"Niagara Rhodo"

Newsletter of the Niagara Chapter,
Rhododendron Society of Canada,
District 12, American Rhododendron Society

December, 2014

Our Purpose: We are a non-profit organization whose aim is to promote, encourage and support interest in the genus *rhododendron.* Our goal is to encourage gardeners to grow and appreciate these plants, by providing educational meetings with knowledgeable speakers, access to topical publications and hosting joint meetings with other chapters.

News

Word of Caution

By becoming a successful grower, the reader will be exposed to a contagion for which there is no cure. Once infected with an appreciation of rhododendrons and azaleas most gardeners spend a lifetime collecting these most beautiful of all plants.

H. Edward Reiley

Season's Greetings

As the year draws to a close, and our gardens are covered with the first coming of snow, I take this opportunity to reflect on our Chapter's work in the past year. I think about the more than 20 volunteers who have contributed to making our "Pot Luck" experiences, periodic meetings and Plant Sales engaging, interesting, well attended and successful; our speakers, Kristian Theqvist from the Turku Archipelago in Finland, Steve Krebs from Holden Arboretum in Ohio, Karel Bernady from Philadelphia, Pennsylvania and Kevin Kavanagh from St. Williams, Ontario, who provided us with new insights, information and entertainment during a particularly trying winter. We say thank you to all our volunteers, to our speakers and to all of our devoted members for making this a very successful year.

However you will be celebrating, we wish you happy holidays and a healthy New Year.

Sondra Meis, President

Niagara Chapter's 2015 Program

Sunday, February 1, 2015 **Liz & Chris Malicki**
R*hododendron Culture in Australia & New Zealand: A Canadian's Experience.*

Sunday, March 8, 2015 **Douglas Markoff**
The Riverwood Conservancy, A living laboratory along the banks of the Credit River.

Sunday, April 19, 2015 **To be Confirmed**
Breeding for Hardiness: Atlantic's Experiences with Brueckner Hybrids

Sunday, April 19, 2015 **Nick Yarmoshuk**
Discussion & Description of "What's in this Year's Plant Sale".

Sunday, April 19, 2015 *Deadline for Members' pre-Sale orders*

Saturday, April 25, 2015 *Annual Plant Sale*

Saturday, Sept. 19, 2015 *Annual Picnic & P4M sale*

Sunday, November, 2015 *Date and Speaker TBA*

American Rhododendron Society News

Electronic version of the Journal:

The digital version of the Journal of the American Rhododendron Society (JARS) is available on-line. Members of the ARS can have access to it weeks before the paper copy arrives!

Membership in the ARS is necessary in order to register online at ***http://www.arsoffice.org/jars/toc1.asp*** . Find your membership number on the mailing label of the most recent journal. If you cannot locate the number, Lil Haworth, our Membership Secretary (e-mail to ljhaworth@sympatico.ca) can provide the number. **The Fall and Summer issues of JARS are now on-line.**

2015 Convention, Sidney, British Columbia, May 6, 2015 to May 10, 2015:
This will be the 75th Anniversary of the founding of the American Rhododendron Society.

See website http://2015rhodo.ca/
See video https://www.youtube.com/watch?v=OhWLdvlAcSs
See Garden Tours http://2015rhodo.ca/wp-content/uploads/2014/12/The-Garden-Tours-for-2015B.pdf
See Speakers http://2015rhodo.ca/keynote-speakers/


Jim Burlap


Marc Colombel


Kenneth Cox


Harold Greer


Guan Kaiyun


Lionel de Rothschild


Hartwig Schepker

2016 Joint Convention ASA & ARS. Williamsburg, Virginia
April 20-24, 2016 http://arsasaconvention2016.org/

The selected dates are at the opening of Historic Garden Week in Virginia, one of the most beautiful times of the year in the region. In most years, this time frame is when the native dogwoods (**Cornus florida**) are in bloom (pictured to the right). Virginians love the dogwood so much they chose it for the State Tree as well as the State Flower! The convention will be staged at the Fort Magruder Hotel and Conference Center, conveniently located within a mile of Historic Colonial Williamsburg, and close to many other attractions including Jamestown, Busch Gardens, and the Williamsburg Outlet Malls.

The ARS On-Line Store

The ARS has developed an on-line store through which it offers access to a wide range of quality products from very reputable merchandisers. The purpose of the venture is to provide revenue for the Society. If the links provided on the Home page of the ARS store site are used to reach a vendor, the ARS will receive a referral commission. Access to the ARS on-line store is open to anyone, whether or not they are a member of the American Rhododendron Society. Use the link shown here to reach the Home Page of the ARS Store. **http://arsstore.org/canada/index.php**The ARS describe this service as follows: *"If you follow links from that page to purchase any item, all commissions on referrals (4% to 25%) will go directly to the American Rhododendron Society, an IRS 501(c) (3) nonprofit organization. You get the same low price and help the ARS at the same time. Any time you go to Amazon from the AERS site, or to the specific web pages of other merchants shown on the sites Home Page, referral fees on any item(s) purchased go to the ARS".*

Niagara members, resident in Canada, who shop at Amazon, are reminded that access is provided directly to amazon.ca, the Canadian link, where all purchases are in Canadian dollars.

November 16, 2014 Meeting

Grafting Rhododendrons: An Aid to Propagation Problems. A talk by Karel Bernady.

Editor's Introduction: In North America the usual way to propagate numerous quantities of a desired rhododendron is to root stem cuttings or employ tissue culture. Both methods have their advantages and disadvantages. Each requires a considerable investment in time. Rooting stem cuttings requires time for the roots to develop and development of expertise in giving special attention to various detailed steps[1]. Tissue culture is a process that involves exposing plant tissue to a specific regimen of nutrients, hormones, and light under sterile, *in vitro* conditions, to produce many new plants, each a clone of the original mother plant, over a very short period of time[2].

Commercial growers in North America favour Tissue Culture because of their very low unit cost, ability to obtain large numbers of rooted plants and relative ease of growing on to saleable size. Rooting stem cuttings is favoured by those involved in small scale development projects. Stem cuttings of some varieties of Rhododendrons cannot be readily rooted while others are impossible to root in this way. Tissue Culture makes claims to ability to propagate those rhododendrons that cannot be otherwise reproduced.

Both techniques have their protagonists and detractors. Some claim tissue culture plants are characterised by disease free growth, a more fibrous, healthier root system, a bushier branching habit, and a higher survival rate. Detractors assert that tissue culture techniques disturb specific genetic properties of rhododendrons that results in less than complete replication of all properties of the original cultivar. Proponents of rooted stem cuttings value the low cost of production when few duplicates are required, assert that no genetic modification occurs and hence the new plants retain all characteristics of the original.

We note, with much interest, that while rhododendron propagation by tissue culture is carried out in many parts of Europe, German nurserymen are strong proponents of propagation by grafting. (See photos Page 4)

Editor's Notes from the Meeting

Attendance: Despite the unseasonal snow and cold 42 members, including ARS Executive Director Laura Grant and Alternate District Director Bob Ramik, attended the meeting.

The raffle draw distributed 4 rhododendron from the Chapter's P4M collection and 6 Butterfly plants provided by Gordon Polych. Joan Kooger, Marilyn Polych and Wanda Yarmoshuk provided home baked goodies and prepared tea and coffee.

Summary of the Talk: Karel started by comparing Grafting- Reproduction of a plant on another plant's roots to Rooting – Reproduction of a plant on its own roots. Grafting rhododendrons was introduced to the Philadelphia Chapter in 2010 as part of its Plants For Members program. They had been experiencing

- Poor rates of rooting of some varieties,
- Too many rooted plants died during summer,
- Some rooted plants failed to break into growth.

The program continued because members thought it was useful. During this period careful records were kept of successes and failures rooting stem cuttings. As expected, 89% of all evergreen azaleas were rooted and were available for sale, but only 54% of elepidotes were propagated and became available for distribution. Typical of their experience was the 38% success rate with R. Chalfont and 14% success rate with R. Babylon. Surprisingly, the success rate to availability for R. Taurus was 80%.

Through research[3], discussion with colleagues and foreign trips, participants learned that grafting rhododendrons was widely practiced in Germany. Indeed it was a major production technique employed by such famous nurserymen as Hans Hachmann and Fredo Schroeder.

They identified several important considerations:

- Need to identify root rot resistant understock
- Whether or not to use rooted understock
- How to prepare the unrooted understock prior to use
- Use of hormone on the understock

[1] See Rhodo Niagara http://www.rhodoniagara.org/pdf/Rhododendron_Propagation_2011.pdf
http://www.rhodoniagara.org/pdf/2012_02_21_Bottemiller_Rooting_Final.pdf

[2] See JARS, 1986 http://scholar.lib.vt.edu/ejournals/JARS/v38n2/v38n2-mcculloch.htm

[3] See JARS, 1984 http://scholar.lib.vt.edu/ejournals/JARS/v48n2/v48n2-bondira.htm

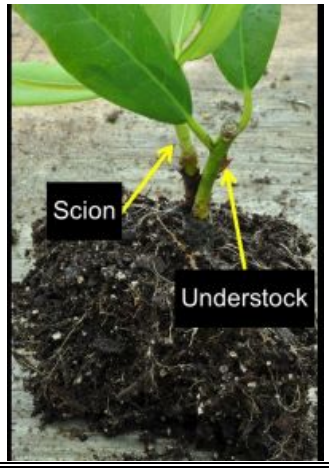
Notes from the Meeting (continued)**:**

Magnitude of commercial use of grafted plants in Germany.

During the years of experimenting some findings include:

1. Varieties that worked well as understock are:
- Cunningham's White, Roseum Elegans
- English Roseum, Cornelia Sanders, 24 Carat

2. Criteria for selecting an unrooted understock:



- Roots readily
- Gives massive roots
- Compatible with scions
- Plant has comparable statute to scion
- Good survival during summer growing conditions
- Good *phytophthera* testing results

3. Understock is prepared in a manner such that top growth of understock may easily be cut away.
4. Important to use string that decomposes readily. This avoids the problem of girdling the host and the scion. Natural undyed cotton string 8 ply weighing 50 gms per 70 metres appears to be the favoured binding twine.
5. Two years of data revealed that people without any experience in grafting can obtain successful results from Day 1 when carefully following the grafting procedure.

First Time Grafting Performance

Grafter	Units	% Trans-planted	% Alive @ One Year	% Alive @ Two Years
1	76	79	53	47
2	16	94	75	44
3	27	93	48	41
4	32	100	91	81
5	38	97	74	71
6	20	100	70	45
7	17	100	76	71
Total	226			
Average		91	66	61

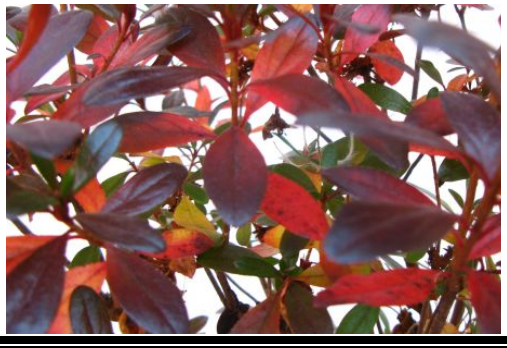
Continuing Work:
- Continue to evaluate other hardy understock including lepidotes.
- Preparing of grafted materials for Plant Sale at 2016 Joint ASA & ARS Conference in Williamsburg Virginia.

Note: Photos by Karel Bernady, used by permission.








On the Toxicity of Aluminum Sulphate

This note was abstracted from a wonderful web site that carries as much information about rhododendrons as the average gardener could ever require. Growing, fertilizing, soil preparation, disease description and solutions are all to be found there. We recommend this site to every grower of rhododendrons and azaleas.

http://rhodyman.net/rhodynho.php#anchorALSO4 **(May require copying address to your browser)**

Do not use Aluminum Sulfate: If you were to google "aluminum sulfate rhododendron azalea" you would find some gardening experts, growers and extension agents still recommending aluminum sulfate while most are warning against using it. It is sad that such bad advice is still being given.

Never use aluminum sulfate for making the planting medium more acid. Thousands of azaleas and rhododendrons are killed each year by the addition of aluminum sulfate to planting mediums. Aluminum ions under very acid conditions are very toxic to all of the rhododendron genus. The one area where aluminum sulfate is useful is in making blue hydrangeas blue. The chemistry of hydrangeas is such that not only acidity is necessary, but also aluminum ions are also necessary to make the flowers blue due to the aluminum binding with the anthocyanin. Hence, blue hydrangeas

shouldn't share the same beds with rhododendrons and azaleas. Over application of aluminum sulfate can be toxic even to hydrangea.

Probably, part of the reason for the bad advice is that aluminum sulfate is very quick in modifying the soil pH. Sulfur is very slow, but is much more effective eventually.

Guy Nearing was one of the first to realize that aluminum sulfate was detrimental to rhododendrons and azaleas. His findings were published in the Journal of the ARS in 1955. Rhododendrons are Vanishing by Guy Nearing

Today, the effect is thoroughly understood. The most eloquent article on adjusting soil pH for rhododendrons and azaleas was written by Sandra Mason with the University of Illinois, Champaign. In her words, "Many acres of land in the world are unusable for crops due to soil acidity and aluminum toxicity."
http://web.extension.illinois.edu/cfiv/homeowners/080818.html . These two references are worth reading.

Concerning the Origin and Distribution of Rhododendrons

Some time ago your editor came across an article in the Journal of the American Rhododendron Society that caused him to reflect on how the environment in which rhododendrons and azaleas are naturally found differs from the environment in Ontario. That article, written by E. Irving and R. Hebda of Victoria, British Columbia, Canada, was published in the Journal of the American Rhododendron Society V47: No3: p139: 1993 and may be read in its entirety at http://www.rhododendron.org/v47n3p139.htm

This led your editor to prepare a table that compares the characteristics of the home territories of rhododendrons and azaleas to what he calls the “hostile environment for rhododendrons” of Ontario, Canada. This is shown in the table below. We will have more to say on this topic in the January issue of the Niagara Rhodo.

Abstract of article “Concerning the Origin and Distribution of Rhododendrons”

There are two important features of the distribution of species of the genus Rhododendron that require explanation. First, the overwhelming majority of them occur either on the slopes of the very deep valleys that border the eastern Himalayas and southeastern Tibet, or in the mountain ranges that form the backbones of the archipelago stretching between mainland Asia and Australia - the islands of Java, Sumatra, Borneo, New Guinea, and the Philippines. The second feature is that the remaining species, although far fewer in number, are spread much more widely over the northern hemisphere, occurring in pockets that, to a considerable degree, are isolated from one another - Japan, northwestern North America, the Appalachian, and Caucasus Mountains. We propose that, during their early history, rhododendrons were much more evenly spread than they are now, and that their present discontinuous distribution was caused by the encroachment, in comparatively recent times, of conditions hostile to their existence, namely the extensions of glacial ice and of modern grassland and deserts. We also argue that the present remarkable concentration of species in southeastern Asia has arisen because it is there that habitats were developed in which rhododendrons found not only shelter from climatic vicissitudes, but in which they could flourish and speciate; apparently they were able to do this at a time when rhododendrons elsewhere were being driven from much of their former range. We hope to show how the history of this horticulturally outstanding genus might have been shaped by global and regional geological events.