IOWA STATE UNIVERSITY
University Extension

Ag & Hort Update

JULY 2011

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Upcoming Events:

August 9th- Armstrong Research Farm Crops Field Day- 9:30 a.m.

August 11-20th- Iowa State Fair

August 19th – Farm Leasing Meeting at Harrison County Extension, Logan – 10:30 a.m.

August 23rd- Final session of Summer Gardening Webinar Series - 6:30 p.m. Preregister by 4:30 p.m.

DID YOU KNOW??

Ag and Hort Update is also available online!! The current and past issues are archived on our county homepage: www.extension.iastate.edu/shelby. Online newsletters also contain active links to get you to websites and publications mentioned in the articles! Contact us to be added to our email list.

Ask the ISU Garden Expert

Get answers to all your yard and garden questions at www.yardandgarden.extension.iastate.edu. For specific questions, call the Hortline at (515) 294-3108, or email hortline@iastate.edu, Monday-Friday from 10 a.m. to noon and 1:00 to 4:30 p.m.

Harvesting and Storing Potatoes

When should I harvest my potatoes?

Potatoes can be harvested when the tubers are small and immature ("new" potatoes) or when the crop is fully mature.

"New" potatoes are dug when the plants are still green and the tubers are greater than 1 inch in diameter. New potatoes should be used immediately, as they do not store well.

Potatoes grown for storage should be harvested after the vines have died and the crop is mature. To check crop maturity, dig up one or two hills after the plants have died. If the skins on the tubers are thin and rub off easily, the crop is not fully mature. Allow the crop to mature for several more days before harvesting the potatoes. When harvesting potatoes, avoid bruising, skinning or cutting the tubers. Damaged potatoes should be used as soon as possible.

Why are some of my potato tubers green?

Potato tubers actually are enlarged underground stems. When potato tubers are exposed to light (either in the garden or storage), their skin turns green due to the formation of chlorophyll. The chlorophyll itself is not a problem. However, higher levels of glycoalkaloids also develop in the green tissue. Green tubers have a bitter taste and can cause nausea, headaches and other health problems if eaten in large quantities.

Tubers with small green areas can be safely eaten if the green portions are cut off and discarded. It would be best to discard potatoes that are largely green.

When growing potatoes in the garden, hill soil around the base of the potato plants to prevent the tubers from being exposed to light. After harvesting, store potatoes in a dark location.

How should I store my potatoes?

After harvesting the potatoes, cure the tubers at a temperature of 50 to 60 F and high relative humidity (85 to 90 percent) for two weeks. The curing period allows minor cuts and bruises to heal. Thickening of the skin also occurs during the curing process.

Once cured, store potatoes at a temperature of 40 F and relative humidity of 90 to 95 percent. Store the crop in a dark location, as potatoes turn green when exposed to light. If storage temperatures are above 50 F, the tubers may begin to sprout in two or three months. When stored below 40 F, potatoes develop a sugary, sweet taste. Sugary potatoes can be restored to their natural flavor by placing them at room temperature for a few days prior to use. Do not store potatoes with apples or other fruit. Ripening fruit give off ethylene gas, which promotes sprouting of tubers.

Why are my potatoes knobby?

Fluctuations in soil moisture levels during tuber development may cause knobby potatoes. Watering on a regular basis (about once a week) during dry periods will help prevent this problem.

LAWN, ANNUAL AND GARDEN CARE IN HOT WEATHER

Is it necessary to water an established lawn during hot, dry weather?

Gardeners have two basic options when confronted with hot, dry weather. One option is to do nothing and allow the grass to go dormant. The alternative is to water the turfgrass during dry weather to maintain a green, actively growing lawn.

Cool-season grasses, such as Kentucky bluegrass, can survive long periods of dry weather. In dry weather, the shoots of the turfgrass plants stop growing and the plants go dormant. Dormancy is a natural survival mechanism for turfgrass. While the leaves have turned brown and died, the turfgrass roots and crowns remain alive. Generally, Kentucky bluegrass can remain dormant for four to six weeks without suffering significant damage.

Cool-season grasses are at risk of dying if dormant for more than six weeks. To ensure survival of dormant grass, it's best to water lawns that have been dormant for six weeks. Apply 1 to 1 ½ inches of water in a single application. Water again seven days later. The grass should begin to green up after the second application.

When is the best time to water a lawn?

Early morning (5 to 9 a.m.) is the best time to water a lawn. A morning application allows the water to soak deeply into the soil with little water lost to evaporation. When watering is completed, the turfgrass foliage dries quickly. Watering at mid-day is less efficient because of rapid evaporation; in addition, strong winds may cause uneven water distribution. Strong, mid-day winds also may carry water onto driveways, sidewalks or streets, wasting considerable amounts of water. Watering lawns in late afternoon or evening may increase disease problems.

How frequently should I water my lawn? How much water should be applied per week?

Most cool-season lawns in Iowa require approximately 1 to 1 ½ inches of water per week. When watering the lawn, apply this amount in a single application or possibly two applications three or four days apart. Avoid frequent, light applications of water, which promote shallow rooting and lush growth. Lush, shallow-rooted turfgrass is less drought tolerant. It also is more susceptible to pest problems. To determine the amount of water applied by a sprinkler, place two or three rain gauges within the spray pattern.

How frequently should I water annuals in containers?

The frequency of watering may vary considerably from container to container. Watering frequency depends on the size and type of container, composition of the potting mix, plant species and weather conditions. Some plants, such as impatiens, like an evenly moist soil. Others, such as vinca, possess good drought tolerance.

Annuals growing in containers should be checked daily (especially in summer) to determine whether they need to be watered. A few plants, such as New Guinea impatiens and fuchsia, should be checked twice a day (morning and late afternoon or evening), as they dry out quickly on hot, windy days.

When watering annuals in containers, continue to apply water until water begins to flow out the drainage holes in the bottom of the container.

How often should I water my garden?

A deep watering once a week is usually adequate for fruit, vegetable and flower gardens. When watering the garden, water slowly and deeply. Moisten the soil to a depth of 8 to 10 inches. Most annuals, perennials, vegetables and small fruits perform best when they receive 1 to 1 ½ inches of water per week (either from rain or irrigation).

SWEET CORN

One of the pure pleasures of summertime in Iowa is eating sweet corn fresh from the garden or farmers' market. Gardeners have questions when it comes to getting the ears from field to plate.

When should I harvest sweet corn?

Sweet corn should be harvested at the milk stage. At this stage, the silks are brown and dry at the ear tip. When punctured with a thumbnail, the soft kernels produce a milky juice. Over-mature sweet corn is tough and doughy. An immature ear will not be completely filled to the tip and the kernels produce a clear, watery liquid when punctured.

The harvest date can be estimated by noting the date of silk emergence. The number of days from silk emergence to harvest is approximately 18 to 23 days. Prime maturity, however, may be reached in 15 days or less if day and night temperatures are exceptionally warm. Most hybrid sweet corn varieties produce two ears per plant. The upper ear usually matures one or two days before the lower ear.

Harvest sweet corn by grasping the ear at its base and then twisting downward. Use or refrigerate sweet corn immediately after harvest. Optimum storage conditions for sweet corn are a temperature of 32 F and a relative humidity of 95 percent.

The ears on my sweet corn are poorly filled. What are possible causes?

Poorly filled ears are often the result of poor pollination. Hot, dry winds and dry soil conditions may adversely affect pollination and fertilization and result in poorly filled ears. Water sweet corn during pollination if the soil is dry. Improper planting may also affect pollination. Corn is wind pollinated. Plant sweet corn in blocks of four or more short rows to promote pollination.

How can I keep raccoons out of my sweet corn?

The most effective way to prevent damage to the sweet corn crop is to encircle the area with an electric fence. A two-wire fence with one wire 4 to 6 inches above the ground and the other at 12 inches should keep the raccoons out of the sweet corn. Mow or cut the vegetation beneath the fence to avoid electrical shorts. To be effective, the electric fence should be installed about two weeks before the sweet corn reaches the milk stage.

Are there special corn varieties that are grown to produce “baby” corn?

The small size of “baby” corn suggests that it’s a special variety. However, most baby corn is actually grown from regular sweet and field corn varieties. The ears are harvested when they are 2 to 4 inches long and one-third to one-half inch in diameter at their base. Most corn varieties reach this stage one to three days after the silks become visible. While many sweet and field corn varieties are suitable for baby corn production, there are a few varieties, such as ‘Babycorn’ and ‘Bonus,’ which are grown specifically for the miniature ears.

VEGETABLE PESTS

When it gets warm in the garden, the garden pests — worms, bugs and beetles — begin to feed and become a nuisance.

How can I control squash bugs?

Squash bugs can be serious pests of summer and winter squash. Squash bugs have piercing-sucking mouthparts. Heavy feeding causes entire leaves to wilt,

turn brown and die. Several methods can be used to control squash bugs in the garden. Brick red egg masses on the undersides of leaves and squash bug adults can be removed by hand. Adults can also be trapped under boards or shingles placed under the plants. Turn the objects over daily and collect and destroy the hiding squash bugs. Small, immature squash bugs (nymphs) can be controlled with insecticides, such as Sevin, permethrin or insecticidal soap. Sprays are generally more effective than dusts. If the squash plants are blooming, spray in the evening after the honey bees have quit foraging for the day. In fall, remove and destroy garden plant debris to deprive squash bugs of overwintering sites. \

There are tiny holes in the foliage of my eggplants. What should I do?

The tiny holes are likely due to flea beetles. Flea beetles are the most common pest of eggplant in the home garden. Adults are tiny, shiny, black beetles. They possess large hind legs that enable them to jump. Flea beetles eat small, round holes in the eggplant foliage, resulting in "shothole" damage. Minor flea beetle damage will have little effect on crop yields. If significant damage begins to appear, treat plants with an insecticide. As always, carefully read and follow label directions when using pesticides.

How can I control Colorado potato beetles?

The Colorado potato beetle is difficult to control. Hand picking has been used since before the development of modern pesticides. Hand-pick beetles, eggs and small larvae from infested plants as soon as possible (practical for a few insects on a few plants, but impractical for larger gardens). It's especially important to remove overwintering beetles that appear on young plants in spring.

In large gardens, insecticides are often the best option. When insecticides are necessary, consider timing, coverage and insecticide choice. Timing is critical. Small larvae are much easier to control and spraying when the larvae are small is much more effective than spraying when the larvae are large. Early treatment is also necessary to prevent crop loss. Complete and thorough coverage of infested plants is necessary for good control. Control is generally more effective with liquid sprays than with dust applications. (photo by Whitney Cranshaw, images.bugwood.org)

Because of decades of repeated insecticide use, the Colorado potato beetle is resistant to many widely used garden insecticides, such as Sevin. The first-choice products are the synthetic pyrethroids, such as permethrin, cyfluthrin and esfenvalerate. Look for products labeled for use on potatoes in the home garden and apply according to label directions. Spray early and spray often. Biorational pesticides, such as spinosad, Bt tenebrionis and Neem (azadirachtin) are only effective on very young larvae.

How do I control cabbageworms?

Cabbageworms are greenish caterpillars that eat large, irregular holes in the foliage of cabbage, broccoli, cauliflower and Brussel sprouts. Cabbageworms can be controlled with biological or chemical insecticides. Bacillus thuringiensis (Bt) is a biological insecticide (a bacterium) that specifically targets caterpillars. Bt products include Dipel, Thuricide and others. Home gardeners can also use chemical insecticides, such as permethrin (e.g. Eight) or carbaryl (e.g. Sevin).

There are large green caterpillars with horn-like projections on my tomato plants. What are they and how can they be controlled?

The large green caterpillars are tomato hornworms. Tomato hornworms can be 4 to 5 inches long and nearly as big around as your thumb.

Tomato hornworms feed on the leaves and fruit of tomatoes and other vegetables including eggplant, potatoes and peppers. They can quickly defoliate portions of a plant, reduce its productivity and heavily damage the fruit.

In regards to control, one option is to pick them off by hand (they won't hurt you). Another option is to use a biological insecticide known as Bacillus thuringiensis (Bt) or a synthetic home garden insecticide available at garden centers. Be sure to follow label directions.

PRESERVE THE TASTE OF SUMMER

What do you do with all of the bounty from your garden? Preserve the Taste of Summer is a comprehensive food preservation program that includes both online lessons and hands-on workshops. It is a great opportunity for anyone age 18 years or older who is interested in learning how to safely preserve foods

TO REGISTER
www.ucs.iastate.edu/mnet/preservation/home.html

• Complete online lessons Call the Webster County Office, (515) 576-2119 or the Montgomery County office, (712) 623-2592 for workshop information Attend workshop (select from Professional, Gold, and Silver only)

ONLINE LESSONS

GENERAL OVERVIEW LESSONS

1. Food Safety
2. Canning basics

METHOD-SPECIFIC LESSONS

3. Canning acid foods
4. Pressure canning low-acid foods
5. Preparation and canning of pickled and fermented foods
6. Making and preserving fruit spreads
7. Freezing foods, storage of frozen and refrigerated foods
8. Drying foods

WORKSHOPS

- Hot water bath canning (salsa making) and freezing
- Jams and dehydrating
- Pickle making
- Pressure canning (carrots or green beans/seasonal availability)

$100— PROFESSIONAL (Continuing education for teachers only)

- Complete all eight online lessons
- Complete one hands-on workshop

$75— GOLD

- Complete all eight online lessons
- Complete one hands-on workshop

Completion of this program makes participants eligible for our anticipated Volunteer Food Preservation Assistant Program (SUMMER 2012**)**

$50— SILVER

- Complete general overview online lessons
- Complete two method-specific online lessons
- Complete one hands-on workshop

$25— BRONZE

- Complete the general overview online lessons
- Complete one method-specific online lesson

ADDITIONAL OPTIONS

$ 5 each— Additional online lessons (Silver or Bronze levels)

$40 each— Additional hands-on workshops *****

***** Requires completion of the accompanying online lesson

FOOD PRESERVATION PUBLICATIONS AVAILABLE FROM ISU EXTENSION

VISIT **www.extension.iastate.edu/store** or ask your local ISU Extension office for copies of these titles:

Canning: Fruits PM 1043

Canning: Vegetables PM 1044

Canning: Fruit Spreads PM 1366

Canning: Pickled Products PM 1368

Freezing: Fruits and Vegetables PM 1045

Canning and Freezing: Tomatoes PM 638

FOR MORE INFORMATION:

IOWA STATE UNIVERSITY EXTENSION'S ANSWER LINE

(800) 262-3804 or Iowa Relay TTY— (**800) 735-2942**
www.extension.iastate.edu/answerline

ISU EXTENSION ONLINE STORE
www.extension.iastate.edu/store

ISU FOOD PRESERVATION
www.extension.iastate.edu/healthnutrition/food/preservation/resources.htm
(Links to a variety of food preservation resources)

NATIONAL CENTER FOR HOME FOOD PRESERVATION
www.uga.edu/nchfp/index.html
(Links to a variety of publications and self-study courses)

PLAN AHEAD TO AVOID HEAT STRESS IN CATTLE

AMES, Iowa – With the weather forecast of temperatures in the mid-to upper 90s and heat index expected to top 100 degrees in Iowa this week, Iowa State University (ISU) Extension beef veterinarian Grant Dewell reminds beef cattle producers that preparing for these weather conditions is vital to maintaining herd health.

Here are five steps to avoiding heat stress in your herd.

- Plan ahead. After cattle get hot, it's too late to prevent problems.
- Don't work cattle when it is hot. Finish working cattle before 9 to 10 a.m. in summer, and remember that during a heat wave it's best to not work cattle at all.
- Provide plenty of fresh, clean water. When it's hot and humid, consuming water is the only way cattle can cool down. Make sure the water flow is sufficient to keep tanks full, and ensure there's enough space at water tanks (3 inches linear space per head). Introduce new water tanks before a heat event occurs so cattle know where they are.
- Feed 70 percent of the ration in the afternoon. Heat from fermentation in the rumen is primary source of heat for cattle. When cattle are fed in the morning, peak rumen temperature production occurs during the heat of day when they can't get rid of it. By feeding 70 percent of the ration in late afternoon, rumen heat production occurs when it is cooler.
- Provide ventilation, shade and/or sprinklers. Environmental temperatures compound the heat load for cattle during a heat wave. Remove objects that are obstructing natural air movement. Indoor cattle will benefit from shade provided by the building as long as ventilation is good. Outdoor cattle will benefit from sprinklers to cool them off. Make sure cattle are used to sprinklers before employing them during a heat wave.

Factsheets on dealing with heat stress, resources and ISU Extension staff who can help are available on the Iowa Beef Center (IBC) website. Dewell offers more details on heat stress in a longer article on the ISU Veterinary Medicine Beef Extension website. Keep an eye on the 7-day heat stress forecast for your area at the USDA's Agricultural Research Service website.

ADDING HAIL INSURANCE COVERAGE

Steven D. Johnson, farm and ag business management specialist, Iowa State University Extension, (515) 957-5790, *sdjohns@iastate.edu*

In the U.S. over 50 percent of hail storms occur from March to May. However, the largest crop losses to corn from hail occur from June to September.

That's because early in the growing season, losses are typically limited to leaf defoliation and reduced stand counts. According to agronomic research, hail losses increase rapidly after the V6 growth stage when the growing point breaks the soil surface. The degree of hail loss depends on the crop growth stage. Yield losses due to defoliation during this vegetative stage can be estimated, but the stalks may need to be split to determine if the plants are alive.

However, when hail losses occur during the reproductive stage, direct damage to the ear will also need to be considered. Total corn yield loss from hail is estimated by combining the expected yield loss from stand reduction, direct damage and defoliation.

Hail is a covered peril under federal crop insurance policies. Primary farm-level products for 2011 are Revenue Protection (RP) and Yield Protection (YP). If a hail loss occurs, an indemnity payment is not triggered until the loss exceeds the deductible under that policy.

In 2011 the corn crop is likely one of the most valuable crops you've produced, with current cash prices for fall delivery around $6 per bushel. Should a mid-season hail storm strike, do you have adequate crop insurance coverage?

Three reasons to consider adding hail coverage

First, you've accepted a large deductible by limiting coverage to only a multi-peril crop insurance policy. Should hail damage occur, the 15 to 35 percent deductible you've accepted (electing 65 to 85 percent coverage) has never represented more dollars per acre at risk. Net returns to a harvested crop are at extremely high levels in 2011. With profit margins two to three times above normal, it could be devastating to the farmer's long term future to lose a large portion of this year's crop.

Second, if you elected to use enterprise units on your multi-peril policy, all fields planted to that crop are combined at the county level should a loss occur. The decision to elect enterprise units is popular, as it might cut farmer paid premiums by as much as 50 percent. However, the use of enterprise units potentially exposes individual farms to a hailstorm, while the rest of the unit may not suffer loss. Protection from spotty loss events such as hail on one farm and not others is more important if you've elected enterprise units.

Third, crop insurance companies are providing hail insurance at historically low rates. According to filings made to state insurance departments, crop hail rates are significantly less than their expected losses. Current crop hail rates would have to be twice as high to cover claims and expenses for an average loss year.

Explore various crop hail policies

There are a number of choices in crop hail insurance products. Traditional products such as crop-hail are offered as companions to multi-peril crop insurance policies and provide protection damage from hail and/or fire. A fire that is caused by a non-natural occurring event, such as a combine, is not covered under a multi-peril coverage.

A crop-hail product provides protection up to the actual value of the crop. These policies tend to provide coverage in dollars per acre per farm with various deductible levels. A minor loss due to hail may not trigger an indemnity payment.

Since coverage is provided on an acre-by-acre basis, a producer seeing a bumper crop or higher crop prices, can increase their coverage during the growing season to cover the value of the crop. Various options with different deductibles may also be selected that impacts the final premium paid.

Consider production hail

Another choice for hail coverage is often referred to as "production hail." Companies may refer to this product by different names, but the advantage of such a policy over the more traditional crop-hail policy is that it combines hail coverage with existing multi-peril coverage.

Production hail protects the top portion of your crop, that same area that you've accepted a deductible of 15 to 35 percent depending on the level of coverage elected in your multi-peril policy.

Typical production hail policies allow for coverage of up to 120 percent of your Actual Production History (APH) and up to 100 percent of the RP or YP projected price, $6.01 per bushel corn and $13.49 per bushel soybeans respectively in 2011. Some companies allow for enterprise units to be separate for loss purposes, similar to how optional units work.

Deductibles and qualifying losses also vary by insurance company, but premiums appear quite competitive for production hail when compared to the more traditional crop-hail policies.

Conclusion

In all cases, 2011 may very well be the year to add crop hail insurance to your risk management plan. Consider consulting a knowledgeable insurance agent to determine the best option and risk management value for you. Remember most crop-hail or production hail policies require a 24-hour waiting period before coverage begins.