The Garden Gate Newsletter

February–March, 2005

Advanced Training

February 2 1:30–3:30 PM

George Longest is the author of the book *Genius in the Garden*, which tells the story of the famous landscape designer Charles F. Gillette and historical landscape architecture in Virginia.

February 9 1:30–3:30 PM

Richard Nunnally will discuss and answer the ten questions he is most frequently asked and the five questions he wishes someone would ask.

February 16 1:30–3:30 PM

Peter Girardi, Arborist for the City of Richmond answers your questions on care, maintenance, establishment and treatment of urban trees.

February 23 1:30–3:30 PM

A volunteer with the Bay Foundation and Hanover Master Gardeners, **Willie Mills**, discusses Bay friendly landscaping, riparian buffers, and shoreline restoration to protect water quality.

March 2 1:30–3:30 PM

Former State Plant Pathologist, **Mike Likins** discusses plant diseases in the news such as Sudden Oak Death.

March 9 1:30–3:30 PM

Newport News Extension Agent **Dr. Bill Dimock** will discuss the A, B, Cs of indoor pests.

March 16 1:30–3:30 PM **Field Trip**

Meet at **Strange's** Short Pump location to learn about what's hot and new in the nursery business. Don't miss this opportunity to see plants up close.

March 23 1:30–3:30 PM

The Secret Life of Bees with our own MG and beekeeper **Tom Fifer**. Tom will bring live bees if the weather permits.

March 30 1:30–3:30 PM

SMART Lawn training with **Karen Carter** and **Stephanie Feaser.**

President's Message

The Purpose of the Master Gardener Association, as I have mentioned on many occasions, is education—Horticulture and Sustainable Landscape Management education opportunities within the Association and for the general public through the implementation of the VCE work plan.

David Close, the recently appointed VCE State Master Gardener Coordinator has written an article in the Fall issue of the Virginia Master Gardener Leadership Development Newsletter, *What is the Master Gardener Association?* The article is reprinted on page 3 of this newsletter with his ideas on this subject. Give it a read, it is interesting and informative.

Our Continuous Education program for re-certification begins in February. There are excellent topics and speakers to choose from. Even if you attended the CVNLA Short Course I am sure you will find these classes will be of interest and I urge you to attend as many as you can. To continue to have good presenters we need to have a good audience.

Jack

WOW! One Hundred Hours or More!

Thanks to these volunteers who contributed over 100 hours of service in 2004!:

Peggy Lowry - 243
Judy Burton - 231
Joyce Brannon - 203
Cynthia Seal - 185
Chuck Bingley - 164
Jackie Dean - 132
Betty Gillelan - 114
Jack Kelzer - 111
Lou Weisbecker - 109

Cheese Corn Chowder

This is good on a cold night served with a meat sandwich and/or a salad.

Brown 6 or 7 strips of bacon. Drain and set aside. Into the drippings saute' 3 cups of finely diced onion until soft. Add 1/4 cup flour, a little salt and pepper and 1/4 tsp. tumerick (opt). Cook a few minutes until thickened. Add:

6 cups chicken stock
3 cups cubed potatoes

Cook for fifteen minutes
Add:
5-6 cups corn (shoepeg is good)
Cook five more minutes and add:
1 cup half and half or cream
½ lb shredded sharp Cheddar
Turn off heat and stir until cheese is melted. Garnish with bacon. Can be frozen but the potatoes will be a little mushy.

-Peggy Lowry

What is the Master Gardener Association?

David Close, VCE State Master Gardener Coordinator

Lately this seems to be a frequent and widespread question. At the root of the question lies the issue: what is the difference between being a VCE MG volunteer and a member of a local MG association? I submit that they each play a vital role in VCE MG volunteers fulfilling their mission of taking horticulture to the citizens of Virginia through an educational process. As a volunteer of VCE, you are committed to fulfilling the mission of Extension that can be paraphrased as the process of enabling people to better their lives through an educational process that is rooted in cutting edge science. This mission is accomplished by VCE MG volunteers when you assist your local VCE staff to develop, deliver, and evaluate local horticulture programming that addresses the objectives of sustainable landscape management.

Many of you also belong to a local MG association which is highly encouraged but not necessary to function as a viable VCE MG volunteer. Local associations play a key role in providing opportunities for fellowship, communication, fundraising, and education for VCE Master Gardeners. These association functions complement the work you do as a VCE volunteer. Communication and fellowship are vital components to building and strengthening relationships within any organization. Educational opportunities within a local MG association promote continued and advanced learning for the VCE MG volunteer. This enables you to more effectively deliver programs to the public that are timely and relevant to identified community needs. These educational opportunities provided b the association members are for the benefit of the association members and VCE MG volunteers in general but not necessarily the general public. VCE should be the primary venue to deliver educational programs for the general public unless extenuating circumstances prove otherwise. Additionally, Master Gardener associations can provide opportunities for events that may not be appropriate as VCE functions.

So why address this issue? As I've begun to learn more about the local VCE MG units and the volunteers that serve one, many people have raised the question about MG associations. It is apparent that the lines have become blurry between being a VCE MG and a member of a local MG association. Each component of being a certified MG in Virginia has its place, but it is important that we understand the distinct roles and purposes of each as we work to serve the people of Virginia. It is vitally important to keep in mind that it is not necessary to be a member of a local MG association in order to be an active VCE MG volunteer. For information about the Virginia Master Gardener Association (VMGA) visit www.vmga.net. ☼

Evergreens *By Debbie Wilson*

Variety is the spice of life and a key to good landscape planning. Including evergreens within your landscape plan adds interest, especially during the winter. The temperatures may not have been wintry yet, but a quick look outside tells a different story. Winter is here and it is the evergreens that add so much interest to our gardens.

A dictionary definition of "evergreens" is simply "having green leaves throughout the year." Evergreens are easy to recognize, especially this time of year. Any groundcover, bush or tree with green leaves would be called evergreen. Virginia's climate provides conditions that promote cyclical growth patterns: leafing out in early spring, manufacturing of food begins, summer brings growth and food production continues with some being stored, autumn causes the loss of leaves and the beginning of essentially dormant conditions, and thus another year begins. Deciduous trees and shrubs lose their leaves seasonally. Evergreen plants also shed their leaves, but much less conspicuously, dropping them sporadically throughout the year. One of the perils of year round leaf retention is the continued exposure of leaf surface, which allows water evaporation from the surface. This makes it more difficult for plants to draw enough water through their roots, especially in colder climates where the ground might be frozen and covered with ice. Evergreens, therefore, are found more readily in temperate and tropical climates.

Temperate-region plants must cope with extremes in climate through the year. To survive, they have evolved a great array of adaptations. Evergreen plants produce a resinous sap, a sort of botanical antifreeze, so their leaves survive winter without freezing, and are ready to begin photosynthesis as soon as the ground thaws and water becomes available. Evergreen, a word merely meaning that the foliage remains on the plant in its green condition throughout the entire year, describes a wide array of plants. Evergreens are further divided into narrow-leaved and broad-leaved species.

Narrow-leaved evergreens are considered to be many of the coniferous species (*Abies, Picea, Pinus, Tsuga,* etc.). These narrow-leaved evergreens differ greatly in form from most deciduous plants, many of the trees being strikingly pyramidal in habit. And, all conifers are not evergreen. *Larix, Pseudolarix and Metasequois* are conifers but they are deciduous.

The broad-leaved evergreens include such groups as *Kalmia, Mahonia, Buxus* species and many *Rhododendron, Ilex, Pieris* species. The further south one goes, the more of these are hardy and available for ornamental plantings. Some like *Abelia grandiflora* and *Lonicera fragrantissima*, will be evergreen in the South but deciduous in the North. With selections limited, evergreens become a most important group of plants in northern gardens because they are effective every day of the year. North of the Mason and Dixon Line in the

East there are few broad-leaved evergreen trees except *Ilex opaca, I. Pedunculosa,* and possibly *Magnolia grandiflora* where it is hardy.

Low and dwarf evergreens can be an integral part of landscape design, especially for foliage and form display during the dreary winter months when all leaves are off the deciduous plants and garden perennials, and annuals have been cut off at the ground for the winter. Useful and familiar choices abound. *Aucuba japonica* , commonly called Japanese Aucuba, is hardy through zone 7. The many Barberry plants like even colder climates, some hardy through zone 5. *Chamaecyparis* , a very hardy plant, looks like a cypress. Cotoneaster, Cryptomeria, Japanese holly, Juniper, and the ever abundant Azalea and Rhododendron choices are found well established in the central region of Virginia.

Some of particular interest and note include *Daphne x burkwoodii* 'Carol Mackie' and *Camellia japonica*, both noted as especially good for Mid-Atlantic use. Both bloom in late winter/early spring (the Daphne producing a heavenly fragrance too!) adding even more interest to the winter landscape. Japanese Andromeda (*Pieris japonica)* keeps its glossy leaves through the winter and offers the added interest of seasonal color with an early blooming period, February to April. Just a few more recommended for the Mid-Atlantic region: Winterberry (*Ilex verticillata*), Sparkleberry, Mountain Laurel (*Kalmia latifolia*), Nandina (*Nandina domestica*), Oregon Grape Holly (*Mahonia aquifolium*) and Cotoneaster (*Cotoneaster horizontalis*).☼

Important!

If you still have time sheets for hours worked for 2004, please get them to Joyce Brannon as soon as possible. This can be by e-mail: j.brannon@erols.com, regular mail to 2709 Tanager Road, Richmond, VA 23228, or leave them at the Extension Office. It is very important to include project #, travel time, and number of contacts.

Karen Carter reports contacts to the state to show how many people we have helped each year.

Thanks to all of you. Joyce Brannon ☼

Ukrop's Golden Gifts

Ukrop's will begin their Golden Gifts program again starting Jan. 31. Certificates will be mailed in May. Keep our association in mind and keep shopping! Last year we received $108! ☼

A Little Bit about…Interplant Communications

By Peggy Lowry

Over millions of years plants have developed ways of defending themselves. We are all familiar with the physical barriers that plants have such as thorns, hairy surfaces, tough "skins" and sharp edges. We presume that plants are helpless benign organisms, but we are learning that they can defend themselves, send out signals to other plants and organisms; and some are killers themselves.

There are basically two classes of plant defense other than physical barriers. The direct defense involves plants producing certain chemicals when attacked to make themselves unpalatable or harmful to attacking insects. Some of these volatile signaling compounds make a chewing insect sick and stop eating. This is usually not instant, however.

In many plant species a hormone is emitted when the plants are attacked only by insects and not when other types of damage occur–pruning shears for example. What is it about insect feeding that triggers the release of that hormone or chemical? Scientists suspect that it is some compound in the insect "saliva" important in digestion. Somehow plants can sense the difference between a leaf being torn by a passing animal, the wind, or a chewing insect.

In a secondary defense, plants also emit chemicals that attract predatory or parasitic insects to help them. When attacked, a plant issues a signal to the herbivores that they have been "discovered." Moths will avoid laying eggs on plants giving off these signals to avoid competition for their offspring or on a plant that is attracting predators. Ian Baldwin, founding director of the Max Planck Institute for Chemical Ecology in Jena, Germany, says, "We're beginning to recognize that volatile signals emitted by plants have multiple functions." In his recent experiment, he found that the coyote tobacco plants emitted compounds that attracted insects to eat the herbivores' eggs and emitted other substances that prevented egg laying by other herbivores. Scientists have discovered that cotton and corn have a defense against hungry caterpillars – corn earworms, beet armyworms, tobacco budworms and the like. The chewing of the caterpillar signals the plant to produce chemical compounds that attract parasitic wasps that lay eggs inside the worm.

Scientists have been experimenting for years with different signals sent out by some plants to others. Studies have found that signals from wounded trees, for example, are sent out to nearby trees– some signals by air and some by roots. Nearby plants then begin to produce chemicals. The variety of chemical messages make the study quite complicated. Signaling chemicals include messages not only to the same species but also to other species as well.

There are other interplant messages that are not so friendly. When a branch of sagebrush was placed in a box with a tomato plant, the sagebrush emitted a chemical which controls plant growth. The scientist interpreted this to mean that sagebrush produces and releases methyl jasmonite to stop other plants from growing underneath or among the branches of the sagebrush. Clarence Ryan, Jr. At Washington State University describes this experiment "the first real documentation of interplant communication." Jennifer Thaler at the University of California sprayed tomato plants with jasmonic acid and found that wasps killed twice as many caterpillars on the treated plants as on those that were not treated.

Lately, in various magazines, articles have appeared describing the spotted knapweed as an invader plant in the American West. Despite its attractive bloom, its roots secrete a chemical that kills

other plants. Colorado State University scientists isolated the plant's killer chemical and applied it to the roots of other plants. This set off a wave of cell death causing the plants to die.

Attractants for beneficial insects are also in the works. One of them is called Soldier Bug Attractor which lures a stinkbug that attracts hornworms, cabbage loopers, Mexican bean beetles, potato beetles and other garden pets. Chemical ecology and insect-plant signaling is a puzzle that is just beginning to be solved. Some plants emit smaller amounts of volitides than others. Selecting cultivars that produce large amounts for study is one way to provide strategy of combating pests. Genes from plants that are successful in defending themselves could perhaps be transferred to those which are not. In the *Virginia Gardener* it was pointed out that some plants don't mobilize their defenses quickly enough to be effective. The response called "systemic acquired resistance" or SAR has been known for years, and studies are being made to see how this can be "jump-started" in slow to respond plants.

Paul Pare' of Texas Tech says "Chemical ecology and the study of plant-insect interactions constitute an exciting and rather new world. Six or seven years ago, there really wasn't much interest; but in the last few years, it is just exploding." Advances in chemistry and biology have made this field more active.

Marcel Dicke, a professor at Wageningen University in the Netherlands, has been studying insect-plant interactions since the 1980's. He says, "We know that plants can perceive many chemicals from the environment, that they can respond to many environmental cues. I wouldn't be surprised if plants were able to eavesdrop on their neighbors and respond to their cries for help. We simply need to find out how."☼

2004 Helpline Phone Analysis

2004 Intern, Lucy Hottle, took on a special project this past year. She set up a data base to analyze the Master Gardener Phone Log Data. Here is a summary of the data.

January 5–September 13, 2004 was the period available.1605 contacts (39 unreadable)
Peak months were May and June; April–September received over 200 calls per month.
Peak days were Mondays and Tuesdays; Fridays had the least calls.
Peak call time was around 10 AM
The fewest calls were received between 8-9 AM. and 3:30-4:30 PM
Most calls were tree-related, then insect/pest-related, then shrub-related.

Main Topics by Month: Note: 2004 was an unusually wet year

March	pruning, planting, bugs and critters, lawn prep/weeds, veggie planting
April	planting, bugs and critters, lawn prep/weeds
May	photinia and oak problems, veggies, bugs and critters, weeds
June	oak problems, veggies, bugs & critters, poison ivy, mulch
July	oaks, veggies, bugs & critters, weeds
August	oaks, apples, dogwoods, maples, veggies, bugs, lawn
September	lawns, planting, bugs & critters

Pruning: crepe myrtle questions ruled.
Veggies: mostly tomato questions.
Bugs and Critters: includes household pests, ants, bees, termites, spiders, stinging insects, caterpillars, ticks and mosquitoes, moles and voles—millipede questions ruled in 2004.
Oak problems; mostly anthracnose, button gall and wet wood in 2004.
Tree and Shrub problems, fungal spots and root rot.

Henrico Master Gardeners Association
P.O. Box 27032
Richmond, VA 23273-7032

Note the change in time!

Master Gardener Reminders

Board Meetings
February 2, 12:15PM
March 2, 12:15PM

Association Meetings
February 9, 1:30PM
March 9, 1:30PM

Please e-mail your contribution to the newsletter
By **March 20** to
Jody Taggart j.taggart@worldnet.att.net