interruptions and delays could cost the average Minn-Dak grower **over $120 per acre per week** after May 12th.

In order to ensure proper and trouble-free operation this coming season, please consider going through your planter(s) using the following checklist (compiled by American Crystal Sugar, Minn-Dak and NDSU):

- Reference your seed size(s) to the current plate/vacuum chart (page 14 in the Production Guide)
- Check that your starter fertilizer equipment is calibrated and working properly
- Check over and calibrate your insecticide applicator units
- Check the condition of the seed hoppers, drives and chains - lubricate everything properly
- Measure the disk furrow openers (need to be > 14.5" in diameter) - ensure they are clean & can turn freely
- Check seed ejection tubes for restrictions, blockage or burrs on the end of the tubes
- Be sure row markers are set properly or precision guidance system is calibrated
- For best results, plant at 3.0 to 4.5 mph with vacuum planters - a little slower for plate planters
- Check each row for press wheel pressure - use a digital fish scale to ensure uniformity (Figure 1)
- Level the planter bar in the field - the seed metering units are designed to operate off a level bar (Figure 2)
- Check planting depth in the field by chaining up individual units and measuring seed depth (Figure 3)
- Visually compare seed spacing/population with monitor reading (Figure 4)
- Center press wheels for uniform row closure.

Counter Use for 2012...

Product Name	Application Rate *(Pounds of Product per Acre)*			
Counter 15G	5.9	8.0	10.0	11.9
Counter 20G	4.4	6.0	7.5	8.9

Over the past two seasons, the Amvac Chemical Corporation has been transitioning away from its 15G granular formulation to a new 20G product. This new formulation has the exact same active ingredient as its predecessor, just in a little more concentrated dose. While this increase in active ingredient offers the convenience of a little less product applied on a per acre basis, it does require the grower to adjust the rate on their insecticide units. The MDFC Ag Staff has the ability to provide on-farm calibration of these units to ensure proper usage and the correct application rates (contact your Agriculturist for more info). As far as the physical application is concerned, the 20G formulation can be applied in the same manner as the 15G - in-furrow or spoon/band applied (preferred) with some type of incorporation (drags, chains, etc.) after the press wheels.

Protect Your Investment - Think Cover Crop!!!

It was exactly ten years ago this spring that a period of high winds over the Memorial Day weekend wreaked havoc on young sugarbeet seedlings in fields throughout the Minn-Dak growing area. Even though many growers were able to keep their fields from blowing and/or sifting by utilizing cultivators and rotary hoes, the end result of 2002 wind storm was that our cooperative had to replant a total of 11,600 acres of sugarbeets (10% of the total crop), the 3rd largest replant in company history. The only good that came from this event was that many growers immediately starting incorporating different methods of cover cropping systems into their normal production practices the following year - a practice that still is utilized today (34% of the fields in 2011).

If cover cropping is a relatively new practice for you (or even if you have been doing it for several years), please try to keep the following in mind:

- Barley, wheat, oats and rye are the most common cover crops utilized in sugarbeets - preference is generally based on the cost and availability of the seed
- Consider the source of your seed and make sure it is completely free of other Roundup Ready crops (i.e. canola)
- The most successful and practical seeding rate is between 1/2 and 1 bushel of cover crop seed per acre
- A broadcast application of the cover crop seed gives the most uniform protection
- The cover crop seed can be applied either a few days before or after the initial seedbed preparation (after with a grain drill prior to sowing sugarbeets)
- Banding the first glyphosate application will significantly extend the sugarbeet's stand protection
- Don't cultivate or spray out the cover crop in between the rows until the beets are able to withstand high winds (4 to 6 leaf stage) - doing so will defeat the cover crop's purpose
- Dying cover crop will provide stand protection for 2-4 weeks after it has been chemically controlled

When It's Time to Go, It's Time to Go!!!

Although a cover crop can be incredibly beneficial in protecting young sugarbeet seedlings, it can also be a significant hindrance to older plants if it is not controlled at the correct time. If left unchecked, the cover crop will start to compete with the beets for nutrients, water and light - Wheat alone will take up 30-50 lb. of nitrogen per acre within 28 days after emergence. Dr. Allan Cattanach (American Crystal) documented that beet growth will be 2-4 leaves behind potential growth when cover crop control is delayed. Yield loss experienced in these fields was between **2-4 tons per acre ($146-$292/A** - see picture below). Dr. Alan Dexter (NDSU) has also done research showing the negative effects of late cover crop control. Using barley for a cover crop, he was able to show a significant advantage **(921 lbs. ~ $226/A)** in RSA by controlling the cover crop at the 3-leaf stage vs. waiting until the 5-leaf stage (see table below). With these experiments/dollar values in mind, it is a good management practice to start controlling a 1/2-1 bushel cover crop seeding rate at the 3-leaf stage.

Barley Growth Stage at Time of	Tons per Acre	Recoverable Sugar per Acre
2 Leaf	22.1	7,120 lbs.
3 Leaf	21.5	6,997 lbs.
4 Leaf	20.9	6,827 lbs.
5 Leaf	19.0	6,076 lbs.

Thanks to Al Cattanach, Norm Cattanach, and Alan Dexter for the use of their pictures and data in this issue