

May 2010 • Volume 51 No. 2

# Rhododendron

*You're Invited* - See insert for details

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Helen S. Layer

Rhododendron Garden

Nancy Adams Bole Gazebo

Heath Pond - Photo Ian Adams

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Great Lakes Chapter  
American Rhododendron Society

# GREAT LAKES CHAPTER

## GREAT LAKES CHAPTER AMERICAN RHODODENDRON SOCIETY

### PURPOSE

A nonprofit organization whose aim is to promote in the Great Lakes region the objectives of The American Rhododendron Society; to encourage interest in and dissemination of information about genus rhododendron including azaleas; to provide a medium through which all persons interested may communicate and operate with others of like interest through educational and scientific studies, meetings, publications and similar activities.

### Meetings

Meetings are held four times each year, on the third weekend of March, May August and October, unless otherwise indicated.

### Membership

Membership is open to all persons interested in the growth and culture of rhododendrons and azaleas as per the Chapter By-Laws. Those persons interested in becoming a member should contact the Membership Chairman Dr. L Gordon Walters.

### OFFICERS/BOARD MEMBERS

President	Dr. Jim Browning	412.373.8689
	<a href="mailto:Whippoorwill7@verizon.net">Whippoorwill7@verizon.net</a>	
1stV.Pres.	Chas Wagner	814.725.1584
2ndV.Pres.	Steve Krebs	440.357.5131
Secretary	Jill Griesse	740-587-3736
Treasurer	Linda Stull	814-922.-7612
Membership	Dr. L.G. Walters	724-287- 2047
GLC Newsletter	Annette Pizzino	440.248.4583
Webmaster	Linda Stull	814-922-7612
	<a href="mailto:lmsgardener@yahoo.com">lmsgardener@yahoo.com</a>	
Past President	Fred Palmer	814.371.2079

### Board of Directors

Bill Glenn	Don Whitney	6 year term
Bob Frenzel	Bert Hendley	4year term
Blanche Browning		2 year term
Margaret Corbin		2 year term

**Lending Library:** Annette & Tony Pizzino 440-248-4583  
Books: Rhododendrons, azaleas, companion plants, and other informative plant materials also available, videos, slides.

**Cover:** Nancy Adams Bole Memorial Gazebo,  
Heath Pond Helen S. Layer  
Rhododendron Garden  
Photo Ian Adams

### President's Message

**"Sweet spring, full of sweet days and roses,"  
George Herbert 1633**

Kudos and plaudits to Harold Berg who organized the March meeting. It was another in a long line of successful plants for members sales and probably the most efficiently executed yet, thanks to the efforts of Bob Staut and Steve Sohner. Alas, it will be the last such meeting run by Harold who, due to the exigencies of retirement, will no longer have the time to devote to this job since he and Bev will be spending longer winters in Florida

Distributing plants for members has always been a prime function of the GLC. In the decades of the 1970's and 80's we always had a robust auctions supplied with plants by our major nurserymen Peter Girard, Lanny Pride, Tony Shammarello, Paul Bosley, and others. In the later 80's, when we no longer had these men the auctions dwindled and we resorted, for a few years, to a plant give away scheme. In 1991 a committee was formed to acquire plants for sale to members at a "nominal price." This process was then developed by Tom Ring, held in the Bellaire, Ohio/Wheeling, W. Va. area and much improved by bringing in Bob and Steve with their computer program. Harold took over the program in 2007. Plans for the March 2011 meeting are currently open but I'm sure with the resources of the GLC we will continue with our plants for members mission.

We celebrate Spring and the glory of our Rhododendron gardens with the GLC's 50<sup>th</sup> anniversary truss show at the Holden Arboretum Sat. May 22<sup>nd</sup> and at the David G. Leach Research Station on Sunday the 23<sup>rd</sup>. I encourage everyone to bring trusses of your favorite rhododendron and azaleas blooming at that time. One can also hold early blooms in their refrigerator and force later bloomers. This is our opportunity to show the public the wide range of the blooms that grow in our chapter area. We want our truss show to bear favorable comparison to the blooming rhododendrons of Holden's Helen S. Layer Garden and the David G. Leach Research Station...I look forward to seeing all of you there.

Respectfully submitted,  
Jim Browning



# "Bits by Bev" Great Lakes Chapter March 27th, 2010

## Bits by Bev

Is there anything better than "March Madness" ?? The Great Lakes Chapter might not be shooting baskets, but our "March Madness" is hoping to get that certain plant we desire. May I share with you the organization within our Chapter's plant sale.

This in my opinion, has to be one of the most desirable ways of conducting a plant sale. Members are given a numbered card, when the plant of their choice comes up – the member holds his card up- meaning he would like to buy the plant. If said plant has more buyers than plants, a computer will randomly pick the numbers. At the end of the plant sale each member presents their numbered card to the member at the computer. Their purchase, and total cost are given to them in a print out. They pay the treasurer and proceed to pick up their plants. Case closed.

Total number of plants sold on March 27<sup>th</sup>, 2010, was three hundred seventy eight. Plants were brought to the meeting by Harold Berg, Floyd Moore and Ray Walylko. Thanks go to everyone who helped with the plants.

This will be my last Plants Sale, "Bits" describing our yearly plant sale. My winter vacation will be extended into the month of April. THANKS FOR THE MEMORIES.

Dinner: Dino's Banquet Center, Willoughby, Ohio, it has to be one of the best family style dinners.

By popular demand the evening speaker was, Tony Reznicek, Curator of Vascular Plants, University of Michigan herbarium, his topic: Plant Systematics-"How plants get their names (and changed)" Where do I start, I no doubt would have failed his course without taping his lectures. His presentation was very informative. All cultures had names for their plants, but it was the medieval monks in the 1400's that first collected and named plants all

being in Latin. All the books were in Latin until the early 1900's. In the 1700's Carolus Linnaeus, a Swedish Botanist designated his system of classifying plants and animals using a double name. The first naming the genus – the second the species. The Swedish Museum in Stockholm has a collection of his work. He spoke on Phylogeny, it's the history or evolutionary development of any plant or animal species. Along the way DNA was discovered, the future of plant and animal study will go on forever. Again what's in your DNA, trust me you would be shocked!! What are Monocots and Dicots? Check it out

See you at the 50<sup>th</sup> anniversary of our great Chapter.

Our Best wishes for a speedy recovery go out to Gordon Emerson and Sam Dean who have been ill.

*The Great Lakes Chapter sincerely Thanks Harold and Bev Berg for their long and excellent service to the Chapter as plants- for- sale- coordinator, and Bev's interesting and fun to read "Bits"*

### Holden Highlights

**The timing may just be right**, for viewing the rare and seldom seen, "Lakeside Daisy," (*Hymenoxys acaulis* var. *glabra*) growing in the rockery area of the Myrtle S. Holden Wildflower Garden. Native to only two places on Earth: the hot, sunny stone quarries of northwest Ohio, and southern Ontario Canada. The Lakeside Daisy's native habitat contributes to its demise-- as stone is quarried, these beautiful, very rare daisies are destroyed. A Mid West Federally endangered plant, it has its own endowment to ensure survival. Photo Ian Adams



# Secretary's Notes, Great Lakes Chapter Meeting, March 27th, 2010

In attendance: Steve Krebs, Chas Wagner, Bill Glenn, Bert Hendley, Annette Pizzino, Jim Browning, Margaret Corbin, Linda Stull, Don Whitney, Jill Griesse

Called to order at 10:00 a.m. by President Jim Browning.

Most of the discussion centered around our 50<sup>th</sup> Anniversary meeting and truss show.

-We need volunteers for the hospitality table. Annette will sign up people for one hour segments.

-Need name tags made for each visitor. (entry gratis)

-We have handouts – Bert Hendley will print them.

-Jim Browning has gotten new award signs made.

-Jim Webster has made wood wedges for the vases.

**Please bring any/all entries.**

-Chas Wagner will head the photo show.

Wing Fong, (ARS Program Library) will attend. (NJ)

-Steve will print some of the submitted "rhodie people," pictures for a wall display.

-Steve Krebs will also order dinner plants.

-Next newsletter to be all in color.

Motion to underwrite dinner in excess of \$25.00.

Discussion centered around the fact that we are much more likely to have attendees at that price.

Motion by Bert Hendley – Second by Chas Wagner

Unanimous

-There will be an invitation in the next newsletter, but separate invitations will be also sent.

Motion by Bert Hendley – Second by Chas Wagner

Unanimous

-There will be a display of our silver trophies

-Steve Krebs will provide a species display

-There will be guided Holden Highlights tour 10:00 a.m.

-Helen S. Layer Rhododendron Garden tour 1:30

## Other Business:

-We need a new Book Manager

-Treasurer's report as submitted – report will be on our website under Members Only Section

*"Love of Beauty is Taste  
Creation of Beauty is Art"  
Ralph Waldo Emerson*

Motion to Accept by Bert Hendley – Second by Don Whitney

Unanimous

-We need two signatures on the account

-Linda Stull and Jim Browning

-Motion by Steve Krebs to buy an updated computer for Linda Stull. Needed to maintain the ARS archives and maintain the website. Linda's computer is eight years old and does not have the capacity/speed needed. Bert Hendley will assist in the research needed.

Second by Jill Griesse

Unanimous

-We were asked to write a letter recommending Paul James for a Gold Medal/ARS. We will do—subject to Spike's approval—as he know him best.

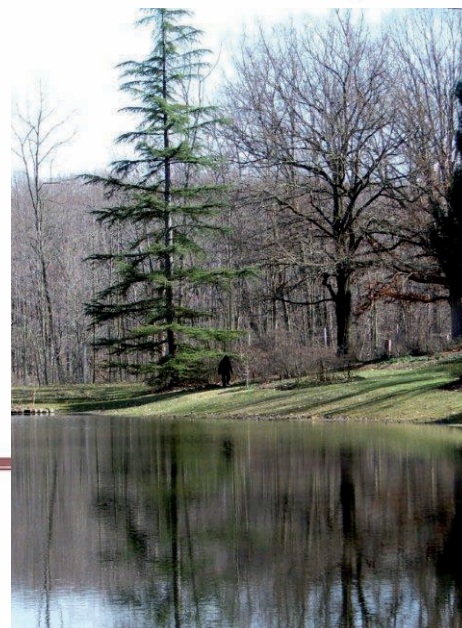
Adjourned at 11:45

Respectfully Submitted

Jill Griesse, Secretary

## Holden Highlights Tour

Rarely seen in northeastern Ohio, view the legendary Cedar of Lebanon, (*Cedrus libani*) in The Holden Arboretum's: Arlene and Arthur S. Holden Butterfly Garden and the Helen S. Layer Rhododendron Garden (photo below). Native to Lebanon, and once commercially valuable, its vast forests supplied wood to ancient Mediterranean and Middle Eastern countries. (Source of wars) Revered by the three monotheistic religions: Christians, Jews, and Muslims, its dense, rot-resistant wood is claimed to have been used in the construction of King Solomon's Temple, and the Egyptian pyramids. Majestic, picturesque, in its maturity, the Cedar of Lebanon—has been over-logged and is a virtually depleted resource. Today, Lebanon focuses on conservation, and sustainability. Refer: *A Natural History of Conifers*, Aljos Farjon



Sunday, 10:00 a.m., May 23<sup>rd</sup>, 2010

Tour  
Leach Research Station  
1890 Hubbard Road  
Madison, OH 44057



David Leach

David Leach first became enamored of rhododendrons in 1944, when visiting the collection of Dr. G. O. Clark at Newburyport, Massachusetts, USA. When he discovered that there were many hundreds of species with astounding variations, his education as a geneticist led him to recognize the extraordinary opportunities for hybridizing. He began an intensive study of rhododendrons in the United States and overseas, which eventually resulted in his book *Rhododendrons of The World*. His hybridization program started in 1946, and is now in its fifth generation. Many hundreds of thousands of seedlings yielded 81 clones, named and distributed as different and superior hybrids to those existing in commerce in very cold climates. He undertook a number of research projects, several of which are still underway. His efforts have been recognized with two honorary doctorates, six gold medals and numerous awards including the Loder Cup from the Royal horticultural Society. Work for him has been a gratifying combination of science and aesthetics – he is thankful that he was able to make his vocation a full-time occupation.

Refer, *The Book of Rhododendrons*  
Marianna Kneller page 148  
(Available to lend GLC Lending Library)

### Plant Breeding

Stephen Krebs, Ph.D is the director of Holden's David G. Leach Research Station, Krebs is a plant breeder and geneticist. His research focuses on adaptations of rhododendrons to biological and environmental stresses, such as winter freezing injury to Leaves and buds, summertime 'bleaching' of leaves (photoinhibition), and diseases caused by fungal pathogens (Phytophthora root rot) and powdery mildew.



Fig.1 New cold-hardy rhododendron cultivars that were hybridized by David G. Leach and introduced posthumously by Holden. Left: a fancy yellow-flowered creation named r. 'Holden's Solar Flair'. Right: r. 'Holden's Spring Herald' is an early blooming, large-leaved hybrid.

**Great Lakes Chapter 50th Anniversary Truss Show Saturday May 22, 2010**

**Date:** Saturday, May 22, 2010

**Place:** Holden Arboretum  
9500 Sperry Road  
Kirtland, Ohio 44094  
440.946.4400

**Host:** Annette & Tony Pizzino  
440.248.4583

[AnnettePizzino@roadrunner.com](mailto:AnnettePizzino@roadrunner.com)

Agenda

**Friday, May, 21nd Truss Entry 5pm – 8pm**  
(Holden Arboretum – Corning Visitor Center)

**Saturday, May, 22nd Truss Entry Period**  
8:00 am – 9:30 am

- 10:00 am – Noon Judging Period
- 10:00 a.m. Highlights Tour
- Noon –1:00 p.m. Pick-up reserved  
Box-Lunch,  
Corning Visitor Center
- 1:30—3:00 p.m. Narrated, Guided Tour,  
The Helen S. Layer  
Rhododendron Garden
- 3 :30—4:45 p.m. Plant Auction  
Corning Visitor Center  
Reinberger Classroom  
Free Raffle Ticket

Location of Evening Events :

*Pine Ridge Country Club (maps provided)*  
30605 Ridge Road  
Wickliffe, OH 44092  
440.944.4664

5 :30 – 6 :30 Social Hour  
6 :30 – 7 :30 Dinner (Post Dinner Show Awards)  
7 :30 – 8 :30 Speaker  
Clement W. Hamilton, PhD., President and CEO  
Holden and Rhododendrons :  
An Exciting Future Together.

**Places to Stay**

**Days Inn**  
4145 State Rt. 306  
Willoughby, OH 44094  
440.946.0500  
Mention-ARS Group special rate, \$67.99+tax

**Best Western Lawnfield Inn and Suites**  
8434 Mentor Avenue  
Mentor, OH 44060  
440.205.7378  
Mention ARS pricing, \$92.00 +tax

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**Visit to Leach Research Station**  
**Sunday, May 23rd**  
See reverse side  
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*Dinner & Box Lunch*  
*RSVP by May 17, 2010*

Name(s) \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
Phone \_\_\_\_\_  
Email \_\_\_\_\_

*Box Lunch @\$8 per person*  
# \_\_\_\_\_ *Box Lunch* \$ \_\_\_\_\_

*Dinner, sides, beverages & dessert*  
*@\$25 per person*  
# \_\_\_\_\_ *Prime Rib*  
# \_\_\_\_\_ *Chicken Piccata*  
# \_\_\_\_\_ *Baked Lemon Scrod*

*Dinner \$ \_\_\_\_\_*  
*Check Total for Box Lunch (es) & Dinner(s) \$ \_\_\_\_\_*

*Make check payable to Great Lakes Chapter-ARS.*  
*Mail check & RSVP card to Linda Stull, 13568 Old Lake*  
*Road, E Springfield PA 16411*  
*Canadians, please send RSVP then pay upon arrival.*

*"To create a little flower is the labor of ages"*

*William Blake*

# New “Flame” Azaleas Light Up East Boulevard Adjacent to Woodland Garden

— Mark Bir, Staff Horticulturist

This spring, Garden visitors will be greeted by a blaze of color along the East Boulevard extension to the Woodland Garden thanks to a fall planting of native *Rhododendron calendulaceum* – flame azalea.

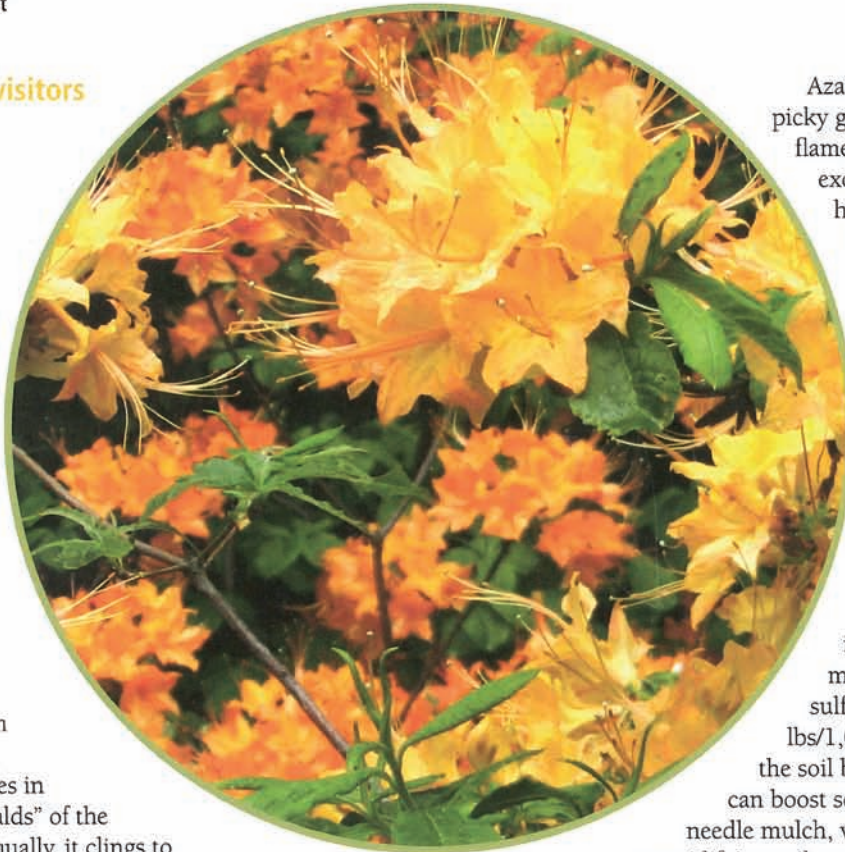
One of more than a dozen deciduous azaleas growing wild in the mountains, coves and lowlands of Eastern North America, these elegant plants decorate American woodlands with colorful clouds of bloom.

The flame azalea thrives in thickets in the upland “balds” of the Blue Ridge Mountains. Equally, it clings to eroded roadside banks from West Virginia into southeastern Ohio. Late each spring, it sends forth starry flowers in varied, intense oranges that in the wild open alongside the purple Catawba rhododendron.

The flame azalea has several attributes that commend it to Northeast Ohio gardens. Its elliptical sap-green leaves are perfect for adding sparkle to dappled shade. Upright, angular branches display vividly colored blossoms to their best advantage, held high in torch-like inflorescences that glow in the May light. During bleak winter months, its spare architecture complements nearby conifers and helps ground the “busier” structure of other deciduous shrubs.



Come on baby light my fire: flame azalea buds ready to “ignite”



Azaleas are notoriously picky garden plants, but the flame azalea is an adaptable exception. Its ideal site offers high shade, and cool, moist, organic, and acidic soil. However, it can live in drier conditions and pH-neutral soil, especially if other requirements are met. At the Garden, we are growing them in a neutral soil, but carefully providing supplemental summer irrigation.

You can manipulate an imperfect site to make it better, using sustainable methods. Sprinkle elemental sulfur on root zones at 10 lbs/1,000 sq. ft. to acidify the soil by one pH point. You can boost soil organics with pine needle mulch, which also encourages an acidifying soil reaction. Finally, fertilize each spring with handfuls of cottonseed meal, a mild acidifier that is excellent for azaleas.

To try flame azaleas at home, first establish a soil “baseline” with an inexpensive pH test kit, and then make progressive soil adjustments as needed. Horticulturists at the Garden are always on hand and happy to answer any other questions about growing this stunning but under-used native species.

Thinking about adding new flowering shrubs this spring? Consider leaving the more fussy and disease-prone azalea hybrids back in the last century, and welcoming a robust American flame azalea.

**Native plant enthusiasts don’t miss this one. Holding back nothing the Flame azalea (*R. calendulacum*) – displays its riotous blaze of spring color—while it acts as ambassador of good will, with its focus on the merits/pleasure of successfully growing native plants. Holden Arboretum members receive free admission to the C.B.G. and numerous other arboreta, botanical gardens, conservatories throughout North America with its membership privileges in “The Reciprocal Admissions Program.”**



Source: *Bulletin*, Spring, 2010  
Cleveland Botanical Garden

# Modernizing a Garden Classic

by Steve Krebs, director, David G. Leach Research Station

Cultivated evergreen rhododendrons are in need of a makeover. Since the mid-20th century they have been broadly popular in the United States and a mainstay of garden landscapes, but this exalted position is eroding. Rhododendrons have lost some of their luster in the marketplace. Recently, I listened to a trade conference talk on recommended plants, given by a Lake County nursery owner, and rhododendrons were not mentioned.

What's going on? The main problem is a static inventory. The same cultivars that helped popularize rhododendrons many decades ago – the so-called 'ironclads' with white, rose or purple flowers – are the ones that continue to make up the bulk of commerce today. Newer introductions with better flower colors and foliage, such as the cold-hardy varieties developed by David Leach and breeders in Finland and Germany, are sold to a much smaller specialty market comprised of knowledgeable and discerning gardeners with the skills to grow them. Rhododendrons are finicky plants to grow under less-than-ideal (i.e., most) conditions and this is where the 'old-timer' hybrids developed over a century ago outperform the newer breeds. Their vigor and adaptability to a wide range of conditions results in success for more gardeners.

These are the main considerations guiding my breeding work at the David G. Leach Research Station. My goal is to increase the popular appeal of new introductions by adding disease resistance and heat tolerance to them, traits that can improve their performance under challenging conditions and broaden their marketability to include the deep South (USDA Hardiness Zone 8), regions where rhododendrons currently have a limited presence. These traits are not independent. My working hypothesis is that evergreen rhododendrons do not grow well in warmer regions because they are more susceptible to a soil disease under those conditions, not because of direct temperature stress on plants. If I am correct, breeding for disease resistance alone should confer higher temperature tolerance.

## A Pervasive and Persistent Pathogen

The disease problem at issue is called rhododendron root rot, caused primarily by the soil fungus *Phytophthora cinnamomi* (Fig. 1), an invasive pathogen that affects over 1,000 plant species globally. Root rot is the most common cause of rhododendron mortality in commercial nurseries and home landscapes. The pathogen enters the root system of susceptible host plants and destroys cells during its acquisition of carbohydrates, including the root vascular (water-conducting) structures. By the time above-ground wilting symptoms are visible, the plant is nearly dead.

A majority of evergreen rhododendrons are susceptible to the disease, but can be grown in infested soils if they are well-drained (a disease avoidance strategy, because free groundwater facilitates infection by swimming fungal spores). Adding composted pine bark to the soil mix improves performance by adding porosity and actively suppressing the disease. These cultural techniques are used, for example, in Holden's Helen S. Layer Rhododendron Garden for growing plants on heavy soils with a high water table. Soil drenches with fungicides can also provide a prophylactic

protection against the disease, and are used in container production nurseries, but this approach is neither effective nor advisable in home gardens.

None of these strategies is fail-safe, and rhododendrons would benefit greatly from an additional layer of defense. This could be achieved by adding genetically-conferred resistance to *P. cinnamomi* to cultivated rhododendrons. Should the cultural methods of disease control fail, the host plant would then have genes and physiological mechanisms for minimizing fungal damage to its root system. Transfer of host resistance genes can be achieved by finding a good source of resistance (rhododendron species or cultivar) and breeding it by cross-pollination to non-resistant plants that are ornamentally superior. Success in this venture requires a controlled and reliable method of screening plants for resistance, a bit of luck in finding rare, high-level resistance, and time to grow out generations of rhododendrons from seed to flower.

## A Species for the Future

In the search for resistance, a genetically diverse group of about 350 evergreen rhododendron cultivars and species have been screened by hand-inoculating greenhouse-grown plants with *P. cinnamomi*. Much of this groundwork was done in the 1970s by researchers at Ohio State University, and we completed a screen of more contemporary cultivars at Holden in 2002. Fewer than five percent of these plants proved to be resistant, and an even smaller number were both resistant and cold-hardy, another key requirement for our breeding program.

These disease screens provided important information about the nature of resistance. The responses of plants to inoculation were not discrete, either resistant or susceptible, but continuous, ranging from very minor damage to fine roots to necrosis of coarse roots to plant death. This is an indication that the resistance genes do not confer complete immunity to the disease, and that resistance is controlled by multiple rather than single genes. This type of partial resistance, however, is often adequate for field-level plant protection, and has an advantage over single-gene resistance in being more durable, harder to overcome by any genetic changes in pathogen virulence.

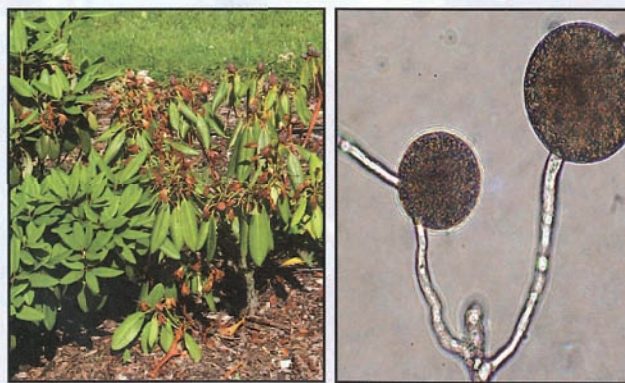


Fig. 1 Typical field wilting symptoms due to root rot disease (left). A chlamydospore of *P. cinnamomi* that is capable of long-term survival in soils (right). It germinates and eventually releases mobile, swimming zoospores that infect roots.





Our initial decision was to use resistant cultivars rather than species for breeding, since they had already been selected for ornamental value and had

more color than the available species – all white-flowered. However, this turned out to be mostly a dead end, since many of the hybrid cultivars were either sterile or had poor breeding value – although they were themselves resistant, they were not able to transmit this trait effectively to their progeny.

In 2004, our attention shifted to a somewhat obscure species from Taiwan called *R. hyperythrum* (Fig. 2). Because it grows at a high elevation, it is also reasonably cold hardy (flower bud hardy to USDA zone 6). This species is resistant to root rot and was reportedly being used by a veterinarian and hobby nurseryman, John Thornton, DVM, to hybridize rhododendrons for his zone 8 location in southern Louisiana. It was during a visit to his nursery, after seeing vigorous hybrids growing in red clay soil under a hot sun, that the connection between root rot resistance and high temperature tolerance became evident to me. John gave me some of his hybrids, I acquired *R. hyperythrum* accessions from the Rhododendron Species Botanical Garden, and began making crosses with them on a large scale.

## Promising Results

Breeding is simply reshuffling parental traits via genetic recombination, with the goal of creating a hybrid where shortcomings in one parent are replaced by



Fig. 2 Vegetative and flowering forms of *R. hyperythrum* (top). Seedlings with different levels (90) of *r. hyperythrum* in their genetic constitution vary in root rot resistance (bottom) At the 50% level (a resistant x susceptible cross) the  $F_1$  progeny are nearly as resistant as 100% *R. hyperythrum* seedlings 2 months after inoculation.



Fig. 3 Examples of *R. hyperythrum*-derived  $F_1$  selections being propagated for further evaluation and potential introduction

the desired traits from the other parent. In addition to root rot resistance, *R. hyperythrum* has many ornamental attributes – excellent foliage, a dense, mounded habit, and a very floriferous nature. It transmits these traits readily to progeny, and tests of its breeding value for resistance in greenhouse experiments suggest that first generation  $F_1$  hybrids between *R. hyperythrum* and non-resistant cultivars will have high level, if not full resistance (Fig. 2).

What *R. hyperythrum* lacks for commercial purposes – and is provided by careful selection of the other parent in a cross – is flower color, USDA zone 5 cold hardiness (Northeast Ohio), and a compact ‘truss’ or inflorescence that is the preferred standard. There are plenty of rhododendron selections and cultivars that meet these criteria at the Leach Research Station and in the Helen S. Layer Rhododendron Garden at Holden, and we have crossed them with *R. hyperythrum* in flower color groups of pink, red, yellow, purple and white.

In spring 2009, about 40 of these  $F_1$  crosses totaling 2,500 progeny bloomed in the field at Madison to varying degrees, having been subjected to deep winter frosts of -10 to -13F (-23 to -25C). Selections were made for individuals combining cold hardiness with ornamental value. On hand to assist with evaluation were representatives of two commercial enterprises interested in our plants – Briggs Nursery Inc. in Washington State, and Plant Development Services Inc. (PDSI) in southern Alabama. Over a dozen high quality plants were identified, and six of these (Fig.3) were chosen for tissue culture propagation and subsequent evaluation at multiple sites ranging from hardiness zones 5 to 8 where *P. cinnamomi* is present. PDSI will trial the propagated plants under their production and field conditions, and good performers will be entered into their Southern Living Plant Collection™ under a licensing and royalty arrangement.

Within four years, the first wave of these ‘modernized’ rhododendrons may be available to the nursery trade. During the interim, more selections will be made from the  $F_1$  plants and second-generation  $F_2$  populations will be created to identify plants that have higher resistance and more flower color saturation than the  $F_1$ s. I think of this as an R&D pipeline for ‘Leach Plus’ plants, because we’re adding landscape value to the fine cultivars Leach created. This doesn’t mean we’ve abandoned the ‘Leach Classics’ - we continue to select, evaluate, and introduce fancy new plants for the specialty market (see page 19). The real prize, however, continues to be improved rhododendrons that are easier to grow, have a broader, including Southern, market, and are better positioned for a future of climate change due to a disease resistance that confers an increased adaptation to warmer growing conditions.

beauty of  
Holden

At its peak in May with more than 1,200 rhododendrons in bloom, the garden also is home to a wide variety of blooming plants and Holden's oldest trees.

**Great Lakes Chapter, ARS  
Annette Pizzino  
34900 Lakeview Drive  
Solon, OH 44139-2027**

