



## *Ag & Hort Update*

**November 2009**

This harvest season, we are seeing a continuation of the cold and rainy weather pattern that has frustrated producers for much of the growing season. New challenges are being presented by wet fields and wet grain, as we work to get the crops out of the field before the winter hits. Moving into November brings us closer to Thanksgiving, one of the original celebrations of harvest in this land. I hope you can each find something to be thankful for this time of year; be it a successful growing season, a glimmer of good weather, or the simple delights of family and friends.

-Kate Olson

***Upcoming Events:***

Nov. 4<sup>th</sup>- Ornamental and Turfgrass CIC

Nov. 7<sup>th</sup>- 4-H Officers Training

Nov. 18<sup>th</sup>- Commercial Ag CIC

Nov. 20<sup>th</sup>- Ag Outlook/Management Class

Nov. 26-27<sup>th</sup>- Ext. Office closed for holiday

### **Ask the ISU Garden Expert**

#### **Do hostas need winter protection?**

Most hostas do not need winter protection if they have been in the ground for at least one full growing season. However, a winter mulch is often beneficial to hostas planted in late summer or early fall. Repeated freezing and thawing of the soil in the winter months may heave recently planted hostas out of the ground, causing serious damage. Applying several inches of clean, weed-free straw, pine needles, or other mulch in mid to late November should provide adequate winter protection.

#### **How can I prevent deer from rubbing off the bark on my small trees in the yard?**

In fall, bucks rub their antlers on trees to remove the dried velvet from their antlers and to mark their territory. This rubbing removes the thin layer of bark on small trees and can seriously damage or destroy them. Trunk damage typically occurs one and a half to three and a half feet above the ground. Damage caused by bucks rubbing their antlers on small trees can be prevented by driving three wooden stakes or fence posts around each tree. Space the stakes or posts about 18 inches apart.

## **How do I keep multicolored Asian lady beetles out of my house?**

The multicolored Asian lady beetle is one-third inch in length, dome-shaped, yellowish-orange to red with variable black spots on the back. Deep orange is the most common color. The 19 black spots may be faint or missing. There is a black “W” shaped mark on the thorax.

Asian lady beetles follow their instinctive behavior and fly to sunny, exposed surfaces when preparing to hibernate through the winter. The time of beetle flight varies but is usually from mid-September through October (depending on weather). Light colored buildings and walls in full sun appear to attract the most beetles.

Sealing exterior gaps and cracks around windows, doors, eaves, roofs, siding and other points of access before the beetles appear can prevent unwanted entry. Experience suggests, however, that comprehensive pest proofing is time-consuming, often impractical, and usually not 100 percent effective. For large infestations with intolerable numbers of beetles, spraying pyrethroid insecticides such as permethrin or esfenvalerate to the outside of buildings when the beetles appear may help prevent pest entry. Homeowner insecticides other than pyrethroids usually do not provide satisfactory prevention.

The most practical control for beetles already inside is to vacuum or sweep them up and discard. Indoor sprays are of very limited benefit. Interior light traps are available.

## **There are gray-green patches on the trunk of my tree. What are they? Are they harming the tree?**

The gray-green patches are probably lichens. Lichens are unusual organisms. They consist of two unrelated organisms, an alga and a fungus. These two components exist together and behave as a single organism. The alga provides food via photosynthesis. The fungus obtains water and minerals for itself and the alga.

Lichens are common on trees because the bark provides a suitable place to gather sunlight and grow. They grow especially well on dead branches because they receive more sunlight. In addition to growing on the trunks and branches of trees, lichens can be found on exposed soil surfaces, rocks, wooden fence posts, shingles, gravestones, stone walls and other sunny surfaces. Lichens may be flat, leafy, or branched and hair-like. The lichens on trees are often gray-green. Other species may be orange, yellow, slate blue or black.

Lichens are fascinating, unique organisms. They do not harm trees.

*Get answers to all your yard and garden questions at [www.yardandgarden.extension.iastate.edu](http://www.yardandgarden.extension.iastate.edu). For specific questions, call the Hortline at (515) 294-3108, Monday-Friday from 10 a.m. to noon and 1 to 4:30*

## **Agricultural Outlook & Management Series Held Across Iowa**

*Seminar will be held in Carroll on November 20<sup>th</sup>*

Iowa's farm economy is at a critical cross-road. Higher input costs and increased market volatility has significantly impacted farmers and the decisions they make. Iowa State University Extension Economics and Farm Management will be holding a series of ***Agricultural Outlook and Risk Management*** meetings across Iowa in November. The primary audience is agricultural lenders, farm managers and agribusinesses that serve farmers. The purpose of these meetings is to help attendees better understand the challenges and opportunities facing farmers in 2010 and beyond.

The past three years have been marked by large crops, large demands, and large concerns. Over that period, the U.S. has produced the three largest corn crops on record, yet prices remain above historical averages due to strong demand. U.S. soybeans have also seen high production and high prices. Demand had weakened with the general economy in late 2008 and early 2009, but there are signals of a rebound looking forward into 2010.

### **Attend a seminar to learn:**

- Current market outlook information and management considerations for grain and livestock.
- General Economic Situation & Outlook.

Hog producers, cattle feeders, and dairy producers are experiencing the worst economic returns in modern history. Higher feed costs in 2008 and falling demand in 2009 have squeezed margins and prolonged a return to profitable conditions. However, the smallest total meat supply since 1991 and a recovering global economy should improve the prospects for livestock farmers in 2010. Iowa State University Economists Chad Hart and John Lawrence will explain the driving forces in the markets and discuss strategies for managing margins in these difficult times. They will also provide a general economic situation and outlook.

Locally, the meeting will be held at the Swan Lake State Park Educational Center in Carroll on November 20<sup>th</sup>. Registration starts at 9:30, and the meeting will run from 10 AM to 2 PM. A \$35 cost covers the registration fee, program materials, lunch and refreshments. Seminars are open to anyone, but pre-registration one week prior to the seminar is strongly encouraged to ensure adequate seating and a meal. For more information on this seminar, or a registration brochure, visit [www.extension.iastate.edu/carroll/](http://www.extension.iastate.edu/carroll/) or call the Carroll County office at (712) 792-2364.

## **Soybean Quality Issues in 2009: Tips for Harvest, Handling, Storage and Marketing**

*By Charles Hurburgh, Department of Agricultural and Biosystems Engineering and Palle Pedersen, Department of Agronomy*

After a warm period in early September, crop maturity was slowed by rain, and in some areas snow. The state experienced a hard freeze on Oct. 10 and 11. Despite the overall cool growing season, the USDA October Iowa yield estimate was the highest on record. As often happens with high grain yields, quality issues are surfacing.

*(Quality Issues, Cont’)* **Current conditions**

The quick burst of heat in September moved many soybeans, especially in the western half of the state, to maturity, but at the further expense of some grain fill and composition. As in 2008, soybean protein contents are low (31-34 percent typically) and oil contents above average (19 percent or greater). This will produce high-protein meals in the 45-47 percent protein range, although normally the essential amino acids (lysine, methionine and cysteine) do not fall off as rapidly as protein, leading to potentially good nutritional value for swine and poultry.

In the western half of Iowa, soybeans were generally mature before the frost, but intermittent rain and snow hampered harvest progress. Soybeans in the field that have dried down once then regained moisture will dry again at least once. Soybeans are very responsive to air relative humidity. However, after Oct. 20, the number of low humidity warm days decreases and therefore the field drydown chances decrease. If the ground is cold and damp, the environment around the plants will not be conducive to drying. Soybeans if left in the field generally settle between 17 and 20 percent moisture. Moisture meters can read mature wet beans accurately. Check farm meters against state inspected elevator meters on 5-10 samples.

Some soybeans were frost-damaged in eastern Iowa. [Frost Damage to Corn and Soybeans, \(PM1635](#)- available at your local extension office) has additional information on frost damage to soybeans. The major impact will be the creation of high moisture green soybeans. Frost damaged soybeans also have lower oil and less extractable oil than the average for the area. Greenness is a processing problem; greater refining losses are incurred in removing the green color. Greenness will subside somewhat after several weeks of aeration, which is also necessary to reduce the moisture. Green soybeans will be harder to separate in combines; expect more pods and foreign matter (FM) as well. Moisture meters read low on mixtures of mature and immature beans.

**Storage Management**

Grains have a shelf life just like any food product. Shelf life is primarily determined by moisture content and temperature. It is gradually used through the time before use, and each operation or storage regime consumes a portion of the life. The table at right gives the storage life for corn and soybeans at varying moistures and temperatures. Soybeans respond like corn, but to a percentage point difference in moisture.

Maximum storage time (months) for corn and soybean*							
Corn temperature ° F	Moisture Content						
	Corn (top %), Soybean (bottom%)						
	13%, 11%	14%, 12%	15%, 13%	16%, 14%	17%, 15%	18%, 16%	24% N/A
40	150	61	29.0	15.0	9.4	6.1	1.3
50	84	34	16.0	8.9	5.3	3.4	0.5
60	47	19	9.2	5.0	3.0	1.9	0.3
70	26	11	5.2	2.8	1.7	1.1	0.2
80	15	6	2.9	1.6	0.9	0.9	0.06

\*Based on 0.5% maximum dry matter loss—calculated on the basis of USDA research at Iowa State University. Corresponds to one grade number loss; 2-3% points in damaged seeds. Soybean approximated at 2% lower moisture than corn.

*(Quality Issues, Cont')* **Some cautions in using the Table:**

1. The numbers assume that temperatures are held constant – such as with aeration. Grain heats when it spoils, and gives off moisture. Un-aerated grain will shorten its own shelf life through moisture and heat.
2. Immature soybeans will spoil faster than the Table indicates.
3. If grain is held at higher moisture, then dried, the storage time can be used up in the wet conditions. The dry grain will still experience hot spots or other problems in the summer.
4. Soybeans are difficult to recover once spoilage has started. The oil becomes rancid and oxidizes.

**Every action taken after harvest affects the ultimate length of time grain can be stored and the quality at the time of use.** Check combine settings between fields because FM and cracked seeds (splits) spoil much faster than whole, sound kernels. Grain that starts to heat or get moldy has essentially used its storage life. The goal of grain storage management is to reduce the rate at which the life is lost. Always get grain cool quickly and minimize variations

Holding wet grain, especially without aeration, shortens shelf life considerably. Overnight storage of wet soybeans in a wagon or truck can have a marked effect on future storability. Always get wet grain into an aerated storage immediately.

### **Aeration Practice**

#### *Phase 1: Fall Cool Down*

- Lower grain temperatures in a stepwise fashion
  - October 40-45 F
  - November 35-40 F
  - December 28-35 F

#### *Phase 2: Winter Maintenance*

- Maintain temperatures with intermittent aeration
  - January, February 28-35 F

#### *Phase 3: Spring Holding*

- Keep cold grain cold
  - Seal fans
  - Ventilate headspace intermittently

The last half of the soybean harvest is likely to be wet (over 14 percent moisture), with many reports of 18-20 percent soybeans. Soybeans dry more easily than corn so air alone, or heat no more than 120F will be adequate. Monitor drying frequently to prevent overdrying. The publication, Soybean Drying and Storage, PM 1636, has additional information. Wet soybeans should not be held in bunkers, piles, flat storages, sheds or other structures where airflow is not well distributed.

*(Quality Issues, Cont')*

**Be selective about what beans are placed in storage versus moved at harvest.** Deliberately decide which bins are going to be kept into the summer. Remove the center core and use a grain distributor if possible. Check your grain at least every two weeks, with some way to take grain temperatures. If a slow rise is noted, aerate. If a hot spot starts, move the grain out. It is very difficult to control soybean spoilage once it has started. Oil rancidity becomes a major problem.

### **Shrink and Soybean Analysis**

Higher valued grain and higher moisture have increased the importance of shrink calculations. Regardless of the grain and starting moisture, the water shrink, per percentage point of moisture, will always be  $100/(100-\text{target moisture})$ . The market targets are normally 15 percent for corn and 13 percent for soybeans which leads to 1.17 and 1.15 percent shrink per point respectively. Any additional deduction in the market shrink calculation is an allowance for material handling losses. For example, a shrink factor of 1.4 percent per point gives about 0.22 percent per point for handling loss. Typically a commercial elevator experiences about 1 percent overall handling loss and a good farm system about 0.5 percent overall handling loss. This does not include weight loss from spoilage if grain goes out of condition. Of course, accurate moisture tests are also needed to make shrink calculations work well. Check farm meters on 10-15 samples against the state inspected meter at the local elevator, or the readings from an Official USDA grain inspector ([list of locations](#)).

Grain elevators must post their shrink factors as the sum of water plus handling loss. Shrink calculations are important for warehouse receipts, loans, proven yield calculations, and inventory estimates. The general principle is to use a shrink rate that gives a reasonable estimate of the actual grain weight remaining after drying and handling operations. Consider the costs of drying, aeration and storage separately from weight shrink. Recently, shrink factors and price discounts for soybean moisture have increased because of the difficulty created by large amounts of wet soybeans. Producers and elevators alike normally allocate their drying and bins with the best aeration to corn. Large changes in operational strategy are needed to handle wet soybeans. Drying wet soybeans on-farm is likely to be profitable however, when compared to current 2-3 percent shrink/discounts per point.

### **Wrap-up**

Wet soybeans will happen, especially in eastern Iowa. Patience will be important because the grain handling system is also facing a large, wet corn crop in the same areas. Soybeans can be dried with natural air and heated up about 120F; soybeans respond quickly to air conditions. On farm drying is likely to be profitable because the grain market does not have the capacity to handle both wet corn and wet soybeans.

Frost damage occurred in later planted soybeans; the best strategy is to aerate and store for 40-60 days before selling. The greenness may subside enough to be below the color threshold of the Grades. In cases of dispute over grading, submit the sample to a USDA licensed grading agency for resolution. Protein levels are likely to be below average; oil levels above average in Iowa soybeans.

## **Millipedes Invade During Fall Migration**

As the weather cools down and you start spending more time indoors, you may notice some small pests have followed you indoors! I have received many calls this fall about “little brown worms that curl up when you touch them.” These are millipedes, and can be found in many basements and main level rooms right now. The following information comes from the ISU Entomology Department Website, and gives some background on these critters, as well as tips for dealing with them if you find them indoors:

Millipedes live outdoors in damp areas such as under leaves, needles and dead plant debris, or in cracks and crevices. They feed on damp and decaying vegetable matter and are beneficial as "recyclers" of organic matter. However, they become a pest when they migrate into buildings as accidental invaders. Millipedes are usually found in the garage, basement or lowest level although they may wander into other parts of the house. They are most active at night and usually hide during the day in cracks and other moist locations.

Millipedes are harmless; they do not feed upon building structures or furnishings and they can not bite or sting. Millipedes cannot reproduce indoors. All millipedes found inside wandered in by mistake.

Controls for millipedes are aimed at keeping millipedes outdoors or reducing their numbers at the source. Cracks, gaps and other points of entry around windows and doors and in foundation walls should be sealed if possible. Removing organic matter such as plant mulch and dead leaves from against the house may help, and damp conditions around the house foundation should be corrected.

Insecticides are of limited benefit in controlling millipedes because of the protected areas where they originate and because of the long distances they migrate. In warm weather when millipedes are actively wandering, residual insecticides can be applied in a 5- to 20-foot wide barrier around the building to reduce entry. If practical, also spray areas where the millipedes likely originate. Thorough application will aid in control, but reliance on chemical control alone is often unsatisfactory. For more information on insecticides please see "[Insecticides in the Home Landscape and Garden](#)." (available online or at your local Extension office)



*Millipede on carpet with penny. Photo courtesy of Diana Pounds.*

Millipedes migrate long distances during certain times of the year (varies with the weather, but commonly in spring or fall). Therefore, actions near the house may have no effect. Some sources of millipedes such as woodlands and crop reserve program fields can produce extremely large numbers of millipedes that invade from distances of 50 feet or more.

The indoor use of household insecticides provides little if any benefit. Millipedes that wander indoors usually die in a short time because of the dryness, and spraying cracks, crevices and room edges is not very useful. Sweeping or vacuuming up the invaders and discarding them is the most practical option.