

WNYCMA NEWS

Western
New York

CROP MANAGEMENT



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Corn Planter Maintenance April 18, 2012

(The Whys and How-To's) Info provided by Dave Shearing

Corn planters operated out of adjustment and at too high a speed can lower yields up to 20 bushels of grain or 4 tons of silage per acre. Tire pressure also has a profound effect. Why does this happen?

Uniform seed placement and depth is very important. Doubles or triples cause competition for sunlight, nutrition and water. Crowding results in barren plants or runty ears. This lowers grain yields and corn silage quality and yields. A planter set to drop 30,000 seeds per acre can easily do it and still do a lousy job. If 5,000 seeds are in the form of doubles and triples or come up more than 48 hours after the majority because of poor depth control, they are essentially weeds! Poor seed depth and spacing will reduce yields and waste great genetics, good soil fertility and effective herbicides.

Shop steps to ready your planter for picket fence stands

1. Get out the operator's manual and find the correct tire pressure for your planter.
2. Finger pickup and vacuum units spit out seed as fast as a submachine gun. Minor wear can make them perform imperfectly. Your operator's manual tells how to care for these planter components. Backer plates, brushes, springs, fingers and belts all need checking every year. To save time checking parts, take them to your dealer. There are also some very good independent companies that do a great job of maintenance on planter components at a reasonable price.
3. Disc openers should be at least 14½ inches in diameter. When sliding a business card in at the 4 o'clock position, they should touch at least 1½ inches on each side. Make the adjustment on the arm.
4. Gauge wheels need to be adjusted so that they squeeze the disc openers to create distinct V-shaped seed furrows. You should never see a W-shaped seed furrow. Ragged seed walls cause uneven seed depth resulting in uneven emergence.
5. Check the seed tube, as well as mud scrapers, for wear.
6. Shake the entire seed unit to see the amount of wear on the bushings. Worn bushings will cause emergence problems because of an inability to keep the unit level.
7. Ensure that closing wheels have good bearings, are unbent, and apply even pressure.
8. Check that chains are in good repair and run smoothly.
9. Down pressure springs should be sound. Have spares available.
10. What about lubrication? Read the operator's manual!

Field steps to get a picket fence stand

1. Make sure the planter frame is level when it is in the ground.
2. Parallel arms should be level when planter is in the ground to achieve maximum benefit from down-pressure springs. Check bushings on arms and replace if they are sloppy.
3. Maintain frame height between 20 and 22 inches from the ground.
4. If the frame and units are not level, it is better to have them a little higher in front rather than a little lower. Never the opposite!! If the units are low in front the rear packer wheels may not perform well and emergence will be hindered.
5. A no-till coulters or center zone-till coulters should be one-half inch shallower than planting depth.
6. To prevent fertilizer burn, the fertilizer coulters should be around 3½ inches deep and at least 2 inches away from the seed trench. Check this often!
7. Trash whippers, or residue managers, should only turn about 70% of the time. They should not move dirt or make miniature canals. This can cause the depth gauge wheels to ride too high, and the seed will be planted too shallow. Floating row cleaners with depth band wheels can alleviate this problem. The depth bands may have to come off in extremely heavy residue.
8. Seed depth should be checked with every soil condition change. Down pressure springs and depth gauge wheels may need changing as conditions change.
9. Seed depth should be no shallower than 1¾ inches. When checking depth, pat the little point of dirt down in the center of the row before you measure. It's better to be 2 inches deep than too shallow. Check last year's corn stubble. If it has a lot of brace roots above ground, you probably planted too shallow in '11. Planting early and too deep on wet heavy soils can result in surface crusting or rotting seed.
10. Closing wheels should be centered exactly on the row. If you have spiked closing wheels the gap between the spikes should be between 2⅜ and 2½ inches. Use very little pressure on spiked closing wheels.
11. Remember to use graphite on finger planters and talc on vacuum planters.
12. Plant large seeds in the early part of the planting season and small ones later.
13. Planting speed should be between 4½ and 5½ miles per hour. You pay a penalty for high speed planting. In a trial by Ken Ferrie, a field agronomist for *Farm Journal* magazine, a planter running at 5 mph was compared to its operation at 7 mph. At the higher speed, yield was 11 bushels per acre less. The extra speed caused havoc with the meter, uneven distribution in the row and depth control problems.

With a 12-row planter traveling at 7 mph, you can plant 200 acres in a 10-hour day compared to 145 acres with a planter running at 5 mph. At 7 mph, it will take 5.2 days to plant 1,000 acres vs. 7.1 days at 5 miles an hour. Finishing two days early will cost 11,000 bushels at harvest, or \$44,000 at \$4.00 per bushel and \$66,000 at 6.00 per bushel. The fine for speeding: \$2,315 per hour at \$4.00/bu and \$3,472 per hour at 6.00/bu.

What Are the Potential Consequences of this Spring's Weather?

By: Dan Steward

The weather is always a great topic for newsletter articles because it is a common experience; everyone is affected by it. This winter/spring has certainly been noteworthy for its departure from the perceived normal. Just how different has it been and what effects has it and will it have on our forage crops?

Record Breaking March

This was the warmest March ever for the Northeast, beating out the previous warmest March (1945) by 0.9 degrees F. Records date back to 1895. In fact, the January-March period was also the warmest first quarter of the year on record. An example of just how warm it has been is that many record daytime highs were broken at night!

Normal April

April has obviously cooled down, and after March's weather it sure seems like it has been colder than normal. In fact, a quick search of the Northeast Region Climate Center's website shows that in the Buffalo area, temperatures have been very near to normal for April (through the 12th). Precipitation on the other hand, has been considerably less than normal (0.45" compared to the average 1.38" through April 12th). March was also dry for the state, approximately an inch less than normal. For the year to date, the state has had about ½ the normal precipitation.

Forecast

According to the Penn State field crop news, the longer term outlook points toward somewhat cooler than average temperatures for a couple of weeks in May before a very warm start to the summer in mid and late June. Drier than average weather is likely to persist into mid-summer and the latest signs point to a below normal hurricane season, perhaps lessening the risk of late summer rains.

One thing for sure is that we cannot rely on experience to predict what will happen with field crops this year because we have never experienced weather like this before! However, the following are some speculations from different sources on what we might expect to see.

Effects of Frost on Alfalfa & Grasses

Alfalfa, clover, and grass started growing extraordinarily early this year. The amount of spring growth was unusual. Now we are getting our normal seasonal weather including some hard freeze nights. These freezes did a real number on some previously lush looking hay fields which now look as if they have been sprayed with Roundup. This has caused many management questions among farmers.

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The following is from an article by Professor Daniel Undersander, UW-Extension:

Alfalfa is tolerant of cold temperatures. To make the best management decision we must understand the growth and biology of alfalfa. A few alfalfa growth principles to keep in mind:

- *Temperatures in the 25 to 30° F range may cause some leaf deformation for those leaves in early development stages, but earlier and later leaves will not be affected.*
- *Nighttime temperatures must fall to 24°F or lower for four or more hours to freeze alfalfa top growth. This means that temperatures at freezing or just below (28 to 32° F) will not damage the alfalfa. In fact, we can actually have snow with no damage to growing alfalfa.*
- *The only way to tell if alfalfa is damaged from a cold night is to wait 2 to 4 days to determine if the leaves are wilted or blackened. Unless this damage is present there is no frost injury. Damage will occur mainly to the top of the growth since that is most exposed to the cold temperatures.*
- *If leaf edges only are blackened or show signs of 'burn', damage is minimal with little to no yield loss and nothing should be done.*
- *If only a few entire leaves are damaged but not the bud, yield loss will be minimal and nothing should be done.*
- *If the entire stem top (some leaves and bud) is wilted and turns brown, then the growing point (bud) has been killed by frost. That stem will not grow any further except from auxiliary shoots that may develop at leaf junctures on the stem. The plant has not been killed and new growth will occur from developing crown buds. When entire tops are frosted significant yield loss will occur.*
- *If the growth of frozen stems is too short to justify harvest, do nothing and new shoots will develop from crown and auxiliary buds. Yield will be reduced and harvest will be delayed while the new shoots develop.*
- *If the growth of frozen stems is sufficiently tall to be economic to harvest (14 inches or more), do so. There is no toxin in the frozen topgrowth and it will provide good high quality forage. Mow immediately and harvest as normal. Regrowth will be slow and some total season yield loss will occur. After harvest ensure that soil fertility is adequate for good growth. Letting the next cutting grow to first flower will improve stand condition.*

Over two weeks have passed since the first real cold nights. Assessment of alfalfa stands throughout most areas of Western New York reveals that there are many stems that had their growing points killed by the frost. When we do get some warm weather, especially a warm rain, we should expect to see some new growth start from the crown and auxiliary buds. This is just starting to be observable. It is likely that first cutting yield potential has been reduced and harvest will be delayed. Presumably, the same holds true for Red Clover.

Grasses can also be frost injured. It appears that orchardgrass took these freezes particularly hard. According to a publication from Iowa State, new growth is often slow and will be seen as new side tillers (leaves) growing on the outer edges of the orchardgrass plant clumps. As with alfalfa, I have seen little evidence of regrowth occurring.

It will be important to assess fields over the next few weeks to determine how they came through this freaky winter and spring. With forage in short supply and land values on the rise, a farm cannot afford to keep low yield potential fields in hay. In many cases, a change in planned rotation may be necessary.

Warm Weather and Pest Populations

— John Tooker, Penn State Entomology Specialist

The mild winter and recent warm weather have many folks wondering if pest problems are bound to be worse this growing season. The mild winter will certainly allow a few pest species to survive better because their populations are knocked back by cold winters—bean leaf beetle and slugs are two that jump to mind, so we will need to watch those populations.

The bottom line, however, is that the influence of these temperatures on the majority of crop pests we face is not very predictable. For example, many insect pests that we face (e.g., potato leaf hopper, black cutworm) are migratory and come to Pennsylvania (and New York) from southern states; therefore, our local weather will not influence their arrival much. To be certain of what is in your fields and understand local pest populations, growers will need to rely even more on regular bouts of scouting—get out in the field and see what is active!

On-Farm Energy Initiative

Most agricultural producers are familiar with the Environmental Quality Incentives Program (EQIP) that provides assistance to plan and implement conservation practices, but did you know that includes energy conservation? The 2008 Farm Bill includes provisions for EQIP assistance through the On-Farm Energy Initiative.

The On-Farm Energy Initiative has two facets. First, it enables producers to identify ways to conserve energy on the farm through an on-farm energy audit. Second, it provides financial and technical assistance to implement conservation practices recommended in the audit, such as residue and tillage management and Farmstead Energy Improvement.

Applications for this EQIP program are accepted on a continuous basis throughout the year and can be filed with NRCS at your local USDA Service Center. If you would like more information about this or other EQIP initiatives, please visit the NRCS website at www.nrcs.usda.gov/programs/eqip/.

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