

WIDMER &
ASSOCIATES, LTD.

**FOR THE
RECORD:**

Data from OARDC Fre-
mont, Matt Hofelich

2010 Rainfall: 1.73"

Cumulative GDDs: 6

Soil Temperature: 40.2

Websites of Interest:

www.widmerassoc.com

www.weather.com

<http://vegnet.osu.edu>

<http://corn.osu.edu>

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The W&A Q&A

Dedicated to Excellence in Growing Crops

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When to Topdress Wheat - Dusty Sonnenberg, CCA

When should I top dress my wheat? This is an annual question often best answered "it just depends."

The real answer is based on the condition of the crop in the field, as well as the ground conditions.

From a strict agronomic perspective, the best time to top dress N on wheat is between Green-up and Feekes Growth Stage 6. Wheat only utilizes 30% of its nitrogen up to Feekes 6. Between Feekes 6 and Feekes 9 is when the plant nitrogen needs ramp-up and utilization is the greatest. This is the period immediately after tillering, often referred to as stem extension. By the Feekes 9 growth stage, 75% of the

nitrogen the plant needs is taken up.

From a total Nitrogen standpoint, generally 20 to 30 pounds of fall-applied nitrogen should be adequate for early growth.

The final amount applied in the spring is based on the yield potential of the specific field and stand.

An 80 bu/ac potential crop should have 90# total of N, and a 100 bu/ac potential crop should have 130# total of N.

It is possible to top dress apply nitrogen too early. In the pre-green-up stages, the wheat crop is still dormant, and nitrogen will not be able to be utilized until it breaks dormancy. The risk during this early time period is nitrogen loss due to environmental conditions.

Obviously ground conditions should and will also play a key part in the timing of your Spring N top-dress application. Finding a time when the ground will support the fertilizer application equipment can be challenging in a wet year. To ensure you maximize your N application and get the greatest yield response with minimal negative ground impact, now is the time to start field scouting.



2010 W&A On Farm Trials

In an effort to provide the most relevant and up-to-date information on new products in the marketplace, we conduct annual field trials to determine the true reliability and most useful applications for our valued customers.

This field research sets Widmer & Associates apart from other organizations who simply establish plots for sales purposes.

We value the long term relationships we have with our growers and will not recommend products until

we feel that they have been proven in a variety of field conditions relevant to our production needs here in Northwest Ohio.

For a copy of our 2009 field results, or past on-farm trials, please contact one of our certified crop advisors.

CORN PLANTING FACTS:

Uneven stand establishment in corn can reduce a field's yield potential from the first day you place seed in the ground. Yield losses can easily be as much as 7 to 15 bushels per acre due to combinations of uneven within-row plant spacing or uneven seedling emergence.

For Spring Weed Control Ideas, and more weed control information, check out the following website: <http://agcrops.osu.edu/weeds/> The 2010 Ohio & Indiana Weed Control Guide is also available online in pdf form at: <http://agcrops.osu.edu/weeds/documents/Bulletin789.pdf>

Food Safety & Traceability— by Rex Marquart, CCA

Rex Marquart has been an Affiliated Auditor with PrimusLabs.com since 2003. The E Coli on spinach and tomatoes/peppers and salmonella on peanuts and pistachios, has made Food Safety and Traceability of all farm products a Consumer issue in the past two years.

The first thing to do is develop a GAP (Good Agricultural Practices) Manual, GMP (Good Manufacturing Practices) or GHP (Good Handling Practices) and Traceability Manual.

Guidelines for these manuals can be found on the following online resources: FDA's Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits & Vegetables at www.foodsafety.gov www.cfsan.fda.gov USDA AMS audit services and verification checklist: www.ams.usda.gov/gaphp or www.usda.gov/ams



Free internet tools to help you implement a food safety program. In the document development section you can develop a "GAP Manual", "GMP Manual" (Packinghouse), and Traceability Manual. www.primuslabs.com www.gaps.cornell.edu provides educational materials on Good Agricultural Practices. Once you get your manuals setup you will be able to start implementing and documenting your "Food Safety Programs".

Thoughts on Seed Treatments*— by Doug Mitchell, CCA

Regardless of the amount of resources spent on controlling foliar diseases in soybeans these past few years, it is still the root and lower stem diseases that have the biggest economic impact in Northern Ohio. Early season damping off from Phytophthora and Pythium on seedlings that have not yet expressed their own genetic tolerance can be especially damaging to soybean stands in this area. A number of seed treatment products have been introduced to the market for early season control of soil borne pathogens when plants are the most vulnerable. Many of today's seed treatment products incorporate new chemistry and/or a combination of fungicides to broaden their spectrum and pick up other pathogens such as Fusarium and Rhizoctonia. However, the products that have the high-

est rating for Phytophthora and Pythium still have some form of the active ingredient Metalaxyl /Mefenoxom as at least one of its components. Metalaxyl was first introduced as the active ingredient in Ridomil Fungicide and Apron Seed Treatment. Products such as Allegiance FL, Trilex, Cruiser Maxx, Latitude, and Prevail all contain this active ingredient. Even Metalaxyl must be used at the highest rate of the range for good control of Phytophthora and Pythium.

Some new seed treatments also contain an insecticide for control of seedling pests. Even though these are potent insecticides such as imidacloprid (the active ingredient in Admire) or clothianidin (used in Poncho seed corn treatment) they have not been shown to provide mid or late season control. There is

some debate about whether control of early bean leaf beetle feeding is worth the cost of the insecticide when the soybeans are still vulnerable to a mid and late season feeding. Bean leaf beetle however, can be vectors of the pod mottle virus during early season feeding. In situations where seed quality is a priority, such as with food grade soybeans or seed production fields, controlling early season bean leaf beetle would be justified economically.

For Northern Ohio soils at least, products with Metalaxyl and combinations of Metalaxyl and other new fungicides are good tools in stand establishment (and there are other promising new products in the pipeline). They can provide an economically sound way to help protect what is today a large grower investment in his seed.

2010 Corn Planting Tips - by Mike Netz, CCA

A wise agriculturalist once said that "the sins of planting will haunt you all season." By that he meant that mistakes made during the planting operation are usually permanent, unless you decide to replant the field at a later date. The effects of uneven or variable stand establishment on the yield potential of corn are also permanent and begin very early in the growing season. A close inspection of a corn stand sometimes reveals that the stand is not as uniform as it appeared from the road. There may be tall corn and short corn, long gaps within the row, and groups of crowded plants. Indeed, stand establishment variability is composed of both emergence variability and within-row plant spacing variability.

Plant Spacing Variability

Modern corn planters have the capability to uniformly singulate individual kernels from the seed hopper or drum and deliver them uniformly to the seed furrow. In reality, the actual spacing between plants within rows is often quite uneven. Variability among plant-to-plant spacings within the row usually consists of some combination of crowded plants (doubles, triples, or worse) and long gaps. While it is true that plants next to a gap may compensate and produce larger ears, they generally cannot compensate enough for the smaller ears of the crowded plants that are competing for sunlight, water, and nutrients.

The results of field research indicated that about 2½ bushels per acre are lost for every 1 inch increase in the standard deviation of the plant-to-plant spacings. Surveys of commercial corn fields suggest that 60 % of those fields could improve yield from 5 to 7½ bushels per acre by improving the uniformity of plant-to-plant spacing to a standard deviation of 2 inches.

Causes of Plant Spacing Variability

Small gaps will always occur due to the fact that less than 100 percent of the kernels planted actually germinate. Warm germination percentage of seed corn typically ranges from 90 to 95 percent, thus perfect final stands are rare. More importantly, plant spacing variability is typically related to misadjusted or malfunctioning planter mechanisms.

With finger-pickup seed metering systems, double or triple seed drops may occur from worn finger-pickup mechanisms, misadjusted finger tension, worn knockoff brushes, or from driving too fast. Aged seed conveyor belts may not deliver kernels properly to the seed chute.

Misadjusted air pressure, leaks in the system, worn knockoff brushes, or wrong disc sizes may cause uneven seed drop with air planters.

Keep in mind that stand reductions caused by weather- or pest-related damage may also result in unevenly spaced plant survivors within the rows. Perhaps replant decisions should take this additional yield loss into considerations.

Tips for Preventing Plant Spacing Variability

Adjustment instructions and service schedules provided in the planter operation manual should be read and followed religiously during the off-season as well as during the planting season. Here are a few pointers:

With plate-type planters, match the seed grade with the correct planter plate.

Planters with finger pick-ups should be checked for wear on the back plate and brush. Use a feeler gauge to check tension on the fingers, then tighten them correctly.

Check for wear on double-disc openers and seed tubes.

Make sure the sprocket settings on the planter transmission are correct.

Check for worn chains, stiff chain links, and improper tire pressure.

Lubricate all chains and grease fittings.

Make sure seed drop tubes are clean and clear of any obstructions.

Clean seed tube sensors if you have a planter monitor.

Make sure coulters and disc openers are aligned properly.

With air planters, match the air pressure to the weight of the seed being planted.

Plant Emergence Variability

Another component of stand establishment variability is delayed emergence. While it is not common for every plant in a field to emerge on the same day, farmers intuitively desire such uniform emergence. Research conducted at the universities of Illinois and Wisconsin (Carter & Nafziger, 1989; Nafziger et al., 1991) were designed to determine the effect of delayed emergence on corn grain yield. Differing lengths of delays, different patterns and proportions of delayed and normal plants, and two hybrids differing in ear-size flexibility were all evaluated in these field experiments.

Emergence delays of about 10 days scattered throughout the field reduced yield 6 to 9% compared to full stands of normal emergence. Emergence delays of about 21 days reduced yield 10 to 22 percent compared to a full stand of normal emergence, depending on the proportion of delayed emergers to normal emergers. The reason for the detrimental effect of delayed emergers is that they simply cannot compete with older, more established plants for sunlight, moisture and nutrients. The delayed emergers will typically become stunted in their growth and rarely produce a harvestable ear.

A way to determine the severity of the problem in your field is to compare growth stages of normal and delayed emergers. From observations in the field, a growth stage difference of two leaves or greater between adjacent plants will almost always result in the smaller (younger) of the two being barren at the end of the season.



Widmer & Associates, Ltd.

953 E. Madison St.

Gibsonburg, OH 43431

www.widmerassoc.com

Technology Tips *Dusty Sonnenberg*

Before you go to the fields this spring, don't forget to update your RTK Equipment. Every year, the various GPS companies release new versions of their firmware which run the operating systems your GPS equipment uses. Sometimes this includes simple modifications to how the programs function. Often times, new features are added to programs.

Many times these firmware updates are available on the companies websites as a simple download to a USB thumbdrive or memory card. This can then be plugged into the display and the display will automatically find it and ask you if you would like to upgrade. Other times you may need to download a free program from the company website, and then use a

laptop or memory card to update the device. Regardless of what equipment you use, the end performance is only as good as the current version of firmware your unit is running. If you have questions about your equipment upgrades feel free to call any of our Precision Ag Team at W&A.

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& ASSOCIATES, LTD**

www.widmerassoc.com

Gibsonburg, Ohio
419-637-4094