main finding of this work is that many leaf traits interact with the environment, to cause unexpected patterns of hydraulic conductance in azaleas. This initial work has shown us that leaf surface characteristics certainly play a role in the water flow pathway. Rough leaf texture and the thickness of the indumentum can potentially increase the fine layer of humidity surrounding the leaf, leading to lower hydraulic conductance even when climate tolerance is similar. Azaleas can vary widely in their leaf surface characteristics—for example, *R. canescens* is pubescent, while *R. periclymenoides* is predominantly glabrous. It will take further study to fully understand how these features affect water transport. Currently, I am quantifying the arrangement and size of stomata on the leaf surface, which will provide insight into the rate of evaporation that would be possible while controlling for other surface traits like indumentum.

In addition to examining leaf surface features, I also plan to assess the leaf anatomy to see if internal leaf traits may account for the difference in leaf hydraulic conductance I observed. Perhaps the most important puzzle piece in understanding differences in hydraulic conductance, is the venation network. Since the veins provide the pathway of water across the leaf, they play a key role in determining the conductance of water. I will be quantifying different traits of the leaf veins. I have also been measuring leaf hydraulic conductance from many species of *Rhododendron* in the garden over different seasons to track how this trait changes with differences in precipitation, light, and temperature. All of these factors together, will help us to better understand this dynamic trait and how plants have such differences in their water use so that, ultimately, we can make informed planting decisions.

Literature Cited

1 Taneda, H., Kandel, D. R., Ishida, A., & Ikeda, H. 2016. "Altitudinal Changes in Leaf Hydraulic Conductance across Five *Rhododendron* Species in Eastern Nepal. *Tree Physiology*, tpw058. http://doi.org/10.1093/treephys/tpw058

2 Cox, Peter A. & Cox, Kenneth N.E. 1997. *The Encyclopedia of Rhododendron Species*. Glencarse, Perth, Scotland: Glendoick Publishing, Glendoick Gardens Ltd. p. 212, 384.

Lead researcher: Juliana Medeiros is a researcher at the Holden Arboretum. Juliana received her PhD in Biology from the University of New Mexico, and conducted postdoctoral research at the University of Kansas.

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[This research was funded in part by the ASA Research Fund. A final report on the project will be published in a future issue of The Azalean. Ed.]

ASA Seed Exchange

By Lindy Johnson

Contributing Seed

Seed contributions will be accepted from ASA members and other sources throughout the year until December 31.

The seed from each plant should be described by the:

- contributor's name
- seed parent name
- pollen parent name
- plant type (evergreen, deciduous, azaleodendron)
- pollination type (open pollinated, hand pollinated or wild cutting)
- where collected (geographic feature or town)
- notes

This information can be written on seed envelopes, or we have a seed data form to describe the seed, as a short (4KB) file to down load and print.

If you have digital pictures of the parents, please e-mail them to Dave Banks, with the name, date and location taken, for posting on the web linked to your seed. dfbanks@earthlink.net.

Seed should be current year production and can be cleaned or not. Put the seed from one plant into one paper envelope with one completed form (or write the information on the envelope), and mail to: Lindy Johnson, 843 Wallace Rd, Trade, TN 37691.

When we receive the seed, it is cleaned and distributed into #1 coin envelopes, and each lot of envelopes is assigned a number and stored until it is ordered.

Ordering Seed

The seed list will be posted online on or about January 1st. The notice also gives the address to request a hard copy list of seed available.

Seed is shown on the web on a seed list page, where it is listed alphabetically by seed parent name with the information provided by the seed contributor, including links to any pictures of the parent plants.

After January 1st seed is distributed to contributors and ASA members on a first come, first served basis. After April 1st seed is distributed to anyone on a first come, first served basis.

All seed is packaged in #1 coin envelopes, and costs $2.00 for approximately 50 seeds. Shipping and handling is an additional $3.00 for all the envelopes in one order. Orders can be placed by e-mail to appalnativeplants@gmail.com or by a letter addressed to the Lindy's address provided above.

All seed not distributed before the annual convention will be offered for sale there.

Seed orders can be paid for with a check made out to "ASA" with "seed exchange" on the memo line, or by a credit card payment through PayPal using the form on the Seed Exchange 2016 page.