



Sulfur & Boron have been shown to benefit alfalfa grown on sandy ground, but University research indicates little to no benefit to corn or soybeans. Because both Sulfur and Boron are easily leached from sandy ground, this is where deficiency would be first and worst. Gerard and Steve grew corn and soybeans on very sandy soils collected from several clients problem fields last year. We found that Boron benefited corn and soybeans in most cases. Sulfur also benefited both corn and soybeans in most cases.

As with most problems, not all fields and all parts of fields have the problem. Figuring out where and when a problem is most likely to occur will help us be efficient with our fix to the problem. University trials have found small variable yield response to foliar applied boron at 0.25 pounds per acre at the R1 growth stage ((see article: [Risks and benefits of applying boron fertilizer to soybeans\(Michael Staton, MSU\)](#), available on the ABC web site. Consider conducting a STARS Potassium Fertilizer + Granubor 2 (Boron) Trial (see STARS article). A spread sheet showing the cost of various forms of sulfur has been posted on the ABC web site.

Wheat Nitrogen - The recent trend for nitrogen application on wheat has been to higher rates, later applications, split applications, replacing urea with 28% and the use of streamer nozzles for the 28% application. When growers adapt several of these practices at the same time, it is uncertain what is giving the (hoped for)benefit.

Of all these practices, a later application in my opinion causes the greatest yield benefit since it is timed to the wheat's greatest usage of nitrogen. Uniform application of nitrogen is a necessity and the reason that 28% may have an edge over urea. Split application is a way of giving growers more guts to hold off on the timing of larger and later application and it is also a way of providing nitrogen to the crop in the event that weather delays the later application.

Am I right about staying with 90-100#/A nitrogen vs. increasing nitrogen rates or should we be at 120+ #/A nitrogen? Martin Nagelkirk (MSU Extension) has a protocol to field test this question easily with a strip trial. Call me about setting up a strip trial in one of your fields.

This April nearly all of the wheat fields we scouted, were still dormant with the base of the plant green and viable and no indication of frost heaving. Winter kill due to ponding and ice was minimal.

Wheat Herbicides & Cover Crops. Cover crops after wheat add diversity to your rotation, benefit soil structure, hold nutrients (especially nitrogen after manure applications) and can generate nitrogen (clovers and other legumes). Corn following wheat in a CSW rotation out yields corn in a SC rotation. Corn after frost seeded red clover into wheat yielded 8 bu/A better than corn after wheat alone in a study by Dr. Bill Deen, University of Guelph.

Herbicides applied to wheat limit your cover crop options and require planning. Only a few weeds (chickweed, bluegrass, cheat grass, downy brome grass) are enough of a threat to wheat to regularly demand a herbicide application.

Starting off weed free is a key, either with tillage or with a Glyphosate application (required if dandelion is a problem). Fall herbicide applications are becoming more popular. Peak was the first(but with a long plant back restriction for broadleaves). Now more herbicides are labeled for fall application and several have plant back restrictions that allow frost seeding of clover. Determining the plant back restrictions for cover crops after herbicide application is key to avoid injury to the cover crop..

"Although few cover crops are listed in these Agronomy Guide tables or on herbicide labels, look for close plant relatives to get an idea of how certain species may succeed For example, there is no listing for the legume hairy vetch or the mustard daikon radish in the Agronomy Guide or on most labels, but by looking at the alfalfa or clover restrictions or at annual mustards such as canola you can "guesstimate" which herbicides may cause potential injury to related cover crop species." . (from **Herbicides Persistence and Rotation to Cover Crops** (<http://extension.psu.edu/plants/crops/soil-management/cover-crops/herbicide-persistence>) .

Using this method with Table 12 in the MSU 2013 Weed Control Guide for Field Crops, the restrictions for alfalfa would be a best guess for clover, dry beans for large seeded legumes, canola or sugar beets for radishes.

Web site - Agri-Business Consultants, Inc is developing a web site. Currently, on the website, we have posted this newsletter, links to articles referenced in this newsletter, services provided and other useful information.

TXT MSG - We will start sending text messages to clients as a way of quickly communicating timely information and also to let you know that a new article or item has been posted on the website. I anticipate that we will send out about 2 messages per month (as needed). If you find this annoying, we will stop sending you messages. We appreciate any thoughts you may have.

The Michigan Soybean Association STARS (Strip Testing at Regional Sites) program has been working with Michigan growers for several year coordinating on farm strip trials to research questions that are of concern to growers.

Consider participating

Overview: The STARS program (strip testing at regional sites) provides Michigan soybean producers with a statistically sound method for evaluating the yield and income benefits of new products and/or management practices. Producers across Michigan identify new products or practices of interest and conduct field scale research trials using a common protocol. The data is collected, subjected to statistical scrutiny, summarized across locations and years and shared with soybean producers. The STARS program must continue to adhere to the following guidelines to be successful:

- ⇒ Use an independent third party evaluator (MSU Extension)
- ⇒ Be producer focused/driven/friendly
- ⇒ Use similar protocol across the state and all trials
- ⇒ Perform statistical analysis and interpret the data
- ⇒ Share group data while keeping individual data confidential

The STARS Protocols for the 2013 are:

Soybean Potassium Fertilizer Trial

Foliar Plant Growth/Health Promoter Trial

Stratego YLD Fungicide Trial

Inoculation Seed Treatment Trial

Soybean Starter Fertilizer (2 x 2 or in-furrow) Trial

Potassium Fertilizer + Granubor 2 (Boron) Trial

Soybean One-pass Tillage Trial

Soybean Planting System Trial: either (7.5"vs.30") or (15"vs.30") or (7.5" vs. 15")

to participate, contact Michael Staton: staton@anr.msu.edu or 269-673-0370 ext 27

Thoughts on Seeding Rates for Corn - [R.L. \(Bob\) Nielsen](#) (Purdue)

"Results suggest that optimum plant populations for corn grown under typical yield levels and growing conditions are in the neighborhood of 31,150 plants per acre, or seeding rates between 32,500 and 34,600 seeds per acre," he said. "The results further suggest that corn grown under moderate to severe drought stress conditions may perform best at plant populations no higher than 28,000 plants per acre and perhaps as low as 21,000 plants per acre under truly severe growing conditions."

full article at > <https://ag.purdue.edu/aganswers/Pages/archive.aspx?story=131#.UWbkile1Wu9>

Using iPhone and iPads to display GPS maps for variable rate application. The iPad with the [GISRoam](#) app can display any GPS map that ABC makes, whether it is showing soil test boundaries, Management Zones, field boundaries or applications files for potash, phosphorus or lime. Clients have been using the iPad to display lime, 11-52-0 and lime application maps with their position in the application map(field) indicated by a cross hair displayed on the iPad screen.

GISRoam app is fairly simple to use. Transfer of the files to the iPad can be easy after the initial learning process. Addition equipment required is a GPS antenna (about \$100) to give accuracy to 2 meters and the cradle with mounting equipment (about \$100). Any iPad will work, from the first and cheapest on to any of the current models, including those that come with the Precision Planting setups.

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