
TO ROGUE OR NOT TO ROGUE . . .

A Colloquium

This article shares with readers of **THE AZALEAN** a summary of discussions held over the past few years. The participants consider that propagation and distribution of plant material under cultivar names when such material is not true to name is—at a minimum—a disservice to the horticultural community. **Steve Brainerd** has had to deal with problems that this poses for the landscape architect in implementing plans and meeting clients' expectations. **Mal Clark**, not only through long-time study of azaleas but also from the experience of operating a nursery with a wide range of cultivars has provided unique perspective on the issue. **Maarten van der Giessen** contributes comments on the production and marketing problems that affect the large commercial grower's ability to rogue. Aside from a general proclivity for nitpicking, **Don Voss** has confronted the question of what is an acceptable range of variation in a cultivar, both in preparing the registration applications for many of the Robin Hill azalea names and in his volunteer work in the National Arboretum herbarium. **Dick West's** analysis of data from B. Y. Morrison's records at Glenn Dale and his critical study of original Morrison plants at the Ten Oaks Nursery give him special expertise on the occurrence of variation in the Glenn Dale hybrids.

Basic Concepts

One meaning of the verb **to rogue** is, specifically in plant breeding, to remove systematically all nontypical or defective plants. In the context of this article, "nontypical" refers to plants that are propagated from a cultivar but differ in their characteristics (color patterning of flowers, for example) from those embraced by the authoritative description of the cultivar. According to the Cultivated Code (1980): "Individuals propagated from a distinguishable bud mutation form a cultivar distinct from the parent plant." Such a distinct individual should be rogued (removed from the group of plants identified as belonging to the parent cultivar). It may be given a new cultivar name if it has unusual horticultural merit, may be used unnamed in ornamental plantings, or may be destroyed. In no circumstance should it be labeled with the cultivar name of the parent plant.

Why Rogue?

We start from the premise that plants to be sold, traded, exchanged, or donated as a given cultivar should be true to name. For nearly all woody plants, vegetative propagation (rooting of cuttings, layering, tissue culture, etc.) is necessary to reproduce a cultivar. Unfortunately, use of these techniques does not always yield the desired result. Errors in propagation can occur in many ways, including use of a stock plant that is not true to name, taking of cuttings from sporting branches (or from the intruding branch of an adjacent plant!), and mishaps in handling cuttings. Careful, methodical procedures in propagation may reduce the chance of error, but roguing still may be necessary to keep cultivar stock true to name. Most azalea enthusiasts can recite a litany of horror stories of someone's failure to do so. A favorite example is a handsome plant with large yellowish pink flowers that was labeled 'La Belle Helene', a cultivar with flowers that are matte white with a broad margin of strong purplish red.

Roguing requires not only human effort but also availability of indicative growth on the plants. When liners are sold, the propagator may never see a flower. This said, the fact remains that the grower has an obligation to his customers entailing due care. Cutting out or tagging sports on stock plants should reduce chances of propagating undesirable material. Checking the characteristics of plants purchased or received in exchanges or auctions against authoritative descriptions for the labeled cultivar names would prevent errors of the sort that have been observed in nurseries and private gardens alike. When plants are grown to the flowering stage prior to sale or exchange, the roguing of plants that are not true to name should be considered an imperative. Striving to ensure that plant material is true to name should be a source of pride as well as a moral obligation.

Dealing with Variation

Most gardeners who have progressed beyond 'Hinode giri' or 'Snow' will have seen azaleas that present variation in the color patterning of their flowers. Those who have 'Festive' (possibly labeled as 'Geisha') will sometimes find a self-colored flower among the white flowers variously flecked or striped with purplish red. As spring progresses, new shoots emerge from the terminal bud cluster that produced the self-colored flower. If these shoots are included in a batch of cuttings taken for propagation, the new plants will tend to bear flowers of solid purplish red, not the white-with-markings pattern characterizing 'Festive' according to the description provided by its originator, B. Y. Morrison: ". . . pure white with no blotch, freely sanded and occasionally striped with dull rose. . ." (3). The plants with solid purplish-red flowers are "a cultivar distinct from the parent plant" and should be rogued.

Variation within a cultivar presents unwelcome complications. Vegetative propagation is generally said to yield “carbon copies” (should this now be “Xerox copies”?) of a stock plant. In some genera, exceptions to this rule are rare. Not so in azaleas, many of which are the result of complex hybridity. Bud mutation is a frequent occurrence in some groups of azaleas, leading to the production of a cultivar distinct from the parent plant. The purpose of cultivar propagation is to increase the number of plants having the characteristics of the selected cultivar. But since the authoritative description of a cultivar may include a range in the color patterning or other characteristics of the named plant, the question may become one of degree—how distinct?

Lack of distinctness between a stock plant and plants propagated therefrom is a prime criterion for application of the cultivar name to propagated material. In describing a cultivar for publication and registration of the name, one should decide upon and clearly state the degree of variation in color pattern of flowers, foliage characteristics, and growth habit acceptable for application of the cultivar name; also, the geographic range where these were observed. Ideally, this should be done after adequate testing prior to naming of the cultivar. If the originator delays registration for too long, the circumscription may have to be broadened somewhat to take into account the propagation and distribution of mutations by others who have had access to cuttings or liners distributed for testing. This was a consideration in writing the registration descriptions for several of the Robin Hill azaleas.

In the introduction to Monograph 20, Morrison included a section on “Judging Flowers.” He discussed the appearance and human impact of various flower colors and color patterns when viewed at close range and at a distance in the landscape. Clearly he considered these matters when selecting plants for naming and when selecting the names and providing descriptions. Unfortunately, he did not address sporting beyond noting the proclivity of certain crosses to produce variant color patterns. Thus we cannot be sure of his motives in recommending that sports be removed from a number of cultivars—indeed, we do not know whether these recommendations followed a specific rationale.

For certain cultivars (Figure 1), Morrison may have considered the described variations as consistent with his idealized visualization of those cultivars. For others (Figure 2), he appears to have considered the sports inconsistent with that visualization. Or he may have been concerned that in the latter cases the sports would become the dominant pattern, so that the plant would no longer match its published description. Alternatively, given his extensive experience in growing and propagating azaleas,

Figure 1. Morrison’s Notation of Sporting Without Recommendation For Excision

‘Alight’	may throw striped sports
‘Cinderella’	may give branch sports of brilliant solid red [cf. ‘Satrap’]
‘Cocktail’	some sports
‘Consolation’	may give occasional Light Phlox Purple sport with light center
‘Delight’	rare branch sports . . .
‘Galaxy’	rare branch sports . . .
‘Martha Hitchcock’	strongly growing shoots produce self-colored flowers; do not remove, as laterals give flowers with correct pattern thereafter
‘Progress’	some variation toward white at center
‘Satrap’	may give branch sports of brilliant solid red
‘Scherzo’	occasional branch sport with pale violet center and darker margin
‘Valentine’	this clone is propagated from a branch sport of the original seedling
‘Vespers’	only an occasional flower with Mallow Purple stripes
‘Welcome’	occasional sports . . . show whitish centers

Morrison may have been concerned primarily with keeping stock plants free of growth that could result in propagated plants not being true to name.

One type of variation in azalea color patterning appears to be different from what is commonly understood as sporting. Possibly related to the progression of weather from time of bud formation to time of bloom, this condition affects the appearance of a number of cultivars that vary from nearly self with a small white center to white with a colored margin. ‘Welcome’, for example, in some years is pink with a small white throat and in other

Figure 2. Morrison's Recommendations for Excision of Sporting Branches from Glenn Dale Azaleas

'Altair'	cut out all branches that sport to purple flowers
'Boldface'	cut out all branch sports reverting to solid color
'Cadenza'	self-colored blooms ... at times with white center ... should be cut out
'Chum'	shoots with red flowers ... should be cut out
'Cinnabar'	shoots with red flowers ... should be cut out
'Dowager'	cut out all shoots showing self-colored magenta flowers
'Egoist'	cut out any branch sports of purple
'Fantasy'	occasional red-flowering branch should be cut out
'Fawn'	cut out all branch sports with self-pink flowers
'Geisha'	all self-colored purple branches should be removed
'Harlequin'	cut out any branches showing self-purple flowers
'Helen Gunning'	cut out all branches with self-colored flowers
'Herald'	cut out all sports
'Memento'	cut out all self-colored shoots
'Moirá'	cut out branch sports of solid red
'Moonstone'	colored branch sports ... should be removed
'Oriflamme'	occasional branch sports of pure white and a few of pale purple ... should be cut out
'Paprika'	cut out all branches that show solid red flowers
'Picotee'	cut out all self-colored sports
'Pied Piper'	branch sports of pure deep rose ... should be removed
'Pinocchio'	cut out any branches producing self-red flowers
'Pinto'	cut out self-red sports
'Puck'	cut out branches with white flowers
'Shimmer'	cut out all branches with self rose-colored flowers
'Silver Mist'	Magenta self sports ... should be cut away
'Sonata'	occasional branches of self-purple flowers ... should be cut out
'Susannah'	cut out all branches with solid-pink flowers
'Swagger'	cut out all shoots ... with flowers of solid red
'Vestal'	There is some tendency toward the production of petaloid stamens, so the plants must be watched for semidouble or double sports

years appears as a white flower with a pink edge. After an especially mild winter in Vienna, Virginia, all blooms on a plant of 'Fawn' were a solid purplish pink instead of white with a purplish pink margin; the plant had bloomed reliably with the margined flower for nearly 20 years and resumed this pattern following the one year of aberrant behavior. More frequent occurrence of the same type of variation has been observed in Robin Hill 'George Harding', 'Blue Tip', and 'Red Tip'.

A question may arise as to whether the characteristics described by the originator of a clone reflect the plant's "basic" form or a mutation. The plant of 'Scherzo' at Ten Oaks displays almost entirely the pattern described by Morrison as a sport in Monograph 20. It may be that the sport has "taken over" the plant, but it is also possible that the white-with-stripes color form selected by Morrison was—with respect to the plant's "internals"—the sport, and the margined flower was the basic or fundamental form. Regardless of a plant's inherent tendency to produce mainly flowers of one color pattern or another, the propagator should restrict the taking of cuttings to branches that bore only flowers conforming to the authoritative description of the cultivar.

Plant parentage may be a factor in assessing the nature of variability and sporting. Many of the Glenn Dale azaleas that have 'Vittatum' as a parent appear to follow the sporting rules set forth by Morrison, and it may be correct to say "cut out solid flowers" lest they dominate the plant in time. For plants with Satsuki parentage, however, variability tends to be the norm, and it may be that solid flowers do not threaten to take over. These possibilities, together with other factors affecting variability, are speculative at this time. We encourage interested azalea fanciers to report observations and experimentation bearing on the issue of sporting (see the following article).

In addition to distinctions in flower color and patterning, other characteristics detailed in the authoritative description of the cultivar set limits to the variation acceptable for application of that name. Admittedly there may be differences in growth habit related to climate or other cultural conditions. Basically, though, there should be a decent correspondence between

the description of a cultivar and its performance. For example, a conifer described as prostrate should not have the habit of *Juniperus* 'Skyrocket'. In some genera, the location on a stock plant from which cuttings are taken is said to influence the habit of the propagated plants, requiring that special care be exercised in the selection of cuttings. Unacceptable variation relating to habit is, however, much more difficult to identify in a small plant than is variation in floral characteristics. Where roguing is essentially foreclosed by this consideration, the greatest care must be exercised in the selection and handling of cuttings.

The Landscape Designer's Concerns

Prediction of flower color and other plant characteristics is essential in landscape design. The ability to predict accurately brings order. Inability to predict accurately brings confusion and often displeasure.

A landscape designer relies on knowledge of the known characteristics of a plant to visualize its impact in a landscape plan. Plant habit, flower color and form, leaf color (summer and autumn) and texture—all are important in the plan. These characteristics combine to make certain cultivars uniquely appropriate to implementation of the plan. Therefore, the landscape designer relies on specification of plants by cultivar name to assure proper execution of the plan.

A critical concern of the landscape designer is the "color value" of the flower (i.e., its impact on the observer). This is important in placing the plant in context with the overall design. High color value excites human emotion, creates an effective focal point, and shortens the perceived distance from the viewer to the colored object. Low color value calms human emotion, frames a focal point, and lengthens the perceived distance from the viewer to the colored object. A brightly colored plant errantly placed because of a grower's

inattention to roguing can result in designer disapproval and client rejection.

Landscape designers are very aware of the need to safeguard a client's trust and the importance of effective visual and verbal communication. When working with a demanding client whose knowledge of plant material is poor, a good designer will make the extra effort to ensure that the client understands the "look" that is being purchased and the reasons for selecting certain cultivars. An azalea whose flower color does not match the description of the cultivar, the understanding of the designer and client, or perhaps serve to complement the color of brick on the house generally draws an unfavorable reaction. The designer's credibility is damaged and the client's trust is jeopardized.

The unfavorable impact on the landscaper of returning to a job site to replace rejected plants can be considerable. Replacement using the same size plants as those originally installed may not be adequate to match the growth in the bed, leading to client disfavor. The labor cost of returning to the job site and replacing plants most certainly does not help the bottom line. It is often difficult to ship economically the small number of plants required as replacements when these are not available in the installer's inventory. The immediate problems are probably dwarfed by long-term customer dissatisfaction, which has adverse consequences for business referrals and business reputation.

Nurserymen and Roguing

Understandably, commercial nurserymen have reservations about roguing—it is a labor-intensive, cost-raising task. Nurserymen who reject responsibility for marketing only plants that are true to name will have little difficulty in finding reasons not to rogue, but they may find this position counterproductive in the

face of increasing competition. For the nurseryman striving to produce and sell true-to-name cultivars, cost necessarily remains a constraint; but substantial progress toward the goal may be achieved with implementation of some relatively minor changes in practice. Verifying the identification of stock plants, removing branch sports from them, and added care in taking cuttings may be possible with only a minor increase in labor cost. When liners are being produced and sold before flowering, full verification of identity is impossible, but the probability of error can be reduced materially by the aforementioned steps.

Once container stock is grown to the flowering stage, identification can be made. At that stage, however, plants exhibiting deviations from the authoritative description of a cultivar present a real dilemma. The substantial direct and overhead costs incurred in propagation, containers, growing medium, watering and other maintenance will then starkly confront the grower's interest in selling true-to-name cultivars. In many cases, the immediate impact on the bottom line of the profit and loss statement will determine the outcome. Abstractions such as the principles of the Cultivated Code, "true to name," "moral obligation," and even "good will" may be considered briefly (if at all), but in many cases a sporting or otherwise misidentified plant is likely to be shipped. In the short term, at least, this may be a sound decision because the bulk of consumers are not discriminating. The loss of a few knowledgeable buyers will have little effect on the bottom line so long as the mass market continues to buy whatever is offered.

Some growers (from specialist nurseries to large producers) do care about marketing plants that are true to name and attempt to use care in the various steps from propagation to the labeling of marketable plants. For groups of azaleas that are subject to variation, some take the additional

step of informing buyers of the proper description of cultivars (which should include variation recognized as acceptable in the authoritative description of the cultivar) and describe deviations that may occur in the plants they supply. The buyer is then in a better position to assess the risk of purchasing the listed plants. For cultivars in groups that sport promiscuously, this approach is welcome—though short of what is desired by the buyer (whether landscape architect, collector, or knowledgeable home gardener).

The problems of maintaining stock true-to-name and dealing with variability in azaleas are especially difficult for the nurseryman serving a mass market. For example, most large nurseries cannot handle variability. They expect a 'Hinod giri' to have the common decency to remain a 'Hinod giri' and produce respectable Hino progeny. In the past thirty years only relatively genetically stable hybrids have been mass-produced commercially.

In the mass-production environment, much of what has been suggested above as ways of keeping output true-to-name cannot be implemented economically. The bread and butter of the azalea industry is the trade gallon container. Typically, these are potted in the early spring and sold the following spring. Cuttings are taken during the first summer for the following year's crop. The propagation cycle involves only vegetative stages. **From cutting to finished product, the nurseryman may never see the plant in bloom.** The blooming period, moreover, coincides with the shipping season. In the spring this can mean as many as twenty to thirty thousand azaleas per employee must be graded, pulled, tagged, and shipped in a three- to four-week period. No one has the requisite skilled labor to excise, rogue, or tag sports at that time.

Nonetheless, when plants are sold as cultivars, the buyer deserves

true-to-name plants. This calls for the grower to rogue—eliminating misidentified stock plants, liners (sometimes foliage or growth habit may indicate errors), and container or field-grown stock at the flowering stage.

The message to readers is:

Buyers—you must recognize that price and quality are often positively correlated.

Sellers—you must recognize that buyers (who are becoming more knowledgeable and selective) expect that plants tagged with cultivar names should be true-to-name.

REFERENCES

- (1) Webster's *New International Dictionary of the English Language*. Second ed., unabridged. Springfield, MA: G. & C. Merriam Co., 1934.
- (2) Brickell, C. D. et al., eds. *International code of nomenclature for cultivated plants—1980*. Utrecht: Bohn, Scheltema & Holkema, 1980.
- (3) Morrison, B. Y. *The Glenn Dale Azaleas*. Agriculture Monograph No. 20. U.S. Department of Agriculture, Washington, D.C., 1953.

CULTURAL NOTE

Ovulinia Petal Blight

It is frequently mentioned that *Ovulinia* might not spread outside the milder winter areas of the USA; i.e., north of, say, New Jersey. Let's put that to rest. The Gartrells, Robin Hills, and *nakaharae* and its hybrids along with a few other hybrids, especially 'Polar Bear', *R. camtschaticum* are plagued here [Halifax, Nova Scotia]. With no signs of it this year (due to an attempt at control) the sclerotia still appeared on a few plants. The problem starts after June 12. Let's get it straight—*Ovulinia* is perfectly cold hardy.

Contributed by John Weagle

Help Wanted: Participate in Azalea-Sporting Research

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Here is an opportunity for you to be involved in important azalea research. We don't know of previous participatory research of this kind by Azalea Society members. But if it works, it might lead to other studies and expand our knowledge of azaleas. Specifically, we seek a better understanding of sporting in azaleas. (A sport is mutant growth that has characteristics outside the range recognized as defining a cultivar or a botanical taxon.) In this study we propose to concentrate on flower sports.

What, exactly, is an azalea flower sport, and how do sports occur? Questions frequently arise about sports and sporting, such as how does one know if an odd flower is a sport, and what is known about year-to-year variation in flower color patterning. We have found little published information about azalea sports, but a few experienced individuals have provided anecdotal data that seem to match the rather large amount of mostly undocumented common knowledge. We also have heard what might be myths about sporting; one example is the belief that sports, if not removed, will "take over" an azalea and become the dominant flower (we have thus far not found this to be true). These bits and pieces of data are all interesting, but not very useful in answering with confidence the questions posed.