

Plant Wise

IOWA STATE UNIVERSITY
University Extension

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Prepared by Denise Fikes, Mills County Horticulture Assistant

August 2009

Harvesting and Storing Onions



Many varieties of onions can be grown in the home garden.

By Richard Jauron
Extension Horticulturalist
Iowa State University

Onions are a staple in the kitchen. They're also easy to grow. If properly harvested, cured, and stored, gardeners can enjoy homegrown onions through much of fall and winter.

Onions should be harvested when most of the tops have fallen over and begun to dry. Carefully pull or dig the bulbs with the tops attached.

After harvesting, dry or cure the onions in a warm, dry, well-ventilated location, such as a shed or garage. Spread out the onions in a single layer on a clean, dry surface. Cure the onions for two to three weeks until the onion tops and necks are thoroughly dry and the outer bulb scales begin to rustle. After the onions are properly cured, cut off the tops about 1 inch above the bulbs. As the onions are topped, discard any that show signs of decay. Use the thick-necked bulbs as soon as possible as they don't store well. An alternate preparation method is to leave the onion tops untrimmed and braid the dry foliage together.

Place the cured onions in a mesh bag, old nylon stocking, wire basket, or crate. It's important that the storage container allow air to circulate through the onions. Store the onions in a cool, moderately dry location. Storage temperatures should be 32 to 40 degrees F. The relative humidity should be 65 to 70 percent. Possible storage locations include a basement, cellar, or garage. Hang the braided onions from a rafter

or ceiling. Since the temperature in an unheated garage may fall well below 32 degrees F, an alternate storage site will be needed when bitterly cold weather arrives.

The storage life of onions is determined by the variety and storage conditions. When properly stored, good keepers, such as Copra and Sweet Sandwich, can be successfully stored for several months. Poor keepers, such as Walla Walla and Sweet Spanish, can only be stored for a few weeks. If the storage temperatures are too warm, the onions may sprout. Rotting may be a problem in damp locations. Inspect the stored onions on a regular basis in fall and winter. Discard any that are starting to rot.

On a cold, snowy day, it's nice to be able to go to the basement or cellar and grab an onion and prepare a pot of stew or chili. That and numerous other culinary delights are possible when onions are harvested and stored properly.

Better Blooms in No Time

By Cindy Haynes
Horticulturist
Iowa State University Extension



August is the time when temperatures rise and some blooming plants in the landscape begin to languish. Below are some tips on how to keep those plants thriving and blooming throughout the "dog days of summer".

Right Plant – Right Site

Many annuals and perennials, such as zinnias, geraniums and daylilies, bloom best in partial to full sun. If these plants don't receive adequate sunlight, they won't bloom well regardless of the amount of water or fertilizer they receive. So first and foremost, be sure your plants are sited properly.

Deadheading

Deadheading is one of the easiest ways to increase the number of blooms on many annuals and perennials. Simply remove the spent flowers before they have the chance to form seed. Deadheading prevents the plant from spending energy on seed production, allowing the plant to use its energy to produce additional blooms. For best results deadheading should be done frequently throughout the growing season.

Regular Water and Fertilizer

This is the tricky part. Too little or too much of either water or fertilizer can limit the number of blooms or shorten the bloom season for some plants. Applying the right amount of each encourages maximum flower production.

Plants have different moisture requirements. For example, impatiens prefer a consistent supply of moisture throughout the growing season. Others, such as moss rose and vinca, are quite drought tolerant. Plants stressed from too little water often stop blooming. Too much water and they generally die – no blooms there! Checking the soil before you water is the best way to know whether a plant will need additional moisture. Another good rule of thumb is to remember that most annual flowers like 1 inch of rainfall or moisture per week during the growing season. Therefore, if rain has been lacking – water your plants.

The opposite is true for fertilizer. Too much fertilizer, especially nitrogen, can cause excessive growth at the expense of flowers. Too little fertilizer can limit growth, reduce plant size and thus limit the number of flowers. For most annual plants fertilizing with a complete fertilizer (low in nitrogen) once or twice a month is sufficient for bountiful blooms. For perennials, even less is needed. Fertilizing once, maybe twice, with a complete fertilizer (low nitrogen again) during the growing season is more than enough to keep most perennials blooming.

Pinching or Pruning

The benefits of pruning are not limited to woody plants. Some annual and perennial plants profit from the practice as well. Petunias are a classic example of plants that may benefit from being pruned or pinched back in mid to late summer. Simply remove one third to one half of the stem tips when the plants are looking leggy. In two or three weeks the plants will have initiated new “branches” and filled in their garden spaces. By then the flowers will be back as well and covering more compact plants.

Keeping your landscape full of flowers isn't so hard. By following these tips many of your annual and perennial plants will reward you with abundant flowers throughout the growing season.

Mining for the Green Stuff

By Katie Duttweiler
Plant Pathologist
Iowa State University



Last week I noticed tan, winding streaks on the leaves of my marigolds. Initially I was excited at the thought of discovering a new marigold with variegated leaves. But, upon closer investigation, I realized the unusual squiggles on my marigold leaves were actually the result of a common insect pest, leaf miners.

Leaf miner is a broad term for insects that, as their name implies, mine and consume the innards of leaves. Tan-colored squiggles in foliage develop as leaf miners eat the green leaf tissue while leaving the upper and lower epidermis of leaves intact. Different species of flies, moths, beetles and sawflies can be leaf miners, but in all cases it is the larvae (including fly maggots, moth caterpillars, beetle and sawfly grubs) that play the role of miner. Some leaf miners have indiscriminate tastes and will eat practically anything that is green and photosynthesizes. Other leaf miners have more particular palates and will only indulge on one specific plant species.

Leaf miners can be found on vegetables, herbaceous ornamentals, woody ornamentals and deciduous trees. Almost all of our favorite herbaceous ornamentals are hosts such as ageratum, aster, calendula, chrysanthemum, dahlia, daisy, gerbera, gypsophila, marigold, petunia, snapdragon, sunflower and zinnia.

Our vegetable garden is not better off as the list of hosts includes beans, carrot, celery, cole crops (such as cabbage and broccoli), cucumber, eggplant, leek, lettuce, melons, peas, pepper, potato, okra, onion and tomato. Leafy vegetables, for example beets, spinach and Swiss chard, are particularly at risk since the edible part of the crop is directly damaged. Even our woody landscaping is at risk with arborvitae, apple, aspen, azalea, birch, basswood, cottonwood, dogwood, elm, holly, oak and poplar listed as some of the hosts.

The leaf miner life cycle begins as the adult females lay eggs directly into the leaf. From the moment they hatch from the egg, larvae meander through leaves while dining on the plant tissue. The tunnels get larger as the larvae mature and increase in size. Once ready to pupate, the larvae chew a hole through the leaf epidermal tissue and drop to the ground. Adults eventually emerge from the pupa and the cycle repeats. Depending on the environment, the life cycle generally takes 18 to 21 days, and during the summer there can be multiple generations. When in a warm environment, such as a greenhouse, the life cycle can repeat throughout the year.

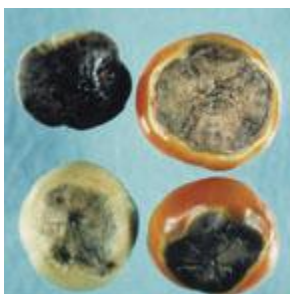
The damage of leaf miners is not limited to serpentine tunnels in the leaves. Infested leaves can dry out, turn brown, and/or drop prematurely. Many adult leaf miners feed on leaf sap, which is accessed by puncturing the leaves. These feeding punctures can cause leaves to stipple. Leaf miners consume plant parts responsible for photosynthesis, which can thereby decrease crop production in severe infestations.

Severe infestations of woody ornamentals can lead to re-leafing. Some leaf miners cause blotching and blistering of leaves rather than tunneling. The wounds caused by egg laying, adult feeding and/or larval emergence can make the plants more susceptible to disease by providing an entryway for plant pathogens. Some leaf miners also can transmit plant diseases. For example, the soybean leaf miner can transmit bean pod mottle virus.

Fortunately, severe leaf miner infestations are generally limited to greenhouses rather than the home garden. In most cases, the leaf miner populations are too low to cause any damage to plant functions. Therefore, leaf miner damage is generally considered to be an aesthetic issue.

But, since we garden for aesthetic reasons, it is important to be aware of the presence of leaf miners. When at a gardening center, carefully observe the foliage of plants you are interested in purchasing. Leaf miner infestations often begin at the nursery rather than your garden. When admiring your flowers and vegetables at home, take a closer look at the leaves. If you observe the distinctive tan squiggles, remove and destroy infested leaves. Removal of weeds that are alternative hosts also helps decrease leaf miner populations. Insecticides are tricky to apply effectively and are not recommended for homeowners. Thankfully, Mother Nature, who gives us cold winters and natural enemies, often provides the most effective control of leaf miners.

Trouble in the Tomato Patch



Blossom end rot on tomatoes appears as a brownish black spot on the blossom end (bottom) of the fruit.

By Richard Jauron
Horticulturalist
Iowa State University Extension

Red, juicy tomatoes picked from the garden are a summertime treat. Tomatoes are easy to grow, but can

be damaged by insects and diseases. Other problems, such as blossom end rot, fruit cracking and sunscald also can occur on tomatoes.

Blossom end rot

Blossom end rot is a common problem on tomatoes. It appears as a brownish black spot on the blossom end (bottom) of the fruit. Secondary organisms invade the brownish black spot and cause the fruit to rot. Blossom end rot is most common on the earliest maturing fruit that ripen in July and early August.

Blossom end rot is caused by a calcium deficiency in the developing fruit. Wide fluctuations in soil moisture levels impair calcium uptake by the root system of the tomato plant. Excessive nitrogen fertilization may also contribute to blossom end rot.

To reduce blossom end rot, water tomato plants on a weekly basis during dry weather to provide a consistent supply of moisture to the plants. (Tomato plants require about 1 to 1-1/2 inches of water per week during the growing season.) Mulch the area around the tomato plants to conserve soil moisture. Avoid over-fertilization. There is no need to apply calcium to the soil as most Iowa soils contain more than adequate levels of calcium.

Pick and discard fruit affected with blossom end rot. The removal of the affected fruit will allow the tomato plant to channel all of its resources into the growth and development of the remaining fruit.

Fruit cracking

Another common problem is fruit cracking. Cracks usually appear at the top or stem end of the fruit. Cracks radiate out from the stem (radial cracks) or circle the fruit in concentric rings (concentric cracks). Like blossom end rot, fruit cracking is associated with wide fluctuations in soil moisture levels. A heavy rain or deep watering after a long, dry period results in rapid water uptake by the plant. The sudden uptake of water results in cracking of ripening fruit. Generally, fruit cracking is most common on the large, beefsteak-type tomatoes.

As with blossom end rot, fruit cracking can be prevented by supplying the tomato plants with a consistent supply of moisture during the summer months. During dry periods, a thorough soaking once every seven days should be adequate for most tomato plants. Conserve soil moisture by mulching the area around tomato plants with dried grass clippings, straw, shredded leaves or other materials. Also, plant tomato varieties that possess good crack resistance. Tomato varieties that possess good to excellent crack resistance include Jetstar, Mountain Spring and Mountain Fresh.

Sunscald

Initial symptoms of sunscald are shiny white or yellow areas on the sides of the fruit exposed to the sun. Later, the affected tissue dries out and collapses, forming

slightly sunken, wrinkled areas. Secondary organisms invade the affected areas causing the fruit to rot. Sunscald occurs on fruit exposed to the sun during periods of extreme heat.

Losses due to sunscald can be reduced by growing tomatoes in wire cages. Cage grown tomato plants provide good foliage protection for the fruit. Also, control Septoria leaf spot and other foliar diseases, which defoliate the plants and expose the fruit to direct sunlight.

Despite the loss of a few tomatoes to blossom end rot, fruit cracking or sunscald, most tomato plants will produce a good crop with proper care. A bacon, lettuce and tomato sandwich sure sounds good right about now.

Upcoming Horticulture Events of Interest:

Glenwood Lake Park Farmers Market

Wednesdays throughout the summer 4:00pm – 7:30pm
Vendors offering locally-grown garden and orchard produce, baked goods, eggs, & crafts.
ISU Mills County Master Gardeners will be on hand with a question/answer table to help you solve your garden problems.

Silver City Farmers Market

Saturdays throughout the summer 8:00am – 11:30am
ISU Mills County Master Gardeners available to answer all your gardening questions!

Armstrong Research Farm Field Day

Tuesday, August 11 @6:30 PM
53020 Hitchcock Avenue, Lewis, IA

Featuring vegetable varieties noted for maintaining their quality and preservation, including winter squash, potatoes, sweet potatoes, tomatoes, beets and pickling cucumbers; also white pumpkins, unusual flowers and ornamental grasses.

The Research Farm is about an hour's drive from Glenwood. This will be an informative and enjoyable evening, ending with homemade ice cream and strawberries!

The ISU/Mills County Master Gardeners are meeting in the Glenwood Pamida parking lot at 5:30 PM to drive over together. We would love to have anyone interested in attending join us!

Go to www.ag.iastate.edu/farms/fielddays.php or

Call the Mills County Extension Office @ 624-8616 for more information.

Late Summer and Fall-Blooming Bulbs



The leaves of colchicums emerge in early spring and die back by early summer. White to pink to purple, crocus-like flowers appear without foliage in late summer or fall.

By Richard Jauron
Horticulture Specialist
Iowa State University Extension

Spring-flowering bulbs, such as tulips and daffodils, are familiar to all gardeners. Though not widely planted, the attractive flowers and unique life cycles of the colchicum, showy crocus and magic lily make them welcome additions to the garden.

Colchicums (*Colchicum* spp.) arise from bulb-like corms. The leaves of colchicums emerge in early spring and die back by early summer. White to pink to purple, crocus-like flowers appear without foliage in late summer or fall. They are also known as autumn crocuses.

Colchicums should be planted immediately upon their purchase or receipt as the corms will bloom within a few weeks. (If not planted promptly, the corms may bloom during storage.) Plant the corms in well-drained soils in partial shade to full sun. Good planting sites include areas within the filtered shade of large trees and shrubs, in rock gardens, or amongst low-growing groundcovers such as vinca. For the best visual display, plant colchicums in clumps. The corms should be planted 2 to 3 inches deep and 6 inches apart.

Gardeners can choose from several excellent cultivars (varieties). 'Album' produces pure white flowers. 'Alboplenum' has double, white flowers. The flowers of 'The Giant' are 10 to 12 inches tall and violet with a white throat. 'Lilac Wonder' bears large, rosy-purple flowers. 'Waterlily' produces double, lilac-pink flowers which resemble a water lily.

Colchicums are native to Europe and northern Africa. The scientific name comes from Colchis, an ancient country bordering on the Black Sea, now part of the Georgian Republic, where colchicums are abundant.

The dried corms and seeds of *Colchicum autumnale* are the source of medicinal colchicum. It is also the source of colchicine which is used in plant breeding to induce polyploids.

Another attractive fall-blooming bulb (actually a bulb-like corm) is showy crocus (*Crocus speciosus*). Flowers are violet-blue with yellow anthers and deep orange stigmas. Plant height is approximately 5 to 6 inches. Excellent cultivars include 'Albus' which

produces white flowers, 'Cassiope' has aster-blue flowers with yellow bases, 'Conqueror' produces clear, deep blue flowers, and 'Oxonian' has large, dark blue flowers. Showy crocus blooms in late September or October.

Showy crocus performs best in partial to full sun in a well-drained soil. Possible planting sites include rock gardens, naturalized areas, and perennial borders. Plant the corms 3 to 4 inches deep in groups of 25 or more.

Another intriguing plant is *Lycoris squamigera*. Common names include magic lily, resurrection lily, surprise lily, and naked lady. The life cycle of *Lycoris squamigera* is similar to colchicums. The long, strap-shaped leaves emerge in spring, but die back to the ground by early summer. Pink, lily-like flowers are borne on 18- to 24-inch-tall, leafless, flower stalks in mid to late summer. Each flower stalk produces 4 to 12 flowers.

Lycoris squamigera performs best in partial shade to full sun in well-drained soils. Plant bulbs 4 to 5 inches deep and 6 to 8 inches apart. Since the dying foliage is rather unsightly, interplant the magic lily with other perennials.

The brightly colored flowers of tulips, daffodils, crocuses and other spring-flowering bulbs are a beautiful sight in the garden after a long, dreary winter. However, when selecting bulbs for the garden, don't forget the attractive, intriguing, late summer and fall-blooming bulbs.

*Rest is not idleness, and to lie
sometimes on the grass on a summer day
listening to the murmur of water, or
watching the clouds float across the
sky, is hardly a waste of time.*

~John Lubbock

Ask the ISU Extension Gardening Expert

How frequently should I water a perennial flower bed?

Many perennials perform best when they receive 1 to 1½ inches of water per week, either from rain or irrigation.

When watering, soak the soil to a depth of 8 to 10 inches. Watering frequency is largely determined by soil characteristics, weather conditions, and plant species. A thorough soaking once a week is adequate for most perennials.

Perennials, such as sedum, coreopsis, blazing star, and most ornamental grasses, possess excellent drought tolerance. Once established, these drought tolerant perennials require little or no watering.

Are there ways to reduce water use in the garden?

Apply a mulch around landscape plantings and garden areas to conserve soil moisture. Mulching reduces the rate of evaporation from the soil surface and also limits weed competition. Organic materials, such as grass clippings, straw, and shredded leaves, are excellent mulches for the vegetable garden. Wood chips and shredded bark are good choices for trees, shrubs, and perennials.

The depth of the mulch depends on the type of material used and the area. Apply wood chips and shredded bark to a depth of 3 to 4 inches around trees and shrubs. The optimum depth in the vegetable garden ranges from 2 to 3 inches for fine materials, such as grass clippings, to 6 to 8 inches for straw.

There are round holes in the foliage of my roses. What is responsible for the damage?

Leafcutting bees are probably responsible for the holes in the rose foliage. Leafcutting bees resemble honey bees, but are often darker in color. Female leafcutting bees make nests in rotted wood or the stems of plants. The sides of the nesting cavities are lined with round pieces of foliage. After lining the cavities with leaf discs, pollen and nectar are placed in the nest cells to serve as food for the immature bees.

Leafcutting bees may remove discs of foliage from many plants. However, they prefer rose, green ash, redbud, lilac, and Virginia creeper. Holes in the leaves are typically one-half inch or less in diameter. The cuts are clean, as if they were "punched out" with a paper punch.

Leafcutting bees are beneficial pollinators. Damage to roses and other plants is usually minor. Control efforts are rarely justified or necessary.

Several large, black and yellow wasps are digging holes in my flower garden. What are they and how do I get rid of them?

The large, black and yellow wasps are probably cicada killers. The cicada killer wasp is a solitary wasp. Each female lives independently rather than in colonies, though many may choose to nest in close proximity to one another.

Cicada killer wasps are active in July and August. The female digs one or more tunnels in soft soil (often flower beds or gardens). Tunnels are about the size of a quarter and may extend 24 inches or more into the

ground. The female flies to nearby trees to capture an annual cicada that she stings to paralyze and then carries back to the burrow. One or two paralyzed cicadas are placed in each cell at the end of the tunnel and a single egg is deposited before the female closes the cell and flies away, never to return. The eggs hatch into legless larvae that feed on the cicadas and develop into wasps that emerge the following summer.

Only female cicada killers have the capability to sting. However, they usually won't unless handled or threatened. Stings inflicted by cicada killers are usually not severe, but reaction varies with each individual.

Wasps are generally beneficial, and a nest in an out of the way location where it is not likely to be disturbed should be left alone. On the other hand, nests in high-traffic areas may warrant treatment. Cicada killers can be destroyed by applying an insecticide dust (e.g., Sevin or permethrin) into the burrow entrance during the night. Cover the nest opening with a shovelful of soil and reapply in two or three days if necessary.

AUGUST GARDENING TO DO LIST



- Plant seeds of radish, beets, lettuce, and spinach for a fall garden.
- Pick up and destroy windfall apples to reduce overwintering insects.
- Remove old vegetable plants that have stopped producing to eliminate shelters for insects and disease problems.
- Turn the compost pile frequently and keep it moist.
- Check trees for bagworms and fall webworms. Hand prune and destroy.
- Prepare thin and dead areas of the lawn for renovation. Mid-August to mid-September is the best time of the year to seed lawns.
- Place orders for fall planting of spring-flowering bulbs.
- Every weed that goes to seed this year, means more trouble next year. Keep weeding!

- Do not add weeds with mature seed heads to compost piles. Most home compost piles do not reach a high enough temperature to kill the weed seeds.
- Dig potatoes for storage after vines have died and skins on tubers do not rub off easily.
- In mid to late August, remove the blossoms and new growth on tomatoes to encourage ripening of existing tomatoes.
- Remove summer squash when the fruits are 6 to 10 inches long or 3 to 6 inches in diameter. Use the tender summer squash fresh, steamed, or fried. Wait to harvest winter squash. Pick them when the rind is firm, glossy, and the portion touching the soil has changed from cream to orange.
- Create or add to your planting wish list. Write down the plant name, variety, bloom time, and other features that caught your attention. Use this list to plan changes for next year's garden.

Resources for Horticulture information

ISU's Hortline at (515) 294-3108

(Monday-Friday, 10 a.m.-noon, 1-4:30 p.m)

ISU/Mills County Extension: 712-624-8616

www.extension.iastate.edu/mills/yardgarden.htm

Iowa State University Publications

PM 731	Harvesting and Storing Vegetables (\$1.00)
PM 0819	Planting a Home Vegetable Garden (\$.50)
PM 534	Planting & Harvesting Times for Garden Vegetables (Free)
IAN 0302	Iowa's Summer & Fall Wildflowers (\$1.00)
PM1266	Tomato Diseases and Disorders (\$3.75)
PM 1933	Common Rose Diseases (Free)

Horticulture Publications on-line

<https://www.extension.iastate.edu/store/ListCategories>

Extension programs are available to all without regard to race, color, national origin, religion, sex, or disability



Please join me in wishing Sherry Ford a fond farewell and best wishes as her position as Mills County Extension Education

Director ends due to the restructuring of Extension. She will be sorely missed.