



Ag & Hort Update



October 2008

This edition of the Ag & Hort newsletter is very busy, I have a lot of information to cover on several topics that I believe are very important. I hope you enjoy this month's edition.

Before I move on, I would like to thank the 9 volunteers that stepped up and started the first Shelby county Master Gardener group. The class work started September 16 and will run until the second week of November. If you are interested in joining this elite group of gardeners, we are hosting another class this winter, starting in January. Applications can be picked up at the Shelby County Extension office. Have a safe and prosperous harvest season and enjoy the wonderful colors of fall!

Kent Ganzer

Upcoming Dates:

October 5 – 11 = National 4H Week

October 5 – 11 = Fire Prevention Week

October 26 = 4H Awards and Recognition Event

October 28 – November 2 = American Royal

Proper Combine Settings – Reduce Harvest Loss

Weather and several other factors beyond our control can create challenges at harvest. One thing that we can help reduce is harvest loss; a goal for good field conditions is to keep harvest loss under 1 bushel per acre. The key to keeping harvest loss at a minimum is to adjust the combine for your crop conditions. Check losses periodically in the field, making these adjustments are well worth your time.

Soybeans: From what I have seen so far this year, the soybeans are small. Your cleaning fan speed may need to be reduced to avoid blowing soybeans out of the combine and the openings in chaffer and sieve screens reduced to maintain air speed, yet allow beans to fall through. The threshing unit, cylinder-concave, or rotor grate may need to be adjusted for a smaller clearance in the cleaning area, the cleaning sieve and/or air adjustment. Keep the cutter bar low. The front drum of the feeder should be low enough so that the chain just clears the floor of the feeder house. If plants are shorter, smaller clearances may be needed between the reel, cutter bar, auger and the feed conveyor chain. Pay attention to the height of stubble left behind in the field, each one-two inches of uncut stubble can result in one bushel per acre yield loss. Measure a spot 10 square feet, count how many beans are inside that, 40 soybeans equal one bushel; otherwise 4 beans in one square foot equals one bushel loss per acre.

Corn: Check fields for stalk rot or lodging; harvest these fields first. There are several ways for lost bushels with corn—header ear loss, header kernel loss, cylinder loss and separation loss. The easiest way to determine kernel loss is measure one square foot, if you count two kernels that equals one bushel loss per acre. Deck plates over snapping rolls should be adjusted for ear size to avoid shelling of kernels on the butt of the ears; spacing between plates should be about 1.25 inches. Maintain ear savers, keep gathering snouts low and keep the ear above the leading edge of gathering chains and snapping rolls. The chain flights over the stripper plates should extend beyond the edge of the plates about ¼ inch, ears should be snapped near the upper third of the snapping roll. Measure losses and make corrective machine adjustments.

Start Scouting for Stalk and Ear Rot

Once your corn reaches black layer, the crop should be scouted for stalk and ear rot. The incidence of corn ear rot should be determined before harvest. Some of the fungi that invade corn ears may produce mycotoxins, which are harmful and can be fatal to livestock.

Survey 100 plants scattered throughout the field for ear rot. Look for visible symptoms by stripping back the husks; if more than 10 percent of the ears have significant mold that covers over 25 percent of the ear, corn should be harvested in a timely manner and dried to 15% as soon as possible to prevent further mold growth. For stalk rot, test the firmness of the stalk at lower internodes with thumb and forefinger. If more than 15% of the stalks are rotted, harvest in a timely manner before significant lodging occurs.

When should I harvest my Brussels sprouts?

Beginning at the base of the plant, harvest the buds (sprouts) when 1 – 1 ½ inches in diameter. Continue to harvest the sprouts higher up on the plant as they mature. Sprouts can be stored in a perforated plastic bag in the refrigerator for up to four weeks.

When do I cut back my rhubarb plants?

Don't cut back the rhubarb until the foliage and stalks have been destroyed by a hard freeze. To produce a good crop next spring, the rhubarb plants must manufacture and store adequate levels of food in their roots. The foliage will continue to manufacture food as long as it's healthy. Once destroyed, the foliage and stalks can be removed.

Fertilizer Decisions, What do I do?

Fertilizers are at crazy high prices, there have been several reports of tight supplies and potash allocation to dealers. Total crop production costs are causing credit supply issues, which complicates decisions to allocate available funds for production expenses. These issues may cause producers to cut back on crop inputs like fertilizer.

Producers need to work very closely with their crop advisors and dealers to figure out their best options and production plans for this fall and next spring. This is always important, but even more as the fertilizer purchase/supply dynamics are changing very quickly and dramatically.

Soil testing is very important, but even more in these times; if your soil test is not accurate, how do really know what applications of N, P, K and lime are needed. Try to avoid over-applying nutrients to field areas that do not need the extra nutrients. If your soil tests suggest that some areas are in the high to very high range, you may not need to apply any fertilizer to those areas, remember it is easier to maintain those levels than skipping and trying to rebuild in the future. Due to the basic crop removal, withholding fertilizer or manure applications will result in a gradual decline in fertilizer levels. Whatever you decide with fertilizer applications, make sure that you realize the decision that you make this year, will affect your ground for the next 3-5 years, especially if you skip fertilizer all together.

Forestry Field Days Upcoming

If you are interested in trees or have an interest in learning about trees, there are two field days that you should attend. The first one is Oct. 15 at the Loess Hills State Forest Headquarters in Pisgah, the other one is October 21 in Cass County. Both field days will run from 1:00 – 4:00 p.m. and will feature Extension and DNR Foresters.

Now is the Time to take Fall Corn Stalk Nitrate Tests

This test is useful to evaluate if nitrogen (N) management in corn was sufficient or excessive. Stalk nitrate concentrations can be divided into four categories; low, less than 250 ppm of N, marginal (250-700 ppm), optimal (700-2000 ppm) and excess, greater than 2000 ppm.

The low category indicates a high probability that greater availability of N would have resulted in higher yields. Clear visible signs of N deficiency are present when nitrate concentrations are in this range. The marginal category indicates that N availability was very close to the minimal amounts needed. N rates should be reconsidered when tests fall into this range. The optimal category indicates high probability that N availability was within range needed to maximize profits for the producer. You won't observe visual signs of N deficiencies in this range.

Sample between 1-3 weeks after 80% of the field has black layered. The portion of each plant sampled is the 8 inch segment of stalk found between 6-14 inches above the soil. 15 8-inch segments should be collected to form a single sample, remember to remove leaf sheaths. Areas of differing soil types should be sampled separately; a sample should contain segments from areas of less than one acre. Send your samples to a laboratory soon after collection, place them in paper (NO plastic) bags to enable some drying and minimize the growth of mold.

Tillage Management Decisions

This year, as producers decide whether to till or not, special consideration should be given to high fuel prices. Generally, producers know what it takes to operate tillage implements and how much fuel it would take to finish the work. Conventional tillage plus planting and spraying in general would require approximately three to four gallons of fuel per acre compared to one gallon per acre for no-tillage. Field operations in general, including tillage and harvesting, along with nitrogen fertilizer use and crop drying consume most of the crop production energy.

Soil Compaction:

If fuel cost is not enough reason for farmers to consider no-tillage, there are other benefits to consider when deciding whether to till and not to till. The risk of soil compaction and soil nutrient losses, whether through reduced soil tilth or potential soil erosion, is a loss that will add to the total cost of energy and farming input. These losses are real and well documented as reflected in yield, fertilizer energy costs, and environmental risks for soil and water quality.

The decision to till at any time (fall or spring) needs to be carefully planned. When soil conditions are near field capacity, soil aggregates are "lubricated" by water and readily reposition themselves through the air spaces. This is especially true when heavy harvest or tillage equipment is used. In addition, equipment operators need to remember that soil compaction can occur during the application of manure or anhydrous as well when soil moisture exceeds field capacity (maximum amount of moisture retained by the soil). Under wet conditions, the use of heavy equipment, such as tractors, grain carts, and combines, can significantly change soil structure and cause soil compaction. Operating in wet conditions and especially doing extra tillage will increase fuel use per acre as well. Compaction near the surface, within the top three to six inches of the soil, is generally associated with the amount of surface pressure. Compaction below that is primarily associated with axle weight. For example, if soil a foot

below the surface is at field capacity and the tractor's axle load is seven to eight tons or greater, compaction can occur at this depth, despite lower surface pressures.

To mitigate the risk of compaction, use controlled traffic lanes for harvest and avoid driving loaded grain carts randomly through the field. Most damage occurs in the first pass of the implement. Grain tank extensions on combines also add to the load on soil. Check tire size and pressure, since larger tires allow for better "flotation" and lower tire pressure reduces the load on the soil.

Residue Cover:

To minimize overwinter soil erosion, work on getting even distribution of crop residue while harvesting. Doing so is critical in preventing soil erosion throughout most of the coming fall, winter, spring, and well into 2009 when next year's crop establishes a canopy. Any residue down to the finest material--straw, chaff--can potentially reduce erosion by stopping rain splash, slowing and trapping runoff, and allowing for better water infiltration. But it has to be in place to be effective.

Large combine heads tend to concentrate material, especially fine material, in a narrow swath behind the machine. Concentrated residues are not only less effective in stopping erosion throughout the field, they also insulate the soil surface from the sun, reduce seed- to-soil contact, and make it tougher to plant in the spring, inhibiting crop growth. Furthermore, doing a good job of straw and chaff spreading this year could eliminate the need for tillage passes this fall or next spring.

Have combine operators set up and run equipment so that straw and chaff spreaders or choppers operate properly and the combine distributes residue evenly. Corn residue is usually heavier and most corn heads do a good job of chewing up the stalks and dropping them back in place. But the challenge is greater in soybeans, where essentially the whole plant goes through the combine and residue becomes fragile.

Combine operators also should pay attention to the height of the crop stubble left in the field. Crop stubble can protect the soil by limiting exposure to wind and water erosion and trapping snow through fall, winter, and early spring. Of course, soybeans need to be cut near the ground to avoid grain loss, but operating the corn head higher leaves more stubble and fewer stalks are run through the machine.

Producers who want to establish a goal of 30 percent residue at planting time next year probably should not go to the field this fall with a tillage implement, particularly into soybean residue. Soybean fields should be left in no-tillage. The amount of soybean residue is not significant enough to cause any change in soil conditions, especially for those who are concerned about soil wetness. If there is such a concern, then a good evaluation of the field conditions and assessment for tile drains needs to be considered rather than continuous tilling, which increases the potential for energy loss, soil loss, yield loss, etc.

Conclusion:

As Iowa producers start to make decisions for the 2009 growing season, it is important to reflect and evaluate the outcomes of the previous season during the conservation planning process. Observations of yield performance, residue cover, and soil conditions should be guiding principles that minimize the potential of repeating any conditions that caused problems in the previous year.

Above all, conservation tillage and no-tillage are great systems and have a positive impact on soil productivity and profitability, no matter what the weather does. These systems conserve energy, improve soil tilth and soil organic matter, and can reduce the capital costs associated with the tillage equipment used in conventional tillage. Conservation decisions made now can affect soil erosion over the next several years. Producers should use the time after harvest to gather information and make sound decisions about conservation systems.

by Mahdi Al-Kaisi, Department of Agronomy, and Mark Hanna, Department of Agriculture and Biosystems Engineering

Overwintering Geraniums

Geraniums are popular flowering plants, blooming from May through frost. However, you don't have to let the first hard frost destroy your geraniums. Geraniums can be overwintered indoors by potting up individual plants, taking cuttings, or storing bare-root plants in a cool, dry place. Regardless of the method, the plants should be removed from the garden prior to the first frost.

Potted Plants:

Carefully dig up each plant and place in a large pot. Water each plant thoroughly, then place the geraniums in a bright, sunny window or under artificial lighting. Geraniums prefer cool indoor temperatures. Daytime temperatures of 65 to 70 degrees F and slightly cooler night temperatures are ideal. During their stay indoors, water the plants thoroughly when the soil becomes dry. The geraniums are likely to become tall and lanky by late winter. In March, prune back the plants. Cut the geraniums back by one-third to one-half. The geraniums will begin to grow again within a few days and should develop into nice specimens by May.

Cuttings:

Using a sharp knife, take 3- to 4-inch stem cuttings from the terminal ends of the shoots. Pinch off the lower leaves, then dip the base of each cutting in a rooting hormone. Stick the cuttings into a rooting medium of vermiculite or a mixture of perlite and sphagnum peat moss. Clay or plastic pots with drainage holes in the bottom are suitable rooting containers. Insert the cuttings into the medium just far enough to be self-supporting. After all the cuttings are inserted, water the rooting medium. Allow the medium to drain for a few minutes, then place a clear plastic bag over the cuttings and container to prevent the cuttings from wilting.

Finally, place the cuttings in bright light, but not direct sunlight. The cuttings should root in six to eight weeks. When the cuttings have good root systems, remove them from the rooting medium and plant each rooted cutting in its own pot. Place the potted plants in a sunny window or under artificial lighting until spring.

Bare Root Plants:

Dig the geraniums and carefully shake all the soil from their roots. Then place one or two plants in a large paper sack and store in a cool (45 to 55 degrees F), dry location. An unheated bedroom or indoor porch might be a suitable location. An alternate (somewhat messier) method is to hang the plants upside down in cool, dry location. The foliage and the shoot tips will eventually die. In March, prune or cut back each plant. Remove all shriveled, dead material. Prune back to firm, green, live stem tissue. After pruning, pot up the plants and water thoroughly. Place the potted geraniums in a sunny window or under artificial lighting. Geraniums that are pruned and potted in March should develop into attractive plants that can be planted outdoors in May.

The overwintered geraniums can be planted outdoors in May (after the danger of frost is past). Before planting, harden or acclimate the geraniums outdoors for several days. Initially, place the geraniums in a shady, protected location and then gradually expose the plants to longer periods of sunlight. Plant the geraniums in the garden after the plants have been properly hardened. *By Richard Jauron, Department of Horticulture*