BROMELIAD SOCIETY OF GREATER CHICAGO

THE BSGC NEWS

May / June 2019

President	Lori Weigerding	(630) 888-7516
Vice President	Martha Goode	(815) 459-1623
Treasurer	Paula Derning	(847) 295-2559
Secretary	OPEN	
Newsletter Editor	Steve Goode	stevegoode1@ameritech.net

WEB SITE	http://bromeliad-chicago.org
Webmaster	Lori Weigerding

We won't have a meeting in July since we will have our Show. Our Show is at the Chicago Botanic Garden. Remember if you are working at the Show- you tell them when you drive in so you don't have to pay the parking fee. Our Show is being held along with the Daylily and Iris Society's Show. Set up is on Friday July 12th beginning at 1 pm. The hour's on Saturday and Sunday are 10:00 am to 4:30 pm. Try to be there by 9:30 on Saturday and Sunday. We only have a few people who can work so please let me know if you are unable to make it. I will be sending out a reminder the first part of Show week to remind you and give you a phone number so you can contact me.

President's Column

Sorry to all that we didn't make the last meeting. I'm experiencing a lot of pain and difficulty walking. This weather has been something else! We're all gonna need an ark to get around! Hoping that all your plants have survived all this rain.

A belated Happy Father's Day to all those fathers out there. Hoping you all had a great day.

We're gearing up for the plant show July 13-14, 2019! I'm sure we'll have a great one! Looking forward to having a great one!

Lori Weigerding

caudata X recurvata v. benrathii
photo from fcbs.org

We had a good meeting on June 9th and discussed ideas for the Show. Anne suggested we order the Tillandsia variety pack from Davis Farms for $100. We agreed to do that and reduce the order to Russell's. We have been happy with Russell's but thought we would give someone else a try. Anne has ordered from them before and has been happy with them. We will also be purchasing some sea urchin shells, various sized seashells and 4" slatted wood boxes from Anne to sell at the Show. This may give our customers some ideas on what to do with a Tillandsia.

This is the time of year when you should fertilize your plants since they are actively growing. A simplified answer can be found in the BSI Journal, volume 36 from 1986.

A. On page 81 of the book by Dr. David Benzing, **The Biology of the Bromeliads**, is the following statement, "Almost all cultured plants will grow faster and become larger if given supplemental nutrients over and above those quantities available to them in nature. Bromeliads are no exception." The term fertilizer is usually taken to mean various proportions of the three essential elements for plant growth: Nitrogen, phosphorous and potassium. This is represented on fertilizer containers by an abbreviation such as 10-10-10. The same commercial product may or may not contain the so-called trace elements that are also vital to a plant's well-being. The atmosphere is also responsible for other nutrients, such as oxygen, carbon, and hydrogen. Nor should the essential water be overlooked. Consequently, we should seek to supply bromeliads with the nutrients they require and to supply those nutrients in the correct quantities. At different stages of their lives, bromeliads require different amounts of the essential elements. The **various** functions of these, as well as the trace elements, would require more than the space we have available here. As to which genera need what, the answer would comprise a small book. To answer in part, this could be a guide: neoregelias and aechmeas need to have all the plant nutrients, except nitrogen. They will find their own. Terrestrials, such as dyckias, hechtias, puyas, pitcairnias, and cryptanthus respond well to a balanced fertilizer, even somewhat higher in nitrogen. The genera that produce spectacular inflorescences, such as guzmanias, nidulariums, vrieseas and tillandsias, benefit from a balanced fertilizer with emphasis on potassium (potash) as they approach the blooming stage. Remember

that the nutrients cannot be absorbed unless they are dissolved in a slightly acid solution. If your water is alkaline, you must acidify it for best results. This is a gross over-simplification of a very complex subject.

Photo from fcbs.org

Also from fcbs.org

Another article on fertilizers was found in the January/Feb. 2005 Bromeliad Society of Queensland Newsletter.

USING LIQUID FERTILISERS

By Bob Reilly

The regular use of liquid fertilisers improves the growth and flowering of many bromeliads. This article may help you achieve these results.

There is a lot of debate as to which bromeliads benefit from liquid fertiliser. While an individual plant's response will depend on many factors, for example whether there is sufficient light and water for it to use the nutrients supplied by the fertiliser, some groups of bromeliads are more likely to respond better than others.

As a general rule, bromeliads in the Tillandsioidea group (sub-family) respond well to liquid fertilisers. These cover genera such as: Alcantarea, Catopsis, Guzmania, Racinaea, Vriesea, Tillandsia and Werauhia. While bromeliads from other sub-families may also respond well to liquid fertilisers, problems such as plant "mal-formation" and loss of leaf colour can arise. So, it is best to proceed with caution in such cases.

The "best" liquid fertiliser to use is the subject of much debate. A lot depends on your growing conditions including water supply.

Probably, the key factors in deciding which liquid fertiliser to use are the amounts of nitrogen, phosphorous, and potassium. These are represented by the symbols N, P and K respectively.

Tillandsia "Cotton Candy"
stricta X recurvifolia
photo from fcbs.org

As a general rule, aim for those liquid fertilisers which have a relatively "low" value for N, and a "high" value for K. The Bromeliad Society of Queensland sells a liquid fertiliser which has been specially formulated for bromeliads. Its N:P:K ratio is 3:8:25. In contrast, a widely available liquid fertiliser, Phostrogen, has an N:P:K ration of 10:10:24. However, while the bromeliad-specific liquid fertiliser may give you the very best effect, you can

usually obtain very good results with a product such as Phostrogen.

Some people apply liquid fertilisers only when the plant is actively producing new leaves. However, the plant may be using or storing nutrients even when they are not producing new growth. For example, they may be initiating the production of a flower spike, producing seed, or growing roots. Thus, it is usually best to apply liquid fertilisers through out the year.

Best results are obtained when liquid fertilisers are used on a regular basis. If your fertilising schedule is more akin to a "feast" followed by a long period of "famine", then plants may not respond well.

Initially, apply the fertiliser at the concentration, and time intervals, recommended by the product's manufacturer. However, after some experience, you may achieve better results under your growing conditions by varying this approach.

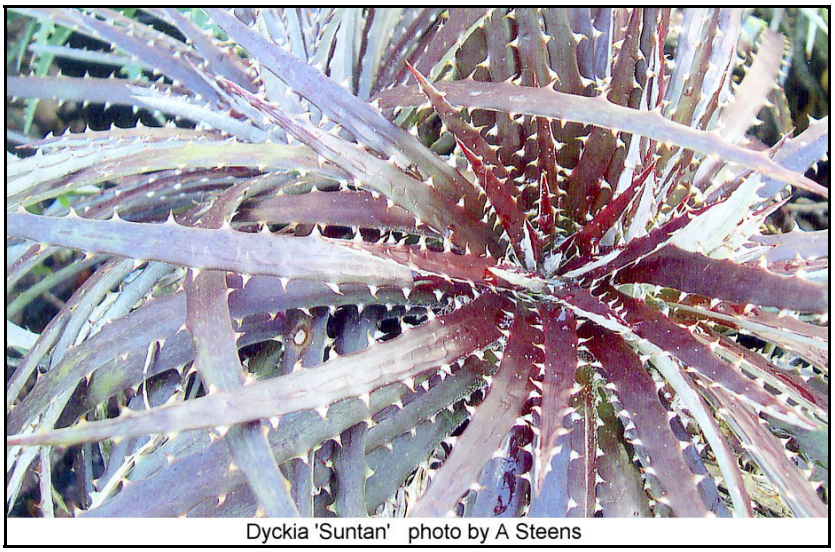
cv. of unknown parentage
photo from fcbs.org

The residue from liquid fertilisers appears to "burn" some bromeliads if it remains on their foliage when the temperature exceeds 30 degrees Celsius(86ºF). One way to avoid this

situation is to apply the liquid fertiliser in the evening, if day-time temperatures are likely to exceed 30 degrees Celsius(86ºF), hose the plants thoroughly early the next morning.

There is a wide variety of ways of applying liquid fertilisers. Some people dip their plants in a container of diluted liquid fertiliser, others use “hose applicators”, while other use pressurised sprayers. The fertiliser’s manufacturer normally gives useage recommendations for all the common application methods.

It is usually best to apply liquid fertilisers just after you have completed a normal watering.



'Large Red'(?) X remotiflora
photo from fcbs.org

The May 2014 Florida West Coast Bromeliad Society Newsletter had the following interesting article.

Barret Bassick spoke to us on the subject of Bromeliads-Why They Thrive on Neglect (Some Adapted Strategies of Bromeliaceae). Bromeliads are perhaps

the most adaptable of all plants, and they occupy a vast array of habitats. They are usually found in temperate to tropical zones in habitats that include full shade to full sun, deserts, wetlands and rainforests, low altitude along sandy, dry beaches and hight-altitude in misty settings. About 80 percent (%) are epiphytic, that is, they grow on other plants and on rocks. The remaining 20% are terrestrial and grow in soil. The four things bromeliads need to survive are air, water, light, and nutrients, and over eons, they have adapted their form and function to efficiently obtain these.

Epiphytic bromeliads do not have well-devolped root systems and rely on trichomes (scurf) in the form of scale or hairs on the leaves, to obtain moisture and nutrients from air, rain, and debris that accumulates in their leaves. Made up of long strands, trichomes comb moisture out of the air and permit it into the leaves through leaf pores (stomata). To reduce moisture loss when the air is dry and to provide sun and heat protection, trichomes close the pores.

All bromeliads have trichomes including those that have ‘tanks’ or cups formed by tightly bound leaves in the center top of the plant where water accumulates. Trichomes on tank-type bromeliads, like Neoregelias, are located on the base of the leaves, while trichomes on non-tank type bromeliads, like Tillandsias, are more elaborate and cover more or all of the leaves.

'Black Beauty' X 'Lirico'
photo from fcbs.org

Some bromeliads use crassulacean acid metabolism (CAM) photsynthesis to create sugars. CAM is a carbon fixation pathway that evolved in some plants as an adaptation to arid conditions. This adaptation allows bromeliads in hot or dry climates to open their stomata (pores) at night when humidity might be higher rather than during the day, to reduce water loss. These tend to be slow-growing plants.

Tank structures in bromeliads not only gather water and nutrients, they support other life such as lizards and amphibians (frogs). Even fish have been found in tanks of some bromeliads. While these creatures take advantage of the water in the tanks, their waste products provide nutrients to the bromeliads. Plant shape is a factor in water storage and uptake. Broad-leafed bromeliads such as Neoregelias can have large tanks that take in abundant rain. Tubular-shaped bromeliads like Aechmeas have smaller tanks and hold less water and some of these might have more prominent scurf.

Other adaptations bromeliads have made to accommodate diverse growing conditions are leaf type, thorns and roots. Leaf type can be an indication of light requirements. Thicker, and shorter, leaves can mean the plant will tolerate abundant or full sun while thinner, and longer, leaves can mean the plant requires less light and more shade. Thorns are an adaptation some bromeliads have developed as a protective measure against being eaten. In epiphytic bromeliads, roots are not just for holding fast to a surface; when in dirt they can take up nutrients and water.

Tillandsias exhibt the most advanced form of bromeliad epiphytism. Most have no leafy tanks, leaves or roots, and survive instead on moisture and nutrients extracted by trichomes. Stripped down to essential parts, Tillandsia usneoides (Spanish moss) is a good example of these highly evolved plants, and are the most widesperead of bromeliads in the world, even found in Tierra del Fuego.

Another chore for this time of the year is repotting your plants. I found two articles about this. One is on splitting your bromeliads which is from the Journal

of the Bromeliad Society of New Zealand's August 2017 issue and the other one on what to plant them in which is from the September 1999 Florida East Coast Bromeliad Society's Newsletter.

Warmer weather is on the way...
Tips on splitting bromeliads for new members
-Adapted and reprinted from East London (SA) March 2017 newsletter

- You need to decide whether you are going to plant them in the garden, mount or pot them. You will need pots, potting medium, labels and a permanent marker. Each pup you split off its mother needs to be labelled.

- Bromeliads can start forming pups, (or offsets) at any time, but most start pupping after they bloom; and then the mother plant slowly dies off over the next year or so, replacing itself with the pups.

- Most pups grow off the side of the mother plant at the base on long woody stolons. Some plants, like Lutheria glutinosa and Lutheria 'Splenriet' have an axial pup coming out of the centre of the mother plant. By removing pups you speed up the process of the mother plant producing more pups. Then there are 'grass pups'. These grow around the base of the mother and in the case of alcantareas, they are the only type of pup the mother produces. When big enough they can be carefully removed and grown on.

- Pups are ready to be separated when they reach about a third to half the size of the parent plant. If the pup is starting to form roots, that's a good indication that the plant can survive on its own. They do not necessarily need to have roots to survive and begin life. They will form roots.

- Pups may be removed by cutting with a sharp knife or secateurs as close to the mother plant as possible. The bigger varieties may need a small saw to cut through the woody stem. Try not to damage the mother plant as it will probably produce more pups. Some pups can be pulled away from the mother by hand.

- The longer you leave the pups on the mother plant the quicker they will reach maturity (taking nourishment from mum. Position the plant with the pups facing towards the light. Alternatively, removing the pups when they are a bit smaller will encourage the mother plant to throw more pups sooner.

- Once pups are separated you can leave them for a few days in a shady spot for the ‘wound’ to heal or pot them up straight away but don’t overwater them. Best to keep them on the drier side till roots form.

- Alternatively, if you have pups around the mother, you may choose to cut away the mother plant and let the pups form a clump.

- Some bromeliads, like neoregelias, look better separated so that the rosette form of the plant can be appreciated. Other genera eg billbergias and tillandsias, often look betterr as a clump of specimen plants.

Neoregelia 'America'
Shown by Betsy McCrory
2003 Mothers Day Show, BSCF

'Concentrica #1' X cruenta (rubra)
photo from fcbs.org

Dirt's dirt-isn't it?

By Jay Thurrott

Bromeliads in their native environment generally develop roots to function as "hold-fasts". That is, they serve mainly to anchor the plant to a substrate which in most cases is either a tree limb or rock. The ability of these roots to supply the plant with moisture or nutrients is minimal at best and often thought of as nonexistent in mature plants. There are exceptions to this (the terrestrial bromeliads, like pineapples, pitcairneas and dyckias), but generally speaking, the soil under a bromeliad is not the most important environmental factor in its life. It's often said that the best potting media to use for bromeliads is one that drains well so the roots and base of the plant are not kept wet for prolonged periods. That's pretty good advice- so how come if you ask three different hobbyists what potting mix they use for their bromeliads, you get three different answers? Everyone, it seems has their personal preference or, perhaps their own secret mix. The truth of the matter, however, is that certain basic ingredients can be found in any mix. These are as follows:

Peat- This is the main ingredient in most commercial potting mixes. Peat is organic material produced by long-term decomposition of plant materials. Hang around and watch it long enough and peat will eventully become coal (if you have a couple of thousand years of spare time). Peat is harvested from many different areas in the world and varies somewhat in appearance depending on the source. All forms are acidic and serve to hold moisture in potting mixes.

Vermiculite- This is a mineral (mica) that is expanded by a carefully controlled heat treatment process. The end product is a muti-layered material resembling a tiny stack of pancakes. Vermiculite is very lightweight and comes in several sizes or grade. Some sources may be alkaline in nature and can contain calcium, magnesium, and other minerals. Mixes using vermiculite may compact with age leading to a media that retains moisture rather than one that quickly drains. For this reason, it is often suggested that bromeliad growers avoid this material in their potting mixes.

Perlite- This is another mineral processed by heat treatment-this time resulting in a white irregularly shaped, lightweight material. Unlike

vermiculite, perlite does not compress in a mix. Moisture retention in the potting mix decreases as the amount of perlite added is increased. Dust can be a problem in handling perlite, so a dust mask should be worn whenever working in a closed space with this material to reduce the possible inhalation hazard.

Poly-beads- These are tiny spheres of polystyrene and like the previous two materials, are both extremely lightweight and inert. Unlike vermiculite and perlite, however, poly-beads do not contribute to increased mix alkalinity or add unwanted minerals (some sources of perlite may contain fluoride)'

Sand- Oxides of silica and virtually inert, sands are available in different grade ranging from fine to course. This will add weight to the potting mix due to the density of the sand particles, but contrary to expectations, sand (particularly the finer grades) can actually decrease drainage by plugging the pore spaces of the mix.

Bark/Wood chips- A logical choice for a potting mix ingredient since many bromeliads attach themselves to trees in their natural environment. Bark is reputed to have antifungal properties and usually is acidic. Both bark and chips add to a good draining mix and are long lasting. In the landscape it is often cautioned that these materials prevent the nitrogen component in fertilizers from reaching plant roots. This is not a problem for most bromeliads since their roots rarely are functional and low nitrogen fertilizers are usually desirable for optimum color development.

Those are the main ingredients of potting mixes. It doesn't seem like making a mix from a blend of these materials should be all that difficult now does it? But take a look at the shelves of any garden supply store and you will find a bewildering array of potting mixes. Which one should you choose? It all depends on your situation and the plants that you intend to grow in the mix. You will notice right away that of all the mixes for sale in that garden supply store none are marked "<u>for bromeliads</u>". It's just too limited a market for the supplier of the mix. He wants to sell a lot of material to a wide range of gardeners and not just to a few crazed bromeliad enthusiasts. The first thing you should look at then is the list of ingredients on the side

of the bag. If you see that a large fraction of the mix is vermiculite, you may want to continue looking until you find one with a comparable percentage of perlite or poly-beads instead. If you have had a problem with your mix staying moist for too long, look for one that will drain more quickly (higher percentage of perlite or poly-beads). If, on the other hand, your mixes are often too dry- look for one with a lower percent of perlite. Sounds confusing? It can be as you compare one commercial mix with another. Sometimes I think that the suppliers want to confuse you- so maybe you should consider mixing your own. It's cheaper than buying prepared mixes, and it's certainly simple enough-just buy bags of the individual components and blend them yourself to give you the mix that you feel the most comforable with. Confidence goes a long way toward ensuring success in many fields and gardening is no different. If you feel confident that you have the right type of mix for growing your plants, chances are your plants will thrive. Someone else may be equally confident with his mix-which is different from yours yet those plants also will do well. So, if they work equally well, maybe you can see why there are so many different variations of potting mixes out there. Loyalty to a particular brand of mix can be very strong and that's what manufacturers count on. In reality, it's largely a matter of personal preference and most commercial mixes will do equally well for you-especially if you think that they will work well! On the other hand, maybe there is a secret blend out there that will help grow a prize-winning plant. If I could just find the right one...and then there's the matter of that "super" fertilizer made from a special blend of secret enzymes, vitamins, and minerals that will produce grapes the size of watermelons-who knows what it will do for bromeliads...

Before you go off searching for some elusive gardening product that sound's too good to be true, keep that P.T. Barnum quote in mind-there's one born every minute.

By the way, Martha picked out the plants that had a summer sounding name.

What is blooming in Martha’s garden.

Martha’s Mounted Tillandsias