Vireya Vine Newsletter

PUBLISHED BY THE EDUCATION COMMITTEE OF THE RHODODENDRON SPECIES FOUNDATION E. White Smith, Editor

ISSUE #77, JANUARY 2006

From John Bodenham August 2005
Dear Vireya Vine, Plymouth, England

Firstly, it is about time I sent off a financial contribution. Enclosed $10. Keep up the good work, White & Fran. Secondly, I was most interested in the letters in VV#76.

Perhaps those contributors can explain the plant I have. It originated from Bill Mearns in Australia as a cutting, labeled either ‘Pink leucogigas’, or ‘Leucogigas Pink Form’. I have always attributed it to an event reported in ‘The Rhododendron’, volume 31, Spring 1991, page 8, in an article by Dr. R N Withers, regarding the History of the Introduction of Vireya Rhododendron Species into Cultivation in Australia, under 'leucogigas', which says

“A pink form of R. leucogigas was received by Bill Mearns from Welensky, a forester in West Irian, in 1973”.

Dr. George Argent does not think it to be leucogigas! at all. The flowers look a bit like the one White reported as having flowered recently, but not as good, and fewer per truss, and they fade quite badly. The plant is quite vigorous and is now almost 3ft high; far more vigorous than the example of leucogigas introduced by Sleumer, held at Edinburgh. George suggested it was perhaps a hybrid of konori. Incidentally, it doesn’t look very much like the Brian Clancy photograph of ‘Gardenia Odyssey’ on page 7 of VV#76 either. Mine has 7-lobed scented flowers which start off quite pink but quickly lose the pink to become a dull creamy colour. Yet the material source is reported to be identical Is there something wrong somewhere? Any suggestions?

John Bodenham
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Wembury
Plymouth PL9 ODL England

From Brian Oldham Auckland, New Zealand (North Island)
Dear VV, August 2005

I continue to be impressed with the difficulties and the diligence that the “Vine” readers around the world experience in growing these remarkable plants.

My wife Jan and I have been growing Vireyas in Auckland city since 1987, being the first to do so on any scale for the area. Perhaps the :”Vine” readers would be interested in our local conditions and methods which seem a breeze compared with others.

Auckland city is a narrow isthmus between two harbours, a cool and stormy one to the west and a warm and tranquil one to the east. The prevailing wind is from the cool west to the east. It is seldom calm for more than a day. Although breezes can be 30 to 40 Km/hour, most days gales are rare. Humidity is always high at 75 to 90%. Summer temperatures peak at 25 to 27C (77 to 80F) with the odd day at 30C plus (86F). Overnight lows are around 16 to 18C (60 to 66F). Winters are a different story with 16 to 18C in daytime and 4 to 10C (39 to 50F) at night with the occasional radiation frost on clear nights between rain squalls. These frost drop the grass temperatures to -2 to 4C (- 28 to -24F) for an hour or so just before dawn, although the air temperature remains just above freezing.

We grow our Vireyas unprotected in the open garden year-long, but the odd ground frost in some years is cold enough to nip the tender new leaves and flowers but does no lasting damage. Not for us the heated greenhouse and the mass movement of pots in shelter!

North and south of the central city the ground frost can be quite severe in places, with drifts of freezing taking out vireyas even in the shade houses. Snow has never fallen in Auckland. At latitude 37°S our summer sun is very strong especially in ultraviolet light and this can result in a

little leaf burning (37°S equals Gibraltar and Tunisia in the northern hemisphere). White Smith has commented on the thickness of the plant leaves here.

Rainfall is heavy in the winter but summers are dryish so summer watering is a must, and an odious chore for big pots. Prolonged winter rains pose problems of drainage for plants in the ground with our clay soil. Nonetheless we tend to have “weather” rather than “climate”.

The basic soil type is a heavy white clay, like putty when wet and a brick when dry, but there are frequent local areas of very light volcanic ash from the sixty odd minivolcanoes that have erupted within the metropolitan area in the last 40,000 years. The clays are acidic and poorly drained while the volcanoes are basaltic, alkaline at pH 7.5 and very free draining. We garden on the later, a tuff ring of 2,000 year old explosion crater.

In this environment growing vireyas is very rewarding. As everywhere, the species are difficult and require much TLC. A bit of hybrid vigour allows for a very wide range of plants with minimal protection. The species and javanicum hybrids are very prone to frost and cold wind damage.

We plant both in pots and in the open garden. Having pioneered vireya growing in Auckland we have perfected a planting technique for the region. Siting is best in light, dappled shade although a halfday of direct sun is required. Our plants, and other peoples do very well in full sun.

We are fortunate in having unlimited supplies of pine bark in all grades, (Pinus radiate an American west coast species) but it is naturally nitrogen leaching so requires a presale treatment with CAN (calcium ammonium nitrate, so called). We plant in the open ground entirely in fine #1 grade CAN bark re-enforced with 6 to 9 month fertilizer with trace elements and a suitable NPK ratio. We do not use peat as it holds too much water in winter and is difficult to rehydrate if it dries out in summers. Likewise the commercial specialized vireya potting mixes, of which there are excellent ones available cheaply, have little or no peat.

In heavy clay soils we have advocated planting on a free-draining shelf or slope, or above ground on the flat, while retaining the planting mix with logs, bricks or stones. There was a vogue for planting vireyas in hollowed-out fibrous logs of the large native tree ferns but the roots invade the fern pot and make removal for repotting next to impossible.

After 17 or 18 years in pots some of our R. leucogigas hybrids are 2 metres tall, with their roots filling 1 ½ metre pots, the maximum size we can handle. Now these plants are bounding away after being garden planted after all these years.

In this climate our principle diseases are Phytophthora and powdery mildew with variable problems with Botritis on the flowers from time to time. Pest are short-tongued bumble-bees and various wasp species that nip the

base of the flowers to get at the nectarines. There is also a small bird, the waxeye or silvereye (Zosterops lateralis) that does the same. The injury lets the Botritis fungus get a hold.

With such comparative ease of culture it is not surprising that vireyas have become widely used by the landscapers, although we have an ongoing battle to persuade them to plant them properly.

Brian Oldham & Jan
102 Meadowbank Road
Meadowbank, Auckland 1005 New Zealand

3rd Vireya Seminar
Hilo Hawaii

February 17, 18, 19 2006

Aloha
The Hawaii Chapter – ARS invites you to attend our 3rd Vireya Seminar scheduled for Feb. 2006. We are pleased to once again have international vireya representation to stimulate your senses, as well as, fun and fellowship for your spirit. For more information, please contact Veryl Ann Grace at P.O. Box 1330, Keaau, HI 96749 or E-mail to veryl.grace@verizon.net

February 17, 18, 19 2006

Seminar Hotel is --Hilo Hawaiian Hotel 71 Banyan Drive, Hilo, HI 96720
Phone 808-935-9361 / Fax 808-969-6472 Web site www.castleresorts.com

Here's a brief summary of scheduled events:

Friday – Feb 17th
Private garden tours on your own.
Welcome gathering barbecue dinner

Saturday – Feb. 18th
Speakers at Hilo Hawaiian Hotel

1. Neil Puddey, commercial vireya grower from Australia
2. Kaye Hagan, private vireya grower from Tasmania
3. Fred Rennick, private vireya grower from Southern California
4. Graham Smith, Director of Pukeiti Gardens, New Zealand
5. George Argent, retired taxonomist from the Royal Botanic Garden Edinburgh

Also planned is a demonstration on root pruning of vireya and a round table discussion
Sunday – Feb 19th
Paid garden tour

Closing fellowship gathering.

E Komo Mai … (Come on Over)
Sherla D. Bertelmann

Hawaii Chapter-ARS
vireya@pacificislandnursery.com

From Bill Miller Tacoma, Washington
Dear Vireya Vine September 2005

Anecdotal evidence for “An Aspirin Every Quarter”.

I read several months ago in The Avant Gardener newsletter about studies showing salicylic acid (aspirin) boosting the immune systems of many plants. A light went on and I recalled a story about my grandfather’s use of cut up and smashed willow branches in a five gallon bucket to root plants. Willow tree bark tea was used by Native Americans to cure headaches because it is full of salicylic acid.

So armed with this article and my own genetic history of the use of aspirin water I proceeded to add one 325 mg aspirin pill to my regular foliar feed. I normally use a scoop of “Peters Professional Soluble Plant Food Acid Greening 17-6-6” in a gallon of water. I foliar spray this combined solution on the tops and bottoms of the leaves of every plant in the greenhouse every three months.

I honestly noticed a difference in a month, a lot of the fungus had disappeared and new buds were appearing. By the second spray, in the dead of winter, I started getting blooms on my Vireyas. Some had never bloomed before this.

I am moved to write this now because I have just come out of the most incredible smelling greenhouse. I have a R. konori that was grown from seed in 1993 that has bloomed for the first time and my 24’ x 26’ greenhouse smells wonderful. Also, the new foliage is amazing. I am taking cuttings again (yes, I spray all my cuttings). This year the Vireyas have grown an average of six inches and are putting out side branches.

It costs me exactly four aspirin every year and a LOT of eyeball rolling whenever I tell any of my gardener friends. So I keep it quiet but thought I should let the other readers of the Vireya Vine give it a try and see if it was worth four aspirin a year to get incredible growth and fantastic blooms. (I see your eyeballs rolling!)

Bill Miller
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Editor note
I need to get into this. Bill Miller is my new son-in-law as of a little over a year ago. He along with my daughter Julie are co-presidents of the Tacoma Chapter of the American Rhododendron Society. They live at my ex-father-in law, Elwood Budil's home in Tacoma. The property is about an acre in size and has hardy Rhodies dating back to just after WWII. There is also a good glass greenhouse that Julie and I have spent many happy hours keeping in good repair. Probably back 20 years ago Bill Moyles in Oakland California was sending Julie hands full of very small seedlings that he had test grown when he was the Vireya seed person for the world. So Bill and Julie have quite a few Vireyas. The R. konori Bill is talking about, I grew from seed from John Rouse in Melbourne Australia. Bill has it in a big hanging pot and it had one huge truss on September 21st, so we took it to the Tacoma Chapter meeting. The strong fragrance filled the room. Great Stuff. EWS PS. WE have started using aspirin also.
And sometimes it is more than a good idea to blow people's horns. Bill Moyles handled the Vireya seed exchange for many years. Many of the seed lots were tested by Bill and lots of the small seedlings were passed on. Lucie and I here at Bovees Nursery owe Bill Moyles for many of our species, that he passed on to us or to other friends. Thanks Bill, Thanks.

From Dick (Red) Cavander December 2005
Dear Vireya Vine, Sherwood, Oregon (Just east of Portland)

Greenhouse Freeze Alarm System
Anyone that grows Vireyas, or any other tender plants, in a greenhouse in a cold winter area NEEDS a cold temperature alarm system. I found this out the hard way many years ago when my heater malfunctioned and I lost a big part of my collection. I did have an alarm but it malfunctioned as well.
An alarm system is not elaborate and anyone with a bit of mechanical skill can install one. The system described below will work with any type of heat system and the supplies should be available at any good hardware store.
A bit of background first. I have two greenhouses that I heat. One is a 95 foot long by 14 foot wide "poly tunnel house". It serves as a cool greenhouse in winter and a shade house in the summer. It has two layers of poly and a small (1/64 hp) squirrel cage fan that blows air between the layers. This inflates it and keeps the poly rigid. It has been very wind resistant and quite energy efficient. I heat it with an 80,000 BTU propane space heater. The heater looks like a jet engine and does a good job. I have a 500 gallon propane tank that supplies both houses. This heater could be supplied by a much smaller tank, however, I would recommend at least 15 gallon. I have used a kerosene heater of the same type but it requires refueling and that can be a problem during a long cold spell or if you are

out of town. Kerosene is also costly if you buy in small quantities.
My other greenhouse is a commercial steel and fiberglass structure. This house is 24 by 40 feet with 9 foot side walls. It has only a one layer covering and is much less energy efficient. This house is heated with a 150,000 BTU hanging greenhouse heater. The heaters in both houses are thermostatically controlled.

There are a number of commercial greenhouse alarms on the market. Really fancy systems will even make a phone call! I have 2 ThermalarM monitors; however I have several complaints with them. One, the numbers on the dial face fade out in sunlight after a few years. Two, the contacts corrode and fail to complete the circuit. This was the cause of the failure years ago.
I have since rewired the one in the greenhouse and it has worked fine since then. My monitors are some 15 or 20 years old so these problems may have been corrected. These monitors are available with an outside horn but they require 120 v power. My system is battery operated.
I like a battery operated system because there is no shock hazard and it will operate even if the power is off. This can be critical! The lantern batteries will last for several years because they see very little use.
When that bell goes off, you are out of bed NOW and turn it off. If it operated 5 minutes a year, that would be a lot. Admittedly, this system will not do any good if there is no one home but it has served me well for over 15 years. I always test the system every Fall by adjusting the thermostat or monitor to be sure the batteries are ok and all parts work.

After the failure years ago, I purchased a 2 stage thermostat for the poly house. The first stage turns on the heater and the second the alarm. The interval is adjustable. I like this thermostat as the switches are sealed in plastic and the only parts exposed to the environment are the wire attachments. Much less likelihood of corrosion. Really, any good 2 stage thermostat will work. Our home heatpump has 2 stages, heating and cooling, but you can connect the thermostat any way you wish. Be aware that thermostats are NOT always calibrated very well and a little experimentation may be required.

Wiring is rather straight forward. I used 2 conductor outdoor telephone wire. It is solid rubber with two 28 gauge wires. My poly house wire runs into the greenhouse and is connected, in parallel, to the monitor in there. That monitor is mounted next to the heater thermostat. From the greenhouse, the wire is strung overhead to the house. I entered the house through a gable vent. I then fished a wire down through an interior hall wall next to our door bell. These 2 wires meet in the attic and are wired in parallel to two 6 v. lantern batteries. I found that I needed 2 batteries as one was insufficient to power the bell.

My interior bell is really just a door bell. It operates on 6 or 12 volts.
It has a nice plastic cover that the wife does not object to and does not stand out like a sore thumb. I did modify the bell by installing a switch on it so that it could be turned off while I went outside to find the problem. The mounting location is about 10 feet from our bedroom door and

let me tell you, you will NOT sleep through it!

The mounting location for the indoor bell is not really critical. Any location where you can get wires to it, even the ceiling. In my system, one bell serves both houses. However, phone wire comes in 2, 4 or 6 conductor and several buildings could be served by one wire. A separate indoor bell could be used for each greenhouse as well. Several alarm locations could also be served such as your house, work building, etc. Larger batteries may be required but a little experimenting will soon tell you.

I really do hate it when that bell goes off but I would hate it even more to find the contents of my greenhouses frozen. The 100 bucks and day's work I spent on this system really does let me sleep better at night!

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See Chris Callard's wonderful Web site at www.vireya.net
Get into this group and let's talk about Vireyas
www.groups.yahoo.com/group/vireya

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also handle the Vireya seed exchange.
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ISSUE #78, MARCH 2006

New Vireya Species Book coming soon by Dr. George Argent, Royal Botanic Garden Edinburgh. About 400 pages, 300 species descriptions, lots of color. Offered by the Royal Horticultural Society, London at $100US with a 20% discount for pre order by April 15th 2006. I have ordered 15 copies for Vireya Vine people and another 15 copies for the RSF. I will pay for the 15 copies for VV people out of my pocket and hope to sell them all. I will sell the book at less than the cover price and will mail them to subscribers in the USA only. To be published in May. IF YOU want a copy please let me know right away, I can order more. This is going to be a

very limited edition, so do not wait too long. E. White Smith
Call us at Bovees Nursery at 1-866-652-3219 or e-mail at info@bovees.com
Don't forget by April 15th 2006

The Vireya Vine is financed by its subscribers. The only things you pay for are printing and postage. Fran Rutherford and I and my wife Lucie, do the work for the love of it. We do not have an annual subscription fee. Your mailing label will have a year date on it, which is the last time you contributed to the Vine. We welcome your contributions. You can use your credit card to make payments to the RSF for the Vine. We print this list because we think people are interested in who is getting the VV and growing the plants.
We say Washington State so that you do not confuse it with the US capital.

New subscribers or recent contributors are:

Janet Allen Washington State
George Argent Scotland, UK
Bruce Asakawa California
Pat Bender Washington State
Mitchel Beauchamp California
John Bodenham England
Stephen Brickley California
Brian Clancy Australia
Bob Craft Florida
Lyn Craven Australia
James Crawford Canada
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Gareth Shearman Canada
Parker Smith California
Frances Steak Hawaii
Charles Trommer Hawaii
Roger Van Loon Belgium
Kathy Van Veen Oregon

Mary-Beth Wagner Florida
Nancy Waterhouse Vermont
Rick Worley Hawaii
Mark Wright Florida

Taken from 'The Avant Gardener' PO Box 489, New York, NY 10028
If you like good information you really should subscribe to this monthly newsletter ($24 per year)

ASPIRIN WATER WINS AGAIN

In January of last year, we published a report on 2004 trials of aspirin water at the Demonstration organic Vegetable Garden at the University of Rhode Island (Kingston, RI 02881). Spraying with a dilute solution (3 aspirins in 4 gallons of water) produced "amazing" results in improved growth and yields of many crops. Now the Garden's Director, Mrs. Martha MacBurnie, reports on the 2005 trials. "This year we tested aspirin against Messenger, aerated compost tea, a commercial organic liquid fertilizer, and control. Any direct-seeded plants had their seeds soaked in the test liquids and the plants were foliar-sprayed every three weeks after planting---we used compost tea in the same bed as last year and our last bed was the 'control' bed again this year. In a twist on the original experiment, we used Alka Seltzer (generic) sugars instead of aspirin. One of our members is a retired pharmacist. He suggested that since aspirin doesn't dissolve well in water, Alka Seltzer is designed to dissolve quickly and might be easier to use. Again, aspirin water was the clear winner in terms of plant health and yield. The biggest surprise was that the control bed came in second place and the other three products seemed to act as growth inhibitors. The Messenger plants barely grew at all during the season. Despite the great results our gardening friends on the West Coast are having with compost tea, for the second year in a row we didn't have much luck with it. Diseases were undeterred and yields were unremarkable.

"We did notice that the aspirin water plants were not as wildly vigorous as they were last year. We're thinking that it's the pH difference between aspirin and Alka-Seltzer that accounts for it, though we don't know the exact mechanism. So, needless to say, this year's experiment will be aspirin vs. Alka Seltzer! Also, we've found that aspirin, while it doesn't dissolve in cider vinegar, it breaks into very small particles and disperses better in the sprayer in a little vinegar."

From George Watson Partner at Bovees Nursery, Portland, OR
Dear VV March 6, 2006

Aspirin is aspirin? Yes and maybe.

All aspirin of regular strength contains 325 mg aspirin. The difference is how it is combined with the carrier to form a tablet. The inexpensive 5 gr aspirin use starch or some other substance to combine with the aspirin to make the shape of the tablet. These inexpensive substances often take a long time to dissolve before freeing the aspirin if much at all. A more costly aspirin tablet uses a binder that breaks down almost as soon as it contacts a liquid, freeing the medical agent immediately. In a simple test put a "Bayer" aspirin in a glass of water and a low cost aspirin in another glass of water, and see the difference for your self. Even after an hour you might have to break up the cheap one where as the Bayer dissolves

almost without delay.

OK, fine, and it might not matter if you are taking the aspirin into your body as to how it breaks down. But I have found that when I use aspirin to spray on plants I really want it to dissolve quickly. If I just toss a couple of generic tablets into my 2 gallon pump up sprayer I sure don't want to find out after spraying out 2 gallons that the aspirin is still sitting in the tank. I guess we get what we pay for. The thing about Alka-Seltzer is interesting, so I will have to ask more and think about that a bit.
George Watson is retired pharmacist and Lucie Sorensen-Smith's partner at Bovees. They bought the nursery about 35 years ago from Bob Bovee's widow as a nice little retirement business. And we do spray with aspirin water. I am not sure if it helps or not but it does not hurt anything. EWS

December 2005
E. White Smith Vireya Vine editor
After talking to Dick Cavender here in Portland, Oregon, we have installed a freeze alarm in our greenhouse and in our plastic houses. The only hard part of the alarm is finding a thermostat that will go down below 40° F. We set our natural gas heaters at 40 ° F, so if the power is off or something else happens and the temperature falls much below 40 the alarm (I used a buzzer in the bathroom next to our bedroom) the alarm will sound, and I will go and find out what is wrong.

How important is the alarm to us? If the greenhouses happen to freeze we and the world would probably lose the biggest collection of Vireya rhododendrons, over 700 clones. Many collections have been lost because of freezing when the growers did not know what was happening at the time. OK yes we have tried the fancy radio alarms but they are not always reliable. The battery, thermostat, bell or buzzer always works and is cheap to make up ($50). The thermostat we are using is from “Farmtec” at 1-800-457-8887 or www.farmtec.com, their stock number CR2095 for $24 plus shipping.

If you are growing tender plants in a greenhouse get with a program and install a freeze alarm to protect yourself.

Our next challenge is to figure out a way to transmit the sound of a smoke alarm, from the greenhouse into our residence. WE had an electrical caused fire in a plastic greenhouse last fall and lost about 50% of our two year old plants. A “baby monitor” has been suggested. Any other ideas?

E. White Smith, Bovees Nursery, Tacoma Chapter, Portland Chapter, American Rhododendron Society November 2005

It’s your money. Using better lighting to grow Rhododendrons.

Lighting energy use accounts for about a quarter or more of the estimated one trillion kWh (kilowatt-hour) of energy yearly expended by the US commercial and industrial sectors. The cost to light US offices, factories, retail stores, warehouses and other commercial operations combined with outdoor lighting is close to $20 billion. (kWh 1 kilowatt hour = 1000 watts per hour, all we need to understand is that a watt is a measure of electricity). Tacoma Power charges about $0.6 per kWh. Portland General Electric charges $0.872 or almost 9 cents per kWh minus some adjustments. In most of the US the cost of electricity is much higher. Take a calculator and add up your electric light use. Bulb Watts x hours used = kilowatts used per bulb x days used = a lot of money. The US Department of Energy says that a 100 Watt Incandescent bulb that only cost 75 cents will cost you almost $40 in electricity use and bulb replacement over just 3 years. A 23 Watt Compact Fluorescent will cost about $20 for power over 3 years and the bulb will last another 3 years. The cost of electricity is always going to go up. Many Rhododendron growers use lights to help root cuttings or grow seedlings and the lights work just fine. But the problem I have is the cost of running these lights. Our electric bill at Bovees Nursery in Portland Oregon runs about $140 per month. Some of that cost is for rooting bed heating cables and fans.

Many of the lighting systems in use today are old technology. Also some of the lighting solutions are not very efficient dollar wise. But many new lighting systems are coming onto the market.

OK, our problem is cost of electricity to do the lighting we need. We have six, 8 foot by 3 foot rooting beds. Our beds are “sweat box” type with heat cables under the pots/plants. The beds are each three feet tall and the whole thing is covered with clear poly film. The beds are tall so that there is working room inside and they have fold up or pull up front sides. Last year each of these rooting beds had two, eight foot, fluorescent units. These units each had two 80 watt tubes, so 80 x 4 = 320 Watts per eight foot bed. We have now changed these fluorescent fixtures to the new

“High Output” ones. The new fixtures are also eight feet long and contain two 110 Watt High Output bulbs. and we only use one unit per rooting bed instead of two, so 2 bulbs X 110 watts = 220 watts for a power saving of 110 watts per hour of usage. The one new High Output fluorescent unit is much brighter than the two fixtures it replaced, so we gained all around, more light and less power used. Yes, the new high output fixtures cost more, $45 compared to $25 for the old ones. And the 110 watt fluorescent bulbs cost more, about $5 each compared to about $3 for the old 80 watt ones. So more light and less power used and we might come out even some day. We were replacing the old fixtures anyway when they went bad. The high output fixtures are “instant on” “no flicker” and “no noise”.
We run the lights at night in the winter for the added heat they give off, with a fan up high to direct the heat back down from the ceiling. We rarely provide any other supplemental heat in the propagation house. Because our propagating house is really a greenhouse, we were getting a lot of “light leaking” to the outside at night, and the leaking light was not doing the cuttings any good. I bought a role of aluminum roof flashing material, 10 inches by 50 feet and cut it into 8 foot pieces. The fluorescent fixtures are hung just above the top poly covers, and I just laid the aluminum strips up against the light units like a lean-to tent. Boy did that stop a lot of light leaking to the outside and a lot more light was directed down unto the plants. Good deal. Next time I put new poly on these beds I am going to try some aluminum stuff on part of the sides also to reflect more light.

We also have a couple of seed growing chambers that had 48 inch fluorescent units in them. The fixtures had two 40 watt T12 tubes and I have replaced them with new two tube 32 Watt T8 units which seen to give a lot more light. Here again the old fixtures were going bad so they needed to be replaced anyway. The T8 fixtures are cheap, cheap, cheap, only about $10 at Home Depot. So now we have again better light and less power used, instant on, no noise, and no flicker. Even the best T8 lamps will produce less light than the best T12 ones, but the T8s use less power.

Light is measured in lumens. One lumen is equivalent to the light given off by one candle where as a Watt is the amount of power a bulb uses to produce light. kWh = 1 kilowatt hour = 1000 watts of electricity used per hour.

Lumens divided by Watts = Lumens per Watt
3,300/40 = 82.5 lumens per watt (for the best T12 40 watt fluorescent lamp)
2,650/34 = 77.9 lumens per watt (for the best T12 34 watt fluorescent lamp)
2,950/32 = 92.19 lumens per watt (for the best T8 32 watt fluorescent lamp)

(The following fluorescent tubes are 4 foot long T12 types. Remember all of my numbers are what I could find at Home Depot or Lowe’s so they are plus or minus.)

Lamp Types	Approximate Efficiency Range lpw*	Color Rendering Ability
Standard Incandescent bulbs	7 to 15	Excellent (100)
Tungsten Halogen	15 to 25	Excellent (100)
Compact Fluorescent bulbs	25 to 75	Good (70+) to Excellent (100)

Full Size Fluorescent tubes 65 to 95+ Medium (60+) to Excellent (80+)
Metal Halide 45 to 95+ Fair (50+) to Good(70+)
*Light Per Watt

Demystifying Fluorescent Lamp Size
Fluorescent lamps are classified according to their diameter in increments of 1/8 inch. Such as.
T12 Lamp diameter is 12/8 inches or 1.5 inches
T8 Lamp diameter is 8/8 inch or 1.0 inch (next generation lamps that require an electric ballast, they are Instant Start, don't flicker, and make no noise)
T5 Lamp diameter is 5/8 inch or 0.625 inch (another new generation lamp/bulb)

Some facts (note that different manufacturers have different numbers (little bit different)
At this time I suggest you only use Fluorescent lights to grow plants because of the cost of electricity. If you buy new fluorescent fixtures be sure that they have Electronic Ballast. The old type ballast were called magnetic ballast, the new ones are solid state electronic ballast.

Type of bulb	Watts used	Lumens output	Life of bulb/hours	Bulb cost
Incandescent	100 Watt	1690	750 hours	.50 to $1.00
Incand Rough Service	100 Watts	1160	1000 hrs	$2.00
Incandescent	75 Watts	1170	750	Not much
Incandescent	60 Watts	840	1000	$0.60

At $0.12 per kWt, 24 hour use cost 17 cents

Compact Fluorescent	13 Watts	900	10,000	$2.50

At $0.12 per kWt 24 hour use cost $0.037 that's almost 4 cents

Compact Fluorescent (GE)	20 Watts = 75 Watts,	1200	8,000	$5.00 +
Compact Fluorescent (GE)	26 Watts = 100 Watts,	15-1700,	10,000	$4.00 +-
Compact Fluorescent	42 Watts = 150 Watts,	2600	10,000	$9.00+-

Fluorescent tubes 4 foot long T12	25 Watts	1860,	15,000	$2 +
Fluorescent tubes 4 foot long T12, Philips Advantage	40 Watts	3250	12 to 15,000 hrs	$3
Fluorescent tubes 4 foot long T8	32 Watts	2900	20,000	?
Fluorescent tubes 8 foot long T8	57 Watts	5400	18,000	??
Fluorescent tubes 8 foot long T12 GE XL	60 Watts	5400	15,000	$4 to $8
Fluorescent tubes 8 foot long T12 GE XL	75 Watts	6700	15,000	??

Fluorescent tubes 8 ft long T12 High Output
110 Watts $4 to $7.00

Fluorescent tubes 57 inches long T5

35 Watts	3650	20,000	?? If you can find them anywhere??

Fluorescent tubes 57 inches long T5 HO High Output

49 Watts	4900	20,000	?? If you can find them anywhere??

Remember these new fluorescent fixtures require the new “solid state” ballast, not the magnetic type ones. Beware of so called “energy saving” bulbs. They might save 15% of the electricity but are not as bright defeating the energy savings. In most cases you get what you pay for. I have tried to get good numbers for all of my “facts” but that is very hard to do. If you go to a store and look carefully at bulbs, you may or may not learn something. Sometimes they don’t tell you about light output so how can you compare?

Light level goes down by a factor of 4. If you triple the distance it goes down by a factor of 9. I think I remember that light is lost by the square of the distance by the foot.

You can also get T5 fluorescent grow lights and compact fluorescent grow lamps. There is one that uses 125 Watts and puts out 9500 lumens for $70 and it might be a good deal if you could build a reflector for it to screw into. The commercial reflectors cost about $60 with hardware.

Enough of that Fluorescent stuff. Are there better ways to get cheap light. You bet and it’s called L.E.D.s, Light Emitting Diodes. And you can buy plant growing fixtures that have LED bulbs but they are very expensive for now (like $250 to light four square feet). Some day!! The big advantage of LED is that they use very little electricity and last almost forever. But LEDs are little bitty things and you need a lot of them to get much light. Probably all of the little lights on your computer, TVs etc are LEDs. Some of the fancy new cars have LED tail lights so LEDs are coming but it will be a while. Sure wish I could figure out a way to hook some up and try them. If any one has some suggestions about using LEDs with out spending a lot of money please let us know.

Some people might question the distance of our lights from the cuttings. The purpose of the lights is not necessarily to push top growth, but to promote root growth by providing night and day periods , and at least a 12 hour day of light. Also we are not concerned about the frequency or color of the light. For our use, light is light, we get excellent results with both vireyas, hardy rhododendrons and hardy rockgarden plants.

E. White Smith, Tacoma Chapter & Portland Chapter ARS, Bovees Nursery

Root Weevils November 14, 2005

Weevils, weevils, weevils. We all have some be it the Black Vine Weevil, the Strawberry Root Weevil, or the Obscure Root weevil. And we really do not care which one it is, we just don’t want them eating our Rhodies. Root weevils do two kinds of damage. The real obvious thing they do is take notches out of the Rhododendron leaves and that is what most people see and object to. The less obvious damage that root weevils do is produce larvae which eat the roots of the plants. Eating the roots can and does kill

plants or makes them so weak that they die from other things like a small lack of water.

The only good chemical we have had available for years was Orthene. For root weevil control with Orthene the plants needed to be drenched. It also needed to be used over and over and over. Drenching might kill the larvae. And if you don't kill the larvae you will have adults eating the leaves and laying eggs to make more larvae. Commercial growers have had another chemical that really works well--- "Talstar". Talstar was originally registered for use on termites and it was very, very good. It also was used to control ants where they were a problem. It provides long term protection from ants, crickets, ticks, fleas, fire ants, chinch bugs, army worms, termites, mealybugs and weevils plus many more insects.
Talstar is a synthetic pyrethroid low odor chemical that comes in two different forms; granular at 0.20% active ingredient and as a liquid concentrate at 7.9% active ingredient that was sprayed on (cost about $125.00 for ? gallon). Both work very well on root weevils. Talstar itself is not available to the public. BUT now you can get the same thing with a different name. The chemical name is Bifenthrin or sometimes it is listed as Bifen IT. I went to Home Depot and found this chemical in two products, Ortho "Home Defense" 'Max' at 0.05% for a 24 ounce ready to use sprayer at $4.99. Ortho also has a concentrate called "Ortho-Klor" 'Termite and Carpenter Ant Killer' at 2.4% active ingredient for $38.00 a quart. Yes $38 seems to be a high price but this chemical is so good that you will get rid of root weevils (or almost), where as Orthene really did not do a good job. The "ready to use" product probably is not a good buy because you would need to use a lot of it at a time to get control.
The modern way to control pests in the garden is to use a product that does the job the first time. With Talstar type products you only treat the plants once (or at least not very often) and only the ones that have a problem. Never spray the entire area, just the damaged plants and the ground covers surrounding them.
Talstar and the chemical Bifenthrin are said to be very safe products and have a low toxicity. But it is bad for fish so keep away from flowing water. Again these products are a "synthetic pyrethroid". Pyrethrums are natural insecticides produced by certain species of the chrysanthemum plant.

Like most Rhododendron growers and hobbyist we had weevils at Bovees Nursery. But not any more. There will always be some around because they can come in from the neighbors, but with only a few treatments we are mostly free of this pest. I have not used an insecticide of any kind for the last two years (twice with Orthene in the greenhouse for aphids is all). We also spend quite a lot for wild bird seed and the little birds do a great job of insect control. Bird seed is a lot better than spraying insecticide any day.