

# *Alpine Garden Club of British Columbia*



*Ornithogalum nanum*, an exquisite dwarf bulb from Turkey photo G.Ware

Volume 56, No 3 **Quarterly Bulletin** SUMMER 2013  
[DIGITAL EDITION](#)

## INDEX

Upcoming Events p. 51

Rock On! p. 51-2

Favourite New Links p. 53

Seed Exchange Preliminary Report- Linda Verbeek P. 53-4

Seed Collecting/Processing Links p. 54

Limestone Barrens of Newfoundland-Todd Boland Talk Reviewed by Ian Gillam p 55-6

Drainage, Aeration and Potting Mixes- Paul Cumbleton p. 57-9

Where There's Smoke...There's Germination!- Diana Chapman p. 60-1

*Claytonia megarhiza* var *nivalis* 'Paddy-Go-Lightly Pass form'- Grahame Ware p 62-4

## UPCOMING EVENTS

**AGCBC Fall Plant Sale**, Floral Hall, VanDusen Gardens Saturday, September 22, 1-4 PM. This is very possibly the best place in BC to get bulbs and seedlings of desirable alpenes, perennials and woodlanders.

**Perennial Plant Association Symposium** Sunday, July 21 *Perennial Plants & Design: A Perfect Combination*. \$99 US. Part of a larger event. <http://www.perennialplant.org/events/national-symposium>

**BC Fuchsia and Begonia Society Annual Show** July 27 & 28, Floral Hall, VanDusen Gardens 10-4 PM

### Monthly Speaker series AGCBC

**September 11-** Claire Cockcroft speaks on *Parnassos and The Peloponnese: Spring Wildflowers of Southern Greece*. More here: <http://www.agc-bc.ca/events/Claire-Cockcroft-Parnassos-and-The-Peloponnese-Spring-Wildflowers-of-Southern-Greece>

**October 9-** Alan Bradshaw, Flora of the North American West. More here: <http://www.agc-bc.ca/events/Alan-Bradshaw-Flora-of-the-North-American-West>

## ROCK ON!

Some of you may be wondering why I am spending time and space in the Summer issue on seed collecting. Its very simple really. Its already time to be vigilant and start collecting seed. Its been a very precocious Spring preceded by a very mild Winter. Now Summer has come ripping out of the gate with record highs. I have already collected *Pulsatilla*, *Lewisia*, *Asarina*, *Beesia*, *Primula* and many others. The ripening continues apace. I try to spend at least 30 minutes a day combing my beds for seeds. In addition, I'm also hand-pollinating many things to ensure fertilization and relative purity of the seed. Let's not be lulled into thinking that we can start collecting seed over the Labour Day weekend and just take the Summer off for hiking the mountains and swimming the lakes and seas- although that really is the point of Summer, isn't it? So, arm yourself with some scissors, those always useful LCB paper wine bags and start detailing the collections.

In order to take your seed collecting to the next level you'll need to have seed screens. I purchased mine from **Forest Shomer** over 20 years ago when he was still involved with Abundant Life Foundation (an organization he started). Shomer now

runs the excellent Inside Passage Seed: [www.insidepassageseeds.com](http://www.insidepassageseeds.com)

Back in the day, Shomer and a carpenter friend made the seed screens of kiln-dried fir in their spare time during the rainy Winters of Port Townsend, Washington. As Shomer recently pointed out to me in an email, "They are a life-long investment." Mine will attest to that assertion, having seen use for decades.

Shomer has no screens for sale at present but check out this link to seed screens for sale: <https://www.horizonherbs.com/product.asp?specific=1516#>

The Marcie O'Connor kitchen in Wisconsin below- tools of seed processing 'equipment'



The AGCBC Seed Exchange for 2013 should be exceptional and I expect that we will be able to offer more information about the seeds than ever before. Stay tuned for these exciting developments that will make membership in our club even more compelling. For more details on the seed exchange, carefully read Linda Verbeek's report below.

This past June, the Hardy Plant Society Study Conference was held at UBC. The line-up of speakers was marvellous and the whole event was simply tremendous. Kudos to **Gillian Collins** and **Gwen Odermatt** and so many others for organizing it. The spirit of this conference was really a celebration of hardy plants and what a celebration it was!



## Favourite New Links

<http://www.glendoick.com/index.php?page=sfg-index>

Excellent synopsis of a Ken Cox' book 'Gardening in Scotland'- Features a list of the best gardens in Scotland and why.

<http://www.pacificbulbsociety.org/pbswiki/index.php/DrySummerClimates>

An incredibly useful condensation of information regarding "Mediterranean" climates and bulbous species requirements. Maps & lists with an excellent section on *using the maps to help you grow bulbs*. Michael Mace pulled this together at the PBS web.

<http://paridevita.com/about/> The Miserable Gardener. Bob Nold working things out.

<http://www.fritillariaicones.com> Fabulous project by Lawrence Hill. So much info that it boggles the mind *and* warms the cockles of your horticultural heart.

## SEED EXCHANGE Preliminary Report, Summer 2013- Linda Verbeek



*Paeonia officinalis* var *banatica* pods at various ripening stages Grahame Ware photo

Most importantly, because the seed list has to be sent out with the Fall Bulletin, the seeds **have** to arrive no later than October 25th.

***Seeds should be sent to:***

***Linda Verbeek,***

***5170 Sperling Ave, Burnaby, B.C.,  
Canada, V5E 2T4***

If you cannot manage to get them to me by that date, then kindly send me an e-mail with the seeds listed alphabetically, with a probable date of arrival. And, please be sure the seeds on your email list will indeed be available. Email is [beekbos@shaw.ca](mailto:beekbos@shaw.ca).

If seeds are wild-collected, please send us information about where they were collected, and any information you have about flower colour, height, etc., especially for unusual plants or plants that cannot be completely identified. If you are unsure use the abbreviation *aff.* (has an affinity to) or **Group** to show its similarity. For garden grown and/or collected seed, a short description of what is different in some discernible way is also helpful to us. Again, please include an alphabetical list of your seeds with the package as this helps us organize things much more easily with the deluge of seeds that we receive. Seed donations should be sent in an envelope marked ***Flower Seeds of No Commercial Value*** and mailed as soon as possible to the above address. Remember, that ***No Permit is needed to send non-commercial seed to Canada.***

Any Club member may order seeds but Donors get special privileges. To qualify as a Donor, a ***minimum donation of five different species is required.*** North American members should donate this minimum in seeds that are native to North or South America. Of course, seeds from any region are welcome. Overseas donors receive donor status for seeds from any area. The success of the exchange depends on the donors so they do get special privileges. Donors are able to order up to 60 packages (non-donors receive only up to 30), and they get priority where seeds are in short supply, so it does pay to make the effort to become a donor. It really isn't that difficult to go out in the garden a number of times to inspect and collect seeds. You'll get donor status before you know it and you may find that you enjoy the gathering. Detailed ordering information will be sent out with the Seed List in the Fall Bulletin and will be on our website as well.

Many thanks to all the donors who sent in so many interesting seeds and made last year's Exchange a success. I hope you will all keep seeds in mind as you enjoy your gardens and your summer travels! Happy collecting.

#### **Links on seed collecting and processing:**

<http://www.kew.org/science-research-data/kew-in-depth/msbp/seed-banking-technology/index.htm> A super link to many subcategories of interest.

<http://www.kew.org/science-research-data/kew-in-depth/msbp/seed-banking-technology/drying-storing-seeds-local/index.htm> Some excellent aspects are covered with some good tips on low cost equipment for measuring moisture content, etc.

<http://www.kew.org/science-research-data/kew-in-depth/msbp/seed-banking-technology/containers-storage/index.htm> This link highlights the storage aspect. You might be surprised at some of their findings.

Link below from **Samara**, newsletter of the Millenium Seed Bank.

[http://www.kew.org/ucm/groups/public/documents/document/kppcont\\_067678.pdf](http://www.kew.org/ucm/groups/public/documents/document/kppcont_067678.pdf)

[http://www.aprairiehaven.com/?page\\_id=2515](http://www.aprairiehaven.com/?page_id=2515) See how a Wisconsin prairie couple collects and processes their panorama of seed. Terrific!

## Limestone Barrens of Newfoundland- Talk by Todd Boland

Reviewed by Ian Gillam from a presentation at the Floral Hall, VanDusen BG

At the AGCBC June meeting, Todd Boland spoke on the Limestone Barrens of Newfoundland. Todd is a native of Newfoundland and horticulturalist at the Botanical Garden of Memorial University of Newfoundland. Amongst other duties, he cultivates a reserve stock of some threatened endemic plants of the island. An enthusiastic naturalist, he is also a talented photographer of birds and wildlife as well as plants.

The Limestone Barrens occur as scattered regions along the northwest coast of the Great Northern Peninsular, a considerable distance from St. John's on the southeast corner of the island. Parts of the Barrens are within convenient driving distance of Gros Morne National Park, a popular tourist destination. Close to sea level and often within sight of the sea, these areas of exposed limestone support a flora of alpine and arctic species growing in fissures created by millennia of rainfall. In other sections the ground is covered with shattered limestone fragments, sharp as glass, that are regularly shifted around by freezing and thawing.

By comparison, in the Burren region of Ireland, a panoply of arctic/alpine plants grows in similar fissures, safe from grazing animals that prevent the establishment of trees and shrubs that would shade out the herbs. In Newfoundland however, there is no history of grazing and it is the cold conditions, desiccating winds and poor soils that limit tree growth and allow arctic plants to survive some 2000 km south of the Arctic Circle (around the latitude of southern England).

Todd spoke with obvious enthusiasm of the willows (*Salix*). The island is rich in these, and all are small and mostly prostrate. Several are endemic with a quite limited distribution. Global warming puts them and many of the arctic plants growing with them at risk, both from conditions that are warmer than they can tolerate and from the inevitable competition by larger herbs, shrubs and trees that an upshift in warmth would accommodate. The seeds of willows are notoriously short-lived, losing viability once dried. It is for this reason that Todd maintains an *ex situ* population of the endemic species of *Salix* at the Memorial Garden, since having a seed bank is not an option. These small willows are quite ornamental with showy catkins and attractive leaves, making them well worth growing in the alpine garden. Go to this link for a complete list of species and pictures of Newfoundland *Salix*.

[http://www.digitalnaturalhistory.com/flora\\_salicaceae\\_index.htm](http://www.digitalnaturalhistory.com/flora_salicaceae_index.htm)

Among well-known alpine plants growing on the Limestone Barrens are *Saxifraga oppositifolia* and other saxifrages, *Silene acaulis* and *Dryas drummondii*. Several orchid species grow out in the open among the limestone fragments. It was particularly astonishing to see pictures of multi-stemmed clumps of *Cypripedium parviflorum* flowering amongst the rubble within sight of the sea in the background.



*Cypripedium parviflorum* at Gros Morne Park, Newfoundland

It was fascinating to learn of the flora of the Limestone Barrens, stimulating a wish to visit. It's a pity Newfoundland is so distant, considerably closer to Europe than the West Coast.

Link to Boland's slide show: <http://www.agc-bc.ca/slide-lists>

Members who missed the meeting or wish to learn more may see a detailed website on the Limestone Barrens with discussion and many photos of the landscapes and flora at <http://www.limestonebarrens.ca/>

And specifically within that web there is a Power Point presentation that downloads quickly: <http://www.limestonebarrens.ca/PlantsOfTheBarrens.htm>



## Drainage, Aeration and Potting Mixes

by Paul Cumbleton (Edited with permission from the *February 2007 PBS forum*)

The old myth of adding a layer of grit or other material to the bottom of a pot "for drainage" seems never to die, despite the science that disproves its efficacy being known for over a hundred years. You will hear such advice repeated again and again in books, on websites and TV programs. Materials recommended for such use may include gravel, grit, sand, broken up clay pots or polystyrene bits, all to be added "for drainage". If you ask the person giving this advice as to EXACTLY why they think this will work, they often don't know, it's just something they have been taught or read about and they have never stopped to think why or how it might work. If they do have an explanation, it is usually to point out that coarse materials have large air spaces that drain more easily than small air spaces. This is correct but when materials are placed in layers, additional forces come into play.

I have regarded it as something of a personal mission to correct this old misunderstanding. Each yearly intake of trainees at the RHS Wisley got a lecture from me specifically on this subject explaining the science behind drainage in reasonably simple terms. Note, although I talk about alpinists, the same things apply to bulbs or any other plants requiring good drainage.

### ***"What is Really Important in a Compost Mix?"***

In the wild, many alpinists grow in situations where water drains away very quickly and easily - this is known as "sharp" drainage. This results in many air spaces around the roots. When growing in a pot, we need to provide similar conditions and make a mix that, while holding sufficient water to supply the plant, drains excess water very rapidly to leave lots of air spaces. We'll look at how to achieve this later, first we must ask: ***Why is it important to have lots of air spaces?***

Roots not only take up water, they take up and need oxygen too. Roots are normally covered by a thin film of water. Oxygen has to diffuse across this before it can enter the root. Oxygen diffuses through water relatively slowly. So the thicker the layer of water around the root, the longer it takes oxygen to diffuse through it to get to the root, which may result in the roots being starved of oxygen. Without it, they cannot metabolise and perform their functions - one of which is to take up water. This explains why the symptoms of plants being over-watered or under-watered are the same: If under-watered there is insufficient water to supply the plant and so it wilts. If over-watered, there is plenty of water around but the roots cannot take it up due to being short of oxygen. So the result is the same- the plant wilts because although it may be sitting in water, it cannot take the water in.

The reason for going into all this is that plants vary on just how sensitive they are to the amounts of oxygen in the growing medium- and alpinists are among those plants that require a high degree of aeration. This is why growers of alpinists aim to produce a mix which is very free-draining, so that there is plenty of air spaces in the medium. The percentage of the volume of a medium that contains air after it has been



saturated then allowed to drain is called the Air Filled Porosity (AFP). For the majority of plants, a figure between 10% and 20% AFP is aimed at; for alpinists this figure needs to be at the higher end of this range or even above. So when we say a plant needs good drainage, it may be more informative to say that what they really need is good aeration (which is created by good drainage).

### ***What factors affect aeration and drainage?***

#### **1) Pore Size**

Pores are the spaces between (and within) the solid parts of a medium and they contain the air and water required by the plant for growth. Pores vary enormously in size. The relative numbers of large and small ones, the way they are grouped and how inter-connected they are will determine the rate of water movement through the mix and also determine how much air and water are retained. It is these factors that you can alter by adding drainage material such as grit, and the extent of the effect will vary depending on the particle size of the grit you use and the amount you add to a mix. The most important factor is the relative proportion of big pores to little ones. This is because of a key point: small pores hold onto water more strongly than large ones - due mainly to *capillary action*. This means that small pores (called **micropores**) retain water, which leaves no room for air, while big ones (called **macropores**) tend to drain most of their water leaving air in its place. It follows then that fine sands are not suitable as drainage components - the fine particles simply fall into the larger air spaces, clogging them up and producing smaller pores that hold on to water - in other words you get poorer drainage, the opposite of what you want. So, use only coarse sand or grits as drainage material - in practice, this means ones with most of the particles larger than 1.6mm diameter.

#### **2) The Quantity of Grit**

If you add a very small amount of grit to a medium it will not help the drainage, it will simply displace some of the medium. For grit to work as a drainage medium there must be enough of it so that it exceeds what is called the **threshold proportion**. The threshold proportion is where there is just enough grit that the particles touch each other. At this point, the pores between the grit are still filled with soil and humus and no new macropores have been created. More grit must be added to further "dilute" the medium so it exceeds the threshold. At this point, new macropores are created that drain readily and provide aeration. So what quantity should you use then in your alpine mix? In practice, **most alpine growers use between 30% and 50% (by volume) of grit** in their mixes to achieve the threshold proportions.

#### **3) Pot Depth and Perched Water Tables**

When you water into a pot and excess starts coming out the bottom, it is coming out due to a mix of gravity pulling on it **and** the weight of water above pushing down on it (the "hydraulic head"). As water drains, there is a point at which gravity or the *hydraulic head* are insufficient to push any more water out. So at the bottom of each pot there is a layer where ALL the pores are filled with water. This is called a *perched*

*water table*. This is true of all pots whatever mix it contains- at the bottom of every pot there is always a perched water table. Wouldn't it be good if we could prevent this?

This brings us then to the old myth and the point of departure in our discussion. "*Put a layer of grit or other coarse material at the bottom of pots and containers to provide drainage*". Those that spout this old saw, don't stop to think what happens if you start putting materials in layers. What actually happens when this practice is used is that drainage is **HINDERED** because water tends to accumulate at the boundary between the two layers. This happens for two reasons:

1) As we learned earlier, small pores hang on to water more strongly than large ones. Because of this, when you have a medium with smaller pores above one with larger pores, the water has difficulty crossing the boundary. There is insufficient "strength" in the larger pores to pull the water out of the smaller ones above where they are held more strongly by capillary action. So instead of the water draining evenly from the pot, it drains to the interface between the two layers then slows down or may even be stopped altogether until a sufficiently large hydraulic head has built up again to force it across the boundary. This of course means when the compost above is completely saturated! Since the stated goal for using a layer of coarse material is "to improve drainage", it is ironic that this practise actually causes the very state it is intended to prevent!

2) The natural "perched water table" we learned about has now been forced to form higher up the pot giving what is called a **RAISED** perched water table. This leaves even less of the volume of the pot which contains well-drained and well-aerated compost. There is however a way to remove the perched water table from a pot, so that the whole volume of the pot is well drained: Plunge the pot in a sand plunge. For this to work, ensure that the compost in the pot makes good contact with the sand beneath. This has the effect of greatly increasing the length of the pot so that the perched water table doesn't form until the water reaches the bottom of the plunge. Sometimes people put a piece of broken pot over the drainage hole of clay pots but this will break the continuity between the compost and the plunge so this will not then work. A good modern alternative is to cover the drainage hole in clay pots with a piece of plastic net. (Ed: Mesh from Dutch bulb packages are excellent for this purpose especially as the best pots now have many large drainage holes and soil can flush out). This will help stop compost trickling out but not entirely break the continuity between compost and plunge.

Removing the perched water tables from pots is probably the most important function that a plunge serves, so it is strange that this aspect is rarely mentioned these days when the functions of a plunge are discussed.

**Paul Cumbleton** currently works for the RHS (Royal Horticultural Society) as team leader of the Alpine team at Wisley Garden. At the end of this September, he'll be taking early retirement. He has a website devoted to *Pleione* at [www.pleione.info](http://www.pleione.info) and also maintains the website for the RHS *Fritillaria* Group at [www.fritillaria.org.uk](http://www.fritillaria.org.uk).

## Where There's Smoke...There's Germination!

by Diana Chapman of Telos Rare Bulbs



Alfalfa straw makes a good smoke for germinating seeds from Oz

When I first became obsessed with bulbs and other plants with underground storage organs, I wanted to grow everything I could, and ordered seeds from around the world. I grew a number of Australian species, mostly to learn about them and see what they were like. There are few true bulbs in Australia (*Calostemma* is one), but there are many, many plants that have unusual underground storage organs, or have thick rhizomes.

I found out quickly that seeds of Australian natives are extremely difficult to germinate, some only sprouting soon after a bush fire. I wrote off to an Australian university (this was pre-Internet) and they promptly responded with reprints of several research articles on smoke and how and why it can stimulate germination. It most definitely is the smoke that does the trick- not the heat from the flames and, not the nutrients in ash- both of which have been previously suggested. I tried a number of experiments. In those days growing bulbs was an all-absorbing hobby, and I had more time to try different things out. I used smoke, smoke water (made from filter papers impregnated with smoke) and various other modalities, but it was always the smoke that did the trick.



The Chapman method for germinating smoke-centric seeds

Herein is my method. I sow the seeds in a clay pot, cover the pots with a mound of dry material (I have tried grass, eucalyptus, and now alfalfa hay) and set fire to it. It doesn't seem to matter what I use as long as it makes plenty of smoke, so if the material is very dry I add some green stuff for more smoke.

I keep the fire going for about five minutes or more and then let it die down removing any unburned material or water. Germination usually occurs in about 30 days.

Diana Chapman lives in Ferndale, California and runs Telos Rare Bulbs.

[www.telosrarebulbs.com](http://www.telosrarebulbs.com) She is an avid contributor to the PBS Forum.

She also has a super blog, The Bulb Maven <http://www.thebulbmaven.typepad.com>

(Ed: Courtesy of J.L. Hudson Seeds' website, a link to all the *smoke-centric* genera:

<http://www.jlHUDSONseeds.net/SmokeGenera.htm>

Or, try this link for a YouTube presentation: <http://www.youtube.com/watch?v=8612mDbwMX8>



*Claytonia megarhiza* var *nivalis* 'Paddy-Go-Easy Pass form'



photo Grahame Ware

*Claytonia* is a genus named by Linnaeus for John Clayton, a transplanted Englishman that was a member of the colonial administration in Virginia. The genus type specimen is Spring Beauty or *Claytonia virginica*. The variety *nivalis* was authored by Charles Hitchcock some 200 years after the naming of the genus type specimen.

#### CULTIVAR HISTORY

This plant is a selection of the subspecies, *nivalis* and a member of the Portulaca family. The subspecies (and this selection) is native to the Wenatchees. This particular form was offered by that super Northwest alpine plantsman, Rick Lupp (dba Mt Tahoma Nursery near Tacoma, Washington) from a cutting collected by Ron Ratko (alas no longer collecting commercially). Lupp comments in his catalogue that, "About 10 years ago Ron Ratko gave us a cutting of an unusual form of *Claytonia* that he had found growing near Paddy-Go-Easy Pass in the Wenatchee Mts. This outstanding form features soft, pastel pink blooms produced in abundance." See link to Lupp's catalogue here: <http://www.backyardgardener.com/mttahoma/tahoma.html>

Simultaneous to this event was what I believe is quite likely the first seed commercial offering of this same variety by Ratko in his November 1994 catalogue. As it turns out

it was the 'Paddy-Go-Easy Pass' form! Ratko lists the elevation at 6100' in Chelan Co., WA. As collection number 94-26, Ratko imparts some very useful cultural information in the aforementioned 1994 *Northwest Native Seed* catalogue. He states that, "The large rose pink flowers, several per stem, cover the rosettes. East facing boulder slopes and outcrops in rocky crevices and pockets of silty soil." (Take note of this in the upcoming *Alpine Garden Culture* section.)

The flower colour of the type is deep pink so the 'Paddy-Go-Easy Pass' form with its pastel pink colour is a definite shift. Note that Lupp also has on offer at present another selected form from Ratko that is simply dubbed 'Rich Pink'.

The generous botanist Paul Slichter shows the typical flower colour in this link from his website: <http://science.halleyhosting.com/nature/basin/5petal/purslane/claytonia/nivalis.html>

### ALPINE GARDEN CULTURE

Once people get interested in its kissing cousin *Lewisia*, its not long before they find *Claytonia megarhiza* as another possibility in the firmament of western North American alpinists. However, most species and subspecies of *C. megarhiza* are not as attractive nor are they as amenable to culture. For example, I was completely underwhelmed when my *C. megarhiza* var *bellidifolia* (from the Wallowa Mtns) flowered. In my mind, it was instantly shoved into the dusty Collectors' Plant category drawer. I was looking to give its prominent spot in the crevice to something more deserving...like maybe the *nivalis* variety! The flowers are not a big plus and the alpine tundra proclivities of *megarhiza* preclude an easy entrée for gardeners wishing to impress. Fortunately, the variety *nivalis* is the exception. It is an alpine of distinction in the garden because it has the largest flowers in the genus that are on stalks that usually exceed that of the rosette thus making for a good display. But don't be under any illusions. This is not as easy as *Lewisia* to grow or keep but it certainly isn't a *Dionysia* either.

But seeing them in the Spring turgid and willingly sprouting forth stalks from between the fleshy spatulate leaves is well worth the effort. Granted it is more difficult to overwinter this here on the east coast of Van Isle than it was in the North Okanagan in a previous incarnation of my alpine garden(s). I had it *up there* in a crevice of my boulder garden and it had come skipping through nicely for two winters. But, the increasingly maritime quality of the N. Okanagan due to global warming, cost me that one about 15 years ago. Thus, even east of the Cascades/Coast mountains, you have to be vigilant regarding winter wet.

This tap-rooted succulent (See especially the gorgeous black and white illustration by Jeanne Janish in Art Kruckeberg's very fine and still relevant book- *Gardening With Native Plants of the Pacific Northwest: An Illustrated Guide*- p.186) is adapted to prolonged periods of no water thus making it an ideal alpine subject. This past year here on the east coast of Vancouver Island, it flowered over a long period. For open garden culture on the west coast, some gardeners recommend that it be strategically

placed under a rock overhang that has an eastern exposure. Many succulents from the Wenatchees have this eastern 'head'. *Lewisiopsis tweedyi* is the first that comes to mind. There are some that like to place *Claytonia megarhiza var nivalis* near a big native conifer with an eye to keeping it relatively dry over winter. But with correct placement and clever design this can be accomplished relatively easily. Raised stone beds laced with sharp aggregates and sloping outward and downward is the nub of the physics. Another ally in the game to successfully overwinter outside this fine plant are to create little hats of Coroplast or its equivalent. This is another approach that has been touted by Ian Young of SRGC Bulb Log fame. He supports the covers on little aluminum stakes that keep them anchored through the legendary Aberdeen gales coming off the North Sea. He then removes them in March or April at some magic moment.

But pot culture is easily done as long as a few rules are followed. This is what I am doing. Noting the natural context of its native habit, I attempt to replicate *home* starting with the "soil". The media should be free-draining and alkaline. Use very little peat in the mix but components such as Perlite, pumice and coarse sand should be very well mixed. I balanced this low nutrient soil mix of mine with regular feedings of a seaweed liquid fertilizer (with rainwater) and this led to good flowering.

I stopped fertilizing after flowering but did continue to water it at least once a week during the Summer employing a bottom-watering technique in the plant's clay saucer. This way I don't overwater in the summer. Its easy...the plant decides. If keeping outside in a pot so that it receives the necessary cold for dormancy, I recommend that *Claytonia megarhiza* get a break from the winter rains by providing overhead protection from a cold frame lid or an unheated alpine house.

Make sure when planting it up that the crown of the plant is placed and positioned at least 1/2" above the soil surface. Then, with small, sharp stones like shale chips bunch them under the plant and around the crown and taproot. This way the crown will not rot. As part of the pre-Winter preparation, make sure to check on any sloughing of these stone chips over the Summer and regather the chips around the crown if necessary.

The plant looks good over winter but will benefit from a little picking out of dead leaves. Try to removed the whole leaf by pulling away from and up in one single motion. This way it will be clean near the stem where one does not want rot. Leaving pieces of leaves is tempting the Fates of Rot. This plant's foliage will turn reddish purple when things heat up in the summer but will default to green once the rains of Fall and cooler temps return.