



Crop Solutions that Work

South Central FS Inc.

October 10, 2006

Corn harvest is underway. Finally . . . All of your hard work in planting, spraying, cultivating, and scouting will now tell the story of this year's crop. That combined with the varying weather—too much rain, then not enough rain; cool and wet conditions in April and May, then hot and humid conditions in July and August. All these factors will tell us a lot about how the corn made it through 2006. Over the next couple of weeks, harvest reports will be coming in and the anticipation of getting ready for next year will be upon us. Make sure you take some time and visit with your FS Crop Specialist on selecting hybrids for 2007. Your FS Crop Specialist is considered a leader in providing the best information in selecting hybrids for your farm. He is familiar with your fields. He knows the genetics of several leading seed companies, and he is aware of the various seed technologies that will help improve the profitability of your farming enterprise. He is a seed professional that will help you select the portfolio of hybrids and varieties for you, field-by-field. Who else knows your operation better than you?

Corn rootworm . . . Is it in your area? In 2006, FS Crop Specialists from southern Illinois placed more than 5,000 sticky traps to monitor and evaluate the presence of western corn rootworm adults. Contact your FS Crop Specialist to see what he found in his area, as well as the surrounding area. This information will be critical in determining the use of a rootworm control option for 2007.

Taking note of down corn. There are spots in Illinois where cornfields are laying flat due to a windstorm, bug damage, and the like. These fields should be noted and observed. Depending on the stage of the corn when it went down, this could become an issue in 2007 when making crop production plans. If the cornfield was a glyphosate resistant crop, then next year's crop should utilize a program to control any volunteer corn plants if planting glyphosate resistant soybeans.



Ear Rot Samples

What happened to those ears?

Ear damage has been observed in cornfields from insects such as European corn

borer and corn earworm. Most damage will be at the tip of the ear and could cause additional issues with ear rots.

Ear rots have been observed. Diplodia ear rot has been observed in many fields across Illinois (See photo). There doesn't appear to be any specific hybrids, but the production practices such as no-till and/or continuous corn seem to be the situations where Diplodia ear is more common. Other ear rots such as Penicillium have also been observed. Take caution when feeding this corn to livestock.

Soil testing remains an important management tool when budgeting input costs for 2007. Information from properly collected soil tests can help find those areas of a field that may provide the best response to applied phosphorus and potassium fertilizers. Areas in need of limestone are also best identified with a soil test collected to the proper depth. Work closely with your local FS Crop Specialist for the best way to collect your soil samples and the best interpretation of the results.

Getting ready for wheat planting. Wheat seed is being delivered, and in central Illinois the drills are already in several fields. Over the last three years, there has been a push to manage wheat production intensively with the use of insecticides, fungicides, and fertility. The most important management decision that a producer should make is variety selection. After that crucial choice, then focus on planting depth (1½ inches) and having a weed-free stand. Don't forget to scout fields for weeds after planting to make a recommendation before wheat goes dormant.

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European corn borer damage has been excessive across southern Illinois. The presence of European corn borer damage from second generation, or even possibly third generation, has been observed in Illinois. Some of the early harvest reports have seen some incredible differences between the Bt corn and refuge areas. Please be cautious when making inferences about yield reports especially because some of the entries in plots could be a conventional hybrid that is considerably less yield than the other entries. Because of minimal corn borer damage in the past few years, some producers have moved away from Bt technology. That might not be the case next year. Some of the field evaluations have shown an increase in stalk damage, lodging, ear drop, and smaller ears due to ECB damage.

Now is the time to take soybean cyst nematode (SCN) samples. The fall is the best time to take soil samples to identify the presence of SCN. A soil sample should be a composite of 20 or more cores taken from a zigzag pattern across the field. An acceptable area for one sample would be five acres, but could be more if fields are bigger. Your FS Crop Specialist continues to provide the best SCN resistant varieties. Knowledge of where heavy SCN infestations can be found in a field will be valuable in making decisions on how to manage SCN the next time the field is rotated to soybeans.

Contributing Writer

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Soybean seed diseases. The cool, wet August has caused some issues with soybean seed diseases. Soybean seed discoloration may be observed, such as bleeding hilum that is possibly caused by a virus. There have been some isolated reports of soybean rust in the southern United States with the most recent find in a field in Mississippi. The good news is that many of the soybean fields in Illinois are in the pod development and seed filling stage. The risk for soybean rust in Illinois remains low and further management actions are not necessary. The one thing that will be important to monitor will be double crop bean fields or fields planted late. Keep in mind that many of the fungicides have a preharvest interval ranging from 14 to 42 days and/or growth stages of R5 or R6. Preharvest intervals must be observed for the various products that may be applied.

Selecting corn hybrids and soybean varieties for 2007. This continues to be the most important management decision that a producer makes. Performance of a hybrid and variety should be evaluated across many different environments as well as your local environment. There is plenty of seed company information, but third-party information such as independent research trials (i.e., University, F.I.R.S.T.) should be considered too. Your FS Crop Specialist can help identify a portfolio of hybrids and varieties for your environment.

Nitrogen Applications. Wait until the soil temperatures reach 50°F and is trending lower before starting fall application of anhydrous ammonia. Best management practices avoid fall application of nitrogen in areas prone to leaching or areas that are slow to reach cold temperatures. In 2006, there were areas in southern Illinois that favored denitrification with the warmer soil temperatures. The use of a nitrification inhibitor, such as N-Serve™ should be used in fall applications of nitrogen.

When you're in the combine, you can see it all. The best time to assess crop management issues is when you're sitting above the crop. Areas of weed patterns, insect problems, and nutrient deficiencies can be noted in preparation of next year. The use of a Global Positioning System (GPS) helps identify those spots. This, along with the experience and the resources your FS Crop Specialist has with precision farming, will help rectify those trouble spots.

Assess weed control plans for 2007. Most producers evaluate weed control ratings when harvesting corn and soybeans. Unfortunately, weeds unobserved until late in the season produce seed and contribute to the indigenous seed bank—therefore will continue to be a problem in the years to come. One of the key

weeds that continues to be a problem is morning glory. This weed makes it a challenge to harvest if the population is high and if the vine is wrapped extensively around the plant. Weed control practices for corn and soybeans can be implemented to control this weed, but it needs good management practices with the use of soil-applied herbicide and a timely postapplication. But the main point is to remember what you see and where you see it to make the right recommendation. So don't forget to include a notebook and pen in the cab to take your notes.

Making fall applications for weed control. The use of fall applications to control winter annuals has shown to be a good management decision. Marestalk (horseweed) continues to be a problem in southern Illinois, and university research has shown that a fall herbicide keeps this weed from being a problem, also working on other winter annuals such as henbit, purple loosestrife, and dandelion. Marestalk control was a challenge in 2006, but if controlled early, it could easily be managed with timely applications.

Making the most of nutrient applications. There's a lot of interest in applying secondary nutrients and micronutrients to maximize yields. Here's a list of the major nutrients and what they provide in the biochemical processes. A good soil test will provide the basis for nutrient applications of the primary nutrients.

Primary Nutrients

Nitrogen: Necessary for formation of amino acids, the building blocks of protein; Essential for plant cell division, vital for plant growth; Directly involved in photosynthesis; Aids in production and use of carbohydrates

Phosphorus: Involved in photosynthesis, respiration, energy storage and transfer, cell division, and enlargement; Promotes early root formation and growth; Vital to seed formation; Increases water-use efficiency

Potassium: Carbohydrate metabolism and the break down and translocation of starches; Increases photosynthesis; Increases water-use efficiency

Secondary Nutrients

(required in lesser amounts than the primary nutrients)

Calcium: Utilized for cell division and formation; Involved in nitrogen metabolism; Reduces plant respiration

Magnesium: Key element of chlorophyll production; Improves

utilization and mobility of phosphorus; Activator and component of many plant enzymes

Sulfur: Part of amino acids; Helps develop enzymes and vitamins; Promotes nodule formation on legumes; Necessary in chlorophyll formation (though it isn't one of the constituents)

Micronutrients

(used in very small amounts)

Boron: Essential for germination of pollen grains and growth of pollen tubes; Necessary for sugar translocation; Affects nitrogen and carbohydrate

Chlorine: Not much information about its functions—enhances maturity of small grains on some soils

Copper: Catalyzes several plant processes; Major function in photosynthesis; Major function in reproductive stages; Increases sugar content

Iron: Promotes formation of chlorophyll; Reactions involving cell division and growth

Manganese: Functions as a part of certain enzyme systems; Aids in chlorophyll synthesis

Molybdenum: Required to form the enzyme "nitrate reductase" which reduces nitrates to ammonium in plant; Aids in the formation of legume nodules

Zinc: Aids plant growth hormones and enzyme system; Necessary for chlorophyll production; Necessary for carbohydrate formation; Necessary for starch formation

In addition to the 13 nutrients listed above, plants require carbon, hydrogen, and oxygen, which are extracted from air and water to make up the bulk of plant weight.



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Make the Most of Nutrient Applications

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Soybean harvest is now underway. Soybean maturity is running about a week later than usual, but harvest is already occurring in southern Illinois. Many fields that experienced stress during August may have fewer pods as a result of aborted flowers or young pods. The loss of pods may appear as one or no pods per node in the upper portion of the plant. As the plant matures, you might see the upper trifoliolate leaves stay a little longer than usual on the stem. This is because there's no silk for the photosynthate to move to, allowing them to stay green longer. The loss of pods may also be caused by late-season pod feeding by bean leaf beetles and grasshoppers, which causes pods to shrivel up and fill to terminate.

Late season soybean diseases have been observed in the upper portion of the plant. Over the course of 2006, soybean diseases were minimal in many areas in the state just with an occasional field of Septoria brown spot and/or sudden death syndrome. However, the cool temperatures coupled with adequate moisture caused some fields to dieback from the top. Many fields are starting to see different shades of color caused by Cercospora, pod and stem blight, or anthracnose. Please share any observations with your FS Crop Specialist, especially if you had any side-by-sides with seed treatments or foliar fungicide applications.

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