SOUTHEASTERN CHAPTER

AMERICAN RHODODENDRON SOCIETY

1983 INFORMATION PACKET

We wish to thank all those who gave of their time and knowledge in contributing to this information packet.

Wallace Marley
President

WHY NOT ENTER SOME RHODODENDRON TRUSSES IN THE FLOWER SHOW THIS YEAR?

Most of us who have rhododendrons in our gardens have them there for the year-round beauty of the plant, but we all look forward each year to April and May when their beautiful trusses bloom. Rhododendron trusses come in all colors of the rainbow. Some are fragrant, and they all come in a multitude of shapes and sizes. I am sure that each of us thank God for blessing us with our rhododendrons, expecially during their flowering season.

We should all be more conscious of sharing our trusses, during the annual flower show, with others. Some people will be attending the show for the first time, and we certainly want to impress them with the beauty of rhododendrons. There are some who attend the show each year, because they know that each year they have attended, they have been rewarded with the beauty of rhododendrom trusses. As an extra reward they jot down the names of a few that "struck their eye", so they might try to find these plants for their garden.

As you have gathered from the title of this article, I would like to encourage you to bring as many trusses as possible each year and enter them in the show. This would help us to have a larger, more successful and more enjoyable show each year.

Of course, to have nice showable trusses, you must plan ahead and start your work AFTER EACH SHOW for next year's show. I would like to pass along some of my thoughts to you that might improve your chances of winning a ribbon at the show. But, more importantly, you would be sharing these "objects of beauty" with others who may not have rhododendrons of their own.

SOME IDEAS TO THINK ABOUT:

(1) As you know, rhododendrons put on a new flush of growth, and their trusses usually open in a period of two to three weeks, So the roots must be healthy and well fed before this process begins. Normally, the plants would be fed in March or April. This is not a complicated process. I personally prefer to feed the plants during the latter part of January. To keep from stimulating the roots, I use a source of nitrogen that is at least 75% slow release. Use two parts by volume of cóttonseed meal with one part 46% tri-super phosphate. The cottonseed meal breaks down very slowly, and the rhododendrons love it. By feeding early, this gives us about three months for the fertilizer to get to the roots of the plants. This will be in plenty of time for the plants to store the nutrients in their roots, waiting for trusses to open, and for the flush of new growth to finish.

It is up to you when to fertilize. Some people whom I know who win a lot of blue ribbons, do feed their plants early. It is better for the plants to use fertilizers that are formulated for acid-loving plants such as azaleas and rhododendrons. Remember, though, that the well fed plants will produce larger trusses and beautiful new growth.

(2) Sometimes the leaves on our plants become off-color during the winter months because of winds and cold temperatures. You can green them up for the show if you try the following procedure: Mix (first) two tablespoons of soluable fertilizer such as Rapid Gro, Peter's Rhododendron Special or Miracid with (second) two tablespoons of Epsom Salts and (third) two tablespoons of Sequestrene to each one gallon of water and mix thoroughly. Apply one gallon of mixture to leaves and let it fall to the ground under the larger plants. For younger plants, use a pint of above mixture.

I don't believe this mixture will harm your plants if you use a heavier mixture in extreme cases than I have suggested. You will be surprised to see your plants green up in four to five weeks. Try to get this on your plants by March 1, then the leaves will be nice and green by the time you cut your trusses.

(3) Another chore for January or February: While the plants are dormant, select the plant from which you wish to cut trusses and remove unnecessary buds. You will usually be able to select the largest buds and always remove any buds that are nearby. By doing this, more strength will go the remaining buds and the trusses should be larger. Also, consider the leaves with the buds that remain. They must be nice, also with nice green color and no bug damage. Remember the judges deduct points for inferior leaves.

Within six weeks after the trusses have bloomed and the new growth has finished is a critical time because of fungi and insect damage. This is because any place on the plant that has insect damage is also a possible entry for fungi. ~~to enter~~. It is important to remember that fungi usually have to have some injured place in the plant to gain entry.

(4) A sensible spraying program is necessary to keep your plants attractive and healthy. But don't over do it! After the old trusses have been pulled and discarded, and the new flush of growth has finished growing, is the time to spray using an insectcide with a fungicide. Remember to carefully follow mixing directions, to use the proper clothing and to wear a mask. Use a good systemic fungicide and a systemic insecticide. Spraying should be finished probably by June 1. This will be all the spraying you will need to do until the chewing insects begin in September, but always watch for signs of insect damage and fungi and spray when necessary. If you do have chewing insects in September, spray with Sevin. Again, use caution when spraying. This is one of the "safer" sprays, though.

(5) During the fall and winter renew your mulch around the plants to insulate their roots. Remember anytime the soil temperature is above 50° Fahrenheit there will be some root activity. During the summer, when we have hot dry weather, a good mulch will save a lot of watering, and the soil around the roots will stay cool, which is important.

Now for some tips on choosing the trusses and their care before entering the show:

1. Preferably cut the trusses early the morning of the show.

2. Select trusses with only one or two pips not fully opened.

3. Pick trusses that are in prime color with prime substance, or the judges will subtract points.

4. Try to pick trusses with stems that are straight and are in alignment with the truss.

5. Select trusses with the location of the rosette of leaves balanced around the stem and having nice color and, of course, uniform in shape.

6. Clean the leaves with a damp cloth. Do not fail to clean dirty leaves, but never use wax or any other artificial preparation.

7. Cut your stems about six inches long if possible and split the end of the stem with a knife. Smash the last inch of stem with a hammer. This will aid the stem in picking up water which the trusses need badly.

8. You may cut some of your trusses up to a week early if you have a spare refrigerator that you can maintain a temperature of 40° to 50° Fahrenheit. If you have some nice trusses that come in a week or so before the show, try cutting them early and put them in a Coke bottle filled with water and place in the refrigerator. I have tried putting an aspirin or one-half teaspoon of sugar in the water. It seems to aid the stem to pick up more water, or to hold the water it has in the stem longer and seems to work for me. You may want to try this. If you can keep your trusses in good condition until after judging, your efforts will be rewarded.

9. Now that you have your nicest trusses and have them prepared for judging, put your bottles in Coke bottle cases, or something that will hold them in place, until you get to the show. When you get to the show, there will be someone to aid you in classifying and registering your trusses (to speed this, always have your trusses identified before you get to the show). There will be someone at the show to place your trusses in the proper places on the table.

Now, all your hard work during the past year is over. Go somewhere and have lunch and relax until judging is over. Around 1:00 or 2:00 p.m. return. Check your entries to see how many ribbons you have. Look at every truss on the tables and try to evaluate them as the judges did. Try to learn all you can for next year. The major points that the judges usually check are:

1. Size, according to variety
2. Color
3. Form
4. Foliage
5. Substance
6. Condition

Usually the judging is in this order.

Always look for new varieties that you do not have. Write down the names and try to find them. Remember you must have all new plants in your garden six months before the next show, because sometimes there are time restrictions on how long you must have plants in your garden before you can display their trusses.

Take time to talk with any newcomers at the show. Supply any information they may need and invite them to join the local Chapter of American Rhododendron Society.

Bill Smart

A REVIEW OF THE RESEARCH ON COLORS IN EVERGREEN AZALEAS

BY
J. HEURSEL, INSTITUTE OF ORNAMENTAL PLANT GROWING, MELLE, BELGIUM
AND
W. HORN, TECHNICAL UNIVERSITY, HANOVER, WEST GERMANY
BY
AUGUST E. KEHR

Summary

The inheritance of flower colors in evergreen azaleas has been proposed as follows:

(A) White x white = white
White x color = color (i.e. red, purplish red, purple)
(B) Red x red = red
Red x purplish red = purplish red
Red x purple = purple
(C) Purplish red x purplish red = purplish red
Purplish red x purple = purple
Purple x purple = purple

Hence purple is dominant over white, red, purplish red.
Purplish red is dominant over white and red.
Red is dominant over white.

There is still much work to be done to explain other colors including pink. This research was done with evergreen azaleas, and may or may not be directly applicable to other groups of the genus. In the above summary, it must be assumed the colors are homozygous. If the colors are heterozygous, the colors immediately above each group designated by a capital letter may appear in the progeny (i.e. heterozygous red x heterozygous red gives red and white).

Introduction

By far the most definitive research paper on genetics of flower colors of azaleas I have read in recent years is that published by J. Heursel and W. Horn. It was published in a German journal in 1977.* How I wish I had read it critically sooner. It is difficult to obtain such papers except in a large research library and, therefore, I am reviewing it here.

I. The Genes to Color

Thus far Heursel and Horn have identified six genes for flower color. The identification of these genes was based upon thousands of crosses, growing out the huge populations of plants and then analyzing the flowers of each plant by high pressure chromatography to determine their color pigments. After this huge amount of research and analyzing the tremendous amount of data, the six genes identified are as follows:

* Heursel J. and W. Horn, 1977, A hypothesis on the inheritance of flower colors and flavonals in Rhododendron sinsii Planch. Z. Pflanzenzüchtg. 79: 238-249.

W = production of anthocyanins. Anthocyanins are the reds, reddish purple, purple pigments.
w = no production of anthocyanins, hence white.

Q = production of flavanols. Flavanols in the presence of anthocyanin gives purplish; when no anthocyanins are produced, the color in evergreen azaleas is essentially white, or at least very, very light ivory.
q = no flavanols.

M = methylation of flavanols: quercitin to azaleatin and myricetin to myricetin 5 - methyl-ether.
m = no methylation.

O = oxidation at position 5.
oxidation at position 5 of anthocyanins - (cyanidin to delphinidin and peonidin to malvidin. This gives a bluing effect) of quercitin to myricetin and azaleatin to myricetin 5 - methyl-ether.
o = no oxidation.

P - methylation at 3'-5' position (only if oxidized) of anthocyanins (delphinidin to malvidin, and cyanidin to peonidin).
p = no methylation of anthocyanins.

G = glycosidation of anthocyanins.
g = no glycosidation.

The G and g genes do not appear to be decisive in color determination in the material studied to date, and are left out of this discussion.

II. Terminology

Some genetic terms are almost necessary in this discussion and so will be defined for clarity.

Homozygous indicates both gene pairs are identical (i.e. WW, GG, OO, ww,gg,oo,etc.)
Heterozygous indicates that a gene pair is unlike (i.e. Ww, Gg, Oo, etc.).
Dominant indicates genes which express themselves when combined with their partner that is unlike, or in the above terminology, heterozygous (i.e. W expresses itself when combined with w but w gene itself is not expressed; Q expresses itself when combined with q but q gene itself is not expressed). Dominant genes are denoted by capital letters.
Recessive indicates genes which do not express themselves when combined with a dominant partner. Recessive genes are shown by small letters, i.e. w, o, q, etc.

III. Genetic Background from the Publication

The genetic background on 30 azalea clones is shown in Table 1 (from the original publication). Unfortunately most of them are not commonly known azalea clones in this country.

Likewise the pattern of gene combinations is shown in Figure 1 also taken from the original publication.

You may wish to refer to Table 1 and Figure 1 from time to time during this discussion. Also note the colors are given in terms of the RHS Color Chart in both Table 1 and Figure 1.

This discussion deals only with normal diploid evergreen azaleas. Polyploid ratios would best be done with a computer. Genetics of other groups in the genus rhododendron are essentially unknown, although much research is being done on pigments. This latter research on pigments needs to be summarized and put together in a popular style publication. The ARS Research Committee is soliciting proposals to do this work, and hopefully some day this material will be available for hybridizers.

IV. Color Pigments Produced by Various Gene Combinations

A. Anthocyanin Pigments

Anthocyanin pigments are water soluble and produced only when the gene W is present. Four basic authocyanin pigments are formed as follows:

WWOOPP or WwOoPp = malvidin - (purple)
WWOOpp or WwOopp = delphinidin (blue)
WWooPP or WwooPp = peonidin (carmine)
WWoopp or Wwoopp = cyanidin (geranium lake)

Once again it should be noted at this point that a plant which is heterozygous gives the color expression of the dominant gene (shown in capital letters) in the same manner as one which is homozygous dominant (i.e. WW = Ww in appearance).

B. Flavonols

Flavonols are the water soluble yellow forming pigments found in cell sap. Flavonols are entirely distinct from carotenoids which are water unsoluble yellow pigments. Some rhododendrons such as R. chryseum contain both types. At levels found in azalea flowers, flavonols are essentially invisible in themselves. However, their effect is seen in a "purpling" of anthocyanin pigments when the two types of pigments occur together.

QQMMOO or QqMmOo - myricetin 5 methyether (white)
QQMMoo or QqMmoo - azaleatin (white)
QQmmOO or QqmmOo - myricetin (white)
QQmmoo or Qqmmoo - quercitin (white or light ivory)

C. Combination of Anthocyanins and Flavonols

(a) Effect with gene M
WWQQMMOOPP = malvidin and myricetin 5 methyether (Purple)
WWQQMMOOpp = delphinidin and myricetin 5 methyether (reddish purple)
WWQQMMooPP = peonidin and azaleatin (rose red)
WWQQMMoopp = cyanidin and azaleatin (rose red)

(b) Effect with gene m
WWQQmmOOPP = malvidin and myricetin (reddish purple)
WWQQmmOOpp = delphiniden and myricetin (roseine purple)
WWQQmmooPP = peonidin and quercitin (purplish red)
WWQQmmoopp = cyanidin and quercetin (magenta)

All of the above combinations will be white with homozygous gene w. The above are shown with homozygous dominant genes, but remember the heterozygous condition has the same effect.

V. Significance of Genes to Hybridizers

A. White Flowers (gene w)

White flowers result whenever homozygous genes w only are present (i.e. gene W absent). Hence hybridizing white x white will always give white. Additional genes for color which may be present are hidden. For example, the cross white R mucronatum (wwQQMMOOPP) x white Perle de Swijnarde (wwggMMoopp) will give 100% white offspring. If white flowers are crossed with colored flowers (gene W), the hidden genes are then expressed. Thus, if R mucronatum is crossed with any colored plants (carrying the genes WW), all offspring will be 100% purple.

B. Red Flowers (when gene pairs are the same - homozygous)

Red flowers may be red because of the pigment cyanidin (WWqqoopp) or the pigment peonidin (WWqqooPP). Crosses of such homozygous reds will always give reds. When these reds are crossed with whites, other colors may appear depending upon the hidden genes. Thus a cross of white R mucronatum (wwQQOOPP) with any homozygous red will give 100% purple progeny. On the other hand, a cross of a homozygous red with the white 'Perle de Swijnaerde' (wwqqMMoo--) will give 100% red progeny because the color genes in 'Perle de Swijnaerde' are all recessive (The gene M is dominant but has no function because neither anthocyanins nor flavonals are produced; thus no pigments for the gene to act upon).

C. Red Flowers (whenever gene pairs are unlike-heterozygous)

When red flowers which are heterozygous are crossed, the unlike genes segregate in the progeny, and different colors appear. Heterozygous reds 'Avenir' (Wwqqmmoopp) when crossed with heterozygous and 'Dame Melanie' (WwqqMmoopp) will give progenies with reds and whites. If they are crossed with white 'Perle de Swijnaerde' the progeny will also be reds and whites, although in different ratios of the 2 colors.

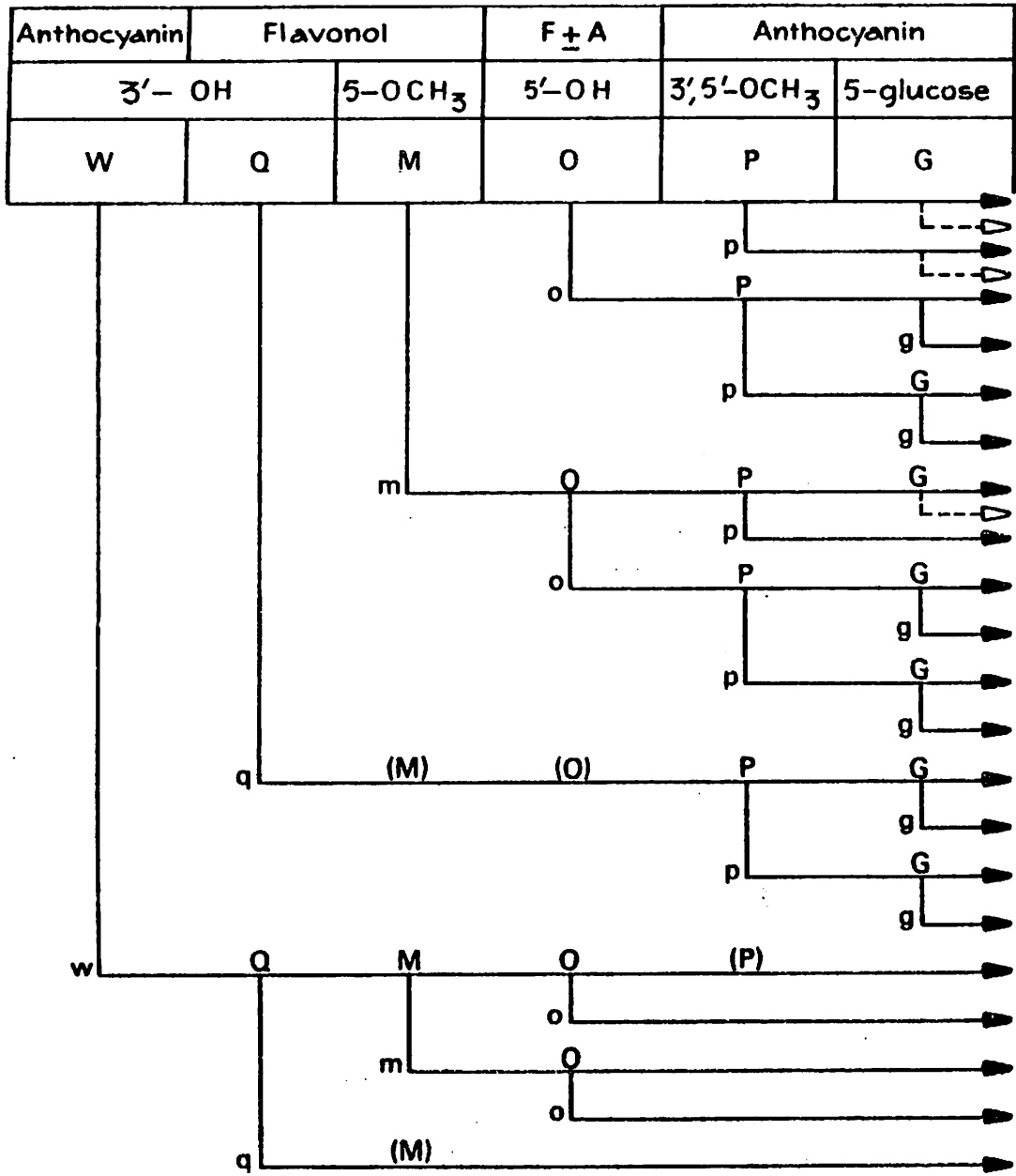
D. Purple Flowers

Purple flowers result when dominant genes W, O, and P are all present in either the homozygous or heterozygous condition. A homozygous purple will give 100% purple progeny when crossed with any other color. On the other hand, a cross of two completely heterozygous purple will give a complete range of all colors.

Table 1 Genotype suggested for a number of *R. obtusum*, *R. scabrum* and *R. simsii* hybrids

Cultivar	R.H.S. C.C.	*W*	Q	*M*	O	*P*	*G*
Adventsglocke	54 A	*WW*	*Qq*	*Mm*	*oo*	*pp*	*gg*
Apollo	44 C	*WW*	*qq*	*Mm*	*oo*	*Pp*	*gg*
Avenir	52 BC	*Ww*	*qq*	*mm*	*oo*	*pp*	*Gg*
Carmen	55 A	*Ww*	*Qq*	*M.*)*	*oo*	*pp*	*gg*
Coelestine	58 B	*WW*	*Qq*	*Mm*	*oo*	*Pp*	*gg*
Constance	67 D	*Ww*	*Qq*	*M.*	*oo*	*Pp*	*Gg*
Dame Melanie	52 D-WE**)	*Ww*	*qq*	*mm*	*oo*	*pp*	*Gg*
Dr. Bergmann	43 C	*Ww*	*qq*	*MM*	*oo*	*pp*	*Gg*
Eclaireur	57 B	*Ww*	*Qq*	*Mm*	*oo*	*Pp*	*Gg*
Elsa Kärger	45 C	*W.*	*qq*	?	*oo*	*Pp*	*gg*
Ernst Thiers	63 B	*W.*	*Qq*	*mm*	*oo*	*Pp*	*Gg*
Hexe	58 B	*WW*	*Qq*	*mm*	*oo*	*Pp*	*Gg*
Josiane Maeseele	66 C	*WW*	*Q.*	*M.*	*oo*	*pp*	*GG*
Julius Roehrs	57 C	*W.*	*Qq*	*Mm*	*oo*	*Pp*	*Gg*
Kirin	62 B	*Ww*	*Qq*	*mm*	*oo*	*pp*	*gg*
Knut Erwén	53 D	*Ww*	*Qq*	*Mm*	*oo*	*pp*	*gg*
Niobe	white	*ww*	*Qq*	*M.*	*oo*	—	—
Mme Petrick	57 D	*Ww*	*Qq*	*MM*	*oo*	*pp*	*gg*
Paul Schäme	47 D	*Ww*	*qq*	*MM*	*oo*	*pp*	*GG*
Perle de Swijnaerde	white	*ww*	*qq*	*MM*	*oo*	—	—
Pink Dream	65 B	*Ww*	*Qq*	*Mm*	*oo*	*pp*	*Gg*
Prof. Wolters	46 D-WE	*Ww*	*qq*	*Mm*	*oo*	*Pp*	*Gg*
Reinhold Ambrosius	58 B	*WW*	*QQ*	*MM*	*oo*	*pp*	*gg*
Rex	48 C	*WW*	*qq*	?	*oo*	*pp*	*gg*
R. kiusianum	72 C	*Ww*	*Q.*	*M.*	*OO*	*P.*	*G.*
R. mucronatum	white	*ww*	*QQ*	*MM*	*OO*	*(PP)*	—
R. scabrum Ademurasaki	71 D	*W.*	*Qq*	*mm*	*Oo*	*Pp*	*G.*
R. pulchrum Maxwellii	66 C	*WW*	*Q.*	*M.*	*oo*	*P.*	*Gg*
Tempérance	77 D	*Ww*	*QQ*	*Mm*	*Oo*	*Pp*	*G.*
Violacea	72 BC	*WW*	*QQ*	*MM*	*Oo*	*Pp*	*G.*

*) Dominant or recessive allel. **) WE means: White edge.



Flavonol	Anthocyanin	R.H.S.C.C.	Cultivar
Myr–5–met	Malv. di	72 BC	Violacea
* Myr–5–met	Delf. di	71 CD	Seedlings
* Azal.	Peo. di	58 B	Coelestine
Azal.	Peo. mon.	53 CD	Friedhelm Scherrer
Azal.	Cya. di	58 B	Euratom
Azal.	Cya. mon.	58 B	Reinhold Ambrosius
Myr.	Malv. di	71 D	Rh. scabrum Ademura
* Myr.	Delf. di	68 A	Seedlings
Quer.	Peo. di.	58 B	Hexe
Quer.	Peo. mon.	62 B	Kirin
Quer.	Cya. di.	66 B	Cangallo
Quer.	Cya. mon.	62 A	Rh. indicum
–	Peo. di	52 B	Vervaeneana rubra
–	Peo. mon.	45 C	Elsa Kärger
–	Cya. di.	47 D	Paul Schäme
–	Cya. mon.	44 D	Prinses Beatrix
Myr.–5–met	–	white	Rh. mucronatum
Azal.	–	white	Niobe
Myr.	–	white	–
Quer.	–	white	Gijooten **
–	–	white	Perle de Swynaerde

* We also found seedlings in wich monoglycosides dominated. The flowers did not differ from diglycosides phenotypically.

** Satsuki - hybrid.

Fig.1 - Inheritance of flower pigments in azaleas.

BUD HARDINESS

It sometimes seems that cold hardiness ratings of rhododendron as quoted in the literature must apply to someone else's rhododendron. This perceived discrepancy may be due partly to micro climate where your particular hybrid is located (sheltered spots vs. exposed spots, north and east slopes vs. south and west slopes, winter sun screening, windbreaks, cold pockets, etc.) and due partly to ratings that are too optimistic. It would be very desirable if several members of the Southeastern Chapter kept blooming records which, when combined with others, could result in more realistic cold hardiness ratings for rhododendron in our area. Perhaps some members already do this. If so, I would like to get their information and would be glad to compile the results for use by all chapter members.

My own system is to count bloom buds in the fall or winter and count blooms the next spring by counting faded blooms when they are deadheaded. When a plant is loaded with buds you only count a fraction and multiply by the appropriate factor to get an estimate of the total. Quite often the bloom count turns out to be a little higher than the bud count for plants with a fair number of buds. Usually, I count if the number of buds is less than about one hundred and estimate by counting a fraction when the number of buds is considerably higher.

The following Table I is based on bud and bloom counts starting in 1970. If all or practically all of the buds were blasted or mostly blasted, the plant would get a score of zero for that year. If all or practically all bloomed, it would get a score of one. In most years, it was all or nothing at all for most of the hybrids. There were one or two years when some hybrid might have, for example, 1/4 or 1/2 of its buds blasted in which case it would get a score of 3/4 or 1/2, repsectively, for that year. The blooming percentage is the total of the yearly blooming scores divided by the number of years the plant has set bloom buds (x 100). The literature cold hardiness rating is also included in Table I. There are obvious discrepancies between my results and the literature values. Actually, cold-hardiness ratings based on minimum temperature are misleading. Table II shows the percent bloomed (total buds on all hybrids) vs. minimum temperature for years 1970-1982. Percent bloomed is missing for 6 years due to my incomplete records, but overall, '71, '72, '75 and '76 were good years and '70 and '77 were bad years for blooming. You may remember that '77 and '78 were bad winters with protracted periods of cold weather. The correlation between minimim temperature and percent bloomed is definitely not good. The poor blooming percentage in '82 shows what a late spring freeze after a warm March will do. Effective temperature, considering temperature and wind speed, is also a factor. There are so many factors involved in cold hardiness that observation for a number of years to average out the factors seems to offer the most reliable measure of cold hardiness.

The last column in Table I is a proposed cold-hardiness rating system based on average blooming percentage over a period of years. Rhododendrons would be rated H 10 through H 0. H 10 is 100%, H 9 is 90%, H 8 is 80%, etc. to H 1 is 10% blooming. H 0 would be used if the plant was killed by cold weather. Perhaps this system could be transposed from one area to another or one altitude to another: what is H 3 in our area might by H 4 in northern Virginia, H 5 in Pennsylvania and H 0 in New York. The objective of this article is not to encourage you to plant only 80, 90 and 100 percenters. Some hybrids are

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unusual enough or attractive enough, according to one's own taste, that 50 percent blooming is good enough. Of course, other factors such as heat and disease resistance, plant habit, leaf character, color, blooming time, etc. also have to be considered in selecting the rhododendron you want to grow.

Your experience with percantage bloomed for various hybrids might be different from mine. That's why it would be desirable to average out a number of different observations in the same general area. The temperatures in Kingsport, Tenn. and Asheville, NC run very close to each other. I am still counting and have other hybrids coming of age. Please join me in counting. Incidentally, my bud set for '83, taking into account the increased size of the plants, is far better than in previous years.

TABLE I

Hybrid	Total years buds were set	% Bloom Averaged for Total Years	Literature Cold Hardiness °F.	Proposed Cold Hardiness, Based on % Bloom
America	13	100	-20	H10
Dora Amateis	13	93	-15	H9
E.S. Rand	13	60	-15	H6
Gomer Waterer	13	70	-15	H7
Jean Marie (partly sheltered)	13	92	- 5	H9
Jean Marie (exposed)	13	85	- 5	H9
Madame Masson	13	93	-15	H9
Maximum Roseum	13	100	-20	H10
Purple Splendor	13	80	- 5	H8
Mars	12	92	-15	H9
Scintillation	12	92	-15	H9
Wilgen's Ruby	12	83	-15	H8
Blue Ensign	11	100	-15	H10
Sappho	11	64	-15	H6
Damozel	10	50	0	H5
Pink Pearl	10	65	- 5	H7
Odee Wright	9	50	- 5	H5
Mrs. A. T. de la Mare	8	63	-15	H6
Bessie Howells	6	100	-15	H10
Vulcan's Flame	6	86	-15	H9
Mrs. Furnival	5	80	-15	H8
Janet Blair	3	100	-15	
Boule de Neige	2	100	-25	
Sphinx	2	100	-	
Parker's Pink	1	100	-25	

TABLE II

Year	All Hybrids, % Buds Bloomed	Minimum Temperature, °F.
1970	-	-10
1971	-	0
1972	-	- 2
1973	97	+ 6
1974	95	+15
1975	-	+10
1976	-	+ 6
1977	-	- 7
1978	9	- 7
1979	89	+ 1
1980	90	- 2
1981	97	- 5
1982	28	- 8

Russell Gilkey
1704 Springfield Avenue
Kingsport, TN 37664

SUCCESS STORY: SOUTHEASTERN REGIONAL CONFERENCES

by H. Furman Cantrell
Piedmont, South Carolina

In the southeastern states, especially in and near the Appalachian Mountains, there is an abundance of native rhododendron. Perhaps chief among these natives is R. maximum, but one also finds the species R. Catawbiense, R. minus and R. carolinianum. These four species abound in many areas, covering large expanses of mountainsides and providing beautiful displays along roadways. Not always as evident, but also available throughout much of the area, are the native deciduous azaleas. All of the eastern species are growing in the southeast, either in their native habitat or in private gardens.

This legacy of rhododendron species, combined with environmental conditions which favor the cultivation of large numbers of rhododendron hybrids as well as evergreen and deciduous azalea hybrids, make this an area of strong interest in the genus Rhododendron. Consequently, several chapters of the American Rhododendron Society are located in the area.

These chapters have been in existence for varying periods of time. The Southeastern Chapter, located in Asheville, North Carolina, recently celebrated its twenty-fifth anniversary. Some of the newer chapters have formed as a result of growth in numbers of members in an area and the desire to have meetings in those areas. It is now possible to participate in the activities of two or three chapters. Consequently, there is much interaction between chapters and members. In 1977, a joint meeting was held between the Southeastern and William Bartram Chapters during December. In addition to an excellent speaker and a delicious dinner, gifts were exchanged--plants, in the spirit of the season. This meeting has remained an annual affair.

From that beginning evolved the concept of a regional meeting involving the Southeastern, William Bartram, Azalea and Piedmont Chapters. The first meeting was held in Greenville, South Carolina, the geographic center. It was attended by members of each chapter, as well as some A.R.S. officers. The program focused on topics of general interest to the area, and was regarded as excellent. However, those attending discovered something else of value--the interaction with other A.R.S. members who shared a common interest. This aspect of the meeting has continued to be very important during the four years the meetings have been held. Friendships have grown, and more interaction between members and chapters has occurred. Flower show judging has become easier because of the greater number of qualified persons to choose from, as a result of the interactions. Plants are being exchanged by members in this area, as well as seed, pollen and information. Chapter programs are being improved by the interchange of speakers in the area. All the while, friendships are growing, and people look forward to the meetings each year.

During the four year period, the meetings have attracted members of other chapters, especially the Birmingham and Central Gulf Coast Chapters, which are in District 10 of the Eastern Region. The A.R.S. Board meeting was held in conjunction with the 1980 regional meeting, and resulted in representation of numerous chapters as well as national officers. This particular meeting demonstrated to the A.R.S. the real value of such meetings.

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The program content is obviously important in attracting members to the meetings. Each year the program committee has attempted to organize the program to provide new and different information. This has been accomplished by using a variety of speakers as well as varying the topics. Some members who visit distant lands to see the rhododendrons there share their adventure via slides. The program also includes informal discussion periods devoted to such topics as flower show judging or flower show classifications. The 1981 meeting included a garden tour of a member who grows thousands of seedlings in a large-scale hobby operation. In addition to the lectures, informal discussions and other activities already mentioned, the meeting includes a hybridizers panel, similar to the Breeders Roundtable at the A.R.S. Annual Meeting. This has proved to be a very popular portion of the program.

Currently plans are underway for the 1983 meeting. Details will be available soon.

RHODODENDRON "METTERNICHII AFF."

In the October, 1965, ARS Bulletin, Mr. K. Wada of Japan wrote an article entitled "Breeding Rhododendron and Azaleas." In the article, he stated:

> In place of fortunei, I fortunately found another tough species named by me as "Metternichii Aff," to separate it from (other) forms....(it) is quite distinct in having flowers 3 weeks ahead of other Metternichii, and large, waxy, seven to ten lobed flowers making a well filled truss....This discovery has marked an epoch in my Rhododendron breeding....

In a later ARS Bulletin (July, 1968), Mr. Wada said:

> People here honor me for my introduction of yakusimanum, but I am more satisfied with my introduction of "Metternichii Aff."....it can grow fairly well under (such) heat, with the added merit of blooming before any evergreen azaleas.

Another article by Mr. Wada expressed the thought that the "Metternichii Aff." "announced the opening of spring better than any other plant...." I also recall mention that after finding the one plant which he named, he could never find another, although he made many searches.

After reading of this special species or variety, I suspected that it may be good for our southeastern climate, where so many good Rhododendron cannot survive hot summers, and others survive but do not perform well. I first wrote Mr. Wada in 1966, and in January, 1967, received a letter from Mr. Wada of Hakonoya Nurseries, Yokohama, enclosing a packet of seed. Wada also wrote, "The seeds were collected by myself in my own nursery from the true plants.... they bloom earlier than most....and trust they have not been cross pollinated."

The seeds were sown and I grew on some 35 or 40 plants. All had attractive foliage and compact growth. As they continued to grow, I noticed the resemblance to other forms of Metternichii and leaves on some similar to "Yakusimanum," while some resembled "Makinoi." Most had light tan indumentum, but not as heavy as "yaks."

Over the years, I've given a number of these plants to friends, and probably retained about two dozen in the garden. Of all those grown, I know of only one loss, and it was damaged by accident. For trial purposes, they have been planted in a variety of exposures, from full sun to full shade. I now have at least five plants in full exposure and full sun. Since they differ somewhat, I will mention characteristics of several of the outstanding forms.

No. 1 was the first to bloom. I didn't start notes on these until 1978, but I believe this one bloomed when about seven years old. This plant is different from most with larger leaves without indumentum, and larger more open, 3-inch scented flowers. This form is one of the earliest to bloom with flowers usually open the first week in April. It buds up heavily, and when in full bloom, the plant is hidden by the numerous large pale apple blossom pink trusses. It is umbrella shaped, approximately 2 1/2 feet high and 3 feet wide after 14 years. I consider it a rare and special plant.

No. 2 is the most dwarf form, planted in full sun, and is now only 14" tall and 24" wide at 14 years of age. It has been a sparse bloomer, but is well-budded for spring '83.

No. 3 has become a favorite as it has grown and developed. Also in full sun, this one blooms heavily and is now 20" high and 30" wide; it is one of the latest to bloom with very long lasting flowers of bi-color pink. Foliage is good, shiny dark green, with indumentum. A highly rated form.

No. 4 has recovered from a broken limb from a falling tree limb; has interesting twisted leaves with texture, and medium sized contrasting red and pink flowers of substance. This plant is in half shade and is 2' x 2 1/2'.

No. 8 is along our front walk in full afternoon sun, and is planted in clay fill soil. Few Rhododendron of any kind have survived in this area. In 1978, I wrote, in my notes: "So far this one has everything -- contrasting pinks, lovely at every stage, with substance and quality....It is like a cross between "Yakusimanum" and a fine "Carolinianum." It is not as vigorous now as at first, and probably should be moved to a location with better soil.

There are others, but most resemble one or more of the above. All of them thrive and perform generally for me better than Yakusimanum, especially in a variety of locations, soils, and exposures. On most forms the leaves persist for three or four years making a good landscape and foliage plant for the rock garden or other location. All bloom during the first two weeks of April, before most azaleas are in bloom. I may be able to propagate some of the better forms. Although I have tried crosses both ways, there are few surviving seedlings. The only one to bloom yet, as I recall, is a cross with "Odee Wright."

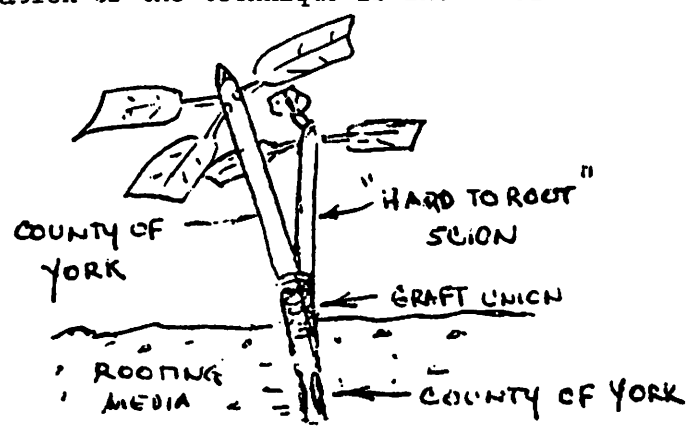
From my experience, I would certainly agree with the late K. Wada that this is indeed a very special plant for early spring. I believe it has a real future as a species to feature in our southern gardens.

Jim Todd

Hard-To-Root Cuttings

One procedure for handling hard-to-root cuttings is called "graft-rooting". This is described in the following paragraph written by George Ring, President of A.R.S., for the 1980 Breeders Roundtable.

A second technique, that of simultaneously grafting onto a scion of 'County of York' while rooting the 'County of York', is being used by one grower on the West Coast for 10% to 20% of his production of perhaps 30,000 rhododendron liners each year. The technique, used only for hard-to-root cultivars such as Rhododendron lacteum, is reported to be 95% effective. An illustration of the technique is shown below.



Once the graft has "taken" and rooting achieved, the 'County of York' is removed above the graft union.

Some feel that a cleft or saddle graft is more suitable than the side graft shown in the illustration.

While in New Zealand, we learned of a different procedure which they termed "reverse-grafting". The scheme consists of just the reverse of that shown in the above illustration. That is, they side grafted an easy-to-root cutting onto a difficult to root scion. Their reasoning is that the auxins and other root promoting substances in the easy-to-root scion work their way into the hard-to-root portion and assist in the formation of roots on that section. They claimed an equal degree of success and believed that they produced a superior plant. Also they claimed fewer problems with suckers after the easy-to-root scion was removed above the graft union.

By Velma and Russell Haag

SOUTHEASTERN CHAPTER

AMERICAN RHODODENDRON SOCIETY

Rhododendron Hybrid Seedlings

Each seedling is different from every other seedling and may contain characteristics from many of its ancestors. Hopefully, each will inherit all desirable qualities, and none of the poor ones. Those qualities which we seek are good clean colors, including the yellows, oranges, and bright reds; large flowers; hardy, vigorous plants; fragrance; dwarf and/or tree forms; early season bloom and/or late season bloom.

For your seedlings, prepare a wooden flat or shallow wooden box, 3 or 4 inches deep with ample drainage. Prepare a mix of 50% screened Canadian peat moss and 50% perlite. Wet thoroughly with hot water and mix well in a container before placing in the flat. Even the mixture in the flat, filling the ends and corners as in the center. Do not pack.

Teasing the rootlets apart with a pencil or other suitable tool, gently lift each seedling by a leaf. Make a hole large enough for the entire root system, and place rootlet in the hole. Continue to hold plantlet in place by the leaf while firming the roots, gently. If the root is very long, cut off part of it rather than have it cramped or folded. Water with a dilute solution of foliar fertilizer (¼ teaspoon in 1 gallon water). Always use warm water. Cover lightly with polyethylene plastic for a few days until the plants have recovered from shock.

The flat may be placed either out of doors or under flourescent lights. Separate and distinct procedures follow for each method.

For the outdoor method: Place the flat in an area of strong north light, but protected from wind and direct sunlight. An open tent over the flat to protect the small plants from heavy rain may be advisable. Continue to water with the weak fertilizer solution until July 1st. From that date on through the rest of the summer, fall and winter, do not fertilize any more. The plants need to harden off to be ready for winter. Do not over water. If not overfed or overwatered, and protected from the drying winds, all should winter well--unless they might have inherited some tender characteristics from their tropical ancestors. Come spring, prepare a bed, elevated for good drainage, and using generous amounts of Canadian peat moss and sand, if your soil is heavy. Choose an area with light shade or prepare a lath shade. Plant at same level. Do not plant deeper. Mulch. Water only as needed. Fertilize lightly only in the early part of the season.

For fluorescent light or greenhouse growth: When this method is to continue through the summer and the following winter, continue to water with the warm foliar solution at each watering. Do not overwater. Transplant as the plants need more room, as they will practically stop growing when crowded. Continue through the winter until all danger of frost is past, when they can be moved to an outdoor bed. A hardening off process should be used. Plant in special prepared bed as instructed for outdoor wintered plants.

By Velma and Russell Haag

Voter Apathy And The Silent Majority

By Wallace Marley

Who's Interested In Voting?

Recently while preparing to poll the members of the Southeastern Chapter on several current issues, I did a little research to determine what kind of response could be expected from the chapter membership. The most recent statistics available on balloting were found in the 1981 Winter issue of the Quarterly Bulletin. You will remember that the Society Bylaws were revised and a ballot was mailed to each member to vote yes or no on the adoption of the new Bylaws. The Quarterly Bulletin reported the balloting results as 472 yes votes and 47 no votes. The report did not divulge the startling fact that the Bylaws were "voted in" by less than 10 percent of the total Society membership.

What an important issue this is and what a miserable show of interest. It is hard to believe that 90 percent of ARS members were nonresponsive to the issue and the simple task of marking the ballot and dropping it in the mail box (specially since it was postpaid). Should we consider this a deplorable expression of apathy by the membership or an illustration of how a minority group of only 10 percent can dominate the balloting and impose their will on the remaining 90 percent? Are we running our Society on Bylaws that met the approval of only 472 members and assuming approval by the remaining silent majority? While a search for the answers to these questions could occupy a study group for some time, I believe that the questions themselves are symptomatic of a malady within our Society that needs to be diagnosed and treated.

Vital Life Signs.

In the past few months there have been several issues confronting our Society which has broken the tranquil and passive environment that has dominated the ARS for several years. Articles have appeared in the ARS Journal which question one of the firmly entrenched programs of the Society. Very strong opinions have been expressed by several people which challenge the judgement and actions of the Board of Directors. Have these rumblings been generated from a lack of understanding of the issues or do they come from well informed members who are genuinely concerned about the future of the Society? I believe the latter is true and that we are experiencing the beginning of a renaissance in our Society. These indications of a desire for change may bring new life and vitality to what some members consider a rather stodgy and stayed organization.

If we recognize and welcome these rumblings as a healthy life sign within the Society we may also consider this a time for examination of where we are and where we may wish to be in the future. This may be the appropriate time to take an objective look at the Society to see if we wish to continue along the garden path we have charted for ourselves or change our course and direction toward more specific objectives that are realistic and achievable and not just pie-in-the-sky.

Perhaps there is a way to rejuvinate the interest and vitality of our membership; a way to convince members that their opinions are important and that their votes are needed.

It is time to bring the important issues of our Society to a membership vote, so that through participation they will become to feel a part of the Society and not just a mailing address.

We must find a way to run our Society with the approval of at least 50 percent of the membership, and in future, not accept a 10 percent minority vote as the voice of approval.

It seems obvious that help is needed and perhaps we need only to look to our Research Foundation for assistance. Lets request authorization for a research project to conduct a study of various successful social, professional and business organizations to determine motivation techniques, activities and organizational structures that can be used to improve and revitalize our Society. Lets invest some research money to buy a successful future for our Society.

If you are a concerned ARS member and have any comments, additional ideas or opinions on what can be done, please communicate with me at the following address: Wallace Marley 407 Little Mountain Road, Waynesville, NC 28786.