

Successful Gardener

NC STATE UNIVERSITY NORTH CAROLINA COOPERATIVE EXTENSION

Helping Carolinians Increase Their Knowledge of Gardening, Manage Their Landscape Investment & Protect the Environment

JC Raulston Arboretum Plant Focus

Pulmonarias Natural Choice for Shade Gardens

Pulmonarias, commonly referred to as lungworts, are quite charming and provide beautiful flowers in the early spring as well as year-round interest with their attractive foliage. Their unusual foliage and flower combinations provide a natural choice for brightening up shade or woodland gardens. The basic green foliage is often edged or speckled with lime green spots or white leaf margins. Add to that a brick-red blossom or a flower that can open out with pink blooms that deepen to a blue and you will have quite a conversation piece in your garden. Cultivars with brick-red blossoms include 'David Ward' or 'Redstart'. For pink blooms that deepen to blue, look for 'Roy Davidson'. The blooming period is from April through June.

In their native environments, the lungworts grow in a wide range of soils from acid to alkaline, dry to wet, sunny to shady, along streams and in mountains. The cultivated varieties need rich, moist, well-drained soil. They grow best with bright shade and some morning sun. Don't forget to water them often during dry, hot summers to keep foliage looking fresh. You can mow them off during these periods and new growth will form as the summer cools down. Divide every three to five years and mulch in the fall to protect plants over winter. Spray with a fungicide if you wish to control powdery mildew.

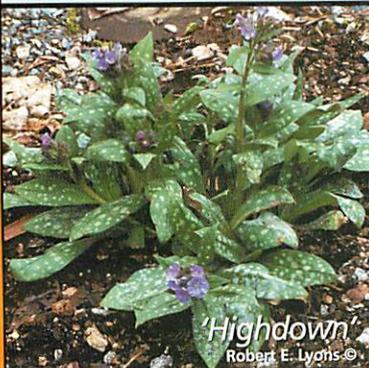
Twelve pulmonaria species make great groundcovers when grown under ideal conditions. Look for *P. saccharata*, *P. longifolia* or *P. rubra*. Pulmonarias are attractive mixed with ferns, azaleas, rhododendrons, hostas and astilbes or even oak trees and large shrubs.

The JC Raulston Arboretum has kept most of its pulmonaria collection under the shade protection of the lath house that is currently under renovation. This area lessens the harsh impact of Raleigh's summer sun and heat, enabling visitors to get a good look at these useful herbaceous perennials for shade.

David Barkley



'Excalibur'
Robert E. Lyons ©



'Highdown'
Robert E. Lyons ©



'David Ward'
Robert E. Lyons ©



'Mrs. Moon'
Robert E. Lyons ©

Inside

2 Horticultural Expertise Helps Industry

3 Enviro-Tip

4 Garden Spot

TOP AWARDS RECEIVED FROM:

- Garden Writers Association
- International Association of Business Communicators
- National Association of County Agricultural Agents
- Southern Extension Forest Resource Specialists
- N.C. Association of County Agricultural Agents
- Mecklenburg County Priority Awards



Communication Services

Food safety training results in safer food for you.



Becky Kirkland

Researchers and Extension specialists help the state's wine grape industry.



Sheri Thomas

Extension's Master Gardeners answer your gardening questions.

Horticultural Expertise Helps Growing Industry Benefit All North Carolinians

In cities and towns across North Carolina, horticulture enriches everyday life, helps keep food safe to eat, protects the environment, drives the economy.

For instance, residents of Durham County's Good Samaritan Inn, a shelter for homeless women, children and families, will have a beautiful garden to enjoy, thanks in part to design services provided by a landscape horticulture class from North Carolina State University. Students learn; a community finds a connection to nature.

In Mecklenburg County, Extension's Master Gardener volunteers answer thousands of phone questions about horticulture, teach citizens about good environmental gardening methods and work with seniors and children on community gardening projects. Their volunteer hours are valued at more than \$275,000 each year, and the value they deliver on safe, environmentally sound practices for personal property and community enhancement is priceless.

On a large farm in the central part of the state, researchers and Extension agents train growers and food handlers how to reduce the risk of microbial contamination of the produce they are harvesting. Consumers benefit from a safe, bountiful food supply.

Examples such as these are a few of the hundreds of instances in which the Department of Horticultural Science at NC State University and North Carolina Cooperative Extension reach out to the 8 million people across the state.

Consider the area of horticultural research. Horticultural research and Cooperative Extension programs encompass work on edibles, such as

apples, blackberries, blueberries, cucumbers, grapes, herbs, medicinal plants, melons, peaches, potatoes, strawberries, sweet potatoes and tomatoes. The work doesn't end there. Research also targets bedding plants, cut flowers, ornamental trees and shrubs, Christmas trees, horticultural landscape designs, organic farming systems, greenhouse production systems, plant breeding, pest and weed management, soil fertility, water management and basic research into molecular biology and biotechnology.

Over the past two decades North Carolina's urban and suburban growth has shot skyward. The demand from new horticultural industries for science-based leadership and training has increased dramatically as these industries try to keep up with the growth-driven desire of new customers for ornamental plants, high-quality landscapes and consumer horticulture information. These demands are supported by an increasing number of nursery and floriculture industries, retail garden centers, design-and-build landscape firms, and lawn-and-garden maintenance services. The ornamental nursery industry alone is one of the most rapidly growing business sectors in North Carolina, with nearly \$1 billion in farmgate value per year.

Although the rapid growth of these new industries poses a challenge to the Department of Horticultural Science at NC State, we are confident we can meet it. As one of the top horticultural departments in the nation, NC State's department boasts strengths in these areas:

see Growing Industry on page 3 ▶

Protect Trees During Construction

Trees are an investment that need special consideration while construction is going on around them. The first step to protecting trees is to determine whether the tree is worth saving. Choosing a quality middle-age tree to keep makes more sense than keeping an old tree that already has one foot in the grave. It never makes sense to protect a tree that is already dangerous. Trees are usually cheaper to take down before construction begins.

Once you know which trees need protecting, construct a barrier to protect the root system. The barrier should be roughly one foot from the tree for every inch in diameter of the tree trunk. To determine this, measure the diameter 4 feet off the ground. The maximum distance you need to go is 22 feet, even if the trunk is larger than 22 inches. Protect the barrier by having all contractors sign a legal docu-



Robert E. Lyons ©

ment with penalties for encroachment. Utilities cutting bypass trenches should also stay out of this root zone. Most utilities can be run someplace else. The rest can be bored or tunneled under the root zone to avoid root damage. Adding soil or paving within the root zone may be possible. Check with a professional to determine aeration and irrigation needs. Avoid using soil sterilants when paving near the root zone. Piers or posts can be placed inside the root zone if the holes are hand dug so no major roots are damaged. If pruning the tree canopy is necessary, it should be done by certified arborists, not by construction workers. **David Goforth**

ment with penalties for encroachment.

Utilities cutting bypass trenches should also stay out of this root zone. Most utilities can be run someplace else. The rest can be bored or tunneled under the root zone to avoid root damage. Adding soil or paving

Q&A

Is it possible to eradicate Bermuda grass from my tall fescue lawn without having to start over completely with my lawn?

The answer is a qualified yes. Bermuda grass can be a difficult weed to control even when using herbicides containing glyphosate (Roundup Pro, Touchdown Pro). These nonselective herbicides are generally considered to be the most effective in controlling Bermuda grass but may require as many as three applications before control is achieved under ideal circumstances. Even if control is achieved, there is a risk the Bermuda grass may reestablish from seed or creep back in from neighboring properties. Also, since these herbicides are nonselective, these products kill the desirable turf necessitating replanting of the treated areas.

Selectively removing the Bermuda grass is even more difficult and multiple years of

repeated treatments will likely be necessary before you can achieve reasonable control. Current research indicates that repeated applications of fenoxaprop (Acclaim Extra) at four-week intervals throughout the summer provide the best results. Monitor the treated grass the following summer and, in the likely chance that it recovers and comes back, resume the above treatments.

As you might expect, multiple applications of the above herbicides can become expensive. Many home gardeners have adopted the old adage, "if you can't lick 'em, join 'em." When grown properly, Bermuda grass can provide excellent turf and is utilized at most golf courses east of the North Carolina mountains. **Fred Miller**

ENVIRO- TIP

Beware of Homemade Remedies

Environmental and health concerns have many gardeners resorting to homemade pest controls as an alternative to chemical pest controls. Often, home gardeners think the use of household items and remedies are a safe and inexpensive method to control insects and diseases. Homemade pesticides and other concoctions made from household products such as mouthwash, ammonia, medicines, alcohol and detergents are often dangerous to both humans and the environment.

Use of homemade remedies for pest control is untested and based on little or no scientific evidence. Most of the homemade potions are actually more dangerous than the pesticides. For example, chewing tobacco is often recommended for insect control. Tobacco contains nicotine, which is a lethal substance and can be more dangerous than pesticides you buy at the store. Homemade concoctions kill many insects both good and bad.

Killing good insects is not healthy for the environment.

Home garden remedies are often mixed in bottles and cans usually used for food. This is a very dangerous and illegal practice especially with the presence of small children. Accidental poisoning is a leading killer of small children.

Pesticides go through years of testing before being released to the general public. Manufacturers spend millions of dollars to closely monitor hazards to humans and the environment. Homemade remedies using soaps, cleaning supplies and medicines have no place in garden. These agents easily pollute.

Many gardeners use alternatives to pesticides such as horticultural soaps and oils and biological controls such as *Bacillus thuringiensis*. Research shows these to be effective methods, unlike the homemade remedies.

Darrell Blackwelder

Growing Industry

continued from page 2

- Teaching, research and Cooperative Extension programs. This is carried out in the classroom, in counties, at six research stations and the internationally renowned JC Raulston Arboretum.
- The department's community outreach programs embrace commodity associations, Cooperative Extension agents, 4-H clubs, Extension's Master Gardeners and other professional and community groups.
- 3,000 Master Gardeners, a program administered through the Department of Horticultural Science, serve as volunteers of Cooperative Extension and provide high-quality information and educational programs on horticulture and environmental issues to the gardening public.
- All over the world, people turn to the department's Web site at www.ncstate-plants.net to access more than 3,000 bulletins and fact sheets about plants.

I invite you to visit our Web site at www.cals.ncsu.edu/hort_sci for more information about our faculty, staff and activities. **Julia Kornegay**
Dr. Kornegay is Department Head and Professor, Department of Horticultural Science, NC State University.

gardentalk



"More grows in the garden than the gardener sows."

Spanish Proverb



'Fragrant Cloud'
Robert E. Lyons ©

Gardening in August

Lawns

- Treat your lawn for Japanese beetle and June bug grubs if you had problems this year. This is the best time of the year to treat for grubs.
- Fertilize warm-season lawns (Bermuda, St. Augustine, centipede, zoysia) for the last time this season.
- If you are planning to overseed your cool-season lawn (tall fescue) next month, then now is the time to take a soil sample. Soil sample kits are available at Cooperative Extension Centers and are offered through the N.C. Department of Agriculture.
- If you plan on starting completely over this fall on your cool-season lawn, now is the time to use a nonselective herbicide to kill off all the existing vegetation.

Ornamentals

- Do not fertilize or prune your trees and shrubs. New growth needs time to harden off before cold weather arrives.
 - Continue to water newly planted plants. Deep, infrequent waterings are preferred over frequent shallow waterings. Water in the early morning to cut back on the incidence of disease.
 - Divide and replant irises, peonies and daylilies.
 - Remove bagworms from evergreen plants. These bags contain eggs that will hatch next spring.
- Edibles**
 - Apply a trunk spray to control borers on peach, plum and nectarine trees.
 - Begin planning your fall vegetable garden. Plant cabbage, broccoli, lettuce and spinach.
 - Fertilize strawberry plants to help promote flower bud growth next spring.

Ben Dungan

Riverbanks

Botanical Garden in

Columbia, South Carolina, is one of the top Botanical Gardens in the Southeast. Located across from the Riverbanks Zoo on the west bank of the Saluda River, the 70-acre Botanical Garden features three distinct topographies: the flood plain valley, the valley slopes and the uplands. While the flood plain and valley slopes remain nearly untouched, the upland tract is considered the jewel of the garden.

Visitors encounter a vision unlike any other in South Carolina when they walk into the walled garden. Plants that are hardy in the area, but with a tropical feel that's particularly spectacular in the summer and fall, are featured. Shrub, seasonal color and perennial borders for every season are displayed. There are also many themed gardens.

Learn more about the Riverbanks Botanical Garden, programs or events at www.riverbanks.org or call (803) 779-8717 x 1799.

Willie Earl Wilson

Garden Spot



Extension's *Successful Gardener*SM program provides timely, research-based horticultural information. The newsletter is part of the statewide horticulture program which includes Extension's *Successful Gardener*SM Regional Seminar Series and county workshops. We publish 10 issues per year. Comments concerning *Successful Gardener*SM may be sent to:

Successful GardenerSM Editor

Department of Communication Services
Box 7603, NC State University
Raleigh, NC 27695-7603

Editor and Project Coordinator: **Leah Chester-Davis**
Extension Communication Specialist

Account Coordinator: **Rhonda Thrower**
Department of Communication Services

Assistant Editor: **Karen Neill**
Consumer Horticulture Agent, Guilford County

Compilations Editor: **Ben Dungan**
Consumer Horticulture Agent, Gaston County

Contributors:		
County	Name	Phone
Brunswick	David Barkley	(910) 253-2610
Burke	Donna Teasley	(828) 439-4460
Cabarrus	David Goforth	(704) 920-3310
Catawba	Fred Miller	(828) 465-8240
Cumberland	Emily Revels	(910) 321-6860
Davidson	Amy-Lynn Albertson	(336) 242-2091
Durham	Paul McKenzie	(919) 560-0525
Forsyth	Toby Bost	(336) 767-8213
	J. Stephen Greer	(336) 767-8213
Gaston	Ben Dungan	(704) 922-0777
Guilford	Karen Neill	(336) 375-1111
Henderson	Diane Ashburn	(828) 697-4897
Iredell	Donald Breedlove	(704) 873-0507
Lincoln	Kevin Starr	(704) 736-8452
Mecklenburg	Jim Monroe	(704) 336-2561
Nash	Mike Wilder	(252) 459-9810
Orange	Royce Hardin	(919) 245-2050
Randolph	Mark Daniele	(336) 318-6005
Rowan	Darrell Blackvelder	(704) 633-0571
Union	Willie Earl Wilson	(704) 283-3741
Wake	Carl Matyac	(919) 250-1100

All Agents of N.C. Cooperative Extension

Ask for Extension's *Successful Gardener*SM newsletter at one of your local garden centers each month or order a subscription at www.successfulgardener.org!

For a list of garden centers where you can find *Successful Gardener*SM, please call (704) 336-2561 or visit Cooperative Extension on the web at <http://www.successfulgardener.org>

Disclaimer: The use of brand names does not imply endorsement by N.C. Cooperative Extension nor discrimination against similar products or services not mentioned.

Distributed in furtherance of the acts of Congress of May 8 and June 30, 1914. North Carolina State University and North Carolina A&T State University commit themselves to positive action to secure equal opportunity regardless of race, color, creed, national origin, religion, sex, age, or disability. In addition, the two Universities welcome all persons without regard to sexual orientation. North Carolina State University, North Carolina A&T State University, U.S. Department of Agriculture and local governments cooperating. Vol. 6, No. 6

*Successful Gardener*SM may not be reproduced without written permission. Any news media using sections of the newsletter should credit "Cooperative Extension's *Successful Gardener*SM."



Printed on recycled paper.



Visit www.ces.ncsu.edu to learn about Cooperative Extension in your county.

Successful GardenerSM newsletter is provided to you compliments of:

