



## Are You and Your Corn Planter Ready for Great Yields?

By Dave Shearing, from various sources

Our February newsletter included in-shop tips for getting your corn planter in top condition for planting season. As the snow melts, the ground dries out, and the tractor tires start hitting the fields, the second phase of the preparation is essential.

The following practices in the field will help ensure picket fence stands:

1. Make sure the planter frame is level when it is in the ground. Non-level planters can lead to several unexpected problems.
  - The fertilizer coulters may be so close to the soil that they catch and pile residue.
  - Rigid residue managers may dig trenches or canals that force the depth gauge wheels to ride high and put the seed in too shallow.
  - The rear closing wheels are high and just don't close the seed slot, hindering emergence. Many times this occurs when the hitch is too low or the tractor tires have worn down since last year. Sometimes mellowness of the field will affect this.
2. Parallel arms should be close to level when the planter is in the ground in order to achieve maximum benefit from down-pressure springs. Be sure to check the bushings on the arms and replace them if they are sloppy.
3. Maintain the 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. A planter that was level last year may be different this year due to worn tractor tires.
5. A no-till coulters or center zone-till coulters should be one-half inch shallower than planting depth. Some farmers have taken the no-till coulters off and feel they get better stands because of less bounce.
6. To prevent fertilizer burn, the fertilizer coulters should be around 4 inches deep and at least 2 inches away from the seed trench. **Check this often!** Every season we see a few people who have one get bent or slide over and burn one row in a field or two. This makes for a very unhappy farmer. (There are exceptions to this rule. If the total of N and K is more than 90#/acre, the fertilizer should be moved further from the seed furrow.)
7. Rigid 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 to 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. One line of thought maintains that running the trash wheels a little wider to get the trash beyond the gauge wheels will provide better depth control. I agree with this statement.

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8. Seed depth should be checked with every soil condition change. Down pressure springs and depth gauge wheels may need adjusting 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 might have planted too shallow in 2016. Planting early and too deep on wet heavy soils can result in surface crusting or rotting seed.
10. Remember to use the recommended seed flow lubricant whether you use finger planters or vacuum planters.
11. Closing wheels should be centered exactly on the row. If you have spiked closing wheels, the gap between the spikes should be between 2 and 2½ inches. Use very little pressure on spiked closing wheels.
12. It is recommended to 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 will pay a penalty for high speed planting. A trial by Ken Ferrie, a field agronomist for *Farm Journal* magazine, compared a planter operating at 5 mph vs. 7 mph. The higher speed resulted in an 11 bushel/acre yield loss compared to the lower speed. The extra speed caused havoc with the meter, uneven distribution in the row, and depth control problems. For example, 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/hour. Finishing two days early will cost you 11,000 bushels at harvest, or \$44,000 at \$4.00/bushel corn or \$66,000 at \$6.00/bushel corn. The resulting fine for speeding is \$2,315 per hour at \$4.00/bushel or \$3,472 per hour at \$6.00/bushel.
14. One of the most important things you can do when planting corn is **get off the tractor often**. There is no technology available that checks seed depth, the distance fertilizer is from the seed slot, and the level of the planter. The operator must be the most alert person on the farm. If he or she is tired, lazy or just doesn't know the importance of each item, your yield can suffer.

By following these steps, once the weather cooperates, you can look forward to gazing at beautiful stands of corn this summer.



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# Lime – The Backbone of Your Crop Nutrient Plan

by Nate Herendeen

Soil test results from CMA sampling routinely list soil pH, a measure of acidity in the soil complex. They also list BPH (Buffer pH), a measure of how much buffering capacity the aglime to be applied is working to correct. We routinely make recommendations based on the soil pH (and BpH) needs for various crops you plan to grow. Sometimes two fields on the same farm will have different aglime recommendations for the same soil pH value. That may be due to different soil types, one with a higher requirement based on BpH. It is probably higher in clay content. Questions on aglime for soils keep coming in so let's review some aglime basics.

**What is aglime:** It is a naturally occurring rock that was deposited millions of years ago in shallow ocean floors where millions of shelled creatures, such as clams, oysters and other extinct bottom feeders, lived. Their shells are almost entirely calcium and magnesium carbonates with some phosphates. Over time, this material subsided with deposits of sediments on top and it was pressurized into limestone rock.

That bedrock is now close to the surface in two major areas of western New York. First is the Niagara Escarpment, a deposit called the Lockport Dolomite. That rock ledge created Niagara Falls. It extends from Michigan through Canada into the US at Lewiston and east through Gasport, Albion, Rochester, and Walworth and on eastward. The other is the Genesee Escarpment (less obvious than Niagara), extending east from Buffalo through Batavia, Stafford, Farmington, Fayette and on eastward. It has various names across New York. These limestone deposits are mined, crushed and ground for use as all types of construction crushed stone and more. When this rock is ground to a smaller fineness it becomes aglime.

More recent deposits (last 20,000 years) gave us Marl lime mined from under shallow fresh water. These occur where fresh water mollusks lived and became deposits under marshlands. These deposits underlay much of the areas where muckland soils are now farmed. Some of those marshlands were drained and the marl mined and dried to make aglime. These contain more impurities and have not had millions of years to become hard carbonate rock.

**Regulations:** All aglime offered for sale as a soil amendment has to be tested and obtain a certification from NY State Agriculture and Markets as to Effective Neutralizing Value (ENV) and nutrient (Ca, Mg) content. The online listing of vendors and materials is located at <https://www.agriculture.ny.gov/>; select 'Plant Industry' under 'Agency Divisions', then 'Commodities', followed by 'Licensed Seller of Agricultural Liming Materials.'

**ENV:** The Effective Neutralizing Value (ENV) must be listed on the bag or the sales slip by the aglime vendor. Vendors are subject to random sampling by the Ag and Markets farm products inspectors. The ENV is determined by the fineness of grind, the relative amounts of calcium and magnesium in the material, and the amount of impurities. ENV is expressed as a percentage of the ENV of pure calcium carbonate of an equal weight (mass) with a specified fineness of grind.

If you purchase a 75 ENV aglime, it has 3/4 of the neutralizing ability of a 100 ENV aglime. For example, to obtain the actual amount of aglime to meet a recommendation of 1.5 tons/acre, simply divide the recommendation by the ENV expressed as a percentage. (1.5 ton/acre divided by 0.75 = 2; so you actually need 2.0 ton/acre to meet this lime requirement.) Most aglime materials are between 65 and 95 ENV. For the same recommendation using a 92 ENV material, you would only need 1.63 ton/acre to accomplish the same goal. Take this into account when making price comparisons of aglime materials.

**Calcium vs. Magnesium:** Dolomitic limestone contains both calcium carbonate and magnesium carbonate. Magnesium has greater neutralizing power than calcium on a unit-to-unit basis. But, even dolomitic aglime is still mostly calcium carbonate. The Niagara Escarpment rock is commonly 9 to 12% magnesium and is called dolomitic aglime. The aglime materials from the Genesee Escarpment are usually

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1 to 3% magnesium and are called calcic aglime. Marl aglime is calcic and is usually less than 1% magnesium.

The soils in the Southern Tier hill areas are generally very low in naturally occurring magnesium and are likely to need the high magnesium aglime. The soils between Route 20 and Lake Ontario have greater amounts of natural magnesium.

Some crops (birdsfoot trefoil, broccoli, cauliflower, and apples) have a higher need for magnesium. Other crops, such as corn, small grains, grasses and alfalfa, get by perfectly well with low amounts of magnesium. Good activity of soil chemistry and biology is best within a fairly wide ratio of calcium to magnesium. Some soil scientists think it is best between 5:1 and 20:1 and aim for a 10:1 ratio for optimum crop growth. Others believe Ca:Mg ratios can range from 2:1 to 50:1 and be okay for most crops, as long as the magnesium soil test value is greater than 175 ppm. Extremely low magnesium soils (less than 50 ppm) definitely need dolomitic lime.

For most soils and crops grown in western New York, it doesn't make much difference if you use calcic or dolomitic aglime. **Buy on the basis of the lowest cost per ENV score.** If you want more specific advice or wish to discuss Ca:Mg ratios in more detail, call your crop consultant.

**Good times to apply aglime:** It is okay to spread lime any time the soil will support the traffic without causing compaction. Early spring with hard frozen ground is okay. An ideal time is after first or second cutting of hay crops. Another is after harvest of wheat or other small grains. It takes a season (year) of reaction time for aglime to make a significant difference in soil acidity.

A proper soil pH for the crops you grow is the foundation for a nutrient management plan that will give optimum growth. If aglime is needed, it is the place to start to improve soil chemistry and biology.



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## Western Bean Cutworm in New York State

by Eric Nixon

The Western Bean Cutworm (WBC) is quickly and quietly invading New York State. This pest has been monitored by Cornell University, led by Keith Waldron and Carol McNeil, since 2010. Cornell Extension agents and other crop agencies, including WNY Crop Management, have been assisting in monitoring the WBC using pheromone traps to collect the male moths between July 1st and Sept 1st. The most interesting findings have been that every year the total catch of the moths has doubled! In NY, some of the highest numbers of WBC moths have been collected in northern and western New York.



So what does this mean to you? If you grow field corn, sweet corn or dry beans (not including soybeans), then you may want to pay attention. The moths fly at night from the mid-western states in search of pre-tassel corn and early blooming dry bean fields. After they mate, the females prefer to lay egg masses on or near the corn flag leaf or on any dry bean leaf. After the eggs hatch, the larvae begin feeding on the reproductive parts of the plant, the corn ear and kernels or the bean flowers and pods. This will result in decreased yield and grain quality and, potentially, an increased chance of disease and molds in the crop.

Finding egg masses can be a challenge because of the sporadic and patchy laying of the eggs throughout the field. I have been monitoring a WBC trap near my home in Attica, NY for the past 5-6 years. Although I have had some very large numbers of moths in the trap, I have not seen any egg masses yet. Often, the peak counts occur near August 1st, corresponding to pre-tassel stage in late-planted corn. This is another reason to try to get corn planted early in the spring or plant shorter season hybrids so it is fully tasseled in July. Other management strategies could be the use of Bt varieties, but NOT all Bt traits will have an affect on WBC. Traits that contain Cry1F (Herculex I, Herculex Xtra, Optimum AcreMaxI and SmartStax) or Vip3A (Agrisure Viptera) have very good resistance to feeding by the larvae. Foliar applications with an insecticide can be made, but timing and economic threshold can be tricky. A lethal dose of the insecticide must come in contact with the larvae before they get into the ear or they will be protected from the insecticide. Dry bean insecticide applications have been timed to correspond with local traps reaching a cumulative catch of 100+ male moths. Scouting and monitoring of the WBC will continue in New York. If the trend continues to double every year, the WBC have the potential to be a very damaging pest.



WNY Crop Management created a Map App, Webmaps and even a database for members to utilize. These tools are free and available for all of our members to view and edit various farm information. You can enter manure applications, planting records and some of the required CAFO records. We even provide installation and training services. For more information, contact your consultant or call a CMA office.

## Did You Know?



«FarmName»  
«FirstName» «LastName»  
«Address»  
«City», «State» «ZIPCode»

