



PEST MANAGEMENT & CROP DEVELOPMENT

BULLETIN

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Changing Communication Methods in Agriculture

Since we are approaching a holiday weekend, I thought it was a good time to ease our minds from discussions about just crop-related issues and to spur thinking and garner some feedback about *the Bulletin* and other needs for University extension specialists to adapt to the changing times in communication.

First, let me explain a little more about myself as the editor of *the Bulletin*. I consider myself a full-fledged member of “Generation X” from a stereotypical standpoint, but my long duration of education has left me to understand much of the rationale of my younger cohorts, known as the Millennial Generation. My continual need to question and to understand things from a position of cynicism before I become a believer means I don’t consider myself an “early adopter” of technology. I am also not a self-proclaimed expert when it comes to the “latest and greatest” in technology. But my attitude has always left me intrigued at the faith of my Millennial cohorts that each new gadget would become the next best thing since sliced bread. Now, as the most junior of faculty members primarily charged to extend information to the people of Illinois, I find it imperative to use every form of effective media to distribute information to a clientele with ever-expanding needs for effective reception.

Methods and tools used to communicate are changing worldwide, a reality that has not excluded agriculture. Things are changing so fast that it is hard to keep up with all the “new stuff” and determine how advancing technologies can be used to help your farm or small agricultural business. I suspect that some new tools and methods will fade out with time, and not having spent energy understanding or learning to use them might be a benefit to some. However, the greatest benefits will be accrued by early adopters who can continue to improve the volume and efficiency of news and information they receive. You can probably remember life without computers, cell phones, digital cameras, and the Internet, but would your work today be as efficient without these luxuries? Do most of us even consider those items luxuries, or have they become necessities for our daily operations?

In issue 2 of *the Bulletin* (April 3), I wrote about the newsletter’s new RSS feed and suggested some ways to use it to receive our articles and other content from agricultural websites and blogs. I’d like to discuss a few more ways that communication is changing in agriculture and expanding far beyond websites and e-mail. Many of these changes have opened up instant connections with business and extension, right down to the farm level.

The emergence of “new media” and “social media” has created rapid changes. *New media* encompasses the many different means of electronic communication made possible by computer technologies (in contrast to “old media,” including print newspapers and magazines). *Social media* refers to the use of digital technologies by individuals to socialize online and to share personal ideas, thoughts, news, information, and content, both between individuals and among groups.

Blogs, Facebook, Twitter—you hear them referred to constantly these days. But what should we pay attention to? As editor of *the Bulletin*, and as a new extension crops specialist, I find myself thinking frequently about how we should incorporate changing technologies to best serve our clientele. Blogs, or web-based information and opinion sites, are an increasing popular way for extension professionals to share information. These are just a few of the blogs published by extension professionals that I follow: The Soy Report from the University of Wisconsin (thesoyreport.blogspot.com), Iowa Farmer Today's CropWatch Blog (www.iowafarmertoday.com/blog), Grain Crops Update from the University of Kentucky (graincrops.blogspot.com), and the U of I's own Farmgate (farmgate.illinois.edu).

How about *Facebook*—is there a use for it among farmers? Between January and April of this year, Facebook membership increased from 150 to 200 million people, with the fastest-growing age group being over 35. Facebook is being used as a social tool among many agriculture-minded individuals: interest groups like the many state Farm Bureaus, science interest groups like the Weed Science Society of America, and less formal groups, including “I'm an agronomist.”

And how about *Twitter* (twitter.com)? I don't know of any extension specialists who are yet using “tweets” to educate clientele (140 characters might just be too limiting for us long-winded types), but several of the major agricultural companies use Twitter to promote products and engage farmers in informational forums. (And if you think farmers don't connect in forums online, you haven't been to AgTalk—newagtalk.com). In some regard Twitter makes a lot of sense because farmers (and their cell phones) are very mobile, while many of the other media platforms require being at a computer with a high-speed Internet connection. The most skilled of “techies” use all these media platforms and have them

so highly intertwined that when they post to one they update all the others. What do you use?

I have written this article to educate, but more importantly to spur interest and promote feedback about how we should be connecting to farmers and professional agronomists across Illinois. If you have comments, please send me an e-mail at davisv@illinois.edu.—*Vince M. Davis*

CROP DEVELOPMENT

Yellow Soybeans in High pH Soils: Sign of Mn Deficiency

Statewide soybean acres are 88% planted, 76% emerged as of June 28, and the earliest planted soybeans (1%) are starting to flower as a result of last week's high nighttime temperatures. High temperatures coupled with adequate moisture have provided very rapid crop growth and development. As crops grow rapidly, they also increase the rate of uptake of nutrients from the soil. This increase can create a deficiency of nutrients because the soil cannot release them fast enough to supply crop needs. Nutrient deficiencies that develop under these high-demand conditions typically occur in soils with marginal levels of the nutrient in question. So periods of rapid growth are a good time to inspect your crops for deficiencies of nutrients for which a reliable soil test is not available, such as micronutrients.

Manganese (Mn) is one of the micronutrients receiving attention in recent years. Concerns of Mn deficiency in soybeans have increased in part due to reports indicating reduced Mn availability following postemergence glyphosate applications. Many studies are being conducted on this issue, with mixed results. Whether or not Mn deficiencies are related to glyphosate applications, Mn deficiency has been observed in some fields, typically in soils with high organic matter, high pH, or poor drainage.

Since Mn is not easily translocated in the plant, deficiency symptoms appear in the newest developed leaves. The common symptoms include chlorosis or “yellowing” between the veins, while older leaves will still appear darker green. As the severity of deficiency increases, the dark green veins become lighter in color. Other symptoms include stunted growth, leaf drop, and reduced flowering.

If you have observed past Mn deficiencies in a field when either rapid growth was occurring or growing conditions were not favorable for nutrient uptake (a wet, cool spring), it is likely that Mn soil levels are marginal to low. If this is the first time you have seen a deficiency, it is important, along with having a tissue test done, to evaluate root damage, soil compaction, and other factors that might have reduced the crop's ability to take up nutrients.

Though soil tests for micronutrients (including Mn) are not very reliable, a plant tissue test is a good way to determine Mn availability. The best time for collecting plant tissue for analysis is just after flowering begins (R1 developmental stage). The typical recommendation is to collect the upper fully developed trifoliolate and petiole, but it is always recommended to find out what sampling technique is used by the lab doing the analysis. While most soybeans are not yet at this stage, waiting until then can be important to give the plant a chance to grow out of the deficiency if the problem was induced by other factors. If the deficiency is truly caused by low Mn levels in the soil, tissue samples at R1 development stage would indicate the need to correct the problem.

Mn levels in the soil can be difficult to correct, and changing the soil level is usually not the desired approach to fixing the situation. In some research trials, starter fertilizer combinations with Mn and sulfur in a 2-by-2-inch band off the row has been effective at alleviating the problem by lowering

the pH concentration near the immediate primary soybean root. However, once the symptoms appear in a soybean crop, the best solution is to apply foliar Mn fertilizer. The best recommendation is to apply 1 to 2 pounds of Mn per acre as manganese sulfate ($MnSO_4$), as soon as the symptoms appear or 7 to 10 days after a glyphosate application. Reapply at R1 and R3 as necessary depending on the severity of the problem. If Mn is applied as a tank-mix partner with glyphosate, the efficacy of both the glyphosate and the Mn may be reduced. However, if this is the desired approach, a chelated form of Mn (Mn-EDTA) should be used and the rates should be reduced to 0.1 to 0.25 pound Mn per acre. Moreover, when the solution is mixed, the best mixing order should be 1) ammonium sulfate, 2) glyphosate, and 3) Mn-EDTA. Of course, read and follow the label directions for the specific products you are using. — *Vince M. Davis and Fabián G. Fernández*

REGIONAL REPORTS

Extension center educators, unit educators, and unit assistants in northern, west-central, east-central, and southern Illinois prepare regional reports to provide more localized insight into pest situations and crop conditions in Illinois. The reports will keep you up to date on situations in field and forage crops as they develop throughout the season. The regions have been defined broadly to include the agricultural statistics districts as designated by the Illinois Agricultural Statistics Service, with slight modifications:

- North (Northwest and Northeast districts, plus Stark and Marshall counties)
- West-central (West and West South-west districts, and Peoria, Woodford,

Tazewell, Mason, Menard, and Logan counties from the Central district)

- East-central (East and East South-east districts [except Marion, Clay, Richland, and Lawrence counties], McLean, DeWitt, and Macon counties from the Central district)
- South (Southwest and Southeast districts, and Marion, Clay, Richland, and Lawrence counties from the East Southeast district)

We hope these reports will provide additional benefits for staying current as the season progresses.

Northern Illinois

Considerable growth in corn and soybeans has occurred over the last two weeks. Field activities have focused on postemergence herbicide spraying, cultivation, and some nitrogen sidedressing applications. Temperatures have been cooler this week, and windy conditions have hindered spraying of postemergence herbicides. The west-central portion of the region received 0.1 to 1.5 inches of rainfall on June 27. Overall, corn color has improved, but numerous fields exhibit uneven plant height. There have been no reports to date of insect infestations in corn or soybeans. Extension educators have begun monitoring insect traps for western bean cutworm moths, fall armyworm moths, European corn borer moths, and Japanese beetles.

Some producers have harvested a second cutting of alfalfa, while others were just making the first harvest last week. Jim Morrison, crop systems extension educator, reports some potato leaf hopper infestations in alfalfa.

West-Central Illinois

Wet weather has been followed by hot and dry. Some fields were almost to the point of moisture stress and

leaves were rolling prior to the past weekend's scattered showers, which brought anywhere from 0.4 inch to over 1 inch of rain. High winds have caused some corn to lean. The pleasant growing conditions have caused corn to respond dramatically, but fields look a little haphazard, as height and color are not consistent. Other practices in corn include sidedressing NH_3 and spraying for weeds. Several incidents have occurred in the region where glyphosate was applied by air to non-Roundup Ready corn.

Some growers have still not planted or are just getting the opportunity to plant soybeans this week. Growth stages of beans in the ground are VE to V3, and in some early-planted fields plants are just beginning to flower.

Wheat harvest is ongoing, and straw is getting baled. In some areas, yield will be impacted by rust and scab diseases. Yields from the Quincy area have been reported between 40 and 60 bushels per acre, but test weights have been in excess of 56 pounds.

Hay that was cut may have laid in the field until conditions were favorable to bale. Some producers reported poor quality because cut hay was too wet to bale in a timely manner. The first cutting in alfalfa and some grass occurred well past prime cutting time. Some roadsides are also being mowed for hay.

Japanese beetle populations have been reported in Montgomery, Sangamon, Adams, and Brown counties.

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