



President's Report

Judging by the response I have received, or know of, there is little prospect of a groundswell of opinion sweeping the NEHS into a new or altered relationship with NAHS. One is left to ponder not so much the putative benefits of such a changed relationship as the difficulty of moving forwards in an organized fashion to achieve them were they in fact achievable.

One can also ponder whether a failure to vote is a silent vote against, and where it ranks in the corporate world of mergers and acquisitions where success or failure of votes can depend (if its By-laws permit) on the percentage of votes received and counted as for, against or abstain. Still we are far from reaching the threshold required by a quorum and equally far from your Board of Directors reaching a recommendation to put before the membership for action at a general meeting or a special meeting called for a purpose.

So unless some far off tsunami generates the required groundswell to generate early action, it may be safely assumed that little disturbance of the *status quo* is in prospect, and that it can be left to future generations to study the surface for signs of the underwater swirls that doubtless linger beneath it.

But there is still time to voice your opinion - and even your vote - see the form below

Donald Mackay

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2015 Heather Trimming Schedule

Fort Tryon
Manhattan, NY
April 11, 10:15 am

Heritage Museum
& Gardens
Sandwich, MA
April 25, 10 am

The Fells
Newport, NH
TBA (early May)

The NEHS Board of Directors needs your opinion LAST CHANCE!

The Heather Notes, Vol. 24 No. 4, included a list of Pros & Cons of a new NEHS-NAHS membership arrangement and asked you to indicate your preference: Here are the two options:

Increase NEHS dues to cover mandatory NAHS membership and publish NEHS news material in the NAHS Heather News Quarterly (HNQ). This will eliminate our NEHS newsletter.

-or-

Maintain current NEHS dues level at \$15 continuing to publish our own newsletter, the Heather Notes.

Please submit your preference via mail or email to:

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**DON'T BE PRUNED!
WE WOULD MISS YOU!**

Check the expiration date on the address page of this newsletter. Send your renewal to:

Treasurer Peter Matwey
7 Heights Court

Do Deer Eat Heather? Part II by Donald Mackay

The three things that govern animal ability to live off vegetation are nutrition, availability and palatability, and the content of carbohydrates, proteins and fats. But in the context of deer and heathers we need to consider only the nutrition and palatability of carbohydrates, the major source of energy for all animals, especially herbivores.

Chlorophyll in plants uses energy from the sun to react carbon dioxide and water to form a carbohydrate called sucrose. Sucrose is very water soluble and hence easily transportable to all parts of the plant such as nectaries in flowers and leaf axils, roots for storage, and throughout the plant for growth of cells. Sucrose is made up of two sugars, glucose and fructose. Sucrose can not be polymerized in nature, but glucose very easily is. It either forms very strong high molecular weight β -1-4 linked linear polymers called cellulose, the structural element of plants, or α -1-6 linked polymers called starch. There is also some formation of cellulose-like polymers called hemi-celluloses and pectins that have side chains that permit water penetration and hence facilitated enzyme action.

We are copiously supplied with enzymes in saliva and the small intestine that can easily break down sugars and starch to recreate the glucose that the body can absorb from the digestive tract, but entirely lack the enzymes to break down the β -linkage of cellulose. Nature designed cellulose to be resistant, and wood can be attacked only by shipworms which contain β -cellulases, by some kinds of soil fungi that generate them, and by insects like termites that contain protozoa in their gut that can break down cellulose to nutritive sugars.

Some animals, especially herbivores, have adapted their alimentary canal to create a series of stomachs which harbor the micro-organisms, mainly bacteria and protozoa, able to break down celluloses and hemi-celluloses into their constituent sugars. We, too, harbor bacteria, but not of necessity. Ours live in the large intestine and on feeding off the food residues passed down to them can provide us with some energy, usually in the form of acetic acid. The horse can digest more hemi-cellulose than we can through microbial action in a large developed caecum (the appendix) which sits between the upper and lower intestines. Digestion of cellulose is aided by coprophagy in some animals, notably rodents like mice, rats and rabbits, especially when starved. Much early research on vitamins in the diet, using rats as experimental laboratory animals, was invalidated because of failure to recognize this. Specialized leaf diets such as lemurs may have, and langurs and koala bears certainly do, depend on faecal contamination from the mother to the baby. Koalas live only on eucalyptus leaves because of this.

Some plants have underground organs, such as tubers and enlarged roots, where starch is stored in winter for relocation as sucrose to its growing leaves when spring comes (hence maple syrup). In some plants like potatoes and parsnips cold weather activates some enzymes for sugar synthesis, making parsnips better tasting to us in winter and potatoes less attractive to chip and crisp manufacturers who need to avoid the deep brown on frying caused by free glucose.

Winter affects other parts of the plant, too, in the process of hardening off, by removing water from cells via osmosis or preventing disruptive ice formation in tissues where sugars accumulate. Heathers, in order to be winter hardy must relocate sugars, though whether this affects the palatability of heathers for deer is unknown to me. Edible starches will be found in heather roots, but in an amount probably inadequate to pay for the effort to get it. Pigs root, but it is not likely that deer will. In spring, deer and hill sheep are starving and new growth of heather will be certainly more easily edible to them than old woody stems of heather covered by very thin bark layers. However, it may prove to be nutritious, and possibly even more palatable, since many animals may have, if not a taste for sugar, an aversion to the bitter tannins produced by the plant in order to turn cellulose into wood.

The white-tailed deer do certainly browse on woody stems and congregate in Vermont where old apple orchards persist in forested areas. In fall they eat the fallen apples no matter how rotten. In winter they chew on the stems which in apple trees are covered with thick bark. On calluna the bark is paper thin but still will be better than nothing. But no wonder deer come down from the hills in winter to feast on suburban gardens. No wonder gardeners wish that deer did eat heather. There's enough of it on the moors.

On balance I have to conclude that deer do not really eat heather. Heather has no storage organs, the seed - a starch source - is very small, and almost any shrub or sapling has much thicker bark. Deer leave the heather-covered moors to feast in gardens. On moors there is very little greenery except in fenced-off areas. Once that has gone the deer have little choice but to move to fields and gardens where even dead vegetation is better than nothing. Like sheep, starving deer must wait for spring to produce tender heather stems. That is probably the only time that deer eat heather.

They presumably do so in order to survive, but does that really make them heather eaters? Even if Continued on page 5

Featured Plant

Calluna vulgaris 'Roswitha'

Bud Bloomer

Upright, Dark Green Foliage

Height 16" Spread 22"

Hardy to -5°F.

Lilac Red Buds in July,

Bud tips deepen to purple and remain on the stems through winter.



This plant, purchased from Hickory Hill Heath & Heather, is approximately 2 years old in the picture.

The quantity of buds at this age is what really convinced me to make the purchase. As the weather turned cold and the color of the bud tips deepened to purple I

found myself envisioning what a dramatic display my 3 plants are going to make even without a light dusting of snow to show off the purple tips.

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CONFUSING ADVICE by Mary Matwey, Editor

I received the GARDEN GATE magazine (Issue 121, Feb. 2015) recently, and I am concerned about their response to a question from a British Columbia reader about trimming heather.

[Q: When do I trim back heather (*Calluna vulgaris*)?

A: The best time is right after it flowers. Prune too late and you'll be cutting off next year's flower buds. You don't need to prune yearly -every two to three years is usually enough. Leave some foliage on the stems. If you cut back to bare stems, the plant may not recover as quickly. The easiest method is to grasp clumps of foliage and lightly snip the tips as you see in this illustration.]

A little background:

There are basically 2 areas on the North American continent that can grow Heather, the West Coast (northern California to the Alaskan pan handle) and the East Coast specifically the New England and mid-Atlantic states. With its milder maritime weather, the West Coast more closely exhibits the favorable heather growing environment of eastern Europe where *Calluna* and *Erica* thrive. The New England area's winter weather can be harsh and is very unpredictable creating unique challenges for the heather enthusiast. The West Coast can get away with trimming *Calluna* after blooming but only if done a month or 2 before the first frost. This allows the new growth initiated by the trimming to harden off and survive the milder winters of the West Coast. However the East Coast *Callunas*, especially those late summer and fall bloomers, would absolutely not survive a trimming right after blooming. Also the cold temperatures of fall turn many heather foliage to bright reds and oranges and this display would certainly be diminished by shortened stems. Another reason not to trim after blooming pertains to the bud blooming *Calluna* who hold their color and buds right through the winter. The magazine's answer in regard to trimming every two or three years is acceptable for *Ericas* but not the *Callunas*.

I asked a number of experienced Heather growers in the Northeast and West Coast what they thought about the advice on trimming heather in the Garden Gate magazine. Here are their (and my) responses:

12-18-14, Mary Matwey, NY, Northeast Heather Society (NEHS), Editor, Heather Notes

This answer is so contradicting to everything I know about the growing culture of *Calluna vulgaris*, a.k.a. heather here in NY. Did the horticulture staff of the magazine not do their homework? Could it be that their information source used the common name heather and did not distinguish the difference in cultural practices for *Callunas* and *Ericas*? Or in their haste to meet a deadline they didn't pay enough attention to the readers question ignoring the very specific genus species name of the heather in question as a *Calluna vulgaris*. The Garden Gate magazine's answer is sure to cause their readers who grow *Callunas* on the East Coast some real concern.

12-18-14, Paul and Jane Murphy (owners, Hickory Hill Heath & Heather, Oxford, PA) Board of Directors, Northeast Heather Society (NEHS)

I agree with Mary's response. I'm wondering if they are confusing *Erica carnea* and/or *darleyensis* with *Calluna vulgaris*. Their advice is suitable for *Ericas*, but not for *Callunas*.

12-18-14, Donald Mackay, Vermont, President Northeast Heather Society

I'm delighted to see that Garden Gate recognizes the importance of heather in the garden, but their response to a question on pruning probably has the wrong heather in mind. Specifically, the response is substantially true for *Erica* species of heather (usually called heaths) but rather controversial for the *calluna* heather their questioner seeks advice on.

Usually the advice for pruning of *calluna* is to delay it until early spring so that the old flower spikes can act as a snow fence, and thus trap the snow to serve as a protection from severe frosts. Special *callunas* may need a different pruning schedule. The winter-coloring varieties should be trimmed as little as possible in fall so that the maximum foliage coloration is obtained. And the many bud-bloomers now available are often found still in their state of arrested bloom as late as December - at least in northern Vermont - so why prune them while flower color is still there?

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CONFUSING ADVICE continued from page 4

Another factor for severe winter climates is to avoid stimulating the heather with rich green growth. Apart from the frost damage to the new growth it is possible that to keep callunas going in a very severe climate the best advice is to avoid fertilizing, watering and pruning. Let the heather spend the winter in peace.

12-21-14, Judy Doyle, MA, Board of Director, Northeast Heather Society (NEHS)

In New England *calluna* blooms well into the fall. Pruning induces tender new growth, which would not have time to harden off to survive the harsh winters. We trim no more than 2" in early spring, March up to late April at the latest.

12-21-14 Ella May Wulff, OR, Membership Chair, North American Heather Society

Here is a West Coast response:

The magazine staff did their homework too quickly.

The answer they gave to the question was the correct answer for how to prune the winter/spring flowering ericas such as *E. carnea* and *E. x darleyensis*. Definitely not for *Calluna*.

In Oregon and other places in the maritime-influenced Northwest (northern coastal California to the Alaskan panhandle), it is perfectly all right to prune callunas as soon as they finish flowering, as long as all the pruning is completed at least a month before the first freeze. For western Oregon, that is late October. In Victoria, British Columbia, heather enthusiasts try to finish pruning by the end of September.

Heather enthusiasts can rest assured that the incomplete answer to the question of '*When do I trim back heather (Calluna vulgaris) ?*', as provided by the GARDEN GATE magazine will be addressed by the Northeast Heather Society. NEHS president, Donald Mackay, and Heather Notes editor, Mary Matwey, will send a letter thanking them for recognizing that heather is a plant of distinction while enlightening them on the different cultural practices for growing heather (*Erica* and *Calluna*) depending on geographic location and the typical weather for that local.

Do Deer Eat Heather Part II continued from page 2

they got no nutrition from it you would have to admit that yes, they do eat heather at some time of the year. Depends upon what eat means.

You could say deer can always ingest heather, but are unlikely to digest it unless it was the first flush of green growth in spring.

The key question is, "What does eat mean?" All animals with teeth can cut off pieces of heather stems, masticate and macerate them and then swallow the bolus. But only ruminants and specialized animals like beavers, rabbits, the koala and some monkeys already mentioned have the digestive ability to get value from it. We can't, which is why wood flour was used to make low-calorie foods. We can get some calories out of hemi-celluloses like pectin and those in bran, but barely enough to live on. Battery acid readily eats clothes, but not enough to get a charge out of it. De Quincey did eat opium and did get a charge out of that, but not nutrition.

So if eat means masticate and swallow and benefit thereby one might say that deer probably eat heather only in early spring. If it means only masticate and swallow, then deer can qualify as heather eaters only if they feel like it. But is it a food they like or want to eat? I doubt it greatly.

Muirburn is done to benefit sheep and grouse. It may also benefit deer, but management of deer forests does not seem to involve a muirburn specifically to benefit the deer. If it did, gamekeepers would surely know it by now.

Do deer have taste preferences? I think they must do. Coming back from a heather conference in Amish country in Pennsylvania, I stopped at a hilltop farm set among large fields of corn (maize in the UK). I asked for a dozen ears of this late summer delicacy. "Sorry, ain't got none." Why not? "The deer et it." But look at all these fields of ripening corn. "Can't eat that. That's for silage." No eating corn? "Nope. Had the eating corn hidden in the middle of the other fields but the deer came in and et the tips of every one of my sweet corn. Can't sell you none."

So at least Pennsylvania deer have an obvious taste preference, even down at the variety level of their favorite food. And they don't tell lies in Amish country.

Critters and Bitters of Winter By Mary Matwey

Deer

Hostas and Daylilies are prime targets, and heather is usually last on the menu, usually in winter after the larger *Ericaceae* (Rhododendrons, azaleas, etc.) have been denuded. But even here unknown preferences are evident. Example: Two *Rhododendron ponticum* side-by-side used to live in the back garden. One was always denuded over winter (it's dead now), the other barely touched. Why? The best answer I got from a deer hunter was that one was a step closer to a deer path through the woods than the other. It was a stopping point, and a nibbling point. It was a matter of habit as much as preference or appetite. Deer also stop to rub against trees, and that stop could also be a meal stop from a nearby shrub¹. The obvious answer is to upset the deer habitual patterns of travel and/or the available food along the way. In the adjacent photo, an 8' metal fence and a 4' high wire fence embedded into a hedge prevents access to the delicacies in the backyard.¹*Deer and Heather 2, by Donald Mackay*



Rabbits and Voles

The Heather Notes has contained many articles on rabbits and voles whose destructive nibbling has killed or set back many a heather.

The solution to minimizing the vole impact is to put poisonous bait in the heather bed before you layer on the leaves, pine needles or boughs. Trying to trap them is an exercise in futility. As for the rabbits, a sturdy wire fence erected around the heather bed or fruit trees will definitely do the job of keeping these cute, furry, critters at bay. Examples are shown in the photos adjacent and below.



Weather

Of all the challenges to heather survival, adverse weather and uncontrollable environments have the most detrimental effects on the heather. Desiccating winds, numerous thaw-freeze cycles, soil moisture loss and sun burn are a few of these effects we heather growers attempt to control. Plastic snow fencing or hay ticks to catch leaves and snow, wire cages filled with oak leaves (as pictured here) attempt to divert strong winds from exposing the soil and the heather.



Not shown in this series of pictures is a section of this heather bed covered with camouflage netting. The netting was purchased by the NEHS as an experiment to determine and document the netting's ability to protect the heathers it covers this winter. The report will be published in the Heather Notes this spring. Camouflage netting has been used successfully for many years by Vivian Branchofsky at Little Siberia in Vermont to protect her heathers. Total coverage of the heather bed with leaves, permeable cloth or plastic applied after the ground freezes help to maintain a constant soil temperature and minimize evaporation as shown in the photos below.



In a public environment where safety is an issue and requires application of salt to melt icy sidewalks, a burlap surround enforced with pine needles at the base protects the heather from detrimental over spray. Or you can take your chances and rely on the heavy mulch layer you've applied for winter protection while you enjoy the wintery reds and oranges of the foliage.



HEATHER NOTES, all rights reserved, is published quarterly by the Northeast Heather Society (NEHS), a tax-exempt organization and a chapter of the North American Heather Society (NAHS).

The purpose of the Northeast Heather Society is to foster interest in growing heathers (*Calluna, Erica, Daboecia, Cassiope, Phyllocladus* and *Andromeda*) in northeastern North America, by serving as a conduit of educational information for both the experienced and the novice gardener.

MEMBERSHIP in the Northeast Heather Society is open to anyone who pays dues to this chapter. Membership benefits include: a subscription to this quarterly newsletter, participation in chapter meetings and elections, borrowing privileges for slide/power point presentations, and, most valuable of all, contact with fellow heather gardeners who mostly live in or near your growing zone, all willing to share helpful advice and their experiences. A family membership permits more than one family member to vote and participate in all NEHS activities for an additional \$5 per year fee above the annual dues. The family membership includes all household members residing at the same address and each member has one vote. Each household will receive only one copy of Heather Notes.

Dues for an Individual: \$15 a year; \$28 for a two year membership; \$40 for a three year membership

Dues for a Family \$20 a year; \$33 for a two year membership; \$45 for a three year membership

Remit payment to: Peter Matwey, Treasurer, 7 Heights Court, Binghamton, NY 13905

For digital presentations, contact Bill Dowley, Keene, NH. Tel. (603) 355-8801; wdowley@ne.rr.com

WEB INFORMATION: North American Heather Society website: www.northamericanheathersoc.org

NORTHEAST HEATHER SOCIETY website: www.northeastheathersociety.org

ADVERTISING: Quarter page ad: \$35 per issue; \$25 per issue if advertising in two or more consecutive issues.

Contact: Pat Hoffman (856) 467-4711; njgardener15@hotmail.com

BE A CONTRIBUTOR TO HEATHER NOTES:

Do you have a suggestion, a question, a story, an anecdote, a poem, or a photo to share? Contact the Content editor:

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All material may be edited for clarity and length.

DEADLINES FOR EACH ISSUE:

March 20–June 20–September 20–December 20

