Harvesting and Storing Pumpkins, Squash and Gourds

By Maurice Ogutu
Extension Educator,
Horticulture
Countryside Center
University of Illinois

Halloween pumpkins are harvested September through October. Sometimes harvesting may start in mid-August to early September which requires good handling and storage of the pumpkin fruit before selling to the customers in late October.

The first frost occurs in early to mid-October in northern parts of the state when the pumpkin fruits are still curing outside in the fields. The growers in pick-your-own pumpkin operations use this method to ensure that pumpkins are well cured in the field before picked up by their customers. Some growers practicing conventional pumpkin marketing systems where the fruit is picked, washed, dried and sold to customers on weight or per fruit basis also use this method. It is important to note that pumpkin fruits can tolerate light frost that kill the vines only but more fruit loss can occur if the frost caused injury on the fruit surface as the damaged areas act as avenues for fungal and bacterial fruit rot pathogens. Remove pumpkins from the fields before the hard freeze (when the night temperatures are less than 27 degrees (F) or else you may risk losing 80-90 percent of the fruits.

The pumpkin fruit is harvested when it is uniformly orange and the rind is hard. Green immature fruits may ripen during the curing process but not after the vines are killed by frost. The vines need to be dry when fruits are mature. Handle the fruit with care to avoid cuts and bruises. Harvest the fruit by cutting it off the vine with a sharp knife or a pair of looping shears leaving 3-6 inches of the stem attached to the fruit. This makes the fruit look more attractive and less likely to be attacked by fruit rot pathogens at the point of stem attachment. Do not carry the pumpkin fruit using the fruit stems because the fruit is very heavy and may lead to detachment of the fruit stem. Wash the fruit with soapy water containing one part of chlorine bleach to ten parts of water to remove the soil and kill the pathogens on the surface of the fruit. Make sure the fruits are well dried before setting in a shed to cure.

Pumpkin fruits are cured at 80-85°F and 80-85 percent relative humidity for 10 days. This is done to prolong the post harvest life of the pumpkin fruit because during this process the fruit skin hardens, wounds heal and immature fruit ripens. After curing, the fruits can be sold to the customers and the remaining fruits stored.

Store the fruits in a cool dry place. Put the fruits on a single layer on wooden pallets with enough space in between the fruits (the fruits should not touch each other) and do not place them on a concrete floor. Improve the air circulation within the storage area by letting in cool air at night and use a fan to circulate air during daytime.

Winter squash such as Butternut, Acorn, Hubbard, and other types are mature when the skin (rind) is hard and cannot be punctured by thumbnails. The mature fruit has a dull and dry skin compared to shiny, smooth skin of immature fruits.

Remove stem completely from Hubbard types and if desired leave only 1-inch long stump on the fruit. Stems longer than 1-inch tend to puncture adjacent fruits when in transit or storage. Butternut, Hubbard and other squash types do not need to be cured as the benefits are less.
compared to pumpkins, while curing is very detrimental in Acorn types as it leads to a decline in quality. Acorn types have the shortest storage time of 5-8 weeks at 50°F and relative humidity of 50-75 percent. Butternut, Turban, and Buttercup types can be stored at the same temperature and relative humidity as Acorn types but have a longer storage time of 2-3 months. The Hubbard types can be stored much longer than the rest (5-6 months) at 50-55°F and relative humidity of 70-75 percent. Winter squash should be marketed or used immediately when taken out of storage to avoid development of fruit rot diseases.

Gourds are of different colors, shapes and sizes. They should be harvested before frost when fruit is mature. As gourds mature, stems turn brown and become dry. Don't use "thumbnail" test on gourds as it can cause a dent on the shell of the unripe gourd and lower its quality. Harvest the fruit by using a sharp knife or shears to cut the stem from the vine and leaving a few inches of the stem attached to the fruit. Do not handle the gourd by its stem since the stem can easily detach from the fruit and rinse in clean water with household bleach. One part to 10 parts water kills soil-borne pathogens. Then dry each fruit with a soft cloth. Spread the fruits so that they do not touch each other in shelves lined with newspapers in a well-aerated shed. Turn the gourds daily and change damp newspapers for 1 week. The outer skin will harden this time and surface color develops. The gourds need to be wiped with a damp cloth soaked in household disinfectant and placed in a warm, dry dark area for 3-4 weeks for further curing. The decorative gourd can stay in its natural state for 3-4 months and as long as six months with a protective coat of paint or wax on the surface.

Growing Garlic in the Garden

By Richard Jauron
Dept. of Horticulture
Iowa State University

Garlic has been cultivated since ancient times. Garlic (Allium sativum) is a member of the onion family. Other edible members of the onion family include chives, leeks, and shallots.

There are several types or forms of garlic cultivated in the home garden. "Top-setting" varieties form bulbils or bulblets at the terminal end of a hollow seedstalk. The bulbils are initially enclosed in a globe-shaped structure. The outer sheath eventually splits, exposing the cluster of small, pea-size bulblets.

Elephant or great headed garlic (Allium ampeloprasum) is not a true garlic. It is actually more closely related to the leek. Elephant garlic does produce segmented bulbs similar to garlic. However, elephant garlic has a much milder garlic favor and may be 3 to 4 times the size of true garlic. Rocambole or serpent garlic produces flower stalks that are distinctly twisted or coiled, sometimes even double-coiled.

Garlic grows best in well-drained, fertile soils that are high in organic matter. Garlic grown in heavy, clay soils often produces misshapened bulbs. Heavy, clay soils can be improved by incorporating organic matter, such as compost or well-rotted manure. Garlic also requires full sun.

Since garlic rarely produces seed, it is grown by planting cloves. Garlic cloves can be planted in the fall or as soon as the ground can be worked in the spring (late March to early April in central Iowa). Highest yields are obtained from the largest cloves. Carefully break apart the garlic cloves immediately before planting. Place cloves 3 to 5 inches apart within the row. Rows should be spaced 18 to 24 inches apart. Set the cloves 1/2 to 1 inch deep.

Fall planted garlic should be mulched with several inches of straw to help prevent winter injury. Apply the mulch in late fall and promptly remove in early spring. Top-setting garlic varieties can also be grown from the bulbils or bulblets that form at the top of the seedstalk. The bulblets should be planted in early spring where they can remain for 1 1/2 years. The bulblets will form larger, unsegmented bulbs called "rounds" by the end of the growing season. Left undisturbed in the ground, they will form a cluster of cloves by the end of the following summer.
Garlic has a high fertilizer requirement. Apply and incorporate 1 to 2 pounds of an all purpose garden fertilizer, such as 10-10-10, per 100 square feet of garden area prior to planting. Lightly incorporate one additional pound per 100 foot row of the all-purpose garden fertilizer in a band 4 inches to the side of the developing plants 3 to 4 weeks after plants emerge in the spring.

Harvest garlic when the foliage begins to dry. In Iowa, garlic is usually harvested in August or September. Carefully dig the bulbs with a garden fork or shovel. Dry the garlic in a warm, well-ventilated location. Place the garlic on an elevated wire screen or slotted tray to promote drying. When the tops have dried, cut off the dry foliage 1 inch above the bulbs. Also, trim off the roots and brush off any loose soil. Place the bulbs in a mesh bag and store in a cool (32°F), dry (65 to 70% relative humidity) area. Properly cured and stored garlic should keep for 6 to 7 months. An alternate way to store garlic is to braid the foliage together immediately after harvest, dry, then hang the braided garlic in a cool, dry location.

**Spiders and Bugs, Oh my!**

By Laura Jesse
Plant and Insect Diagnostic Clinic
Iowa State University

Insects and spiders seem to be everywhere in the fall. Some of the reasons for this seeming abundance are:

- populations have been building all summer
- they are moving around looking for overwintering places
- favored food sources are dwindling and they are looking further afield for food.

Let’s take a quick look at some of the insects we are seeing the most of right now (late September to early October) and why they are so abundant. Remember it is the first frosts that trigger lady beetles and boxelder bugs to move, so expect that in the next few weeks. It is a great time of the year for all of us insect-lovers!

### Minute pirate bugs

Small little bug with a very painful bite? You have encountered the minute pirate bug. These small insects feed on other insects all year long and are beneficial as they feed on garden pests like aphids. In the fall their normal prey items are diminishing and the minute pirate bugs take flight to look for more food. They don’t really think they can eat us, they are just using their mouthparts to see what we are. Although they do not consume our blood, they can cause localized allergic reactions in some people.

![Minute pirate bug](image)

**The minute pirate bug, AKA the insidious flower bug, is a beneficial predator until it starts biting unsuspecting people in the fall.**

### Yellowjacket wasps

If you have tried to enjoy the last warm days of 2016 with a picnic or tailgating you have almost certainly encountered yellowjacket wasps. These wasps live in colonies that have been hard at work all summer rearing young and new queens and kings. In the fall the colonies have built up impressive numbers of workers (typically hundreds to thousands) and those workers are mostly done rearing young and are left to their own devices. The workers naturally feed on flower nectar, but are fine with any type of sugar and seem to know that human food is a great source of sugars. Luckily when they are foraging away from their colonies they are less likely to sting, but it is good to be cautious, especially if you are allergic to wasps. Keep food, pop cans and garbage covered.

### Spiders

**Arachnophobia!** (How many of you remember that movie?) The fear of spiders is very common. Many of us maybe do not fear them, but we are not really fond of them. At any rate, no one seems happy about the abundance of spiders in the fall. So why do there seem to be so many? Again, populations have been building up all summer and the spiders are often on the move in the fall looking for protected spots to overwinter. If you
seem to have lots of spiders near your house try reducing outdoor lighting at night. The lights attract insects which are food for the spiders.

Grasshoppers

Depending on where you live grasshoppers are aplenty in the fall. As you walk through any grassy vegetation they will be leaping in all directions. There are many different species of grasshopper in Iowa and can be great fun to look at if you can catch one! If you want to check out grasshoppers that occur in the U.S. go ahead and click around in BugGuide.net for a while, the diversity is amazing! Grasshoppers do have one annoying habit late in the year – chewing on anything they can. We don't know why they do this, but it is especially annoying when they damage things like window screens.

Emerald Ash Borer Confirmed In Iowa County, Iowa


Contacts:

- Dustin Vande Hoef, Iowa Department of Agriculture and Land Stewardship, 515-281-3375
- Kevin Baskins, Iowa Department of Natural Resources, 515-725-8268
- Laura Sternweis, Iowa State University Extension and Outreach, 515-294-0775

Iowa now has thirty-six infested counties after discovery at Lake Iowa Park DES MOINES –

Emerald ash borer (EAB), a very destructive, exotic insect pest of ash trees, has been confirmed in Iowa County. This finding brings the total to thirty-six counties in Iowa. On a national scene, EAB has been found in 28 states and has killed tens of millions of ash trees. The recent Iowa discovery took place at Lake Iowa Park (Iowa County Conservation Board) after staff alerted the Iowa EAB Team of some ash trees showing signs and symptoms of EAB attack. Following further investigation, insect samples were collected and later positively identified as EAB by a federal identifier. “It would be pretty realistic to say that emerald ash borer did not make its way to Lake Iowa Park on its own, but by campers hauling in firewood,” said Mike Kintner, Iowa Department of Agriculture and Land Stewardship EAB and gypsy moth coordinator. “Southeast Iowa appears to be the area hit hardest in the state by EAB, so infested firewood movement from a nearby county could very well been the contributing factor.”

The Iowa EAB Team strongly urges Iowans to use locally sourced firewood, burning it in the same county where it was purchased. Firewood is a vehicle for the movement of EAB; too many infestations in the United States have started by people unknowingly transporting infested firewood. The adult beetle is metallic green and only about one-half inch long and slender, making it difficult to recognize in the landscape. The larval stage of this wood-boring insect tunnels under the bark of ash trees, disrupting the flow of water and nutrients, ultimately causing the tree to die.

EAB-infested ash trees display canopy dieback beginning at the top of the tree and progressing downwards. S-shaped feeding galleries under dead or splitting bark, D-shaped exit holes, water sprouts (along the trunk and main branches), and increased woodpecker activity to the bark. At this calendar date, the window for all preventive treatments has closed. If a landowner is interested in protecting a valuable and healthy ash tree within 15 miles of a known infestation, he or she should have landscape and tree service companies bid on work, review the bids this fall/winter, and treat beginning spring 2017 (early April to mid-May).

The State of Iowa will continue to track the movement of EAB on a county-by-county basis. Before a county can be officially recognized as infested, EAB must be collected by a member of the Iowa EAB Team and verified by USDA entomologists.

To learn more about EAB and other pests that are threatening Iowa’s tree population, please visit www.IowaTreePests.com. Please contact any of the following members of the Iowa EAB Team for further information:

- Mike Kintner, IDALS EAB coordinator, 515-745-2877, Mike.Kintner@IowaAgriculture.gov
- Robin Pruisner, IDALS state entomologist, 515-725-1470, Robin.Pruisner@IowaAgriculture.gov
- Paul Tauke, DNR state forester, 515-725-8450, Paul.Tauke@dnr.iowa.gov
- Tivon Feeley, DNR forest health coordinator, 515-725-8453, Tivon.Feeley@dnr.iowa.gov
- Emma Hanigan, DNR urban forestry coordinator, 515-249-1732,
2017 Garden Calendar Available

The 2017 Garden Calendar is titled 'Indoor Flower Power' and will help brighten a home with photos and information about different indoor flowering plants.

For many, active gardening begins in spring and ends in autumn. But the indoor gardener reaps rewards year round. Each month of this beautiful calendar brings you striking, closeup photos of the endearingly familiar and dramatically exotic indoor plants that bring flower power into our homes.

The large calendar grid offers you ideal space to record your indoor garden's progress as well as note planting, emergence, and harvesting dates and totals for your outdoor garden. You can put timely tips to use for both indoor and outdoor garden chores.

The cost for the calendar is $7 and can be purchased through the Extension Store or at most County Extension & Outreach Offices.

Overwintering Tender Perennials

By Richard Jauron
Department of Horticulture
Iowa State University

Perennials such as tuberous begonias, gladioli, cannas and dahlias are an integral part of many home landscapes. They put on excellent displays of color until a killing frost. Unfortunately, they will not survive Iowa's harsh winter weather outdoors and must be dug in the fall and stored indoors through the winter months. Horticulturists with Iowa State University Extension and Outreach offer cultural and winter storage requirements for several commonly grown tender perennials.

How do I over-winter dahlias?

Cut back the plants to within 2 to 4 inches of the ground within three or four days of a killing frost. After cutting back the plants, leave the dahlias in the ground for an additional six or seven days to "cure." Then carefully dig up the dahlias with a spade or shovel. Gently shake off the soil, then cut the stems back to within 1 inch of the crown. (The dahlia crown is located at the base of the stems where the tuberous roots are attached.) Carefully wash the dahlia clumps to remove any remaining soil. Allow the dahlias to dry for 24 hours.

When the dahlias are dry, place a layer of vermiculite, peat moss or wood shavings in the bottom of a cardboard box. Place the dahlia clumps upside down on the storage medium and then cover the dahlias with additional vermiculite, peat moss or wood shavings. Repeat the layering procedure until all the dahlias have been placed in the box or the box is full. Store the dahlias in a cool (40 to 50 degree Fahrenheit), dry location.

How do I over-winter cannas indoors?

Cut the plants back to within 4 to 6 inches of the ground a few days after a hard, killing frost. Then carefully dig up the cannas clumps with a spade or garden fork. Leave a small amount of soil around the cannas. Allow them to dry for several hours. Afterwards, place the cannas in large boxes, wire crates or in mesh bags. Store the cannas in a cool (40 to 50 degree Fahrenheit), dry location.
**How do I over-winter tuberous begonias?**

Carefully dig up the tuberous begonias within a few days of a killing frost. Leave a small amount of soil around each tuber. Cut off the stems about 1 inch above the tubers. Place the tubers in a cool, dry area to cure for two to three weeks. After curing, shake off the remaining soil. Place a layer of peat moss, vermiculite or sawdust in a small cardboard box. Lay the tubers on the storage medium, then cover the tubers with additional peat, vermiculite or sawdust. Store the tubers in an area with a temperature of 40 to 50 degrees Fahrenheit.

**How do I over-winter caladiums indoors?**

Carefully dig up the caladiums when the foliage begins to yellow with the onset of cool weather or wait until after the first frost. After digging, place the plants in a cool, dry location for one to two weeks to cure. After curing, cut off the dry foliage. Place a layer of peat moss, vermiculite or sawdust in a small cardboard box. Lay the tubers on the storage medium, then cover with additional peat, vermiculite or sawdust. Store the caladiums in a cool (60 to 65 degree Fahrenheit), dry location.

---

### Upcoming Horticulture Events of Interest

**Fall Chrysanthemum Show**

**Date:** Saturday, October 1 through Friday, November 18, 2015  
**Time:** 9 a.m. to 5 p.m. daily  
**Place:** Lauritzen Gardens, 100 Bancroft Street, Omaha, NE 68108

Experience a fascinating fabrication of flowers at the garden’s annual fall chrysanthemum show. Bold mums combine with vibrant colors, rich fabrics, diverse textures and other exotic design elements—representative of the storied Japanese culture.  
https://www.lauritzengardens.org/

**Fall Plant Sale – Lincoln, NE**

**Date:** Friday, October 14, 21, 28  
**Time:** 12:00 – 5:00 PM  
**Place:** NE Statewide Arboretum Greenhouse  
University of NE at Lincoln

Plants for sustainable landscapes – prairie and woodland natives, trees, shrubs and grasses.  
For more information contact Bob Hendrickson, 402-472-2971, rhenrickson2@unl.edu  
Website: [http://arboretum.unl.edu/plant-sales](http://arboretum.unl.edu/plant-sales)

---

**Ask the ISU Extension Gardening Expert**

**How do I get my Christmas cactus to bloom?**

The Christmas cactus requires proper environmental conditions to flower. Critical factors in flower initiation are day-length and temperature. The Christmas cactus is a short-day plant. Short-day plants grow vegetatively during the long days of summer and produce flowers when days become shorter in fall. The Christmas cactus will not bloom properly if exposed to artificial light at night in fall. Flowers may also fail to develop if the plant is exposed to temperatures above 70 degrees Fahrenheit. Night temperatures of 60 to 65 degrees Fahrenheit with slightly warmer daytime temperatures are ideal for flower formation.

In late summer, place the Christmas cactus in a cool location that receives bright light during the day, but no artificial light at night. An unused bedroom or basement may have the proper environmental conditions. To avoid flower bud drop, do not move the plant during flower bud development. The Christmas cactus can be moved and displayed in another room when the first flowers begin to open.

**My amaryllis has been outdoors all summer. When should I bring it indoors and how do I get it to bloom?**

Bring the amaryllis indoors in late September (before the first frost or freeze in fall). In order to bloom, amaryllis bulbs must be exposed to temperatures of 50 to 55 degrees Fahrenheit for a minimum of eight to ten weeks. This can be accomplished by inducing the plant to go dormant and then storing the dormant bulb at a temperature of 50 to 55 degrees Fahrenheit. To induce dormancy, place the amaryllis in a cool, semi-dark location when the plant is brought indoors in late September. Withhold water. Cut off the foliage when the leaves turn brown. Then place the dormant bulb in a 50 to 55 degree Fahrenheit location for at least eight to ten weeks. After the cool requirement has been met, start the growth cycle again by watering the bulb and placing it in a well-lit, 70 to 75 degree Fahrenheit location. Keep the potting soil moist, but not wet, until growth appears.

**I saved last year’s poinsettia. How do I get it to flower for Christmas?**

Poinsettias are short-day plants. Like the Christmas cactus, it grows vegetatively during the long days of summer and produces flowers when days become shorter in fall. In order for poinsettias to flower for Christmas, they must receive complete darkness from 5 p.m. to 8 a.m. each day from early October until the bracts show good color, usually around early December. Most poinsettia varieties require eight to 10 weeks of...
short days to flower. Gardeners can protect their plants from light by placing them in a closet or by covering with a cardboard box. When using cardboard boxes, cover any openings to insure complete darkness. Exposure to any kind of light between 5 p.m. and 8 a.m. will delay or possibly prevent flowering. During the remainder of the day, the poinsettias should be placed in a sunny south window.

Keep the plants well-watered and fertilize every two weeks during the forcing period. While poinsettias are difficult to flower in homes, proper care can reward home gardeners with a colorful plant for the holiday season.

**When can I cut back my rhubarb plants?**

Don’t cut back the rhubarb until the foliage and stalks have been destroyed by a hard freeze. To produce a good crop next spring, the rhubarb plants must manufacture and store adequate levels of food in their roots. The foliage continues to manufacture food as long as it’s healthy. Once destroyed, the foliage and stalks can be removed.

**OCTOBER GARDENING TO DO LIST**

- Keep plants, especially newly planted trees, shrubs, and perennials, well watered until the ground freezes.
- Remove plant debris from the vegetable garden to protect next year’s planting from insect and disease build-up.
- Carefully blow or rake tree and shrub leaves off your perennial gardens. Large leaves get wet, mat down, and provide poor insulation for your plants.
- Shred fallen leaves and use them as a soil mulch or amendment for new plantings. Or rake and bag them for use in next year’s garden.
- Stop fertilizing house plants.
- Remove stakes and supports as plants decline. Clean them and store them properly for next year’s garden.
- Dig dahlias and cannas after a killing frost.
- Remove pumps from water features to prevent freezing.
- Save pumpkin seeds and roast them for a crunchy, healthy snack.
- To initiate flowering, begin exposing poinsettias and holiday cacti to short days. Refer to ISU publications RG 308 and RG 316
- Pot Amaryllis bulbs for forcing.
- Plant spring flowering bulbs.
- Inspect all plants before bringing them back inside for the winter. Look for insect pests and disease. Treat as needed.
- Continue to mow your lawn until the grass stops growing – when temperatures are consistently below 50°.
- Plant garlic in a sunny, well drained site.
- Leave stems, flower heads, and seedpods standing for winter interest.
- Harvest all full-sized tomatoes and peppers before frost.

**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](http://www.extension.iastate.edu/mills/yardgarden.htm)

**Iowa State University Publications**

- PM 2079 Flowering Plants for the Late Summer Garden
- RG 316 Poinsettia Care
- RG 308 Growing Holiday Cacti
- RG 328 Growing Amaryllis
- PM 1943 Deciduous Shrubs
- PM 731 Harvesting and Storing Vegetables
- RG 320 Growing and Over-wintering Garden Geraniums
- RG 304 Late Season Perennial Flowers

[https://www.extension.iastate.edu/store/ListCategories](https://www.extension.iastate.edu/store/ListCategories)

Iowa State University Extension programs are available to all without regard to race, color, age, religion, national origin, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. veteran. Inquiries can be directed to the Director of Equal Opportunity and Compliance, 3280 Beardshear Hall, (515) 294-7612.