Of the 2.2 million farms in the United States, 87% are owned by an individual or a married couple responsible for operating the farm. If partnerships – typically a parent and one or more children or other close relatives – are added to this total, 97% of U.S. farms are family-owned and operated, according to the USDA. Even those farms that are legally corporations are generally family controlled, with USDA reporting only 7,000 non-family-controlled corporate farms in the United States. (Agweb.com)

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# Twelve Ways to Hurt Your Corn's Yield in the Next 45 Days

By: Dan Steward

- **Plant your corn on low pH soils**. If the soil pH is in the mid 5's, you are setting yourself up for failure. The cost of lime has gone up, but not proportionally as much as seed, fuel, fertilizer, and the value of the crop. Even on a short-term lease, a ton of lime per acre worked in on the surface will pay for itself.
- **Fail to put potash on fields where it is needed.** This is especially true for those with liquid fertilizer, which typically has very little K in the analysis. Your cropping plan should identify which fields have low soil test K. If those fields do not get manure they will need to have commercial fertilizer broadcast. Make sure it gets done.
- **Spread your manure when it is too wet.** Spreading your manure when it's too wet can cause deep compaction, which will restrict water and root movement. It also leads to poor soil tilth.
- **Plow your ground when it is too wet.** Plowing your ground when it's too wet can create a plow-pan. It also leads to clods on finer textured soils. Clods are usually bad because roots generally will not grow in them, and they cannot transmit water to the seeds or roots. Breaking up clods is also bad; pulverizing the soil leads to crusting and… poor soil tilth.
- **Secondary- till your ground when it is too wet**. Plowing when it is too wet can create a pan at 8-10"; disking or field cultivating can create that pan at 3"!
- **Plant your corn when it is too wet**. This can lead to Sidewall Compaction, which is a good way to make sure your corn roots are restricted on the sides as well as below!
- **Plant your seed too shallow.** All sorts of bad things can happen when you plant too shallow: uneven germination, bird damage (seed is easier to find and pull), increased potential for injury when using some herbicides, and lost yield potential. In a study carried out by Ohio State, grain yields were about 14% greater for the 1.5 inch and 3 inch planting depths than the 0.5 inch planting depth in 2011, and 40% greater in 2012. It does not matter if you have the planter gauge wheels set to plant at a 2-inch depth, you have to check your depth while planting! The last thing you want to hear is your scout telling you that your corn was planted too shallow. When in doubt, plant on the deep side. Planting too deep does not even make this list!
- **Plant your corn in cool soils just before a cold rain or snow**. One of the risks that newly planted corn faces is that of **imbibitional chilling injury** due to cold soil temperatures during the initial 24 to 36 hours after planting when the kernels imbibe water and begin the germination process. In response to the imbibition of water, kernels naturally swell or expand. If the cell tissues of the kernel are too cold, they become less elastic and may rupture during the swelling process. Symptoms of imbibitional chilling injury include swollen kernels that fail to germinate or arrested growth of the radicle root and/or coleoptile following the start of germination. If the soil is cold (even if it is dry) and cold, **wet** weather is forecast for the immediate future, you are at higher risk than if cold, **dry** weather is forecast.
- **Plant your corn at less than optimal population.** Today's hybrids generally respond to higher populations. (See following article.) If you are not planting close to those populations, you are leaving some yield potential in the bag.
- **Plant into a fertilizer band**. There are many farms that are putting on a large portion of their nitrogen needs at planting with liquid UAN (Urea Ammonium Nitrate). Many times, this UAN is also cut with ATS (Ammonium Thio-sulfate). UAN at high rates and ATS at any rate in the seed trench are bad for germination. Make sure your fertilizer openers are set at least 3" to the side.
- **Spray your one-pass post-emergence herbicide application too late.** Herbicide companies have done a great job of pointing out the potential yield loss from early season weed competition. Some of this is exaggerated. Common sense tells you that if there are not that many weeds, you probably are not going to lose much yield if you are a little late. However, if a field has a carpet of quackgrass, nutsedge, or mustard, it better be sprayed sooner rather than later.
- **Spray your conventional corn with glyphosate**. Obviously planting logs are critical when you are planting both conventional and glyphosate-tolerant corn. Do not be one of those unfortunate few that kill their corn due to poor record keeping.

# Seed Corn Populations

By: Tom Frederes

As you read this, most of you already have corn seed bought and on the farm; there may even be some corn already in the ground. Some of you may still be deciding what planting rates to set your planter at. Others may already have plans to vary rates considerably. With so much work to be done and so much to keep track of, there is the temptation to abandon these good intentions once the planter starts to roll. Chances are, though, if you just pick one seed rate for all varieties and all soil types, some of the yield potential in that $250 bag of corn may be lost before you even get started.

In choosing your seed rates, let's start with a look at what Cornell is recommending and how things have changed over the last 15 years.

Table: Composite of 1998 & 2013 Cornell Field Crop Guide: Corn Silage Populations

| Soil Conditions | 1998 | 2013 |
|---|---|---|
| **Very deep loams and silt loams with high moisture-holding capacity** | **36,500** | **37,750** |
| **Well to moderately well-drained loams to clay loams** | **32,500** | **35,500** |
| **Sandy loams, clays, or somewhat poorly drained loams to clay loams** | **30,000** | **33,300** |
| **Droughty soils including very gravelly, sandy, or shallow soils** | **25,500** | **31,000** |

So why is there this trend to higher populations? The answer is improved plant genetics that have increased plant stress tolerance and plant health.

Research at Cornell the last couple of years has shown that *SOME* varieties have performed very well at populations as high as 40,000, without much of a reduction in forage quality. (For more information on this study see: *What's Cropping Up: Corn Silage Hybrids and Plant Populations March-April 2010.)* Some seed corn salesmen have taken a bit of liberty with that information and seem to be recommending 40,000 across the board, at least for silage.

However, with this rush to higher populations, when I look at a seed corn catalog recommending a certain variety at 28-30,000 I tend to believe that the company has seen something in their plots related to stress or standability at higher populations. That is not to say that there is anything "wrong" with that variety; it may yield just fine during droughty conditions at the recommended population.

So what to do… 28,000, 35,000, 40,000 or more? Here are some points to consider:

On droughty soils, if you don't have or don't know if you have a hybrid that is drought tolerant, plant in the 30-32,000 range. If it is a longer-term cornfield that receives little or no manure, you may want to consider something closer to the 28-30,000 range.

On fields with adequate moisture holding capacity, adequate fertility and if the variety will tolerate it, 34-35,000 is probably going to give you the best return.

If you have a variety that the company says will tolerate 40,000 and you want to try it on a field or two, my advice would be to plant it in moderately well drained soil with high fertility.

In a nutshell, take the companies' advice. Be it high, low or somewhere in the middle, those suggested populations are there for a reason.

# CAFO – Has the Threshold Changed?

*By Rhonda Lindquist*

Are we there yet? Last August, Governor Cuomo announced that the State would raise the CAFO threshold number from 200 to 300 for mature dairy cattle. Not so fast Mr. Governor.

This proposal has been met with much protest and hullabaloo from a number of environmental groups. This is the same coalition of environmentalists who filed 78 pages of comments contesting the change during the public comment period and who filed a Freedom of Information Act (FOIA) request with the Department of Environmental Conservation (DEC) and the U.S. Environmental Protection Agency (EPA). They requested data for all livestock farms in New York that had a CAFO permit from 2004 to the present, even if the farm is no longer permitted.

Although the new regulations will officially become effective on May 8th, it is assumed that the environmentalists are gathering information to build a case to file a lawsuit against the DEC in an attempt to block the permit modifications. If a suit is initiated, the Court will issue a stay on the rule-making and we are back to the previous regulations until the matter is resolved in the courts.

Similar to others, I have been critical of the DEC in the past for making rules and regulations so stringent that it is nearly impossible to conduct business in a cost-effective manner in our state. However, being a part of the NYS CAFO Workgroup, I can attest to the fact that the DEC has been working feverishly to implement this rulemaking since the Governor's announcement.

I am predicting that we are still in for a turbulent ride. So no, we're not there yet and don't take your seat belt off too soon.

## ALACHLOR HERBICIDE CANCELLATION REMINDER

Don Mitzel, Pesticide Advisory

We were informed by the Monsanto sales representative in a recent meeting that their alachlor based products were being cancelled, so acetochlor based products could be registered for use in New York.

Growers will have until December 31, 2013 to use any remaining, previously purchased Bullet, Micro-Tech, Lariat or Intrro product in their possession. Since most farms try to keep their pesticide inventories low, I would assume that there are only small quantities left, if any. According to my DEC contacts, possession or use of these products after December 31, 2013 will be illegal!! You can bet that if you are found with any after that date, there most likely will be a fine and disposal fees imposed. So please use it up while it's still legal, even if you only have enough to do a portion of a field.

On another note, I received a DEC press release on nuisance geese. Please contact your local DEC office for requirements on taking young geese and obtaining permits to take adult geese that are causing crop damage. This would be your contact point for nuisance deer as well; and many have been seen in winter wheat fields being scouted...

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