

MASTER GARDENER Communicator

December 2002

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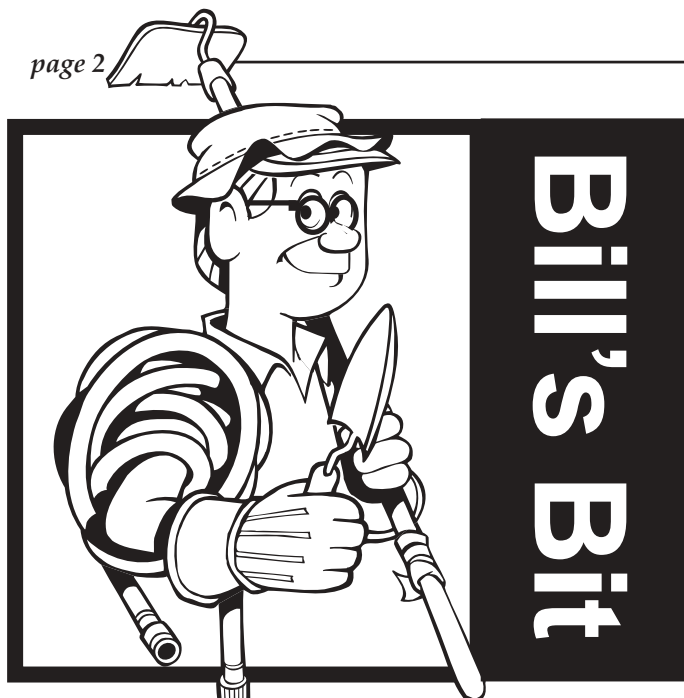
KALAMAZOO COUNTY WINS 'AMERICA IN BLOOM' CONTEST!

Our County received the 'America In Bloom' award in Washington, D.C., this fall. Kalamazoo County was in competition with other communities with the same populace and was specifically cited for having a large amount of community involvement in our beautification efforts. This is the first year that 'America In Bloom' was held in the United States. The contest has been held annually in Canada for quite some time.

Congratulations to all of you for your hard work on the various Community Beautification projects. I would like to personally thank Bob Polmateer, Arlene Micalizzi, Lynda Colvin, Nola Harlan, Mary Sweeney, Elizabeth Taube, Moselle Schoenfelder and Deb Grooten for their continued efforts out at the Eastern Gateway to the City. Bob is the volunteer coordinator for the site and has done a wonderful job scheduling volunteers.

The Master Gardener Volunteer program made up a large portion of the discussion that I had with both of the judges. They were intrigued by the statistics showing the amount of volunteer activities we are involved in. Bravo!





As a rule, I don't like to write about technical stuff right off the bat. I have to make an exception today because of the big change that has taken place with the *Communicator*. Let me get a couple of things out of the way.

By most accounts, it looks like the *Communicator* has made a successful transition to the internet. There has been some negative feedback from a few readers who have not been able to download the PDF file from the website. I wasn't too happy with the way the headlines looked in the September issue. They were all crunched up. Hopefully, I have figured it out. On the positive side, a lot of folks are thrilled with the color photographs. If you feel left out because you don't have a computer at home, try accessing the web version of the *Communicator* at your local library. The address is www.msue.msu.edu/mastergardener/kalamazoo/

If you are reading the traditional version of the *Communicator* there is only one difference between your newsletter and the one on the internet — the lack of color. The photograph being used on the front page of the web version is a shot of the Northern Lights. It looks spectacular in color but unfortunately when it goes through the monochromatic copy machine it turns into a solid block of black ink. (You have an alternate photo.)

Time for a correction. I made a major mistake about one of the facts of Iceland in my last column. I stated, "... about 20% of the island is tree covered." The right figure is 1%!!!

Have you noticed the turn in the weather has set your mind to thinking about stuff? For me the season of garden activity has officially come to a close and now is the time to ponder about the past and the future.

It was just a couple of days ago I was trying to remember when my interest in gardening began. It goes way back — the memory is in black and white so you know it's a long time ago. My first crop was radishes. What was yours?

After about three years I lost interest in gardening

when I was in fifth grade. It wasn't until Nancy and I rented our first house, in Berkley, MI, that I got back into gardening. That year we grew cabbage, carrots, snap beans and spinach in a small plot in the back yard. There was a narrow strip of land between the driveway and the house, not much more than two feet wide and about 20 feet long. It faced south. That is where I grew my very first eight foot tall tomatoes.

My landlord was sure I was overly optimistic. Early in May I took six small tomato plants and nestled them into the warm earth. Next to each one I put a ten foot stake. That's what got George's attention — seeing me on a six-foot step ladder hammering something into the ground.

By mid-July he knew I wasn't messing around. As a matter of fact, he was coming to me for advice because his tomatoes were doing so poorly.

Our next garden was in Carson City, MI. Boy, what a change! We were renting a farm house. I asked my new neighbor across the road, Mr. Poindexter, if he could turn a small section of soil so we could get a new garden going. His idea of "small" was very different than mine. When I came home from work the next day I had a 14 by 150 foot garden — the width of his disc and the length of my property.

Mind you, I didn't actually plant the entire 150 feet, just about half of it. For two years our pantry was well stocked with every vegetable imaginable. Everything was great except for some weird looking snap beans. Our garden was right next to Mr. Poindexter's soy bean field, so the snap beans kind of took on their bumpy appearance. They tasted fine, but the pods weren't smooth.

Let's see, as far as future plans go, this is what I have in mind. Next spring, after the crocuses stop blooming by the front door I'm going to do something drastic to that little section of soil. For the nine years we've lived here every type of bedding plant I've put there has died by the end of June. The reasons are very simple.

First, it has a micro-climate that is anywhere from three to four zones higher during every season except winter. This is because there is a concrete sidewalk, which raises the soil temperature on sunny days, along its front edge. Also influencing the micro-climate is a south-facing brick wall along its back edge which reflects the heat and sunlight of the day back into the soil. Next, there is a three foot soffit overhead that prevents everything but the heaviest rain from getting through. And finally the most challenging reason, a mere 12 inches below the surface is sand which sucks up water so fast it takes only two days for the topsoil to dry out. It's perfect for crocuses but that's about it.

One other future event that I think is on everybody's mind is the upcoming International Master Gardener Conference being held in Cincinnati, OH, next summer. I have been to plenty of MG conferences, it will be nice to have one so close to home.

Here's wishing all of you a safe and happy holiday and a bountiful garden for 2003!

FROM THE HOME OFFICE

2002 REPORTING FORMS SHOULD BE IN THE OFFICE NOW!

If you're reading this December issue of "The Communicator," we hope you have already sent in your report forms for 2002 volunteer and education hours. This not only keeps your records current in the Extension office, but also with Michigan State University. We will be sending the 2002 Volunteer Reports to Michigan State University this month, which will determine who gets their invitations to Summer Conference.

MARK YOUR CALENDARS FOR THESE BIG EVENTS

- Ag. Action - Friday, January 24, 8:00 a.m. - 3:00 p.m. at KVCC, Texas Twp. Campus. Education hours available and volunteers needed! More information will be coming soon!
- Volunteer Recognition Banquet - March 19, 6:30 - 8:30 p.m. at The Birches on 9th St. in Oshtemo. Invitations and RSVP requests will be coming to you later - watch your mail.
- Spring Into Gardening Conference - Saturday, April 26, 9:00 a.m. - 3:00 p.m. at KVCC, Texas Twp. Campus. Watch for more details!
- Stepping Stones Workshop June 9th- 6:30-8:30 p.m. at the Fairgrounds. Cost is \$25 and pre-registration will be required. More information will be in the next issue of "The Communicator."

STATE MASTER GARDENER WEB SITE

For interesting news and upcoming events on the State level, visit the MSU Master Gardener State Website at www.msue.msu.edu/mastergardener.

There is also a new program called Horticulture Gardening Institute that features classes and information online. This class information can be accessed by visiting www.gardeninginstitute.com

NEW STAFF MEMBER IN MASTER GARDENER OFFICE

We are proud to announce that Anita Crawshaw has been hired to help part-time in the Master Gardener office at MSU Extension as a program assistant. She will be inputting data and updating educational materials as well as assisting Emelee occasionally at workshops.

CONTACTING THE OFFICE

With the reduction of Karen's hours, please ask to speak to Emelee when you call the Extension office. Emelee will be happy to help you with hours reported, upcoming programs, policy questions, etc. Thanks!

WINTER 2003 CLASS INFORMATION

Just for your information, the Winter 2003 Master Gardener classes will meet on Tuesdays, 4:30-8:30 p.m., beginning February 4, 2003. Classes will be held at the MSU-KCMS building on Oakland Drive in Kalamazoo. If you have anyone that is interested, please have them contact the Extension office at 383-8830 and leave their name, address, telephone number and e-mail address.

VOLUNTEER OPPORTUNITY

Parent-to-Parent of SW Michigan is having a Garden Arts and Plant Sale on May 24, 2003, 8:00 a.m.-5:00 p.m. It will be held at the Cloverleaf RV & Storage business in Schoolcraft, MI. Training and pre-sale prep will be May 19-23. Call Kathy Barney at (269) 731-5456 to sign up for training, organize plants, and to help at the sale.

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U.S. Department of Agriculture
and counties cooperating.
MSU is an affirmative-action
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DRY AIR ROUGH ON FERNS

Dry air is murder on ferns. A Boston fern that's green and gorgeous when you bring it home won't stay that way long unless you can meet its need for humidity.

Dry air is the biggest obstacle to growing ferns as houseplants. Many ferns will do fine in typical indoor temperatures and bright light, and some will survive even in low-light situations, but they won't compromise on humidity. In dry air, the tips of the fronds will become dry and brown.

Using humidifiers to increase the moisture levels in one room or the whole house benefits not only ferns but also parched nasal passages, glued joints in furniture, and cats and people who walk on wool carpeting, but this tends to be the most expensive alternative to dry air. There's an initial outlay for the equipment, the cost of the energy needed to operate it and, with room units, a certain amount of tending required to keep them functioning.

How successful attempts to humidify the air can be depends to some extent on the number and type of windows in a room or house and the presence of other cold surfaces that can take water out of the air as fast as a humidifier adds it.

A low-cost, low-tech approach is simply to put ferns in an area of the house where humidity levels are naturally higher, such as a bathroom or the kitchen.

Double-potting plants is another way to add moisture to the air around them. To do this, set the plant pot inside another, larger container and fill the space between them with peat or vermiculite and add water as needed to keep it moist. Setting individual pots or groups of plants on a tray of wet gravel accomplishes the same thing — creating a moist microclimate around plants.

Misting plants produces only a temporary increase in humidity. Even misting several times a day has little benefit, and keeping the foliage wet this way can even promote disease development.

If you can provide the necessary humidity, a number of ferns will thrive under home conditions. Popular ones for indoor gardening include the Boston, maidenhair, sword, bird's-nest, feather, button and staghorn ferns. The staghorn fern can be grown either in soil in a pot or on osmunda fern roots fastened to a slab of wood hung on the wall; the others prefer a soil containing at least 50 percent organic matter that's kept moist but not soaking wet. They need protection against temperatures below 50 degrees and do best near a sunny window where they can receive direct light in winter and indirect or filtered light in summer.

The brown spots that develop on the undersides of fern fronds are no cause for alarm -- these are sporangia, the structures that produce the spores by which ferns reproduce.



Got The Gardening Bug?

Plant a Terrarium or Dish Garden

If looking through seed catalogs has given you the gardening bug, turn your back on the outdoors and plant an indoor garden.

Dish gardens and terrariums are like miniature gardens. The main difference between them is that the dish garden is open — the terrarium is enclosed.

The key in putting together plants for either type of grouping in a single container is choosing plants that require basically the same environment and care. A dish garden of moisture-loving tropical plants will work; a dish garden of desert plants will work. Mixing them in a single garden, however, means that you can't possibly provide care that will meet the needs of both sorts of plants.

If you have both types of plants, plant one container with the desert plants and another with the moisture-loving tropicals. Then you can provide each group with the appropriate environment and care.

Desert plants are more suited to a dish garden than to a terrarium, because the whole point of a terrarium is to create a humid environment for plants that aren't well adapted to dry indoor air. Desert plants such as cacti and succulents not only don't need that sort of environment but also won't tolerate it.

Begin constructing a dish garden by selecting a

shallow container. Pick a growing medium according to the plants you intend to plant. For desert plants, use a prepared peat-vermiculite mix with some coarse sand or perlite added, a mixture of equal parts sand and houseplant potting soil, or a mixture of 2 parts sand, 1 part soil and 1 part peat. If you want to make it even easier, simply buy a bag of prepared cacti and succulent potting mix.

For tropical plants, commercial potting soil, a prepared peat-lite mix, or a combination of equal parts sand, sterile soil and peat will do nicely.

For each garden, select several small plants that vary in size, color, form and texture. A grouping typically includes an upright plant, a trailing plant and a colorful focal point. For a tropical dish garden, a small parlor palm or red-margined dracaena might provide the height, English ivy or philodendron the trailing plant, and aluminum plant, coleus, episcia or African violet the color. In a cacti and succulents garden, you might choose snake plant (*Sansevieria*) or jade plant for height, wax plant as the trailer, and grafted cacti or a small bromeliad, such as an earthstar (*Cryptanthus*), as a focal point.

Fill the container with the appropriate growing medium and experiment with various arrangements of plants. In a container to be viewed from all sides, the tallest plants are usually placed near the center; in one to be viewed from one side, tall plants typically form the backdrop for the shorter ones.

Transplant plants carefully and water them in. Then set the container where it will be exposed to light levels, temperatures and relative humidity appropriate for the plants.

Succulents and cacti generally grow fairly slowly and a grouping of such plants will be slower to outgrow its container than a grouping of tropical plants. Some plants can be pruned; others will need to be removed and replaced by smaller plants to keep the dish garden from looking overgrown.

Terrariums are similar in that they consist of several plants in a single container, but they are usually planted in aquariums or large bottles or other containers that can be closed to hold humid air around moisture-loving plants. Clear bottles are better than tinted ones. Plants such as ferns, zebra plant, Norfolk Island pine, flame violet, spider plant and prayer plant, which often fail to thrive in the dry air inside a heated home, are among the plants that will do well in terrariums.

Once plants are in place and watered in, an enclosed terrarium may not need watering again for weeks. In fact, it may need to be opened if moisture builds up to the point where it is streaming down the sides.

Because direct sun and a terrarium are a bad combination, choosing plants that do well in low light or supplementing natural light with light from fluorescent tubes.

To keep plant groupings from outgrowing their containers as long as possible, avoid fertilizing.

Neither a dish garden nor a terrarium will last forever. When you can no longer keep it looking attractive by pruning, removing and replacing plants, it's probably time to start over with new soil and new plants. Use the plants you remove to propagate new ones and you'll have the makings for gift gardens for friends and family members who have admired yours.

HOLIDAY CACTI SPECTACULAR

The exotic-looking flowers of holiday cacti can be a spectacular addition to holiday décor.

Plants that have been in your home tend to bloom around Thanksgiving or Christmas in response to winter's short days. Plants brought into the home ready to bloom may drop their buds rather than burst into flower, however.

Flower buds may fall off without opening if temperatures are too high — above 75 degrees. Sudden changes in temperature or light levels and overwatering can also cause buds to drop.

To guard against temperature fluctuations, wrap your holiday cactus carefully before you take it from the florist's or the garden center to your car, and don't leave it sit in the car while you run other errands — take it straight home. Then place it where it will get plenty of bright light but won't be exposed to hot or cold drafts, and water it when the soil surface feels dry.



Photo: Courtesy of Jan Shannon

In the greenhouse, holiday cacti are programmed to bloom at Thanksgiving, Christmas or Easter by manipulating day length and/or temperature. Plants exposed to 9 hours of daylight and 15 hours of darkness beginning in September will set flower buds. Temperatures between 50 and 59 degrees F will also stimulate flowering, regardless of day length. Temperatures below 50 degrees will inhibit flowering, however, as will temperatures above 85 degrees.

Please see SPECTACULAR, page 9

HOW IT WAS STORED DETERMINES WHETHER OLD SEED IS GOOD



Photo: Courtesy of Peter J Schenk, Jr.

You're trying to put your seed and plant order together, and you're wondering if the seeds left-over from last year's garden are still good. You don't want to buy more if these are okay, but you don't want to be disappointed if you rely on them and they're not.

How the seeds were stored may be the clue you're looking for. If seeds have been stored in moisture- and vapor-proof containers in a cool area, most seeds that were new last year will probably germinate just fine. Seeds such as tomato, carrot, pumpkin, kale, cucumber, Brussels sprout and cabbage will still be viable for two or even three years if they're stored properly.

On the other hand, if seed packets were merely stuck in a box and set on a shelf in the garage or the mud room, where they were exposed to last summer's tropical heat and humidity, even long-lived seeds might not germinate well.

So what should you do? Gamble on the old seeds or buy new? How about conducting a home germination test on the leftover seed.

Start by dampening as many paper towels as you have seed packets you want to test. Take 10 seeds from each packet and roll them in a moist paper towel, wrap rubber bands or twist ties around the towels to keep the seeds from falling out, and place each towel in a labeled plastic bag in a warm spot (75 to 90 degrees F). The top of the refrigerator is usually a good place, especially if there are cupboards above it to hold in the heat it generates.

Under warm, moist conditions, most seeds

that are going to germinate will do it in a week. So, after a week, count the number of seeds in each paper towel that have sprouted and multiply by 10 to get a germination percentage for each lot.

Any seed with a germination rate of 50 percent or below should probably be replaced. Higher rates suggest that the seed will probably be OK for this year, though you may want to plant it a little thicker than usual, just in case the germination rate outdoors is lower.

For a good harvest from your major crops, it would probably be wise to plant a mixture of new and old seed. If you know you need a certain quantity of snap beans or sweet corn or butternut squash or pickling cucumbers, buying a little extra fresh seed is pretty cheap insurance that the produce will be there when you're ready to preserve it.



Attention, Master Gardeners!

We're always looking for interesting items for the *COMMUNICATOR*, so let us know what you're up to.

The copy deadline for the next issue is February 15, 2003. Call or stop in the office by that date with news of interest to your fellow gardeners that you'd like to see included in the March newsletter.

Sincerely,

Emelee Reifschneider

Emelee Reifschneider
Master Gardener Coordinator

Ann Nieuwenhuis

Ann Nieuwenhuis
County Extension Director

ICE STORMS AND TREES DON'T MIX

When your landscape trees and shrubs are coated with ice, there's not much you can do but hope that they hold up. Some types of trees and shrubs are more susceptible to damage by ice storms than others. Therefore, the best way to prevent ice storm damage to landscape plants is to plant trees and shrubs that are less susceptible to breakage when Mother Nature applies a coating of ice.

American elm, silver maple, Siberian elm, willow, birch and poplar are usually hardest hit by ice storms. These generally weak-wooded trees also have sharp, V-shaped crotches that tend to split when branches are bent downward by ice. Callery pears (Bradford pears, etc.) may be hard-hit by fall storms because they are late to lose their leaves and so hold more snow than trees without leaves. Slow-growing hardwood species are generally sturdier and less prone to damage by ice and wind.

Another preventive strategy is to plant trees in sites that provide optimum growing conditions. Water and fertilize them properly and prune them to eliminate weak, V-shaped crotches and dead or diseased wood. Trees that are well suited to their planting sites and well cared for tend to be less susceptible to storm damage than trees in poor sites or those weakened by insect and disease.

But what if your home grounds are already planted with mature trees and shrubs prone to damage by ice?

When light rain and temperatures right around 32° F combine to coat plants with ice, you might be tempted to try to knock or shake the ice off. Experts caution against this. Frozen branches are brittle and attempting to free them from the ice usually causes more damage than allowing the ice to melt off. Propping ice-laden branches or leaning trunks with stepladders or other supports may help somewhat, but heavy branches may simply snap off where they rest on the support.

There's also a safety consideration here. Brittle, ice-laden limbs may snap while you are working to prop them up. Large limbs may weigh several hundred pounds and you don't want to be under one when it comes down.

Avoid parking vehicles or walking under ice-coated trees, especially if the branches overhang power lines. Wait to pick up fallen branches until the ice is gone and branches have stopped falling.

Repair work to deciduous plants can often wait for better weather, though it's best done before spring growth begins, simply because it's easier to see the plant's structure when it's not covered with leaves. Ragged breaks or tears should be cleaned up as much as possible — clean cuts heal faster and

so provide disease organisms or insects less chance to get established.

Major repairs that can't be done from the ground should be given to professional tree services. If a damaged tree is involved with power lines, the utility company should be contacted.

Pruning stimulates new growth, so deciduous plants may recover from ice storm damage fairly quickly. Evergreens are slower to recover from breakage. Sometimes damage to evergreens isn't apparent until a year or two after an ice storm, when they mysteriously die. The cause is damage to their circulatory system that occurred when ice bent their stems to the ground.

Plants bent but not broken by ice may straighten up again or remain bent. Wait and see if they spring back. If they don't, you can always remove them later.

In general, the prescription for ice-damaged plants is patience and TLC. Unless they're obviously past saving, clean up the damage as much as possible and then give them some water and fertilizer and some time to recover. If you delay replacing the tree or shrub immediately, you will have time to consider how long it will take a replacement plant to take its place.

Chestnuts Require Special Handling

Chestnuts are the Goldilocks of holiday nuts. Storage conditions have to be just right, not too dry and not too damp. In dry air, they dry out and lose quality. In warm, damp air, they mold.

There are two ways of storing this fickle fruit, in the refrigerator in a sealed plastic bag with a few ventilation holes punched in it or, in paper milk cartons filled with dry peat moss.

If mold occurs in spite of your efforts, scrub the nuts to remove the mold. Nuts that stay moldy for a long time develop an off-color and bad flavor. After removing the mold, dry the nuts for several hours on two to three changes of paper toweling. After drying, refrigerate them.

Chestnuts can be cooked by roasting, boiling, steaming or microwaving.

To roast over an open fire, use a long-handled popcorn popper or chestnut roaster. To roast in an oven, try a temperature of 300 degrees F for about 15 minutes.

Before roasting, puncture each nut once or twice with an ice pick or a knife. If you don't, pressure from steam building up inside the shells will cause the nuts to explode, either before or after they come out of the oven or roaster. Leaving one nut

CHESTNUTS

whole is one way of knowing when the nuts are done. When it explodes the others will be ready.

This method doesn't work if the nuts are overdry to start with. To test for dryness, squeeze a few nuts between your thumb and finger. Chestnuts should be plump and firm. If the shells move inward, the nuts are too dry. If you wait for one of these to pop to indicate when the rest are done, the result might be burning the whole batch. Dry chestnuts can be enjoyed by boiling or steaming them.

To boil chestnuts, place them in a shallow pan in water that just covers them. Bring to a boil, reduce the heat and boil gently for 15 to 20 minutes. Drain and cool somewhat and then remove the kernels using a sharp tine of a table fork (a fondue fork might be the ideal utensil — editor). The longer the nuts cook, the mealier the kernels become and the more they tend to crumble when removed from the shells. For especially dry chestnuts, try soaking them overnight in water before boiling in fresh water.

For steaming, carefully cut fresh, moist chestnuts in half and cook them in a vegetable steamer over boiling water for 8 to 10 minutes. Most of the kernels should fall out of the shells during cooking.

bur (*bûr*), *n.*, —*n.* **1. Bot.** the rough, prickly case around the seeds of certain plants, as of the chestnut and burdock.
2. any bur-bearing plant.

Steam or boiled nuts can be dipped in melted butter and salted, if desired, or used in other recipes.

To microwave chestnuts, cut them in half and place them with the cut sides down on a double layer of moist paper towels. Then experiment with cooking times and quantities of nuts to find out what works best in your microwave. You might start with eight medium-sized nuts and a roast setting of 2 minutes.

It is very difficult and dangerous to cut hard, dry nuts in half. Only those that grew two or three in a bur and have a flat side can be cut easily. A single nut is round and very difficult to cut safely. Sort these round chestnuts and prepare them in a way that doesn't require cutting them before cooking.

Store cooked chestnuts in tightly sealed jars in the refrigerator for a month or two or in the freezer for up to a year.



Red Maple flower buds

Brighten Your Winter Days

You can get a preview of spring and a momentary break from winter by cutting branches from spring-flowering trees and shrubs and forcing them to bloom indoors.

Most spring-flowering plants need a cold-weather dormant period before they're ready to flower and grow. Many will have fulfilled their dormancy requirement by early January.

Think of cutting branches for forcing as winter pruning, and remove branches with an eye to maintaining the natural shape of the plant while thinning or removing problem branches — branches growing into the center of the plant, for instance. Use sharp tools to make all cuts to avoid injuring remaining branches and stems.

Branches for forcing should be at least 12 inches long with many flower buds. Flower buds are usually larger and more rounded than leaf buds and they're usually found on the tops of branches that received a lot of sunlight during the previous growing season.

Indoors, submerge the branches in tepid water overnight. Then set them in a deep container of water and place them in a dimly lighted location with temperatures of 60° to 65° F. Change the water daily, and add some powdered charcoal to the water to keep it fresh. Mist the buds with water twice a day to keep them from drying out.

When the buds grow plump and begin to show color, arrange the branches in a decorative container and move them into a cool, bright room. High temperatures and direct sunlight will shorten the flowers' blooming period, while cool temperatures at night — 40° to 60° F — will lengthen it.

Candidates for forcing include red maple, birch, forsythia, redbud, dogwood, lilac and spiraea. Plants that need pruning or those scheduled to be removed are natural choices for forcing.

SPECTACULAR

In their native Brazil, holiday cacti grow in pockets of plant debris in trees or in decaying humus on the ground, so they need a light, humusy growing medium and containers with holes for good drainage. Potting in heavy mineral soil or a container without provision for drainage may result in overwatering, root rot and plant death.

Though most people lump all holiday cacti together under the term "Christmas cactus," Christmas and Thanksgiving cacti are two distinct species: Schlumbergera x buckleyi and S. truncata, respectively, and the Easter cactus is Hatiora gaertneri. To tell them apart, study the shape of the leaflike stem segments. In Thanksgiving cacti, the edges are sharply toothed or jagged; in Christmas cacti, the segments are smaller and have more rounded lobes. Also the Thanksgiving cactus tends

to grow more upright, and the Christmas cactus is generally more pendulous, or drooping. The Easter cactus is more like the Christmas cactus, with flat, segmented shoots, but its joints are saw-toothed rather than rounded.

Flower colors in holiday cacti range from white through pink, rose and coral to red, as well as golden yellow. A plant thick with blossoms looks like a flight of some kind of exotic bird-of-paradise. A large, established plant may bloom beginning in mid-November through most of the winter and even produce a few blossoms again in the spring or early summer. The rest of the year, it's a sturdy, interesting houseplant that thrives with minimal care.

The December, 2002, Continuing Education Test is being replaced by the following survey. SURVEY COUNTS AS ONE EDUCATION CREDIT. Please take a minute to fill out this survey and receive one education credit. Consider this a Christmas gift from your Coordinator... this is in place of the quiz usually found in *The Communicator*. This information will be used to quantify the main objectives of the program. Even those of you who are trainees are encouraged to fill out this survey. Please make certain to put your name on it so that we may credit you with one hour of education. Please submit your survey to: Attn: Master Gardener Program MSU Extension -Kalamazoo County, 201 W. Kalamazoo Ave., Room 302 Kalamazoo, MI 49007. Thank you for your information!

Name _____
(will not be used for anything other than to credit you one education hour)

1. How long have you been a Master Gardener or Master Gardener Trainee? _____

2. Did going through the Master Gardener Program increase your knowledge in the 12 core subjects?
YES _____ NO _____

3. Have your horticultural practices improved after taking the Master Gardener Program?
YES _____ NO _____

4. Did you decrease the use of pesticides after learning about Integrated Pest Management (IPM)?
YES _____ NO _____

5. What percentage would you say that your pesticide usage decreased? _____%

6. Do you share information about gardening-related topics with others more readily than you did before?
YES _____ NO _____

7. Do you feel that you make a difference in the community that you volunteer in?
YES _____ NO _____

8. As a result of being a Master Gardener, do you actively research information to find the best answer when dealing with a home horticulture issue?
YES _____ NO _____

9. As a gardener, are you concerned about the state of our environment and our groundwater?
YES _____ NO _____

10. Do you feel that your gardening practices limit the negative impact on the environment?
YES _____ NO _____

11. What has been your most favorite (content wise) Master Gardener class or workshop?

ADDITIONAL COMMENTS: