



Ag & Hort Update

April/May 2009

Hello! My name is Kate Olson, and I am the new Ag and Hort Program Assistant here at Shelby County Extension. A little bit about me- I am a graduate of ISU with a degree in Animal Science, I live with my husband and two daughters north of Atlantic, and I come to extension from a position in the swine industry. My first day was April 20th, so I'm still learning my way around a bit, but I am looking forward to meeting and serving the folks of Shelby County! Since we're already into May, I will combine April and May into one newsletter this month, then we'll be back on track in June.

-Kate Olson

Upcoming Dates:

May 11th - Master Gardeners meeting

May 25th - Office Closed

June 2nd - FSQA Training

Pay Attention to Soil Crusting After Heavy Rain Events

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

Recent rain brings another challenge that farmers may need to deal with, especially in conventionally tilled fields that were planted recently to corn or soybean. In addition to the immediate effect on soil erosion and potential damages to newly seeded waterways, there are after effects of the rain when weather conditions improve and the soil surface starts to dry. The potential problem is soil crust.

This could occur especially in intensively tilled fields where residue cover is not adequate, as well as with fine texture soils, and soils with low organic matter content. These conditions could increase the potential for soil crust formation. Residue cover plays a significant role in reducing soil crust by absorbing the impact of rain drops that destroy soil surface structure. The destruction of soil structure impacts plant germination and seedling emergence for both corn and soybean.

Soil crusting can also result in poor growing conditions and reduced water infiltration. Soybean seedling emergence can be a problem if a dense surface crust forms. In this situation, hypocotyl is broken when pushing up against a solid crust. Monitor high-risk fields for soil crusting, especially where plant emergence has not yet occurred, in order to avoid damage to seedlings.

Rotary Hoe

The quick-relief solution to such a problem is the use of a rotary hoe. This tool is commonly used in treating soil crusting to improve seedling emergence. However, the timing is critical in order to achieve the intended results and prevent seedling damage. The rotary hoe is a potentially good tool to use to break up soil crust, but make sure you've got a crust that is actually sealing the soil surface before using it.

To minimize the damages to the seedlings and to increase success, rotary hoe at a time when the soil surface is at the right moisture conditions. This will require frequent field scouting to ensure that soil surface moisture is just above field capacity. Field capacity is the point when a handful of soil will crumble easily in your hand under minimum pressure, leaving a trace of moisture on your palm. This moisture condition will ensure less damage to emerging seedlings and less soil compaction during the hoeing process.

Rotary hoe at high field speeds (8 to 10 miles per hour) unless safety is a concern. However, if soybeans are the crop emerging, make sure both cotyledons aren't broken off by the hoe. Corn will likely be the crop emerging from rains this past weekend. Expect a minor stand loss (approximately 1 to 2 percent) from hoeing, but this should be insignificant if corn is truly having difficulty breaking through a crust. Getting off the tractor and checking for stand loss is a good idea when starting a field. If loss seems excessive (greater than 3 to 5 percent), you may want to slow your travel speed to be less aggressive with the tool.

It is very important to check early-planted fields periodically, especially those conventionally tilled with fine soil texture and low organic matter. Timing is important to manage soil crust at the proper moisture conditions.

Ask the ISU Garden Expert

What is meant by the term hardening?

Flower and vegetable plants purchased from greenhouses or garden centers should not be planted directly into the garden. The intense sun and strong winds may damage or kill the tender seedlings. Bedding plants should be "hardened" (acclimated to outdoor growing conditions) before transplanting them into the garden. Initially place the plants in a shady, protected site. Then gradually expose the plants to longer periods of direct sun.

Closely watch the plants during this period. If possible, check on them at least once or twice a day. Thoroughly water the seedlings when the soil surface becomes dry to the touch. Move the plants indoors if strong winds, a severe storm or an overnight frost threatens them. After several days of hardening, the flower and vegetable plants should be ready for planting.

How often should I pinch my mums?

Pinch chrysanthemums two to three times from spring to mid-summer. Remove the stem tips when the shoots are approximately 6 inches tall. New lateral shoots will develop along the stems. Pinch again when these new shoots reach a length of 6 to 8 inches. Pinching can be done with your fingers or a pair of hedge clippers. Continue pinching until early July. Pinching results in bushy, compact plants with additional flowers.

Can newspapers be used as a mulch in the vegetable garden?

Yes, shredded newspapers or whole sheets may be used as a mulch in the vegetable garden. Newspapers use organic inks so gardeners need not worry about lead contamination. When using newspaper sheets, place a layer of two to four sheets between plant rows in the garden. Water the sheets so they stick to one another and to the soil surface, then place a layer of dry grass clippings, shredded leaves or straw over the newspaper.

When can I plant squash in my vegetable garden?

Summer and winter squash are warm-season crops. Plant squash after the danger of frost is past. In central Iowa, summer and winter squash can be planted in mid-May. Gardeners in southern Iowa can plant one week earlier. Plant one week later in northern portions of the state. Winter squash should be planted by mid-June. The last practical planting date for summer squash is mid-July.

How often should I mow my lawn?

Irrigation and fertilization practices, along with weather conditions, dictate mowing frequency. Kentucky bluegrass lawns should be mowed at the height of 2-1/2 to 3 inches in spring and fall. Set the mower blade to a height of 3 to 3-1/2 inches during summer. Mowing frequency is based on the growth rate of the turfgrass. As a general rule, never remove more than one-third of the total leaf surface at any one mowing. For example, if the lawnmower is set at 3 inches, the grass should be mowed when it reaches a height of 4-1/2 inches. In spring it may be necessary to mow every four to five days, possibly only once every one to two weeks in summer, with more frequent mowing again in the fall.

I would like to grow a few vegetables in containers. Can I use garden soil or should I purchase a commercial potting mix?

Plants grown in containers require a well-drained growing medium. Garden soil alone is not a good growing medium. Garden soil compacts when placed in a container, resulting in poor water drainage and aeration. Soil also pulls away from the inside of the container when it dries, making it difficult to properly water plants. A homemade potting mix can be prepared using equal amounts (volumes) of garden soil, sphagnum peat moss and perlite.

A commercial potting mix often is the best choice when gardening in containers. The quality of commercial potting mixes varies considerably. Poor quality potting mixes are often inexpensive, black, heavy and don't drain well. High quality commercial potting mixes are lightweight, well-drained, free of plant disease organisms and weed seeds, retain moisture and nutrients well, and don't readily compact. Commercial potting mixes can be purchased at garden centers and many other retail businesses.

How do I control the iris borer?

The iris borer is a serious pest of bearded irises. The mature stage of the iris borer is a grayish moth. Female moths lay eggs on iris foliage and other nearby plants in late summer/early fall. The eggs hatch the following spring. The small larvae (caterpillars) bore their way into the foliage and feed on leaf tissue. Over time, the larvae tunnel down through the leaves and into the rhizomes. The caterpillars continue to feed inside the rhizomes and eventually destroy much of them. When fully grown, the larvae move into the soil and pupate. Adults (moths) emerge in late summer. Bacterial soft rot often invades rhizomes damaged by iris borers. Rhizomes infected with bacterial soft rot become soft and foul-smelling.

Iris borers can be controlled by sanitation and the timely application of insecticides. Remove and destroy dead iris foliage in fall or very early spring. This will eliminate many of the iris borer eggs. An insecticide should be applied when the new shoots are four to six inches in length. An application of an insecticide at this time should destroy small iris borer larvae before they have the opportunity to tunnel into the iris foliage. Products that contain acephate, permethrin or spinosad should be effective. As always, carefully read and follow label directions when using pesticides.

Get answers to all your yard and garden questions at www.yardandgarden.extension.iastate.edu. For specific questions, call the hotline at (515) 294-3108, Monday-Friday from 10 a.m. to noon and 1 to 4:30 p.m., or e-mail them at hortline@iastate.edu.

Spring is a Good Time to Test Well Water

By Tom Glanville, ISU Professor of Ag and Biosystems Engineering

Safe drinking water is important to your family's health. But how can you tell if your well and water system provide safe water? If your drinking water comes from a public water supply, the federal safe drinking water act requires that it be sampled and tested on a regular basis. If you live on a rural acreage, however, your drinking water may come from a private well. If that's the case, it's up to you to make sure the system is properly inspected and tested for safety.

The quality of water from private wells should be tested annually. Spring or early summer is one of the best times of year to test your well. Iowa gets most of its rainfall April through June. During this wet period excess water picks up bacteria, nitrate and recently-applied lawn and crop chemicals as it percolates through the soil. If the upper part of your well is leaky, this contaminated water may enter your well through these defects, bringing contaminants with it.

During late summer when the ground is dry, or in the winter when the ground is frozen, the same well may test safe. So if you want to get the most for your investment of time and money, test during wet weather. If your well water is safe during this time of year, the odds are that it will be safe the remainder of the year.

Water testing services are offered by private and state-operated laboratories. Check your phone book or the web for private labs in your area, or contact UHL (University Hygienic Laboratory), Iowa's official state environmental laboratory, (toll-free 800.421.4692, or www.uhl.uiowa.edu/services/wellwater/). Some counties also offer private well testing programs. Locally, water testing is done through Shelby County Environmental Health (755-2609).

Accurate water testing requires proper scientific equipment and highly trained personnel. To be sure the lab you select is properly equipped and staffed with qualified personnel, ask whether it is certified by the Iowa DNR to perform water testing for public water supplies in Iowa.

There are many contaminants in the environment, and each requires a specific test. Testing for all of these would be expensive and time-consuming. Unless you know that a particular contaminant has been spilled near your well, start with tests for coliform bacteria and nitrate. These are two of the most common contaminants found in private wells. They are relatively inexpensive to test for, and are good general indicators of drinking water safety.

Careful sampling is required to obtain accurate test results. Samples for coliform bacteria, for example, must be collected in a sterile bottle. The lab will supply bottles that are properly prepared for each of the tests you need. Be sure to follow written directions supplied by the lab for collecting each type of sample. When sampling for copper, for example, samples collected early in the day usually produce the most meaningful results. Sampling location can be important too. Water for coliform bacteria testing must be collected in a clean indoor location to avoid contamination of the sterile bottle with dust and associated bacteria that can cause inaccurate test results.

2009 Cash Rental Rate Survey Available

The 2009 Cash Rental Rate Survey is now available. Copies may be picked up at the Shelby County Extension office or you can also access the survey information through Ag Decision Maker online at: <http://www.extension.iastate.edu/agdm/wholefarm/pdf/c2-10.pdf> . This annual report gives an average of rental rate by county and area, broken down by land quality and intended crop usage.