

Plant Wise

IOWA STATE UNIVERSITY
Extension and Outreach

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September 2013

Harvesting and Storing Apples and Pears

by Richard Jauron
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In order to obtain the highest quality fruit, apples and pears must be harvested at the proper stage of maturity. Once harvested, proper storage is necessary to maximize storage life.



Apples

The harvest period for apples varies from one variety (cultivar) to another. For example, Jonathan apples are normally harvested in mid to late September. The harvest season for Red Delicious apples is normally late September to early October. However, the harvest period for apple varieties is strongly influenced by weather conditions during the growing season. Gardeners, therefore, should base the harvest time on the maturity of the apples rather than a specific calendar date.

There are several indicators of apple maturity. Mature apples are firm, crisp, juicy, well-colored, and have developed the characteristic flavor of the variety. Red color alone is not a reliable indicator of maturity. Red Delicious apples, for example, often turn red before the fruit are mature. Fruit harvested too early are astringent, sour, starchy, and poorly flavored. Apples harvested too late are soft and mushy.

When harvesting apples, pick and handle the fruit carefully to prevent unnecessary damage. Sort through the apples during harvest. Remove and promptly use bruised or cut apples. Also, remove apples, which exhibit insect and disease problems. Separate the apples by

size. Use the largest apples first as they don't store as well as the smaller fruit.

Once harvested and sorted, store the undamaged apples immediately. The temperature and relative humidity during storage are critical for maximum storage life. Proper storage conditions for apples are a temperature near 32°F and a relative humidity between 90 and 95 percent. Apple varieties, such as Red Delicious, stored under optimum conditions may be stored up to 3 to 5 months. Apples stored at a temperature of 50°F will spoil two to three times faster than those stored at 32°F. If the humidity during storage is low, apples will dehydrate and shrivel.

Pears

Pears should not be allowed to ripen on the tree. If the fruit are left on the tree to ripen, stone cells develop in the fruit giving the pear a gritty texture. Tree-ripened fruit are also poorly favored. Harvest pears when the color of the fruit changes from a deep green to a light green. Also, the small spots (lenticels) on the fruit surface change from white to brown. At the time of harvest, the fruit will still be firm, not soft.



Pears should be ripened indoors at a temperature of 60 to 70°F. The ripening process should take 7 to 10 days. To hasten ripening, place the fruit in a tightly sealed plastic bag. Pears give off ethylene gas, which accumulates in the bag and promotes ripening.

To keep the pears for a longer period of time, store the unripened fruit at a temperature of 30 to 32°F and a relative humidity of 90 percent. Pears can be stored for approximately 1 to 3 months. Remove stored fruit about 1 week prior to use.

This Garden is for the Birds -- Hummingbirds!

By Cindy Haynes
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I have noticed late this summer that several hummingbirds are visiting some of the flowers in my garden. I am surprised – partly because it is late in the season and also because I do not have any hummingbird feeders set up in my landscape.

Two species of hummingbirds visit Iowa gardens – the ruby-throated hummingbird and the Rufous hummingbird. The male Ruby-throated Hummingbird is the most colorful since it has a bright red splotch at its throat. Both the male and female ruby-throated hummingbirds have an emerald colored back, but the female lacks the red spot on its throat. The Rufous hummingbird is larger and rufous colored (or rusty red-brown). This male is predominately rufous colored on the throat, tail, head, back, and each side with a white breast. The female Rufous hummingbird also has a white breast like the male, but unlike the male the female species has a green head and back and its tail feathers are rufous, tipped with white.

In watching these hummingbirds zip around I have realized several things. First – they are fast! Sometimes too fast for me to tell which species of hummingbird is visiting. The second thing I noticed is the variety of flowers that they visit. Since I am a gardener, I want to know which flowers they find most attractive. Since I can't ask them (or at least I don't expect a response), I am stuck with watching them instead.

Many garden books suggest planting red or orange, tubular flowers in a sunny site to attract hummingbirds to the garden. Yet, I see them visiting pink, white, and lavender flowers too! I have even seen hummingbirds visit zinnias or coreopsis which have a daisy-like flower instead of a tubular flower. And are sunny sites a requirement? I don't think so, especially when I see them visiting hosta flowers in my garden this summer.

Maybe hummingbirds aren't as discerning as we initially thought. Maybe they are like us and like a diverse palette of plants. Or maybe they try these different plants simply because they are available. Regardless of their preferences, I like having them visit my garden and/or landscape.

While it may be a bit late to put out a hummingbird feed this year, generally late summer and early fall is a great time to install a hummingbird feeder – especially if you

don't have a variety of flowers for them to visit. Hummingbirds are migratory birds that travel great distances from early spring to late fall. They are often in Iowa in April and May as they head north for the year and back again in August and September as they migrate south for the winter.

Below is a list of plants often referenced as attracting hummingbirds to your garden. But don't worry if many of these are not planted in your garden, because I can attest that they will visit other flowers too!

Plants to Attract Hummingbirds to Iowa Gardens	
Annuals	Perennials
Four-O-Clocks (<i>Mirabilis jalapa</i>)	Bee Balm (<i>Monarda didyma</i>)
Fuchsia (<i>Fuchsia x hybrida</i>)	Canna (<i>Canna x generalis</i>)
Impatiens (<i>Impatiens wallerana</i>)	Tube and vining Clematis (<i>Clematis</i> sp.)
Morning Glory (<i>Ipomoea purpurea</i>)	Columbine (<i>Aquilegia canadensis</i>)
Nicotiana (<i>Nicotiana glauca</i>)	Coral Bells (<i>Heuchera sanguinea</i>)
Petunia (<i>Petunia x hybrida</i>)	Delphinium (<i>Delphinium x elatum</i>)
Pineapple Sage (<i>Salvia elegans</i>)	Daylily (<i> Hemerocallis</i> species)
Red Salvia (<i>Salvia splendens</i>)	Gladiolus (<i>Gladiolus x hortulanus</i>)
Scarlet Runner Bean (<i>Phaseolus coccineus</i>)	Hibiscus (<i>Hibiscus</i> species)
Zinnia (<i>Zinnia elegans</i>)	Hollyhock (<i>Alcea rosea</i>)
Shrubs	Hosta (<i>Hosta</i> species)
Bottlebrush Buckeye (<i>Aesculus parviflora</i>)	Liatris (<i>Liatris spicata</i>)
Coralberry (<i>Symphoricarpos orbiculatus</i>)	Lily (<i>Lilium</i> species)
Lilac (<i>Syringa</i> species)	Lobelia (<i>Lobelia cardinalis</i>)
Weigela (<i>Weigela florida</i>)	Penstemon (<i>Penstemon barbatus</i>)
Trees	Phlox (<i>Phlox paniculata</i>)
Red Buckeye (<i>Aesculus pavia</i>)	Lupine (<i>Lupinus</i> hybrids)
Northern Catalpa (<i>Catalpa speciosa</i>)	Trumpet Vine (<i>Campsis radicans</i>)
	Yucca (<i>Yucca filamentosa</i>)

Praying Mantis

By Donald Lewis
Department of
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Iowa State University



The praying mantis is an easy insect to recognize. They have a long narrow body that is stretched in the middle where the legs attach. They have a small triangular head with two large compound eyes. But most of all, they have those impressive, oversized front legs held upright in front of the face.

Praying mantids (preferred plural form of mantis) have never been numerous in Iowa and historically they were only common in the far southeastern corner of the state. Beginning a few years ago more mantids were reported further north and west in Iowa and since 2000 they have been reported as far north as Ames and as far west as Council Bluffs. The easy conjecture is that the northward spread was facilitated by consecutive winters with mild weather. This theory is logical but unproven.

There are more than 1500 different kinds of mantids in the world. Most of these are tropical insects, and only about 20 kinds occur in the United States. Unfortunately, only 5 species are common in the US and only 2 are routinely found in Iowa.

The two kinds of mantids in Iowa are the Chinese mantis and the Carolina mantis. Both are large, long, slender and slow. The larger, Chinese mantis may have a body length (without front legs) of 3 to 4.25 inches. The Carolina mantis is 1.75 to 2.5 inches in length. The body is tannish-brown or green with the narrow front wings marked with a green line along the front edge.

Praying mantids feed only on living prey such as moths, crickets, grasshoppers and flies and could be beneficial biological controls in the garden. However, they do not discriminate between beneficial and harmful insects and will eat their siblings, other beneficial insects, butterflies and pollinators such as bees. Overall their impact in the garden and landscape is probably negligible (though they are fun to watch!).

The natural life cycle of praying mantids is to eat and grow through the summer and then mate and lay eggs in a stiff foamy case in the fall. Adults die of old age or freezing, whichever comes first and the eggs persist through the winter (if the weather is mild) and repeat the cycle the following summer. There is only one generation per year.

If you have or find a mantid egg case the recommended action is to keep it

at winter temperatures in a box or jar in an unheated garage or porch. Do not keep it indoors or the eggs may hatch in January or February when

there is no chance to release them outdoors. Bring the egg case in and begin watching for nymph emergence in about mid-May. Unfortunately, some eggs will never hatch. If the eggs do hatch it becomes a challenge to handle the sudden population explosion of tiny nymphs. They will be all right together for a day or two but then they will begin to eat each other. To maximize the number of survivors, nymphs need to be moved to



separate cages, or more practically, scattered around the outdoor environment after a day of entertaining observation. Raising nymphs through to adult stage in captivity is incredibly difficult.

Harvesting and Storing Pumpkins

By Richard Jauron
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Department
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Pumpkins are one of the fun crops in the vegetable garden. Pumpkins make delicious pies and other desserts. The fruit can also be painted, carved into jack-o-lanterns, and used in fall decorations. To insure a long life, pumpkins must be harvested and stored properly. Pumpkins can be harvested when they have developed a deep, uniform orange color and the rind is hard. Pumpkins can remain in the garden through a light, vine-killing frost. A light frost will not damage the pumpkins themselves. However, all mature pumpkins should be harvested before temperatures drop into the mid to low 20's. Green, immature pumpkins will not turn orange after a killing frost.

When harvesting pumpkins, handle them carefully to avoid cuts and bruises. Cut the pumpkins off the vine with a sharp knife or pair of lopping shears. Leave several inches of stem attached to each fruit. A pumpkin with a 3 to 5 inch stem or handle is more attractive. Also, pumpkins with stems are less likely to rot. Do not carry pumpkins by their stems. The stems may not be able to support the weight of the pumpkins and may break off.

After harvesting the pumpkins, cure them at a temperature of 80 to 85 F and 80 percent relative humidity for 10 days. Curing helps to harden their skins and heal any cuts and scratches.

After curing, store the pumpkins in a cool, dry place. Storage temperatures should be 50 to 55 F. When storing pumpkins, place them in a single layer where they don't touch one another. Good air circulation helps to prevent moisture from forming on the surfaces of the fruit and retards the growth of decay fungi and bacteria. Placing the pumpkins in piles generates unwanted heat which may result in the rotting of some fruit. Promptly remove and discard any pumpkins that show signs of decay.

Pumpkins that are properly harvested, cured, and stored should be in excellent condition for Halloween painting or carving in late October.

A Quick Guide to Frost Hardiness

Frost sensitive (Harvest when 32°F or less)

Tomato, Cucumber, Pepper, Eggplant, Beans, Basil, Melons, Summer Squash,

Somewhat Frost hardy (May survive at 28°F)

Lettuce, Chard, Endive, Arugula, Cabbage

Very Frost hardy (Will be fine at 28°F or less)

Leeks, Scallions, Chives, Brussels Sprouts, Parsley, Broccoli, Kale, Beets, Carrots, Winter Squash, Pumpkins, Sage

Upcoming Horticulture Events of Interest:

Glenwood Lake Park Farmers Market

Wednesdays, June 6 to Sept. 12, 4:00 PM – 7:00 PM

Vendors offering locally-grown garden and orchard produce, baked goods, eggs, crafts, plants, etc.

Silver City Farmers Market

Saturdays throughout the summer beginning on June 2

Time: 8:00 AM – 11:30 AM
Located in the Silver City Park

Malvern Farmers Market

Saturdays throughout the summer beginning June 22nd

Time: 4:00 PM – 6:00 PM
Located at the Park beside the Library in Malvern

Nebraska Statewide Arboretum Plant Sale

Date: Saturday, September 14
Time: 9:00 – 12:00 PM
Location: Douglas County Extension office,
8015 W. Center Road, Omaha, NE 68124

Trees, perennials and grasses for sale. For more information visit <http://arboretum.unl.edu/plant-sales>

Ask the ISU Extension Gardening Expert

When should grapes be harvested?

Grapes should not be harvested until fully ripe. The best indicators of ripeness are color, size and flavor.

Depending on the variety, the berry color changes from green to blue, red or white as the grapes approach maturity. At the fully ripe stage, the natural bloom on the berries becomes more pronounced. However, color alone should not be the sole basis for harvesting grapes. Many varieties change color long before the grapes are fully ripe.

Size and firmness are other useful indicators of ripeness. The individual berries should be full-sized. They also become slightly less firm to the touch at maturity.

The final and most reliable test for ripeness is flavor. Taste a few grapes when size and color are good. If they are not sweet, leave the clusters on the vines. Grapes do not develop full flavor when harvested before completely mature.

How do I know when a watermelon is ready to harvest?

Harvest watermelons when the underside or belly of the fruit turns from a greenish white to buttery yellow or cream. This color change is especially pronounced on the dark green skinned varieties. In addition, the fruit tends to lose its slick appearance on top and becomes dull when ripe.

For most individuals, thumping or tapping the melon is generally not a good indicator of ripeness. Rapping an immature melon with your knuckles produces a metallic ring. A ripe melon gives off a hollow or dull ring. While experienced home gardeners may be able to determine the maturity of watermelons using the thump test, most individuals will have difficulty differentiating between the sounds.

When harvesting watermelons, leave two inches of the stem on the fruit. Watermelons can be stored at room temperature for about one week and for two to three weeks at 50 to 60 degrees Fahrenheit.

How can you tell when a muskmelon is ripe?

The fruit of the muskmelon or cantaloupe is mature when the stem slips easily from the melon with slight pressure. The melon is not ripe if the stem has to be forcibly separated from the fruit. Other indicators of maturity are based on touch, appearance and aroma. When ripe, the flower end (the end opposite the stem) of

the melon should be slightly soft. As the fruit matures, the skin between the netting turns from green to yellow. Finally, a ripe melon produces a strong "muskmelon" aroma.

Muskmelons can be stored in the refrigerator for up to two weeks. The optimum storage temperature is 32 to 36 degrees Fahrenheit. Before refrigerating, place melons in a plastic bag to prevent the muskmelon aroma from flavoring other stored foods.

What is the proper way to store onions?

After harvesting the onions, 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 Fahrenheit. 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. If storing the onions in an unheated garage, move the onions to an alternate storage site before temperatures drop below 32 F.

What is the best way to store carrots?

After harvesting the carrots, cut off the green tops one-half to one inch above the roots. Small amounts can be placed in perforated plastic bags and stored in the refrigerator. Large amounts can be buried in sand or sawdust and then stored in a cool, moist location. Storage temperatures should be just above freezing. Surplus can also be canned or frozen.

What is the proper way to divide peonies?

September is the best time to divide peonies. The first step is to cut off the peony stems near ground level. Then carefully dig up the plant. Gently shake the clump to remove loose soil from the root system. Using a sharp knife, divide the clump into sections. Each division should have at least three to five buds (eyes) and a good root system. Smaller divisions will require several years to develop into attractive plants. When planting a peony, dig a hole large enough to comfortably accommodate its

entire root system. Position the peony plant in the hole so the buds are 1 to 2 inches below the soil surface (peonies often fail to bloom satisfactorily if the buds are more than 2 inches deep). Fill the hole with soil, firming the soil around the plant as you backfill. Then water thoroughly. Space peonies 3 to 4 feet apart.

When would be a good time to dig and divide lilies?

Early fall is an excellent time to dig and divide Asiatic, Oriental, and other garden lilies. Carefully dig up the clump and separate the bulbs. Replant the bulbs immediately. (If planting must be delayed, place the bulbs in a plastic bag containing lightly moistened peat moss and place the bag in the refrigerator.) Plant the large bulbs 4 to 6 inches deep. Small bulbs should be planted 1 to 2 inches deep. Lilies perform best in well-drained soils in full sun. The large bulbs may bloom the following summer. However, the small bulbs may not bloom for 1 or 2 years.

When should I harvest spaghetti squash?

Harvest spaghetti squash when the fruit color changes from ivory white to golden yellow. When harvesting spaghetti squash, leave a 1-inch stem attached to each fruit. Store mature fruit in a cool, dry location.

This summer's hot, dry weather destroyed a large area in my lawn. How do I reestablish grass in the dead area?

Grass can be reestablished in the dead area by sowing grass seed in late summer (mid-August to mid-September). Good site preparation is necessary for successful establishment of turfgrass.

Small areas can be prepared by raking the dead spots (the objective of raking is to break the soil surface). Sow the seed by hand. Then, work the seed into the soil by lightly raking the areas a second time.

Large areas can be prepared by using a core aerator. Core aerators are machines with hollow metal tubes or tines. They remove plugs of soil when run over the lawn. To prepare the site, go over the lawn three or four times with the core aerator. When finished, there should be 20 to 40 holes per square foot. Apply the seed with a drop seeder. Afterward, drag the area with a piece of chain link fence or drag mat to break up the soil cores and mix the seed into the soil.

After the seed has been sown, keep the upper 1 inch of soil moist with frequent, light applications of water. It's often necessary to water newly seeded areas once or twice a day. With adequate moisture and favorable soil temperatures, the seeds of most turfgrasses should germinate in two or three weeks.

Master Gardener Training Offered

By Nancy Crews
Mills County Extension and
Outreach

Would you like to become an Iowa Master Gardener and volunteer in our community? Whether you are a long time gardener or a novice, you are welcome to join our group! A new series of training classes will be offered by Iowa State University at the Mills County Extension office in Malvern beginning Tuesday, September 24 and running consecutive Tuesdays and Thursdays through November 12. The registration deadline is September 13. The cost for the training is \$195. The Mills County MG's are offering scholarships for participants. For more information and to register for the training contact Nancy Crews at the ISU Extension office at 712-624-8616 or ncrews@iastate.edu or visit our website at <http://www.extension.iastate.edu/mills/>



SEPTEMBER GARDENING TO DO LIST



- Take geranium, coleus, and other annual cuttings and root them indoors.
- Continue to water newly established trees, shrubs, and perennials.
- Harvest winter squash before hard frost. Skin of the squash should be tough with deep, solid color. Some cultivars will show an orange blush when mature.
- Check trees for bagworms and fall webworms. Hand prune and destroy.
- Prepare thin and dead areas of lawn for renovation. Mid-August to mid-September is the best time of the year to seed lawns.
- Control dandelions and other perennial weeds in established turf with a broadleaf herbicide.
- Stop deadheading roses after the final wave of flowers in late September. This allows rose hips to form and plants to start hardening off for winter.

- Place orders for fall planting of spring-flowering bulbs.
- Plant spring-flowering bulbs in mid-September. Planting too early can cause bulbs to sprout top growth before winter. However, allow at least four to six weeks before the ground freezes for good root formation.
- Remove dead leaves and debris from garden ponds and water features.
- Plant balled and burlapped deciduous trees.
- Check houseplants for insect pests before bringing indoors before the first frost.
- Harvest all full-sized tomatoes and peppers before frost.
- Make homemade salsa with garden fresh ingredients!

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 2079 Flowering Plants for the Late Summer Garden
RG 319 When to Divide Perennials
PM 1943 Deciduous Shrubs
RG 601 Gardening for Butterflies
PM 731 Harvesting and Storing Vegetables
PM 534 Planting & Harvesting Times for Garden Vegetables (Free)
RG 320 Growing and Over-wintering Garden Geraniums
RG 304 Late Season Perennial Flowers
NCR 129 Mushrooms and Other Related Fungi

Horticulture Publications on-line
<http://www.extension.iastate.edu/store/ListCategories>

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