

AMERICAN RHODODENDRON SOCIETY

Eureka Chapter

The next meeting
Thursday October 22, 7:00 p.m.
Woman's Club
1531 J Street
Eureka, California

Pre-Meeting No Host Dinner 5:15
Eureka, **Marcelli's**
1323 5th St. Eureka
Call Nelda, 707-443-8049
If you want a seat...to eat!



Eureka Chapter
American Rhododendron Society

Rhododendrons
in the Redwoods

October 2015

Feed Me! Feed Me!

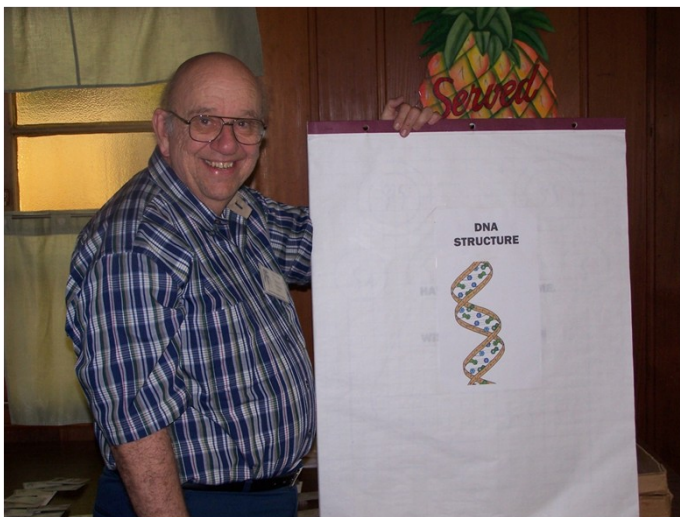
*The Eureka Chapter of the American Rhododendron Society will meet on Thursday, **October 22, 2015**. The meeting and program will be held at the Eureka Woman's Club 1531 J Street in Eureka beginning at 7:00 P.M. The pre-meeting dinner will be at Marcelli's (see address above) where we will enjoy a family style meal for a fixed price.*

The Eureka Chapter's Past President and American Rhododendron Society Gold Medalist, Bruce Palmer, will be our distinguished speaker. His presentation is called: **Feed Me, Feed Me....How plants get and use their nutrients.** His talk will cover the following aspects of plant nutrition: **1)** what the sixteen essential elements for plants are. **2)** How plants use them. **3)** How they are transported around a plant's body. **4)** How they get into a plant and how wastes get out. **5)** What happens if they don't have enough. **6)** Special cases where fixed nitrogen is in short supply. **7)** Special adaptations in Genus *Rhododendron*.

Bruce has given science based programs for the Eureka Chapter ARS and for Humboldt Botanical Gardens. He has written grant applications to the ARS Endowment Committee, the Stanley Smith Horticultural Trust and other granting agencies specific to Rhododendrons and toward educating the public about Rhododendrons on behalf of the Eureka Chapter and Humboldt Botanical Garden's Moss Family Temperate Woodland Garden. The grant applications were all successful. They included a grant to secure a plant labeling machine and supplies so that the Rhododendrons, companion plants and flowering trees could be identified by the public. A grant for descriptive signs and informative brochures was awarded Humboldt Botanical Garden

through his efforts. He also received grant funding to purchase Rhododendrons and companion plants for Humboldt Botanical Garden to acquire plants from the Rhododendron Species Botanical Garden to be planted in the Moss Family Temperate Woodland Garden.

Bruce Palmer is Professor Emeritus of the Community College system of the University of Hawai'i. He taught introductory biology at Maui Community College from 1968 to 1993. He was also Dean of Instruction at the college for 6 years. Prior to moving to Hawai'i he taught math and science at Ferndale High School in Humboldt County California. Bruce and his wife Nelda have been members of the Eureka Chapter since 1994.



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WORD OF THE MONTH

FERTILIZER

By, Bruce Palmer

This month's word is **FERTILIZER**. We visited the word fertilizer five years ago, but plant nutrients is the topic of this month's program, so it might be appropriate to talk about fertilizer again. The word descends through Middle English and Old French from the Latin *fertilis*, to bear. The first definition of the word in the dictionary is "one who fertilizes". That's what we should have done early last month, at least in our area and southward, but it hasn't rained yet so it is not too late. At this time of year it is a good idea to add nutrients to the soil to help plants make it through the wet (?) winter when the goodies might be leached out of the soil by the rains.

Nutrients are the atoms and molecules plants use to construct cell parts, grow and flower. The bag of fertilizer you use has a line on it that reads something like 10-10-10 or N10-P10-K10. The numbers stand for the percentages of available nutrients, but what do those symbols (N,P,K) mean? Why are they so important? All three of the major molecules in cells (carbohydrates, fats and proteins) contain carbon, hydrogen and oxygen (C, H and O). Plants can get all of these atoms they need from water, air and soil. What higher plants can't get without help, though, is nitrogen, the N (first number) on your fertilizer bag. That's important because all proteins contain nitrogen (N) in addition C, H and O. Every part of a cell is a protein or is constructed by enzymes, which are proteins. The air is 80% nitrogen but higher plants can't use N from the air as it is; nitrogen is inert and doesn't combine readily with other atoms. To be usable by higher plants such as our rhodies, it typically must be attached (fixed) to an oxygen atom. Certain kinds of bacteria do most of the fixing in the soil and higher plants take it up from there. Plants need so much of it, though, that if you want good looking garden plants you need to give them extra usable (fixed) nitrogen.

P, the second number on the fertilizer bag, stands for phosphorus. Phosphorus is used by cells to store the energy produced in photosynthesis and respiration. It takes extra energy to make flowers, fruits and seeds. Plants can get enough phosphorus from the soil if it is loose and well-drained, but clay particles trap it and don't let it move or get taken up by plants, so if you want good flowers in your garden, you need to give your plants extra phosphorus, especially in our local clay soils.

K, the final fertilizer bag number, indicates potassium. Potassium is one of those elements that act to help enzymes do their work and aid leaves in taking in and expelling materials related to photosynthesis. It is used in large quantities by plants and isn't necessarily present in the soil in sufficient amounts for healthy looking garden plants.

There's a list of thirteen other nutrients a plant requires. Magnesium, for example, is what gives the chlorophyll molecule its green color. The energy of sunlight is trapped by chlorophyll. Chlorophyll in plant cells is different from hemoglobin in our red blood cells primarily in that hemoglobin contains iron instead of magnesium and holds oxygen instead of light energy. These other nutrients, often called micronutrients, include such elements as iron, sulfur and a number of others. They are not usually in short supply in the soil so most of the time you won't have to worry about them. If you fertilize regularly, though, and your plants still don't look good, then you need to ask someone about applying micronutrients.



R. 'Cowbell'

Plant of the Month ***Rhododendron* 'Cowbell'**

By Don Wallace

Rhododendron 'Cowbell' is a sister seedling to *R. 'McNabii'*, and we think this plant is even better and just as **FRA-GRANT!** The foliage is dark green and heavily textured on a dense mounding plant. The flowers are abundantly produced, and the fragrance is heavenly...is it nutmeg? No, maybe honeysuckle? This one is a must for the fragrance nut. The foliage is very similar to the species *R. edgeworthii*, which is a parent. *R. edgeworthii* is a very fragrant species that is responsible for bringing fragrance into such rhododendrons as *R. 'Fragrantissimum'*, *R. 'Else Frye'*, *R. 'Coastal Spice'*, and *R. 'Humboldt Sunrise'*.

This plant responds well to pinching/pruning, resulting in a tight mound of flowers come spring. Blooms are mostly white with pink stripes strongest on the outsides of the flower petals, but are also on the inside...just a bit fainter. The calyx is very decorative, looking like tan-pink petals holding the flower to the pedicle. It has been said by some rhododendron growers that this plant is fragrant to 100 feet. I would say this is an exaggeration, but 25 feet would be true on a warm day.

Holiday Planning

The Eureka Chapter will hold its Holiday Potluck meeting on Thursday December 3rd at the Woman's Club. The potluck will begin at 6:00 pm followed by a very special Hands-on propagation workshop. Several chapter members attended the Spring American Rhododendron Society convention in British Columbia last May.

At that meeting ARS Silver Medalist (the only one from France) Marc Colombel gave a program on propagation of rhododendrons in 1.5-liter plastic bottles. After we clean up the potluck we will get our work tables ready for Propagation al la Normandy!

Please bring **rhodo cuttings** to root and share. Maddenii rhodos (see Don's list above) are easy and are really good starter plants.

Several 1.5-liter plastic bottles that have been well washed.

Sharp, clean clippers or knife or box cutter with a new blade. And a **sense of humor!**

Be ready to have fun with your fellow Rhodo-geeks.



Membership renewals are rolling in and so are **extra donations** for the American Rhododendron Society's Endowment Fund and General Fund. The Eureka Chapter has also received extra contributions, as has Humboldt Botanical Garden's Moss Family Temperate Woodland Garden.

Special thank you to **Paul Anderson, Jim Bauml and Stacy Schaefer, George and Kathy Burtchett, Ellen Gill, Philip and Barbara O'Hay, Nan Ray, Gene Schnell and Gayle Teter.**

If you haven't sent in your **membership renewal** yet, please find the stamped and addressed envelope on your desk and send **your renewal TODAY.** Think about making an extra contribution, too.

"It is not so much our friends' help that helps us as the confident knowledge that they will help us"

Epicurus, philosopher (c. 341-270 BCE)



THE TEN LAWS OF GARDENING

1. Nothing ever looks like it does on the seed packet.
2. Your lawn is always slightly bigger than your desire to mow it.
3. Whichever garden tool you want is always at the back of the shed.
4. The only way to ensure rain is to give the garden a good soaking.
5. Weeds grow at precisely the rate you pull them out.
6. Autumn follows summer; winter follows autumn, drought follows planting.
7. Evergreens go a funny shade of brown in the winter.
8. The only way to guarantee some color all year round is to buy a garden gnome.
9. However bare the lawn; grass will appear in the cracks between the patio paving stones.
10. "Annuals" mean disappointment once a year.

David Heaton, webmaster Organic Gardening From Down Under

Biological Controls for Rhododendron Pests

Although spraying chemical insecticides and fungicides to control pests on rhododendrons has been the recommended method for many years, interest in safer, more natural controls has created a new market for companies specializing in biological controls. These recently developed biological controls fall into a few categories; predators, pathogens, and microbe colonization.

Predators

Predatory insects prey on other insects. A predator that works well to control two rhododendron pests, thrips and weevils, is the predator soil mite **Hypoaspis miles**. When applied to the ground, this mite will feed on the larval stage of both thrips and weevils in the soil. Complete eradication of pests is not usually the outcome, but populations of thrips and weevils will be seriously impacted. The really great thing though is that this soil mite will establish populations that stay in the ground for some time. Available and shipped in a tube filled with vermiculite and peat, this predatory insect can be applied by shaking the carrying medium onto the ground below your plant. These tubes have around 25,000 mites each, and can treat 40-50 plants. The retail price is around \$40 for a tube or around \$1.00 per plant.

Another excellent predator for thrips is **Amblyseius cucumeris**: the thrip predator. This predator lives on the leaves and feeds on the young stages of thrips. They will eat about 5 larvae per day. Release rates are about 100-500 per plant. They are available in little bags of 300 predators. These small bags should be hung onto the branches of the plant. The predators crawl out through a small hole in the bag and onto the plant, feeding on the thrip larvae. One bag per plant is recommended. Suggested retail is \$3.00 per bag that contains 300 predators.

Pathogens

Another biological control that works well are nematodes, which are classified as pathogens. These little worm like critters move through the moist soil and burrow into the larvae of the Strawberry Root Weevil and the Black Vine Weevil, the two most destructive insects to rhododendrons. If your leaves have little 'notches' around the edges, you have weevils in your garden. Weevils are nocturnal feeders, so you can go out on 'Weevil Patrol' at night with a flashlight and see these little brown beetles feeding on your prized plants.

There are two species of Nematodes (**Heterorhabditis marilatus** and **Heterorhabditis bacteriophora**) that control these pests. They are generally sold together in a packet that will treat approximately 300 sq. ft. of ground. Fall application is recommended when the soil temperatures are above 50 F. and when there is moisture in the soil. September into October is the best time. Mix with water and saturate soil around damaged plants. A pump sprayer is the easiest way to apply the nematodes. Keep soil somewhat moist during this time.

One packet will treat 3000 sq. ft. Suggested retail is \$20.00 per packet.

Microbe Colonization

Recent studies around a new patented product are quite promising for prevention of soil borne diseases including Phytophthora, and foliar diseases such as Powdery Mildew. Both of these diseases are a scourge for us rhodie growers, and a natural control like this is of interest. The product is sold under the label **Actinovate SP** and is a high concentration of a patented beneficial bacterium on a 100% water soluble powder. When used as a preventative, researchers have seen Actinovate® SP work as well or better than most chemicals. The bacterium is called **Streptomyces lydicus** and when introduced into the soil this microbe colonizes and grows around the root system of plants. While settling in the root's rhizosphere the microbe forms a synergetic relationship, feeding off of the plant's waste materials while secreting beneficial and protective by-products. This combination of the colonization and the protective secretions forms a defensive barrier around the root system of the plant which in turn suppresses and controls soil pathogens. *S. lydicus* also has been shown to prey on certain pathogens, disrupting their cell walls and disabling them in the process. Finally, the by-products of the Actinovate® microorganism also aid plants by assisting in the complex conversion of some of the minerals and micronutrients found in the soil, allowing easier uptake and, thus, creating a stronger, more robust plant.

When sprayed onto the leaves of plants as a foliar spray, the microbe forms a layer on the leaves and stems, suppressing diseases such as Powdery Mildew.

The only unfortunate aspect is that, at this time, Actinovate is only sold in packs to treat 50 gallons of water, so is not really a 'home owner' product yet.

By: Don S. Wallace owner of Singing Tree Gardens Nursery

Anyone interested in trying these products can contact Don S. Wallace at Singing Tree Gardens Nursery 707-839-8777.



Eureka Chapter/American Rhododendron Society
2050 Irving Drive
Eureka, CA 95503-7022

Eureka Chapter

Eureka Chapter is published monthly except during July and August. Submissions from members are encouraged and should be mailed to June Walsh, Bulletin Editor, 2050 Irving Drive, Eureka, CA 95503-7022. Rhodyhosh-tel@suddenlink.net
Membership information and applications are also available from Trish Ortiz. Ars.trish.ortiz@gmail.com
Eureka Chapter is a member of the Humboldt Botanical Gardens Foundation, Eureka, Calif. and The Rhododendron Species Foundation, Federal Way, Wash. Eureka Chapter is a chapter of the American Rhododendron Society.

Future Programs

October 22, 2015, Bruce Palmer, Plant Nutrition

November, Eat Turkey, Kiss your Family, and be Thankful!

December 3, 2015 Holiday Potluck, and Cuttings Workshop, Don Wallace

January 28, 2016, Paula Trinoskey, Fall Color in Japan

February 25, 2016, Dennis McKiver, Growing Show Quality Rhododendrons

March 24, 2016, Gisele Schoniger, Soils

April 28, 2016, To be announced

April 29 to May 1, 2016 Rhododendron Show and Plant Sale

May 26, 2016 IN-House Mini Show...win BIG BUCKS when you show us your bloomers

June 5, 2015, Member Garden Tour and Potluck Picnic

Put these dates on your calendar now so you won't miss any of these great programs.
Watch for the Eureka Chapter Newsletter for more info.

*Fall, leaves, fall; die, flowers, away;
Lengthen night and shorten day;
Every leaf speaks bliss to me,
Fluttering from the autumn tree. –Emily Brontë (1818–48)*



Eureka Chapter Officers and Board Members

For board member contact information or if you are interested in attending a board meeting, call or email June Walsh 707-443-0604