All About Sandhill Cranes

By Nebraska Game and Parks Commission

Witnessing the gathering of half a million cranes under a blazon Nebraska sunset stirs our senses and sparks our imagination like few experiences can. What better way to rejuvenate your spirit than with the sights and sounds of such a spectacle with a cold March wind slapping your cheeks? “Why do they stage here along the Platte?”, “Where are they going”, and “Where do they come from?” are but a few of the many questions visitors ask.

Cranes are among the oldest living birds on the planet. Fossil records place Sandhill Cranes in Nebraska more than nine million years ago, long before there was a Platte River, which, by comparison, is only a youthful 10,000 years of age. The landscape then was savanna-like and its inhabitants were more like that of modern East Africa; varieties of rhinos, camels, and elephants long since extinct. Yet cranes survived and watched as American bison, pronghorn, and wapiti evolved on the prairies. Humans now dominate the landscape having replaced the bison with cattle and the prairie with corn and concrete. This startling transition occurred in less than 150 years, a mere blink of an eye in geologic time!

Sandhill Subspecies
There are six subspecies of Sandhill Cranes of which three are migratory and three are non-migratory. Two of the non-migratory subspecies are endangered: the Mississippi and Cuban Sandhill Crane. The Florida sandhill crane is doing well. All of the migratory subspecies pass through Nebraska and their populations are thriving. The most numerous is the lesser sandhill crane which is the smallest subspecies. The Canadian, or intermediate, sandhill crane comprise about 15 percent, and the greater sandhill crane comprises about 5 percent of the birds staging along the Platte.

Wintering
The Central Flyway cranes winter in Texas, New Mexico, and Mexico. They usually begin arriving along the Platte in February. Numbers continue to climb, peaking in late March. About April 10, a mass exodus occurs, with a few stragglers remaining through early May. Their nesting grounds vary depending on the subspecies. The greater sandhill crane nests in western Minnesota and the Interlake region of Manitoba, while the Canadian subspecies occurs throughout central Canada from the Hudson Bay west to the Rocky Mountains. The lesser sandhill crane is a bird of the high arctic, nesting across the northern reaches of Canada and Alaska. About 80,000 cross the Bering Strait to nest in eastern Siberia.

An individual crane spends about 29 days along the Platte. During that time, it will deposit up to a pound of fat, which provides the energy necessary to complete the migration and initiate nesting. About 90 percent of their diet consists of corn while the remaining 10 percent is made up of invertebrates such as earthworms, snails, and insect larvae. It has been estimated that the cranes consume nearly 1,600 tons of corn during their stay. Fortunately, this is waste grain leftover from the fall harvest and, as such, provides a service to the local farmers by removing what would become volunteer corn in the next year’s crop. Before there was corn, cranes ate starchy tubers from a variety of aquatic plants such as nutsedge, a species once abundant in the widespread wetlands bordering the Platte before European settlement. Now about 75 percent of these wetlands have been converted to croplands.

Roosting
At dusk, the cranes gather along the broad, shallow reaches of the Platte to roost for the night. They prefer to stand in water about six inches deep, taking on the configuration of submerged sandbars. Densities of more than 12,000 cranes per half mile of river can occur. During inclement weather they seek out the narrower,
more protected stretches of the river. Occasionally, the river freezes, and the birds must roost in the fields adjacent to the river, huddled together for warmth and protection.

Dining & Dancing
At dawn, the cranes leave the river and head to the fields to feed. They usually range within five miles of the river. The cornfields provide cranes with a source of energy, while meadows and alfalfa fields provide essential proteins and minerals. They also serve an important social function as loafing and courtship areas.

The "dance" of the Sandhill Crane is well known. Pairs engage in elaborate bowing displays with outstretched wings and leap high into the air. Often, a corncob or stick is picked up and thrown upward repeatedly. This behavior is believed to strengthen or establish new pair bonds. Although cranes generally "mate for life" (i.e. pairs remain faithful), they are hunted in several states and provinces, and if mates are lost, cranes will select another mate if necessary. Consequently, the Platte has been referred to as "the greatest singles bar for cranes" or "the melting pot of crane world", since it provides the best opportunity to find a new mate as sub-populations from throughout the Northern Hemisphere mingle.

Sandhill cranes are long-lived; some have been known to live more than 25 years in the wild. They do not attain sexual maturity until they are three to five years old. Their ground nest is built from nearby vegetation scraped in a small mound. Cranes lay two eggs, although it is rare for both young cranes to survive the 10 weeks to fledging stage. The family group remains intact through the following spring, and if you look closely at the flocks in the fields, you will easily observe these three-bird families. The young have a distinctive "peep" call so listen closely and you will hear them. After the cranes leave the Platte, the family ties are severed and the young are on their own.

Migration
At midday when the sun is shining, look for soaring "kettles" of cranes over the river valley. These groups appear as wisps of smoke from a distance. The birds are testing the thermals and keeping their flight muscles toned for the journey that lies ahead. Cranes are diurnal or daytime migrants and use thermals to their advantage. They will ride the thermal higher and higher up to an altitude of a couple of thousand feet, then they will glide northward in wavering lines losing altitude as they go until they reach the next thermal, spiraling upwards to repeat the process. This method of migration is energy efficient, more so than the power-flapping flight of other species such as geese. On a good day, cranes can travel up to 500 miles although 200 to 300 miles is more typical. In the late afternoon, they seek a wetland of some type to roost for the night and depart the next morning weather permitting, until they reach their destination.

Understanding the biology of these birds will add to your enjoyment and appreciation as you watch them in their daily activities and marvel at the magic of their migration.

Forcing Branches of Spring Flowering Trees and Shrubs

By Richard Jauron
Department of Horticulture
Iowa State University

Though spring is still several weeks away, impatient home gardeners can enjoy an early taste of spring by forcing cut branches of many spring-flowering trees and shrubs indoors. Forsythia, flowering quince, pussywillow, crabapple, serviceberry, magnolia, redbud, and fruit trees can be forced indoors during the winter months.

Forcing can be done as soon as the plant overcomes its dormancy (cold temperature) requirement. This may be as early as mid-January for forsythia and pussywillow. It's best to wait until early March for more difficult-to-force ornamentals, such as crabapple, magnolia, and redbud. When gathering plant material, select branches that are at least 12 inches long and contain numerous large, plump buds. If possible, collect the branches on a warm, winter day. If the plant material is frozen when collected, submerge the branches in a tub or pail of tepid water for a few hours. Later, set the branches in a tall container of water and place them in a dimly lighted, cool (60 to 65 degrees F) location. Spray or mist the branches several times a day to prevent the buds from drying out. Also, change the water in the container daily. When the flowers begin to open, move the branches to a bright room. Keep the branches out of direct sunlight and in a cool location to prolong the bloom period.
The time period required to force branches into bloom depends upon the plant species and the collection date. Forsythia and pussywillow generally take only 1 to 3 weeks to force. Magnolia branches may take 3 to 5 weeks. The closer it is to their outdoor flowering time, the less time it will take to force cut branches indoors.

Upcoming Horticulture Events of Interest

**Spring Into Spring!**
2015 Seminar Series
Presented by the Mills County Master Gardeners

Details for all Seminars:
**Place:** Glenwood Resource Center, Visitors Center, 2nd Floor Conference Room
**Time:** 7:00-8:00PM except April 7th begins at 5:30PM
**Cost:** $2.00

- **“Gardening for Bees and other Pollinators” by Bill Warnes**
  
  **Date:** Tuesday, February 24

  Bill Warnes is a Master Bee Keeper and a member of the Omaha Bee Club. He will provide an overview on the biology of honeybees, how they collect nectar and pollen, and environmental factors causing a decline in bee health. He will also discuss the types of plants that gardeners can plant that bees and other pollinators gather nectar and pollen from, and provide information about how to help make the environment healthier for honeybees and other insects.

- **“Mushrooms: The Good, the Bad and the Terrible” by Tom Weber**
  
  **Date:** Tuesday, March 10

  Tom Weber is a retired biologist from UNO turned Master Gardener with Sarpy/Douglas County. He is an expert on fungi and when called upon identifies mushrooms for the poison control center.

- **“Herbs: More than just Culinary” by Addie Kinghorn**
  
  **Date:** Tuesday, March 24

  Addie Kinghorn taught horticulture for 29 years at Metro Community College and has been involved with growing herbs for 40 years. She will discuss the types of herbs that can be grown in the home garden and provide an overview of their many uses including culinary, decorative, potpourris and soaps.

- **“Preparing for Emerald Ash Borer” by Dr. Mark Shour, ISU**
  
  **Date:** Tuesday, April 7

  Dr. Mark Shour is an Entomologist with Iowa State University. Emerald Ash Borer (EAB) is one of the most destructive forest/urban tree pests in the USA. In addition to discussing its biology, host list, identification features, signs/symptoms, and history, he will talk about the options for controlling this pest. Iowa has several infested counties (18 as of December 2014). It is time to carefully look at how to prepare for EAB to arrive in Southwest Iowa.

- **“Ash Tree Alternatives in the Landscape” by Lindsey Barney, DNR**
  
  **Date:** Tuesday, April 14

  Lindsey Barney is a Forester with the Iowa Department of Natural Resources. Incorporating a diverse mix of native trees is one of the best ways to combat forest health issues. She will discuss native tree and shrub alternatives, and other practices to ensure your trees and woodlands are healthy.

- **Check out these nearby 2015 Garden Shows!**

  **What:** Siouxland Garden Show
  **When:** March 27-29
  **Where:** Sioux City Convention Center, Sioux City, NE
  **Who:** ISU and NE Extension
  **Price:** $5 for one day, $9 for two, $12 for three

  **What:** West Pottawattamie MG Spring Conference
  **When:** Saturday, March 28th from 8:30am-4pm
  **Where:** Council Bluffs Senior Center
  **Who:** West Pottawattamie County MGs
  **Price:** $30

- **Houseplant Insect Pests**

  By Donald Lewis
  Department of Entomology
  Iowa State University

  Several species of scale insects, mealybugs and whiteflies are commonly found on plants in the home or greenhouse. All are sap-feeding insects that can weaken plants and cause poor, stunted growth. Death of infested plants occurs only in severe cases.
Houseplant insects may create an annoyance caused by large quantities of a sweet, sticky liquid waste product called honeydew that is excreted as the insects feed. Honeydew can make a sticky, shiny mess on the plant and nearby furniture and floors. A black fungus called sooty mold may grow on the honeydew.

Scale insects have a tan to brown shell-like covering or scale that protects the insect's body. Scales may be from 1/16 to 1/4 inch in diameter and are usually found on the stems and/or leaves. Some scales are hemispherical in shape, while others are oval and flat. Mealybugs appear as white tangles of cotton on the leaves or stems. A common location is the thin, protective gap at the junctions of stems and leaves.

Houseplant insects are difficult to control. There is no easy, simple, one-shot cure. One possibility is to pick off individual scales and mealybugs or gently scrub (or rub) the insects loose from the leaves and stems. This is a laborious task that works only on small, large-leaved plants. Dabbing each insect with an alcohol-soaked cotton swab is another possibility on lightly infested plants.

Sprays can be used for houseplant insect control. Success will depend upon thoroughness and persistence. Insecticide sprays (aerosols or hand pump sprayers) made just for houseplants are available at garden centers. Formulated active ingredients include insecticidal soaps, pyrethrin, rotenone, resmethrin and acephate. You can substitute a mild dish washing detergent for commercial insecticide soaps. Use a dilute solution of 1 Tbs of detergent per quart of water. Soap sprays can be applied with a sprayer or a soft cloth used to wash infested leaves and stems. Insecticides must be applied thoroughly, repeatedly and persistently (weekly for a month or more) to get good control.

Granular insecticides that you add to the soil of infested houseplants seem to have very limited effectiveness and their use is discouraged because of toxicity concerns. On those plants that regrow after pruning, removing the heavily infested stems and treating the remainder is a possibility. Finally, unless the plant is particularly valuable, many people find it best to throw away infested plants before the pests spread to other houseplants.

Obstacles to Growing Transplants Indoors

By Richard Jauron
Horticulture Department
Iowa State University

Starting flower and vegetable transplants at home can be fun. Growing quality transplants requires good seed, a sterile, well-drained growing medium, proper temperature and moisture conditions, adequate light, and other factors. Since the home is usually not the best environment for growing transplants, problems occasionally develop.

Poor or erratic germination of seed may be caused by improper planting (for example, planting too deeply), uneven moisture, and cool temperatures. Medium to large seeds are sown at a depth of 2 to times their minimum diameter. Fine seed is usually dusted on the surface of the seedbed. Cool potting mix temperatures (below 70 F) delay germination. Maintain the proper germination temperature and even moisture conditions for rapid, uniform germination.

Damping-off, caused by several fungi, can cause serious plant loss. Seedlings may develop water-soaked spots on their stems near the soil surface, then collapse and die. Environmental conditions usually associated with damping-off are a poorly drained potting soil and overwatering. Damping-off can be prevented by using clean containers, a sterile, well-drained potting mix, and by following good cultural practices. Previously used containers should be washed in soapy water, then disinfected by dipping in a solution containing one part chlorine bleach and nine parts water. Flower and vegetable seed need an evenly moist potting mix for good germination. After germination, allow the potting soil to dry somewhat between waterings.

Tall, spindly growth is a common problem when growing transplants indoors. Poor (insufficient) light, excessive watering, high temperatures, excessive fertilization, and crowded growing conditions are factors which contribute to spindly growth. Once the seeds have germinated, move the seedlings to an area with somewhat cooler temperatures and good light. Place the seedlings in a sunny south window or under artificial light. It isn't necessary to have a fancy plant stand. A standard fluorescent shop fixture with one cool and one warm fluorescent tube works fine. For best results, the lights should be no more than 4 to 6 inches above the seedlings. Leave the lights on 12 to 16 hours a day. When the first pair of "true leaves" appear, thin or transplant the seedlings. Allow the potting soil to become somewhat dry between waterings. The best quality transplants are short, stocky, and dark green. Green algal or brownish fungal growth may appear on the soil surface or sides of peat pots. While their appearance generally causes little harm, their presence usually indicates excessive moisture levels. Allow the potting mix to dry somewhat before watering.

A lack of essential nutrients produces characteristic deficiency symptoms. Phosphorus and nitrogen deficiency symptoms sometimes occur on vegetable and flower seedlings. Phosphorus-deficient plants frequently have purplish leaves and growth is stunted. Yellow lower leaves may indicate a nitrogen deficiency. Other symptoms of a N deficiency are stunted growth and small leaves. Apply a soluble fertilizer, such as 15-30-15,
to the seedlings. Fertilize weekly with a one-quarter strength solution.

While there are obstacles to growing transplants indoors, home gardeners can produce good quality transplants if they follow good cultural practices.

**African Violets**

by Cindy Haynes
Department of Horticulture

African violets are one of America's most popular houseplants. Under the right growing conditions, they are able to bloom almost continuously indoors. They are also available in a wide range of flower colors, leaf types, and growth habits (trailing, miniature, standard, etc.).

**History**
The history of African Violets dates back to the late 18th century. Baron Walter von St. Paul discovered these blooming beauties growing in West Africa and sent samples or seed home to Germany. By the early 1900's African violets were blooming in Europe and around the world. The development of hybrid varieties with violet, purple, and blue flower colors in the late 1920's by the Los Angeles nursery of Armacost and Roysten increased the popularity of African violets. Since the 1920's hundreds of cultivars have been developed with an immense variety of flower and leaf colors, shapes, and sizes.

**Colors, Types, and Habits**

Today, flower colors include blue, purple, red-violet, orchid, lavender, red pink, white, and bi-color or multi-colored. There are single, double, semi-double, star-shaped, fringed, and ruffled flower types. Leaf types include plain, ruffled, fringed, scalloped, spooned, pointed, and variegated. The American Violet Society has 4 classes of African violets based on plant size: miniature (less than 6 inches in diameter), semi-miniature (6 to 8 inches), standard (8 to 16 inches), and large (over 16 inches).

No matter which flower color, leaf type, or habit you select, the care for all types of African violets is similar. While these are relatively easy to grow houseplants, they do require consistent care.

**Light**

Proper light is essential for good bloom. African violets require more light than most growers first realize. Thin, dark, blue-green leaves with long petioles indicate insufficient light levels. While moderate light is needed, direct light for long periods can be damaging as well. Too much light produces leaves that are small, crinkled, leathery, and yellow with short petioles on stunted plants. Generally, north and eastern exposures are best for African violets. However, if these exposures are not possible, African violets perform beautifully under artificial lights as well. Fluorescent lights suspended approximately 8 inches above the plants for 12 to 16 hours per day will produce sufficient light to initiate blooms in African violets.

**Temperature**

African violets require temperatures between 65 and 80°F. Typically, temperatures below 50°F will cause leaves to darken, become water-soaked, and wither. Temperatures above 85°F will slow growth and flowering of African violets and may injure the leaves as well. Water temperature becomes important during the winter months, as cold water directly on the leaves will damage them quickly.

**Watering**

Watering African violets is often the most difficult part of their care. They require a moist, well-drained soil. If the soils are too wet, the plants may rot. If plants are too dry, they will not grow or flower well. Many people sub-irrigate African violets. This means placing the plant in a saucer of water and allowing the plant to soak up water from the bottom of the pot. This prevents injury from cold water on the leaves and insures the entire soil profile is moist. However, care must be taken not to allow the plants to sit for long periods in water as they may rot quickly. Allow the top inch of the soil to dry before sub-irrigating again. African violets can also be watered from the top if room temperature water is used and the foliage remains dry. In fact, it is recommended to irrigate from the top occasionally to prevent salt accumulation. Wick watering is another method that is increasing in popularity. This is a continuous watering system with a water reservoir at the base of the plant and an absorbent wick that connects the soil and the water reservoir. This method is effective in maintaining an even moisture level of the soil. However, periodic leaching of the soil profile with water from the top might be necessary to prevent the accumulation of salts.

**Fertilization**

Regular fertilization is needed to encourage plants to bloom throughout the year. A complete fertilizer at a low rate is recommended. Excessive fertilization leads to vigorous vegetative growth, poor flowering, and the accumulation of salts in the soil. The accumulation of salts can ultimately damage or destroy foliage. Flush soils occasionally with clear water to eliminate salt buildup in the soil.

**Soils**

A loose, porous, fertile soil or soilless mix that is slightly acidic (6.0 or 6.5) is needed for growing African violets. Peat-based soils that have been pasteurized are best. Garden or field soil is not satisfactory alone since it is often poorly drained and compacts easily. Many
commercial soilless mixes are available. Refer to soils for houseplants (PM 713f) for more recipes for mixing your own soils.

African violets make great houseplants. With a proper environment and regular care they will reward you with blooms all year.

Insects and Disease
If grown properly, African violets have few problems with insects or diseases. Some of the more common pest problems include mites and mealybugs. Mites are small spiders that attack the undersides of the leaves, new growth, and flowers. Small webs are normally found around the leaf axils (junction of leaf petiole and main stem). Mites are so small they are not visible to the naked eye and the damage to the plant is often noticed first. Control of mites may require isolating the infected plant and spraying with soapy water or a miticide.

Mealybugs are easier to identify, as they are larger than spider mites. Mealybugs are whitish and often exude a "cottony mass" of sticky material for protection. Control requires soapy water baths or removal of the bugs with alcohol dipped cotton swabs.

Whenever, the foliage of African violets are wetted, warm water must be used and sufficient time allowed for the leaves to dry out before dark. Foliage that stays moist is prone to fungal diseases. One common fungal foliar disease is powdery mildew. Infected leaves will have small circles of a gray or whitish powder on the topside of the leaves. Control for powdery mildew requires the removal of infected leaves and spacing plants out more for better air circulation between plants. Powdery mildew tends to more of a problem on plants that are overcrowded.

Crown rot is another common fungal problem of African violets that are overwatered. Crown rot causes the main stem and lower leaves to appear water-soaked, shrivel and die. Crown rot usually leads to death of the plant. Allowing the top of the soil to dry out between watering will prevent crown rot.

Pruning Oak Trees in Winter

By Greg Wallace and Richard Jauron
Iowa State University

The weather has grown colder, but that doesn’t mean Iowans should ignore their trees until spring. Quite the opposite, in fact. Winter is the best time to prune oak trees in Iowa.

When is the best time to prune oak trees?

Winter (December through February) is the best time to prune oak trees in Iowa. Pruning oak trees in winter greatly reduces the risk of an oak wilt infection.

Oak wilt is a fungal disease that is lethal to many oaks. It can be spread from infected trees to healthy trees by sap-feeding beetles ("picnic bugs").Oak wilt infections occur most commonly in spring and early summer, when sap-feeding beetles are very active. During this same time, oak wilt infected trees are producing masses of spore-producing fungal material (spore mats). These mats release a fruity odor that attracts sap-feeding beetles and other insects. As the beetles feed on the spore mats, spores often accumulate on the surface of their bodies. Sap that forms at the surface of pruning cuts made in spring or early summer may attract sap-feeding beetles that may have been previously feeding on an oak wilt infested tree.

During the sap of the pruning cut, fungal spores get into the fresh wound, infecting the tree. Pruning oak trees in winter greatly reduces the risk of an oak wilt infection as the beetles and fungal mats are not present at that time of year.

Should a pruning paint be applied to pruning cuts?

Generally do not apply a pruning paint or wound dressing to pruning cuts. The application of a pruning paint or wound dressing does not prevent wood decay and may interfere with the tree’s natural wound responses. However, oak trees are an exception to the no paint recommendation. To prevent the transmission of oak wilt, oak trees should not be pruned in spring and summer. If an oak tree needs to be pruned during the growing season, for example to correct storm damage, immediately (within 15 minutes) paint the pruning cuts with a latex house paint. Winter (December, January and February) is the best time to prune oak trees in Iowa. There is no need to paint the pruning wounds when oaks are pruned in winter.

Where should the pruning cut be made when removing a branch?

Cut off the branch just beyond the branch collar and branch bark ridge. The branch collar is the swollen area at the base of the branch. The branch bark ridge is the dark, rough bark ridge that separates the branch from the main branch or trunk. Pruning just beyond the branch collar and branch bark ridge retains the tree’s natural defense mechanisms and promotes compartmentalization and callus formation.

Do not make flush cuts when pruning trees. Flush cuts are pruning cuts made as close as possible to the trunk or main branch. They destroy the tree’s natural defense mechanisms that promote wound compartmentalization and callus formation.
What is the proper way to prune a large tree branch?

To prevent extensive bark damage, use a three-cut procedure when pruning branches that are greater than 1 ½ inches in diameter. Make the first cut 6 to 12 inches from the main branch or trunk. Cut upward and go about one-third of the way through the branch. Make the second cut 1 to 2 inches beyond the first. Saw downward from the top of the branch. As the second cut is made, the weight of the branch will cause it to break at the pivot point between the two cuts. (The initial, bottom cut prevents the branch from ripping off a large piece of bark as it breaks.) Make the final cut just beyond the branch collar and branch bark ridge.

Grow Plants from Fruit

By Willy Klein and Richard Jauron
Department of Horticulture
Iowa State University

Mothers often remind children not to play with their food, but kids and houseplant enthusiasts may find it interesting and fun to start plants from the seeds and leaves of fruit.

How do you root the top of a pineapple?

Cut off the top of the pineapple about 1 inch below the cluster of leaves. Trim away the outer portion of the pineapple top, leaving the tough, stringy core attached to the leaves. Also, remove a few of the lowest leaves. The pineapple top then should be allowed to dry for several days. The drying period allows the moist core tissue to dry and discourages rotting. After drying, insert the pineapple top into perlite, vermiculite or coarse sand up to the base of its leaves. Water the rooting medium. Keep the rooting medium moist, but not wet, during the rooting period. Finally, place the pineapple top in bright, indirect light. Rooting should occur in six to eight weeks.

When the pineapple has developed a good root system, carefully remove it from the rooting medium. Plant the rooted pineapple in a light, well-drained potting mix. Water well. Then place the plant in bright, indirect light for three to four weeks.

After three to four weeks, the plant can be placed in a sunny window. Keep the potting soil moist with regular watering. Using a soluble houseplant fertilizer, fertilize the pineapple once or twice a month in spring and summer. Fertilization usually isn’t necessary in fall and winter. The plant can go outdoors in late May, but must come back indoors before the first fall frost.

How do you sprout an avocado seed?

To sprout the seed, remove it from the center of the fruit and wash in water. For propagation purposes, the broad end of the seed is regarded as the bottom. The pointed end is the top. Insert three or four toothpicks into the sides of the seed. They should be placed about halfway up the seed. Then suspend the seed over a glass of water. The bottom one-fourth of the seed should rest in water. The seed should sprout within a few weeks. During this time, periodically add water to maintain the initial water level. If the seed doesn’t sprout within two months, discard it and begin another. The roots are usually the first to emerge from the seed. The stem appears later. Pot the seedling when the root system has become well developed; the roots are approximately 2 to 3 inches long.

Remove the toothpicks and plant into a 6- to 8-inch-diameter pot using a commercial potting mix. Position the seed in the center of the pot. The top of the seed should be level with the soil surface. After potting, water thoroughly, then place the plant in a brightly lit location. A site near an east or west window is ideal. Water the plant on a regular basis. Keep the potting soil moist, but not wet. To encourage branching, pinch out the growing point when the avocado seedling is approximately 12 inches tall. Fertilize once or twice a month in spring and summer with a soluble houseplant fertilizer.

Can I germinate the seeds from a grapefruit?

Seeds of grapefruit, oranges and lemons can be germinated indoors. After removing the seeds from the fruits, plant the seeds in a pot containing potting soil. Plant the seeds about 1 inch deep. After planting, moisten the potting soil. Keep the potting soil moist until the seeds germinate. Germination may occur within two to three weeks or take as long as six to eight weeks. After the seedlings emerge, place the plants in a sunny window. Grapefruit, orange and lemon trees can be grown as houseplants for a few years. Plants grown from seeds seldom produce fruit indoors.

Ask the ISU Extension Gardening Expert

Selecting seeds is one of the first steps in planting a home garden – along with preparing the seedbed and deciding when to plant. To have additional plant and garden questions answered, contact the ISU Hortline at 515-294-3108 or hortline@iastate.edu.

I have some leftover vegetable seeds from last year. Will they germinate and grow this spring?

Most vegetable seeds will remain viable for several years when stored in a cool, dry location. If properly
stored, cabbage, broccoli, cucumber, squash, watermelon, eggplant and radish seeds will remain viable for five years. Snap bean, carrot, pea, pepper, tomato, cauliflower and pumpkin seeds can be stored for three to four years. Seeds of sweet corn and onion remain viable for only one to two years.

**What are the differences between open-pollinated and hybrid vegetable seeds?**

A hybrid variety is generally the result of a controlled pollination. Hybrids are produced by crossing two different parent varieties of the same species. Plants grown from hybrid seeds are genetically identical and possess desirable traits, such as high yields, disease resistance or wider adaptability. However, hybrids do not remain true in later generations. As a result, saving seeds from hybrids grown in the vegetable garden are not worthwhile. Hybrids are oftentimes referred to as F1 or F1 hybrids (the first filial generation of seeds resulting from the crossing of different parental types).

Open-pollinated varieties are those varieties that have become stabilized in their growth characteristics from one generation to the next. Open pollinated seeds are produced by allowing wind or insects to transfer pollen between different plants of the same variety. Vegetables that are capable of cross-pollination, such as corn and vine crops, must be isolated from different varieties so they produce seed that is “true to type.” If no cross-pollination occurs, home gardeners can save the seeds from open-pollinated vegetables year after year.

**Some vegetable seeds are pink or green in color. Why?**

Many seed companies treat their seeds with a fungicide to prevent the seeds from rotting in cold, wet soils. Seeds that have been treated with a fungicide are labeled as such and are often pink or green in color. Be sure to wash your hands thoroughly after handling treated seeds.

Some seed companies provide their customers with seed treatment options. Gardeners can purchase treated seeds or untreated seeds (whichever they prefer).

**What are some good sources of flower and vegetable seeds?**

Flower and vegetable seeds can be purchased at local garden centers. They’re also available from mail-order companies. Mail-order sources include Stokes Seeds, Box 548, Buffalo, NY 14240 ([www.stokesseeds.com](http://www.stokesseeds.com)); Park Seed Company, One Parkton Avenue, Greenwood, SC 29647 ([www.parkseed.com](http://www.parkseed.com)); W. Atlee Burpee, 300 Park Avenue, Warminster, PA 18974 ([www.burpee.com](http://www.burpee.com)); Johnny’s Selected Seeds, 955 Benton Avenue, Winslow, ME 04901 ([www.johnnyseeds.com](http://www.johnnyseeds.com)); Harris Seeds, Box 24966, Rochester, NY 14624 ([www.harrisseeds.com](http://www.harrisseeds.com)); Seed Savers Exchange, 3094 North Winn Road, Decorah, IA 52101 ([www.seedsavers.org](http://www.seedsavers.org)); and many others.

**FEBRUARY GARDENING TO DO LIST**

- Repair and prepare lawn and garden tools for the upcoming season.
- Do not use softened water on houseplants as the salts are damaging to them.
- February is one of the best months to prune woody plants. Fruit trees, shade trees, raspberries, grapevines, and many shrubs can be pruned successfully while they are dormant. Dormant pruning is easier too, since you can see the branch structure because there are no leaves.
- Late this month start seeds of broccoli, cauliflower, and cabbage for planting outdoors in April. Some of the flowers to start include geranium, petunia, snapdragon, pansy, impatiens, and salvia.
- Keep monitoring stored fruits and vegetables. Remove any that have rotted.
- Keep bird feeders filled. Remember to periodically clean feeders and water containers.

**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 874 Starting Garden Transplants at Home (free)
- PM 814 Where to Put Your Vegetable Garden (free)
- RG 318 Early Spring Blooming Perennials
- RG 214 Choosing an Arborist
- SUL 5 Pruning Trees and Shrubs
- PM 1943 Deciduous Shrubs
- PM 1383 Identification of Conifer Trees in Iowa

**Horticulture Publications on-line**

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