Growing Together

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Daffodil & Hosta Society of Western Pennsylvania OCTOBER 2019

END OF THE SEASON LUNCHEON
And Annual Daffodil Bulb Sale

Saturday, November 2, 2019
12:00 Noon
Luciano's Brick Oven
$15.00 per person
(See next page)

Happy Fall Everyone!

It finally feels like fall here with this drastic change in temperature. I am excited to be able to get back outside and do some yard work without sweating to death!

I saw many of you a few weeks ago at the last meeting with Eric French speaking. I really enjoyed hearing him talk about some of the projects that he has work on. His experience is fascinating.

Our next meeting is October 26th at 1pm. Dennis James aka DJ, will be speaking to our club. He will be speaking on plants that provide fall color and winter interest.

Now that we are in fall it is time to look at what bulbs you want to plant for next spring. As always we will be having a Daffodil bulb sale.

The Plato's have purchased some great bulbs. Once we have a book of what they have in stock we will send it out to you. The numbers are much more limited this year. So once you see what you want you must get in contact with the Plato's fast. We will sell out of bulbs very quickly!

Megan Danik
The Pres.

END OF THE SEASON LUNCHEON

Saturday, November 2, 2019

12:00 Noon

Luciano's Brick Oven

161 Scharberry Lane
Mars PA 16046
724-687-0480

The cost for the meal will be $15.00 per person.
There will be a cash bar.

The menu includes:
Appetizers, Soup or Salad, Bread, Coffee, Hot Tea or Iced Tea.

Once you get to Luciano's you'll have a choice of Entrée:
Chicken Parmesan, Lasagna, Chicken Salad

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Please, make reservations before October 20, Thanks:

Name (s)_____

_____

Total Enclosed at $15 per person_____

Make check payable to
DHSWP
685 Harrogate Rd
Pittsburgh PA 15241

Whispering Pines Festival in the Woods: June 15 and 16, 2019

By Susan Gahagan

The DHSWP sale at Whispering Pines Festival in the Woods, located in Cabot, Pa was a success. Set up and manned by DHSWP volunteers Bonnie and Steve Plato and Gary & Susan Gahagan, the two-day event resulted in much-needed revenue for the club. The threat of rain most likely was to blame for lower sales than usual. However, all vendors were thrilled that the threat came to pass without fruition. Only a few sprinkles on Sunday! We were all packed up and on our way before the torrential rain and high winds hit the area.

This annual event is held every year on Father's Day Weekend. It is a lovely, peaceful festival with antiques, crafts, plants, music, and food. Whispering Pines is a picturesque working farm with corralled horses as well as roaming chickens. Geese and swans are seen on the beautiful pond. The geese and chickens often visit the booths. If you haven't attended the event, you are truly missing out on something worth the trip.

Some DHSWP members visited the booth, as seen in the collage. Debbie Peters and daughter, Stephanie as well as Carole Ann and husband John Krelow stopped by to say hello. We were happy to see them.

How to Read the Daffodil Bulb Tags

by Bonnie Plato, Daffodil VP

Here is a "key" on the abbreviations, and a detailed description of all the information we include on each variety of daffodil. The information will be in the order it should appear on the tag. You'll find this on a sticker on the outside or on a slip of paper in a bag of bulbs DHSWP sells so you can identify them. This information can also be found on our lists of what is available.

This is very helpful for any Daffodil Show exhibitors, and possible exhibitors. Please keep track /record of these details to help you decide what you will consider entering in our spring show. Yes, they can always be looked up on ADS Daffseek website, but it's nice to have them already on hand. Please plan to enter!

Maybe you are only showing any visitors to your garden what's in bloom. But how much more fun to not only identify that variety, but have some information to share about it!

So here we go! Hope you already know part of this, but don't feel bored with it, and, in fact, learn something new! Note, there are usually two spaces to help separate bits of information so they are easier to read.

First is the daffodil name written with a capital N. (Indicating its Latin genus family name), followed with that particular daffodil name in single quotation marks as officially written.

The name is always followed with its division number (1 to 11a or 11b to 13) and color code. The color code consists of capital letters. Starting from the outside edge of the perianth (petals) down to the base of the corona (cup), then a hyphen followed by the corona (cup or trumpet) colors starting at the base and working out to its edge. The letters stand for: R = red, O = orange, P = pink, W = white, Y = yellow, G = green. Remember there are many, many different shades and depths of color. This color code was developed by Dr. Tom Throckmorton, Iowa, in 1975 which was adopted by the RHS (Royal Horticultural Society - the world recognized authority on daffodils). Don't know how they ever organized a daffodil show without this color code!

Next on the tag will be the season of bloom: VE or EE = extra early, E = early, EM or E-M = early midseason or early to midseason, M = midseason, ML or M-L = mid late or mid to late, L = late, VL or LL = very late, and finally, F = fall blooming. It's easy, and most of you already instinctively know this. And you know there is no specific set time of the month to equate this to as the daffodil season will start and progress with the weather and temperatures we experience.

Next will be only the hybridizer's last name, or company name if not an individual (just to save some space!), comma, then their country (abreviated: USA, Eng., N.I., N.Z., Ire., Aust., Neth., etc.). Skipping then to the year it was registered (if not registered it will note "Intro" - introduction - and that year). Occasionally there will be a question mark where no information is available.

Other miscellaneous capital letters or words may follow this basic identifier: I = intermediate; mini = miniature; dwarf = short; tall = over 12.78 inches, or may include the number of inches tall if known; a number beside "fl." = the number of flowers per stem; Fra = fragrant; W = Wister Award winner; P = Pannill Award winner; sunproof = doesn't fade; a number with mm = flower size in millimeters if known. Any others?

Hopefully I've listed all the possibilities you may come across, and have questions on. Do note, there is often conflicting information from various catalog sources, and even on Daffseek. Remember Daffseek uses the hybridizers official registration information which can differ from the growing conditions on different continents, in multiple countries, and in YOUR yard! Colors and sizes may not match due to the different conditions the bulbs are grown under!

Well, I hope this answers any questions you might have had. If not, please contact Bonnie at 412 726-7865 and leave a voice mail message or an email at bonnieplato@gmail.com.

Please read our tags and save the info we've gathered for your use—to better understand and appreciate your daffodils. Please consider adding another of your favorite color combinations or daffodil divisions to your collection. Or try something new and completely different! Please check out our Daffodil Bulb Sales (next page). We appreciate all your support!

2019 Daffodils for Sale

Here is the list of Daffodil varieties available this year. Most of these are not available commercially anywhere this year. Many will be in limited quantities. Members (or anyone interested in bulbs) may need to contact me by email (or call and leave message for me to return your call) regarding bulbs they want before they get sold out. I will need the bulb names, customer's name, contact information, and date & time of email. It will be first come, first serve.

The bulbs:

1. N.'Afficiando' 3W-O (aka 'Officiando' in its original registration) M-L Jackson, Aust. 1997 104mm
2. N.'American Hero' 2W-R M-L Reed, USA 2002
3. N.'Arctic Bells' 10W-W spring not registered (NR) dwarf
4. N.'Arctic Pink' 2YYW-P M Havens, USA. 2002
5. N.'Barenwyn' 1Y-Y VE Rosewarne, Eng. 1985
6. N.'Berceuse' 2W-P M Mitsch, USA. 1984
7. N.'Boutique' 1YYW-WWY M Mitsch, USA
8. N.'Bristol Bay' 2Y-P M Havens, USA 2009
9. N. 'Cherry Creme 11aW-P M Havens, USA 2005 sunproof
10. N.'Concertina' 2W-P ML Havens, USA. 1984
11. N.'Dailmanach' 2W-P M-L Lea, Eng. 1972 115mm
12. N.'Fertile Crescent' 7YYW-YYW L Havens, USA 2000 2 fl.
13. N.'Fulfillment' 2Y-P M Havens, USA 2009 108mm
14. N.'Gold Chain' 7Y-Y L Mitsch/Havens, USA 1985 2 fl. Fra
15. N. 'Golden Birthday' 2Y-Y M Reed, USA 2003 90mm
16. N.'Hiyu' 2W-P M-L Jackson, Aust. 2001
17. N.'Ken's Favorite' 2W-P M Evans, USA. 1978
18. N.'Kidson' 4W-W M Jackson, Aust. 2004
19. N.'Kiwi Sunset 4Y-R M. Hamilton, NZ 1995. 95mm
20. N.'Louise Randal' 2W-W E-M Reed, USA. 2004
21. N.'Magician' 2W-R M-L Mitsch, USA 1979 120mm
22. N.'Mallee' 11aW-YPP M Duncan, N.Ire. 2001 100mm
23. N.'Maya Dynasty' 2Y-Y L Mitsch, USA. 1993 90mm
24. N.'Merlin' 3W-YYR M-L Richardson, Ire. 1956 C W I 79mm
25. N.'Mission Impossible' 11aW-P M Mitsch, USA 1987
26. N x fernandesii var cordulensis 13Y-Y M species
27. N.'Oxford Gold' 10Y-Y E-M Blom, USA 2007 mini Fra 65mm
28. N. 'Pink Formal' 11aW-P M Mitsch, USA 1983 sunproof
29. N.'Pop's Legacy' 1W-Y E-M Bender, USA 1985
30. N.'Princeton' 3W-WWY L Mitsch, USA. 1993 110mm
31. N.'Princess Alexa' 2Y-O M van der Veek, Neth. 2013 100mm
32. N.'Quoff' 3Y-Y M-L Jackson, Aust. 2006. 103mm
33. N.'Redhill' 2W-R E-M de Jagers & Sons, Neth. 1978 tall
34. N.'Refrain' 2W-P M-L Mitsch, USA. 1982 tall 104mm
35. N. 'Sideling Hill' 1Y-Y E-M Bender, USA. 2000 103mm
36. N.'Sovereign' 11aW-O M-L Gerritsen & Son, Neth. 1973 115mm
37. N.'Stef' 2W-YYP. M van der Salin, Neth. 2010 115mm
38. N.'Super Hero' 2W-R M-L. Reed, USA 2007
39. N.'Tender Moment'7W-GYP L Frey, USA. 1994 1-2 fl.
40. N.'Ticonderoga' 3W-YYO L Havens, USA 2000 75mm
41. N.'Thalia' 5W-W. M-L van Waveren & Sons, Neth. 1916 H W 3-4fl. ("The Orchid Daffodil")
42. N.'Triple Crown' 3Y-GYR M Duncan, N.Ire. 1987
43. N.'Tristan's Memory' 2Y-Y M. Reed, USA 2005
44. N.'Truculent' 3W-WWY M Jackson, Aust. 1998
45. N.'Tycoon' 3W-WWY spring Jackson, Aust. 1998
46. N.'Velvet Spring' 2Y-Y L Havens, USA. 2000 sunproof
47. N.'Whispering Winds' 2W-GPP M-L. Mitsch, USA 1996

A Brief History of the Genus Hosta - Past, Present, and Future

By Chuck Olescyski

THE PAST...'ONCE UPON A TIME'

In the beginning the Hosta was only found in the Far East and flourished in China, Japan, and Korea. Transported by plantsmen and traders they eventually made their way to Europe (Germany and Great Britain) in the late 1700's and early 1800's.

The first hostas introduced to the New World were species. First came H. plantaginea, H. ventricosa, and then H, 'Lancifolia'. Since then every other hosta species has been imported into Europe and North America.

Their numbers and popularity grew and it is generally held that 38 species of hosta exist with over 8500 varieties/cultivars in captivity. Of these about 2000 varieties appear in our gardens (green zoos).

Hostas were originally grown on by individuals, then divided and exchanged. But local gardeners and hosta clubs hosting shows and sales found it slow going to provide enough plants to sale. At the time nurseries sold only a select few due to the unavailability of cultivars. Newer varieties obtained from seedlings or sports sold quickly and often at high prices due to their scarcity.

But due to the foresight and dedication to the genus hosta a band of enthusiasts formed the AHS (American Hosta Society) in 1968. Largely through the efforts of the AHS, the AHGA (American Hosta Growers of America), hybridizers, nurseries, local and regional clubs and gardeners the popularity of hostas has blossomed into America's premier shade plant.

THE PRESENT...'AND IT CAME TO PASS'

The next step in the evolution of hosta production is one that has benefited everyone from the gardener, to the hybridizer, to the growers. With the advent of TC (tissue culture) came a change that made hostas more readily available.

Labs could now produce 1000's of tiny plants from the original and sell them at a profit. This benefited hybridizers, the TC industry, growers, wholesale and retail outlets, and the hosta gardeners.

For a short period of time it was a hosta lovers paradise...more varieties were made available at reasonable prices. No longer did members rely on the shovel and back breaking effort to divide and conquer.' It was indeed a hosta paradise.

THE FUTURE...'IT'S ALREADY HERE'

But the rate of demand and the rate of supply would soon create instability in the hosta industry and market place. With so many hostas now available the market became flooded. TC labs and growers had to compete for sales. Add to that the steady importation of hostas from abroad which made it difficult to gain a substantial revenue for domestic growers.

This then brings us to the present day dilemma with serious implications for the future.

1. Less hosta plants being produced by TC labs will result in more expensive plants...(supply and demand). Are we willing to pay the higher prices to keep the market healthy?
2. With the closing of several major TC labs can the smaller TC outfits keep up with the current demand for plants?
3. Will hybridizers find a ready market to keep up with the demand for new plants and be able to continue selling their recent introductions?
4. Will we as gardeners and club members need to resort to the tried and true method of digging and dividing plants to sale at market?
5. How will we contain plant diseases from spreading if we rely on home grown plants to trade and sale? NOTE* TC labs guarantee their stock to be virtually disease free.
6. How will we maintain the integrity of the gene pool if TC labs, hybridizers and growers continue to decrease?

What then is our role or responsibility as hosta folk to carry out the mission of the AHS and protect and preserve the future of the genus hosta?

Let's hope like all good tales that hostas will continue to thrive and "live happily ever after". Afterall, it’s up to us to help steer the future of the genus Hosta!

HAROLD MCDONELL

The cuticle is just under the waxy coat that makes *H.* 'Dorset Blue' a blue hosta.

The Nature of the Plant Cuticle

abstract by Steven C. Chamberlain Manlius, New York

This summary is based on Evans Review No. 3 (Bargel, et al, 2006) from *Functional Plant Biology.*

The cuticle

The interface between plants and their environment, not including tree bark and other such surface specializations, but including all above-ground parts of hostas, is the cuticle. It covers all aerial parts of plants as a continuous, water-repellent, extracellular matrix. The main components include the biopolymer, cutin and cuticular lipids collectively referred to as waxes. The cuticle is a composite structure tightly held along its inner surface to the external surface of the cell wall and having a layered zone of epicuticular wax at its outer surface.

Interestingly, current research indicates that the cuticle is far from static, but is dynamically modified by the plant in response to both external and internal stimuli. In fact, it has many of the properties attributed to synthetic structures known collectively as smart materials.

What the cuticle does

The most prominent functions of the cuticle are widely held to be:

a) Serving as a transport barrier that limits uncontrolled loss of water or leaching of cytoplasm constituents from inside the cell wall *and* regulates foliar uptake from outside the cuticle.
b) Providing a strong degree of water repellency, thereby controlling the status of external water.
c) Providing anti-adhesive and self-cleaning properties to the external surface. This reduces external contamination and diminishes the effectiveness of pathogen attack. It also provides some control over the attachment and locomotion of insects.
d) Signaling of cues for host-pathogens and insect recognition and modulation of epidermal cell development.
e) Providing protection from harmful radiation by reflecting parts of the light spectrum while absorbing useful wavelengths of light.
f) Producing mechanical properties that provide resistance against mechanical stress and help maintain physiological integrity.

Structure of extra-cuticular waxes

Although the arrangement of intra-cuticular waxes may be either amorphous (no regular spatial arrangement) or crystalline (regular spatial arrangement), all extra-cuticular waxes are now believed to be crystalline. Until recently, crystallinity was studied by examining recrystallized waxes extracted from the cuticle. Modern imaging techniques permit the high-resolution imaging of extra-cuticular waxes *in situ* without recrystallization. At present, it appears that there may be nine or more natural crystalline arrangements of extra-cuticular waxes that all fit into only three of the seven crystal systems: orthorhombic, trigonal or triclinic. Orthorhombic arrangements are analogous to patterns of rectangular bricks with new layers sitting in congruent vertical alignment on older layers. Trigonal arrangements are analogous to patterns of hexagonal or triangular tiles with congruent vertical alignment. Triclinic arrangements have the lowest possible symmetry both across the cuticular surface and in vertical layering patterns.

This crystallinity almost certainly provides additional strength to the cuticle. Self-assembly of crystalline arrays of wax facilitates the production and repair of extra-cuticular wax. The regular arrays of the highest points on crystalline wax arrays also reduce wetting of the cuticular surface.

Why the cuticle doesn't wet

By their individual hydrophobic molecular structures, the waxes exposed at the cuticular surfaces inhibit wetting by external water. In addition, the presence of densely arranged crystalline arrays of wax molecules provides many bumps that keep water droplets isolated from the underlying surface and prevents it from wetting. As a result, the surface tension of the water is the predominant force and the epicuticular wax remains microscopically dry.

Epicuticular waxes form self-cleaning surfaces

Plant cuticle is a "superhydrophobic" surface and droplets of water roll off at the slightest inclination from horizontal. Not only do the tips of arrays of wax molecules keep water droplets from actually wetting the surface, these same micro/nano-structured surfaces keeps unwanted filth (dust, soot, spores, algae and bacteria) raised off the lower surface of the extra-cuticular waxes. As a droplet comes into contact with an alien particle, adhesion forces are dominant and the filth rolls off the cuticular surface with the water. Such self-cleaning surfaces not only provide the means for a purely physical process to remove alien particles, but by not wetting they also provide a dry surface that is generally inimical to pathogens. It is becoming clear that some insects have also evolved self-cleaning surfaces.

Summary

Like human epidermis, plant cuticle is a highly evolved, specialized structure that fulfills myriad essential functions for the cells of the plant. Recent progress in understanding the microscopic structure of the extra-cuticular waxes provides new explanations for why hosta leaves don't really get wet under normal circumstances and how this property helps to keep the surface relatively free of dangerous small alien particles on the leaf surface.

Reference

Bargel, H., K. Koch, Z. Cerman and C. Neinhuis. (2006) Evans Review No. 3. Structure-function relationships of the plant cuticle and cuticular waxes—a smart material? *Functional Plant Biology* 33:893-910.

DHSWP 2019 SCHEDULE		
STEERING COMMITTEE MEETINGS **Northland Library[1] on Saturday, Nov 16 at 1:00 PM**		
Saturday, October 26	**1:00 PM**	**Regular Meeting at Northland Library with Dennis James (DJ)** who will talk on Plants for Fall Color and Winter Interest.
Saturday, Nov 2	**12:00 Noon**	***End of Season Luncheon at Luciano's & Annual Daffodil Sale***
Saturday, November 16	**1:00 PM**	**STEERING COMMITTEE MEETING**
DECEMBER	**Pending**	

[1] Northland Public Library, 300 Cumberland Rd, Pittsburgh PA 15237, 412-366-8100