

MASTER GARDENER Communicator

September 2003

MICHIGAN STATE
UNIVERSITY
EXTENSION
KALAMAZOO
COUNTY

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Latest Info on Emerald Ash Borer

State takes additional control steps; quarantine expanded; sale, transport of ash nursery stock banned in Lower Peninsula

To further contain and stop the spread of Emerald Ash Borer (EAB), seven counties – Genesee, Ingham, Jackson, Lapeer, Lenawee, Shiawassee, and St. Clair – have been added to the state's EAB quarantine. Under the quarantine, it is illegal to move ash trees, branches, lumber, firewood and other materials unless chipped to one inch in diameter from the included counties.

The order, effective immediately, also:

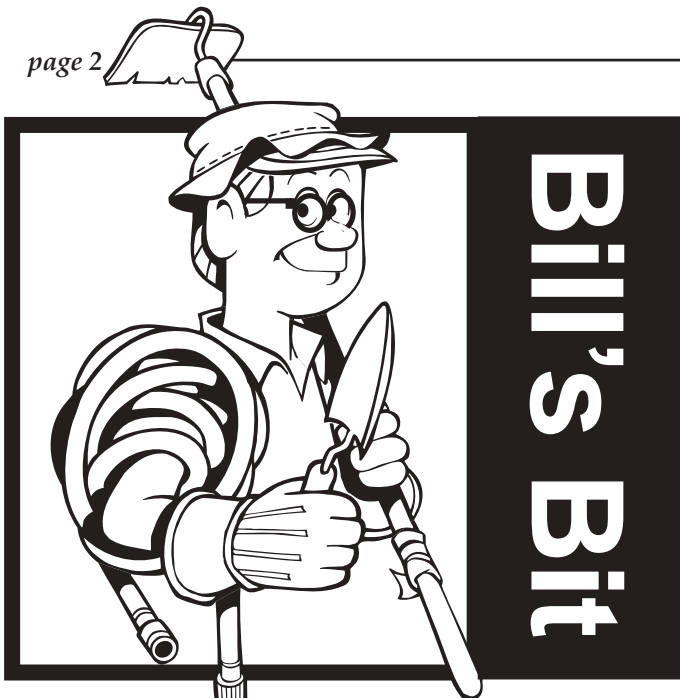
- Establishes a one-year moratorium prohibiting the sale and movement of ash nursery stock from, into and within Michigan's Lower Peninsula, with a full review slated a year from now to determine whether it should be continued;
- Bans the movement of all firewood of ANY species from the now 13 quarantined counties; and
- Further prohibits the movement of any ash materials, including logs, branches and other items unless chipped to 1 inch or less, and firewood of any species, from within the core EAB-infested zone to anywhere else in the quarantined area or state.

Based on survey data and the pattern of EAB "outliers," these actions were determined necessary and appropriate to help ensure Michigan is doing everything it can to stem the spread of this destructive insect and protect its valuable ash resources.

The Emerald Ash Borer, a destructive exotic beetle from Asia that feeds on ash trees, was initially discovered in the summer of 2002 in six Southeast Michigan counties (Livingston, Macomb, Monroe, Oakland, Washtenaw and Wayne). These six counties were under the original state quarantine and will remain part of the expanded quarantined area. To date, EAB has killed or damaged almost six million ash trees in this six-county area.

Since then, "outlying" infestations of the borer have also been identified in Genesee, Ingham, Jackson, Lenawee, and St. Clair counties. Based on the method of infestation (artificially – either by transported landscape ash trees or ash firewood), survey data,

Please see Ash Borer on page 9



Readers, be warned! This installment of Bill's Bit is entitled, "How I spent my summer vacation." How could it be any other way? If you remember from my last column, I was reminiscing about my favorite smells of Spring. Now it only seems natural I should write about some of the things I have seen this Summer.

I think I'll start right off the bat by pointing out the pluses and minuses of our interstate highway system — from a landscaper's point of view. As you may or may not know, during the months of April and May there is huge display of daffodils at the I-94 - U.S. 131 interchange. Also, if you travel north of Kalamazoo along U.S. 131, before you reach Plainwell, there is about an acre of wildflowers planted in the median of the highway. Do you have any idea how spoiled we are?

Here is a thumbnail sketch of how the rest of Michigan's interstate highways compare to some other states. Please remember, this is a purely unscientific, incomplete, personal observation on my part. I just know, within days after this column is read, I will be getting an irate letter from the governor or the head of the State Road Commission — or maybe even you! I have not driven every road in Michigan, but I have seen a lot of our state over the last forty years or so. What I saw in other states this summer really got my attention and I think you should know about it.

Along the interstate in South Carolina several large beds of red calla lily have been established. They are located both in the median and alongside the exit and entrance ramps. Closer to the Atlantic Ocean palm trees are included in the beds.

In North Carolina, the Road Commission must be having some kind of competition with their neighbor to the south. Along their interstate the view includes mass plantings of day lily and red poppy. There are so many flowers blooming you

can see them as you approach from a quarter-mile away!

The plant material changes somewhat in the states of Virginia and West Virginia but the quantities are still vast. I would suspect the reason is because this area of the country is more mountainous. The favorites of these two states are cosmos and 'Shasta' daisies with a sprinkling of small, red poppies.

(This should be about the point where people get upset.)

From the point I left West Virginia, all through Ohio and Michigan (mostly along I-77, I-80, I-69, and I-94), I never saw another highway landscape display. To show you I was on the lookout for some kind of landscape design in Ohio and Michigan, I did see a couple of large beds of cattails that might have been planted. Between you and me, I don't think that counts.

So what do these states have that Michigan and Ohio doesn't have? Money? — probably. Times are pretty tight and cuts are being made up and down the board. Better weather and a warmer climate? — perhaps. But I would think the winters come a little sooner and are a little colder in the Virginian Appalachias, so that might not be a good excuse.

All I can say is somehow, in these other states, someone convinced "The Powers That Be" that flowers along the interstate highways would be a good idea. Why can't more miles in Michigan be like that?

Getting back to being spoiled — there is no place like Kalamazoo! I saw some spectacular bedding plant designs at the 2003 Kalamazoo County Fair, especially in the livestock area. The arrangements by the horse stalls were top-notch! In my opinion, somebody should have received a blue ribbon.

And how about Bronson Park in downtown Kalamazoo? Have you ever seen the flowers looking so good? I know there is so much effort that goes into making the park look great — from both the local bedding industry and Master Gardeners. If you get a chance you should take a few pictures to show your friends and relatives.

I would suggest taking photographs in the evening about an hour and a half before sunset. At that time of the day the sunlight streams into the center of the park with very little shadow from the trees and nearby buildings. If you want to get a great shot of the floral peacock, go around noon.

Don't wait too long though. It won't too many more days and all of these great views will be gone. Spring tulip bulbs, by the thousands, will soon be tucked into the ground — after all the flowers have been cleared away.

I hope your gardens were bountiful this year, see you again in December!

FROM THE HOME OFFICE

Flying Fuzz-balls Actually Aphids

You might have been outdoors lately and have noticed small tufts of white substance wafting downward from the air. For those of you that were gentle enough to catch one, you would notice that it is actually an insect, with wings and a cottony-like substance on its body.



These insects are called woolly aphids.

During this time of year, there are two common woolly aphids that waft down like snowfall. Woolly apple aphids feed on the roots and bark of apple, pear and hawthorn. Woolly alder aphid feeds on alders, and maples.

Both have interesting life cycles, but generally are not a serious pest.

The woolly apple aphid over-winters on apple roots and in severe infestations on young apple trees, can cause damage. In the spring, crawlers then travel from the roots and move to tender bark areas of trees where they actively feed. In the summer, winged

adults in aerial colonies produce long white waxy filaments, giving it that woolly appearance. These adults actively seek out apple trees or elm, if available.

The woolly alder aphid normally does no permanent damage on their host trees. In May and June, the large fuzzy white colonies of aphids feed on the foliage or twigs. Winged adults appear in mid-summer and can be seen actively seeking out alder trees. The woolly alder aphids need both maple and alder trees to complete their life cycle.

Both woolly apple and alder aphids act as a food source for natural biological control agents such as lacewings, lady beetles and parasitic wasps. The flying adults that are seen this time of the year, do not feed. No chemical control is needed for the flying adults. Sit back, relax and enjoy this wonderment of nature.

Master Gardeners Keep Kalamazoo In Bloom

The gardens in Bronson Park and surrounding gardens throughout Kalamazoo that are part of the Kalamazoo In Bloom project are adopted by companies, groups, individuals, etc. to keep them looking great throughout the growing year.

There is usually a big "kick off" planting date in late May when it all starts. MSU Extension's Master Gardeners are an integral part of keeping Kalamazoo In Bloom throughout the year. Hats off to our Master Gardeners who have adopted a Kalamazoo In Bloom garden for the 2003 growing season!

Bob and Allison Claeys

Margaret Strzelecki

Judi Sabo

Rosalie & Don Philipp

Mike Blakey, Marily Daleiden, Sandy Peterson-Smott

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Please see Home Office on page 4

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Home Office

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New Master Gardener Re-certification Requirements

As you know, the Master Gardener reporting year is Oct. 1 through Sept. 30.

New Re-certification rules for the 2004 reporting year will go into effect Oct. 1, 2003.

The new Re-certification requirements are as follows: 15 volunteer hours -and- 5 education credits.

MSU or MSU Extension sponsored programs are credited hour for hour as earned; education from other sources are given half credit for hours attended. Please report actual attended hours for all educational programs. MSU Extension staff and the computer will re-figure your hours if half credit is to be given.

If you have any questions, please contact Emelee at (269) 383-8815.

Food for Thought

The "Master" in Master Gardener doesn't mean you know everything about gardening. It means that you volunteer your time helping others grow.

Keep Sending In Those Report Forms!!

First, I want to thank all of you for submitting your report forms in June so we could get everything possible into the Database before we had to send it in to campus.

The reason we were asked to send the Database to campus at this time of year, is because they are totally revamping it.

PLEASE CONTINUE TO RECORD YOUR HOURS ON THE REPORT FORMS AND SEND THEM INTO THE OFFICE!!! We will send you new report forms to use. However, you will not receive a confirmation back from us until we get word from MSU that the Database has been revamped.

Reporting guidelines stay the same - Hours must be completed by September 30 and final reports need to be in this office no later than December 1 to ensure proper credit and certification for the 2003 reporting year.

Thank you, again, for your cooperation and understanding while we go through this change.



September is... Spring Bulb Month!!!

After a long winter, the colorful blossoms of spring-flowering bulbs are a welcome addition to otherwise bleak landscapes. Fall is planting time. To make the most of the possibilities in spring bulbs takes planning.

Plan not just where you'll put spring bulbs, but also how you can combine small and large flowers, and early, mid-season and late bloomers for an extended bloom time. Plan, also, what will follow the bulbs or plant them where existing plants will complement them.

All that is not to say that the site isn't important — it is! Bulbs need well drained soil and sunlight in the spring. They also need to be planted far enough away from heated structures that escaped warmth won't interfere with the chilling period they need to flower.

Good accompaniments for spring bulbs include perennial and annual flowers and evergreen ground covers. Bulbs and shade-tolerant annuals and perennials can be planted around deciduous shrubs or small trees. Bulbs will enjoy the sunlight in spring, and the shade after the ornamentals leaf out will protect the shade-loving plants against full sun. Evergreen ground covers such as vinca provide a dark backdrop for the bulbs but are low enough that even small bulbs don't get lost in them.

Planting bulbs in ground covers gives an informal, naturalized look, the sort of impression that people often try to create by planting crocus or daffodils in lawns. Bulbs in lawns usually lose their foliage to lawn mowers before it's had a chance to build up the bulb for next spring's flowers. Because ground covers don't need mowing, the foliage of bulbs planted in them has plenty of time to mature.

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Both ground covers and annual and perennial flowers camouflage yellowing bulb foliage.

For a more dramatic display, plant masses of like bulbs rather than thin, narrow rows. For contrast, plant swaths of solid colors. Whether they're planted with geometric perfection in rectangular beds or curving sweeps, they'll be much more effective than a hodgepodge of mixed colors.

Large and small bulbs can be combined in the same space. Simply plant the larger bulbs first and the smaller, shallower ones in layers above them.

A sequence of early, mid-season and late spring bulbs gives a long season of bloom by providing a continually changing array of flowers. Another approach is to select a variety of bulbs in harmonious colors that bloom at the same time. You can combine the two approaches to create a panorama of flowers that changes colors as the season progresses.

Some bulbs, such as daffodils, perform year after year and multiply themselves. Others — some of the hybrid tulips, for example — tend to be spectacular the first year but disappointing after that. Some gardeners replace these annually, removing the bulbs when the flowers fade and replanting in the fall. Some current catalogs offer what they call “perennial tulips” that are said to behave more like daffodils and come back year after year.

Bulbs have a lot to offer northern gardeners. They not only survive our cold winters but actually require a cold treatment to flower, and they treat gardeners to a colorful floral display at a most welcome time. It's no wonder that spring bulbs are great favorites in Michigan.



Brighten Winter With Potted Bulbs

Some bulbs, some pots, a bag of potting medium and an old refrigerator — put them all together and what do you get? A succession of spring flowering bulbs in midwinter.

The process is called forcing, though it's more like fooling — fooling the bulbs into thinking they've spent the whole winter outdoors underground and that it's spring and time to flower.

Crocus, hyacinth, tulip, daffodil and narcissus can all be grown and flowered indoors. It's not really a complicated process — the main requirement is time, so you want to start in early fall.

Pots for forcing bulbs should be twice as deep as the bulbs to allow space for root development. Good drainage is a must, so pots must have holes and the potting medium should be light and drain well.

To pot bulbs for forcing, place a few pieces of broken clay pot or flat stones over the drainage holes to keep the potting mix from washing out, and add potting mix until the pot is about half full. If you set one of the bulbs on the medium and the tip is level with the top edge of the container, it's just right.

Place the bulbs in the pot and fill in around them, leaving the tips visible and allowing room between the top of the medium and the top edge of the container for watering. Set the bulbs on the medium but don't press them into it — this can damage their bases and retard growth. Water thoroughly.

For a striking display, place as many bulbs in the pot as it will hold without the bulbs touching one another or the edge of the pot. For a 6-inch pot, this generally means six tulips or daffodils, three hyacinths or about 15 crocus bulbs.

Label each pot with the kind of bulb, the planting date and the projected date for bringing it out of cold storage, using a waterproof marker that will survive the pots being watered. Then place the pots in an old refrigerator at temperatures between 35 and 48 degrees. The aim is to keep the bulbs cold without freezing them.

You can force bulbs in a coldframe, also, but it's harder to regulate the temperature, and in a warm fall, you might not be able to start as early.

Leave the pots in cold storage for 13 to 14 weeks. Keep pots covered or in complete darkness and water regularly.

At the end of this time, stems should be 2 to 3 inches tall and roots should be visible growing through the drainage holes or circling the inside of the pots. Bulbs not showing good root and shoot growth should continue the cold treatment; the

Please see Potted Bulbs on page 8

Plant, Divide Peonies In Autumn

Fall is the time to add new peonies to your landscape or divide older plants. A word to the wise, however: if your peonies are blooming just fine where they are and there's no pressing reason to move them, you might want to just leave them alone -- peonies do better if they're not disturbed.

If it's a case of moving established plants or losing them to a construction project, or if they've become shaded over the years and are blooming poorly, moving them makes sense.

Whether you're moving old plants or adding new ones, it's worth spending some time on site selection and preparation. Peonies tend to stay in place for many years, and a good site is key to growth and flower production.

Good drainage and full sun are essential. Freedom from competition with tree roots and shrubs for sunlight and moisture is also important, as is good air circulation around plants to help control fungal diseases. Some protection against strong winds is also desirable, however, because peony stems are top-heavy when flowers are present. Heavy rain, also, can flatten plants, so many gardeners support flower-laden plants.

Site preparation can begin two to four weeks before planting. Work the soil to a depth of 18 to 24 inches and incorporating compost, well rotted manure or peat moss to increase organic matter. In heavy, poorly drained clay soils, planting in raised beds may be the best approach.

To dig up old plants, dig carefully to minimize root injury, and remove the foliage. Gently wash soil off the large roots; then use a sharp knife to divide the plant crown. Make sure each division has three to five pink buds.

Plant each division or newly purchased plant in a hole 18 inches in diameter and 18 inches deep. Space plants at least 3 feet apart — this reduces the possibility of crowding and improves air circulation around plants. Mix soil from the planting holes with a high phosphate fertilizer and organic matter, add some of the mixture to each hole and then water to settle the soil. Then place the divisions or new plants on the soil in the holes so that the buds will be no more than 2 inches below the soil surface when the holes are filled. Add more soil and water again, then finish filling the holes.

It's easy to plant peonies too deep or too shallow. Peonies planted too deep may bloom poorly or fail to come up in the spring at all. If they're planted too shallow, the buds for next year's growth may be winter killed.

If fall rains are sparse, water thoroughly ev-

Please see Peonies on page 8



PHONE TREE IN THE EXTENSION OFFICE

This tree does not bear fruit, turn beautiful colors in the fall, nor give shade.

The MSU Extension office in Kalamazoo has put into place a phone tree so callers can get to the program area they desire without going through the receptionist.

- You can still dial 383-8830 and follow the instructions to get to the Consumer Horticulture Program area, or
- You can get directly to the Master Gardener office by calling 383-8815.

We hope this will make leaving a message or talking to the Master Gardener staff a little easier for you. Thanks!

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 November 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 December newsletter.

Sincerely,

Emelee Reifschneider

Emelee Reifschneider
Master Gardener Coordinator

Ann Nieuwenhuis

Ann Nieuwenhuis
County Extension Director



Meet Me At The Fair!

Scott Douglas and other Master Gardeners were in full force at the 2003 Kalamazoo County Fair. Demonstration tubs, like the one pictured above, helped to educate fair-goers about two common lawn pests — moles and grubs. Kids had an opportunity to transplant and take home their own marigold flower seedlings.

Create, Enlarge Garden Before Snow Flies

Whether you want to start a new garden or enlarge a current one, the best time to break new ground is autumn. If the first step is to eliminate grass, tilling it under isn't enough -- you must remove the sod or kill it first. Grass that you till under will keep coming back. Kill it with a herbicide or cover it with plastic, old carpet, broken down cardboard boxes, tar paper or some similar material. Then till after the grass is dead.

Tilling or spading up the new garden spot will bring up dormant weed seeds. Any that germinate now will be killed by subsequent tilling or winter cold and so won't be around to plague your garden next year. Though it seems that the supply of weed seeds is never ending, you can improve the situation by eliminating some before you plant your crops.

Removing the sod and working the soil now will also reduce potential problems from white grubs, those plump, C-shaped larvae that grow up to be large beetles such as June beetles. They ordinarily live beneath sod and feed on grass roots, but if the sod is converted to garden in the spring, they'll make do with vegetable or flower roots. Preparing the garden site in the fall kills some grubs and leaves others vulnerable to predation by birds and to killing cold temperatures.

As long as you're working the soil, you might as well take a sample for a soil test. The Kalamazoo-MSU Extension office can provide information on how to take the sample, a container to send it in and information on interpreting the results. If the test shows your soil is too acid and needs liming, you can do that now, also.

Yet another benefit of fall soil preparation is the possibility of an earlier start next year. Especially if your soil is heavy and slow to dry out in the spring, getting it ready to plant in the fall may mean you'll be able to take advantage of decent planting weather in the spring to plant cool-weather crops or flowers that tolerate cool temperatures. If, on the other hand, you have to wait for the soil to dry enough to till it in the spring, you may miss the window of opportunity to plant early crops.

S.W. Michigan Residents Learn About Water Quality As They 'Kanoë The Kazoo'

It can be difficult to get people excited about improving the health of a river when you have to talk about it using such terms as "total maximum daily load" (TMDL), "nutrient enrichment" and "non-point source reduction plans."

Doug Carter, Michigan State University Extension (MSUE) water quality agent based at the Kellogg Biological Station, decided that the best way to help people understand the importance of protecting the Kalamazoo River in southwestern Michigan was to put them in canoes and send them on a summer expedition.

"Kanoë the Kazoo" began June 13 near the Kalamazoo River's source in Albion, Mich., where 68 individuals — including citizens, local government officials and agency representatives — took to the water. The event took place over 10 days in June and July and ended at the mouth of the Kalamazoo near Lake Michigan.

Canoeists participated on one day or every day of the event. Each leg of the trip began with refreshments, an orientation to the river and an exhibition of educational displays. Participants canoed for three to five hours and were transported back to the beginning point.

"The purpose was to basically generate more interest from the public and key decision makers about the river itself," Carter said. "With officials such as mayors, state representatives, senators and city managers, we wanted to showcase the river and discuss the concerns, issues and challenges facing it in the future."

When the Michigan Department of Environmental Quality identified the Kalamazoo River — specifically, an impoundment called Lake Allegan — as an impaired water, the state was mandated by the federal Clean

Please see Kanoë The Kazoo on page 8

Kanoe The Kazoo

Water Act to implement a TMDL to define the problem, set goals for addressing the issue and develop a plan to meet those goals.

High phosphorus levels were identified as the cause of Lake Allegan's water quality problems, which included low oxygen levels, algal blooms and a carp-heavy fish population.

Such situations generally result in governmental regulation, primarily of point-source contributors such as industries and municipalities, which may have pipes or drains that empty directly into a water body. In this case, however, residents asked for time to enact a voluntary, educational approach to reducing phosphorus in Lake Allegan and the Kalamazoo River.

"Local citizens, businesses, government, industry and educators said 'We can do this without regulation, give us a chance.' That's what we're trying to prove," Carter said.

Volunteers from industry, government, public utilities, agriculture and non-profit organizations and other interested citizens came together to address the issue. They formed the Kalamazoo River/Lake Allegan TMDL Committee and developed a five-year plan that was approved by the U.S. Environmental Protection Agency to address both point source and non-point source phosphorus contributors to the Kalamazoo River. Non-point sources include residential lawns and septic systems, storm water runoff, commercial turf (such as golf courses), construction sites, agriculture and other phosphorus users that don't release nutrients from a single point.

The implementation plan includes an educational component. The canoe excursion was part of that effort. It also gave committee members a chance to promote their work.

"It's generated a lot of interest in the river," said Larry DeLong, superintendent of the Battle Creek wastewater treatment plant and chairman of the implementation committee. "Fifty to 60 people have canoed each stretch. The river is a resource for the municipalities along its shore. It's a good resource for them if they use it right."

"We want to blow our own horn as an influential citizen organization and, hopefully, get some better understanding, more appreciation and enhanced stewardship for the river," Carter noted.

At least one citizen has taken notice. Governor Jennifer Granholm issued a certificate of tribute for Kanoe the Kazoo, in which she said the event "is a successful example of a coalition of government, agriculture, education, business, industry and non-profit leaders, working together, to be responsible for the future health, integrity and vitality of the Kalamazoo River watershed, its citizens and communities...."

Kanoe the Kazoo organizers will evaluate this year's event to determine if it helps increase awareness and

interest among participants and, most importantly, participation in phosphorus reduction efforts and educational programs.

"We hope we're generating some enthusiasm and knowledge and people will go home and think about doing things differently," DeLong said. "We hope we're opening up some people's minds."

To learn more about Kanoe the Kazoo and other Kalamazoo River/Lake Allegan TMDL Committee efforts, visit www.kalamazooriver.net.

Potted Bulbs

others should be transferred to a cool, bright room (temperatures in the 50- to 60-degree range) and watered regularly. Flower buds will appear 3 to 4 weeks after the end of the cold treatment.

Bulbs planted around Oct. 1 should flower in late January; those planted in mid-October should bloom in February, and bulbs planted in mid-November should bloom in March or April. Flower buds that fail to open are usually a sign that the growing medium dried out.



The location pictured in this month's banner of the Master Gardener Communicator is the City of Kalamazoo's Bronson Park.

Peonies

ery seven to 10 days to help the plants get established before winter. After the ground freezes, mulch the planting site with a couple of inches of straw or peat moss and a layer of evergreen boughs. (This is a good use for a cut Christmas tree after the holiday.) The mulch protects the plant crown against frost heaving, the alternate freezing and thawing of the soil, which can push plants right up out of the ground.

Properly planted large divisions or new plants in a good site may bloom the next spring after planting. After that, they may produce large, high quality blossoms for 10 or 15 years before crowding starts to reduce flower size.

Ash Borer

geographic conditions and other information, these counties, along with Lapeer and Shiawassee, will be added to the quarantine.

EAB has also been detected in small pockets of areas in Eaton, Kent and Saginaw counties. Based on the best information available to date, these sites will be treated and managed as isolated infestations that can be eradicated, unless further survey results determine that the borer is more widespread.

The quarantine is a critical component of the state's overall EAB eradication efforts. Residents' compliance with the quarantine is integral to the success of the eradication plan and protecting the state's 700 million ash trees. Anyone who thinks they have inadvertently moved ash materials or firewood out of the new, ex-

panded quarantined area, or who suspects an ash tree is infested that is outside of the quarantine, should report it immediately via the state's toll-free EAB hotline at 866/325-0023.

Michigan has an active Emerald Ash Borer Task Force working to control and eradicate this new exotic pest and minimize its damage. Members include the Michigan Departments of Agriculture and Natural Resources, Michigan State University, and the U.S. Department of Agriculture's Animal and Plant Health Inspection Service and Forest Service, in cooperation with local units of government and various industry groups, associations, and universities.

For more information, including a copy of the revised quarantine order and map, visit www.michigan.gov/mda and click on "Emerald Ash Borer" in the Spotlight section. Other EAB information may be found by visiting www.emeraldashborer.info

This September 2003, Continuing Education Test is one of a series of CE tests presented by the *Communicator*. Each test, when completed and passed, will provide one hour of MSU-sponsored horticultural training credit. A passing grade is 80% correct. Please submit your test to: Attn: Master Gardener Program MSU Extension - Kalamazoo County, 201 W. Kalamazoo Ave., Room 302 Kalamazoo, MI 49007. This quiz can be used by Master Gardeners who took the Master Gardener Class before 2002.

1. Yes or No. You need a permit from the Michigan Department of Agriculture to grow currants and gooseberries in Kalamazoo County.
2. A maple tree is in the middle of a parking lot. There is a small area below that is not asphalt or concrete. This area measures 4' X 6' and is mulched with pine bark mulch. The leaves of the maple are brown on the outermost part of the leaf, called the leaf margin. The tree was planted 3 years ago, balled and burlaped. The person that owns the place of business tells you that they watered for the first year. What is happening with the tree and why?
3. What is the proper way to prune a large branch off of a tree?
 - a. Cut the branch off by cutting once into the branch, while staying away from the collar of the tree
 - b. Undercut some distance away from the trunk of the tree, then do another cut beyond the undercut.
 - c. Undercut some distance away from the trunk of the tree, then do another cut beyond the undercut. To finish the pruning of the branch, cut close but not into the collar of the tree.
 - d. Same as c, but use pruning sealant.
4. Blossom end rot of tomato is caused by:
 - a. Herbicide damage
 - b. Botrytis
 - c. Potato leafhopper
 - d. Calcium deficiency
5. True or false. After planting a tree in your landscape, it is advisable to remove 1/3 of the top of the plant. This is to enhance root development and to decrease moisture loss.
6. When trying to diagnose a problem with a plant, over the phone, the first thing that should be done is to:
 - a. Tell them what to do
 - b. Ask them to describe the abnormality
 - c. Ask them to correctly identify the host plant
 - d. Tell them 10 things that are commonly problems on their plant
7. Someone calls the hotline during August. They are having problems with woodchucks. The person asks what they can use as bait for the live trap. You tell them:
 - a. "Use raisins covered in peanut butter- works every time!"
 - b. "Baits do not work this time of year- do baits in traps in early spring."
 - c. "Put a tuna can filled with stale beer inside, they are attracted to the smell."
 - d. "Wire a container to the bottom of the trap and fill with salsa."
8. In reading this issue of the Communicator, how many counties are now quarantined for Emerald Ash Borer?
9. When talking about plant respiration, we are talking about:
 - a. When a plant uses water and carbon dioxide
 - b. When a plant uses sugars and starches and converts them to energy
 - c. Photosynthesis
 - d. The plant is breathing
10. True or false. Another name for Veronica is Speedwell.