From Shawn Shouse- Ag Engineering/Agronomy Research Farm Annual Field Day
Agricultural Engineering and Agronomy Research Farms
1308 U Ave.
Boone, IA 50036
Thursday, August 27, 9:00 to noon, with lunch to follow. The field day will include:
• A team of Iowa State researchers that study UAVs will summarize the ways UAVs can be used by crop producers and plan a UAV flight demonstration, if weather permits.
• Antonio Mallarino, agronomy professor, will talk about the potential use of aerial images for soil fertility management.
• Kristine Tidgren, an attorney with the Center for Agricultural Law and Taxation at Iowa State, will discuss the law and policy surrounding UAVs.
• UAV vendors will speak about their products.
• In addition, there will be a panel Q & A where attendees can ask panelist questions.

Soybean Aphids
While numbers vary widely both among and within fields, we have some areas where SBA are nearing threshold (or in a few cases are there). A few thoughts on SBA and control methods-
- The current recommended economic threshold for soybeans through the R5 stage is **250 aphids per plant with 80% of the plants infested and populations increasing**
- This should give about a 5-7 day window schedule treatment before populations reach economically damaging levels
- If populations do not increase during this period, you may be able get by without treating- but scout well- populations can explode in cooler conditions like those forecasted for the next 7-10 days
- Factors favorable for aphid increase are relatively cool temperatures (forecast says this is likely), plant stress (particularly drought, not a problem right now for most), and lack of natural enemies
- Watch the PHI’s (pre-harvest intervals) on your insecticides if you treat
- Ground- 15+GPA (prefer 20+), 40PSI or better, depending on nozzles; remember these critters live down in the canopy, we need to blast the product down in there
- Consider aerial application given that depending on a lot of factors, wheel traffic can cost up to 2.5% of yield- [http://www.extension.iastate.edu/CropNews/2014/0709Hanna.htm](http://www.extension.iastate.edu/CropNews/2014/0709Hanna.htm)
- Sounds contradictory doesn’t it? Blast 20+ GPA down in there yet I am recommending considering aerial apps. Turns out that prop wash, turbulence or some other mechanism allows for control to be very comparable between ground and air if both are done well; experience has shown us that, and some research done at the University level has as well (Minnesota).
- Product residual and performance- this is a can of worms, or a can of something anyway. I hear all sorts of talk about what products have more or less residual; the bottom line is that rate, weather and a lot of other tertiary factors impact length of residual so it is nearly impossible to predict. Don’t get too wrapped around the axles trying to pick the perfect product, work with your local dealer and pick something with a workable PHI and use a strong labeled rate.
- But what about the hot vs cold weather thing we hear about with insecticides?? Great question! There is something we call the temperature coefficient; inverse for most pyrethroids and positive for most organophosphates. In other words, pyrethroids tend to work better at temperatures below around 90, while OP’s tend to have more volatile activity in higher temps. For the purposes of SBA management, this is rarely a big deal, it tends to be more of an issue when fighting spider mites in hot, droughty conditions.
- To quote our ISU entomologists who sum it up quite well- “To date, most foliar insecticides are very effective at reducing soybean aphid populations if the coverage is sufficient.”
- Lots of fun info on SBA here- [http://www.soybeanresearchinfo.com/pests/aphid.html](http://www.soybeanresearchinfo.com/pests/aphid.html)
Late Season 2,4-D in Corn
Aaron and I are both getting some questions about knocking back some broadleaf weeds poking above the corn canopy, trying to slow seed production. Within hours of our discussion on our Monday morning crops teleconference, Dr. Bob Hartzler had this article up with some tips; [http://crops.extension.iastate.edu/cropnews/2015/08/late-season-24-d-treatments-corn](http://crops.extension.iastate.edu/cropnews/2015/08/late-season-24-d-treatments-corn)

Sudden Death Syndrome Showing Up
We were afraid this would show; SDS likes a lot of spring rainfall, so it was just a matter of time before it started to show up in late summer. While there isn’t anything we can do for this year’s soybean crop if it has SDS, it is good to know if that is the culprit in your field so you can plan ahead for the next soybean crop. Occasionally SDS can be mistaken for a few other diseases, so here are some keys to ID it-
• Soybean roots will appear rotted and plants will be easily pulled from the soil.
• The fungus that causes the disease may appear as blue fungal growth (spore masses) on the main or tap root of the soybean plant.
• When split lengthwise with a knife, the internal tissue of the main or tap root will be gray to reddish brown, not healthy white.
• The areas between the leaf veins will turn bright yellow, then eventually brown. The dead, brown tissue between veins may fall out, leaving large ragged holes in leaves.
• The leaf blades will fall off of the petioles (petioles are the thin “stems” that connect the leaf blades to the main stem), but the petioles remain attached to the stem.
This article addresses the SDS issue very well-[http://www.extension.iastate.edu/CropNews/2010/0907robertsonleandro.htm](http://www.extension.iastate.edu/CropNews/2010/0907robertsonleandro.htm)
With one update- now there is at least one seed treatment that is labeled for suppression of SDS.

Cover Crop Time Almost Here!
We are starting to get a lot of questions about cover crops with seeding time not too far off. Speaking of seeding time, last I knew Aaron, Jim Rogers and I will have probably 7-10 cover crop plot sites across SW/WC IA, this year we are dialing in on 10 different species and mixtures. If I recall correctly, this is the 4th year of the studies done in partnership with Practical Farmers of Iowa, and the 3rd year we’ve had at least 7 sites across our area. We’ve learned a lot... and still have a lot to learn.
Speaking of learning, here is a chance to catch some of the latest updates on cover crops-August 19, 1 p.m. The Iowa Learning Farms monthly webinar features *Reaching the Full Potential of Cover Crops In Iowa*, by Dr Tom Kaspar. Additional details [here](http://crops.extension.iastate.edu/cropnews/2015/08/tips-and-considerations-getting-started-cover-crops). Also, ICM News article by Dr. Mark Licht- [http://crops.extension.iastate.edu/cropnews/2015/08/tips-and-considerations-getting-started-cover-crops](http://crops.extension.iastate.edu/cropnews/2015/08/tips-and-considerations-getting-started-cover-crops)