





Apr. May Jun. 2013



Tah. Trop. Splendor 2004 HOTY



Vol.13 No2- Issue 55



Tah. Baby Bonfire 2005 HOTY

## The Evolution of the IHS

When the IHS made its appearance in the year 2000 the new century was a few months old and the term social networking probably would have earned you a blank stare. The world was a very different place then; Bill Clinton was the US president; the last Peanuts cartoon was published after its creator Charles Schultz died; the XXVII Olympics were held in Sydney, Australia; the musical "Cats" closed on Broadway; the first crew arrived at the International Space Station. 9/11 was a year away and Facebook wouldn't become a reality for another four years (2004).

We began as a forum on Yahoo where international hibiscus enthusiasts could meet, exchange ideas and information, pictures of their cultivars and generally build lasting relationships with people from around the world. Over the intervening years the membership grew slowly as more and more people with an interest in hibiscus discovered the society. This of course was aided immensely by our website where one could easily locate the link to join the IHS. Our membership seemed to plateau around the 800 to 900 mark at its highest point.

Perhaps the greatest advantages of the Yahoo forum was the ability to share pictures and search previous messages, so that if you had a particular problem, you could easily search through the archived messages in order to see what had been discussed on that topic. Certainly a most welcome and useful feature to be sure. Unfortunately, as the years passed Yahoo seemed to stagnate and be unable to incorporate new features and innovations into the service. With the advent of Facebook, Tumblr, Twitter and other social networking programs that caught the attention of the general public, Yahoo soon started to feel like old technology. In late 2012, an IHS Facebook page was created and was an overnight success. As of this writing we have a membership of 1,189 and growing almost daily.

Facebook has some limitations, many detractors and privacy concerns. All that aside, the IHS is reaching many more people than ever before and perhaps most importantly, from areas of the world that were very poorly represented in our Yahoo forum. The areas from which many new members originate are Russia, eastern Europe and Asia, particularly Taiwan and Japan. With most of our members using Facebook we are expanding our membership into untouched regions of the world and increasing our international scope.

To all our members, both new and old alike, we welcome you aboard as we attempt to use the latest technologies to expand our hibiscus community. Who knows where these innovations and changes will lead us next? Stay tuned and enjoy the ride.

### **EDITORS REPORT**

In this issue of Hibiscus International, we begin a new series on grafting. The series, entitled "How I Graft" will appear in succeeding issues of the newsletter and will be authored by a number of hibiscus enthusiasts. Each "grafter" will share how they graft scion wood to root-stock in both text and pictures which hopefully will produce a step-by-step guide for those who wish to learn the art of grafting.

Each author will share the little tips and tricks they use to make a successful graft. What is certain is that each person approaches grafting slightly differently, using techniques that work for them in their particular climate and circumstance.

It is our hope that new grafters will be able to adapt some of the techniques shown in order to perfect a grafting routine that works for them and their situation.

#### ALL RIGHTS RESERVED

#### **OFFICE BEARERS**

President-: Kes Winwood : Vice-President : Ian Rabenda : Sec./Treasurer : Marie Rabenda :

Past President : Richard Johnson :

#### **Board Members**

European : Francoise Levavasseur : Asian : Pushpa Suresh: Oceania : Alan James de la Torre

N. American : Randy Cox : S American : Elizabeth Jordan : Australia : Jim Purdie :

African : Gail Cahi : Wild Card Reps : Clay McGee : Doyle Williams

Editor : Kes Winwood :

#### Web Master : Ian Rabenda :

Web Address— www.internationalhibiscussociety.org E-mail Address— InternationalHibiscusSociety@yahoogroups.com

## Brix, bats, glaciers, molasses & worms What do they have in common?

At first glance you might say nothing at all but in reality you would be wrong as they all can help make your hibiscus healthier, more drought resistant, better able to fend off insect attacks and potentially produce more blooms. And it is 100 percent natural with no chemical fertilizers or pesticides. Sound too good to be true? It is all based on a simple concept – **feed the soil not the plant**.

#### Even Plants have a sweet "root"

Plants require sugar and carbohydrates in order to have enough energy for intense flowering periods and rigorous growth.

People feed their plants sugars all the time without knowing it and not always understanding why. You give your sweetheart a bouquet of roses for Valentine's Day and before they are put into the vase sugar is added to the water to extend their bloom.

Almost all plants use sugars as their main source of fuel. They transport these sugars along with water and other elements throughout their systems either for food or to create amino acids for biosynthesis to fuel cellular respiration. Through the examination of the process of photosynthesis, knowledge is gained as to how important the sugars produced through this process are. The sugars and starches are vital to the plant. They are essential for cellular preparation, to maintain the plants metabolism and vigor. The sugars are even the building blocks that keep the very cells of the plant together. Now it is understood that plants have a great big sweet-tooth and are specialist at making the sugars they need. So why then should we be feeding them more on top of all this?

Simply put, flowering plants are burning these carbs trying to make large fruit or vegetables or big beautiful blooms faster than a marathon runner trying to win a race. Not to mention that the whole process of photosynthesis, which produces the sugars, takes a lot of energy. By adding one of the organic carbohydrate supplements to your nutrient solution the carbohydrates that have been allocated to the flowering process will be replenished more easily. This will save your plant the energy it would need to create those sugars itself and your plant can focus more of its energy towards the flowering process.

Also many beneficial bacteria and fungi (aka. carbon fixing bacterial fungi) will live off of the sugars and will break down the sugars for the plant. This again allows the plant to use energy usually spent breaking down sugars towards other processes. The more beneficial bacteria and fungi the easier nutrients are absorbed by the roots. All this leads to improved flowering and overall health of the plants.

#### MOLASSES

#### Molasses is CARBON

Molasses is an effective, quick source of carbon energy for various forms of microbial life in a compost pile or gardening dirt. In fact molasses has long been a part of the common products used by organic gardeners to bring greater health to their soils and plants, because it's a great source of carbohydrates that stimulates the growth of beneficial microorganisms.

#### The Best Type for Boosting Fertilizer

For organic gardeners, unsulfured cane blackstrap molasses is the best choice because it is the most nutritionally (trace elements) valuable of the various types of molasses. Do not use synthetic chemical fertilizers with molasses as it will negate the value of the molasses. Remember that molasses is also a chelating agent, which means that it can 'help' convert 'some' chemical nutrients into a form that's 'more' easily

#### **Hibiscus International**

available for organisms and plants to use.

Molasses can be an important addition to an organic fertilizing program (drench or foliar), depending on whether your garden soil or potting mix is in need of such.

#### BRIX

Most growers do not even know that there is a meter called a Brix meter or refractometer which is used to measure the level of sugars in the leaves of plants. It is generally understood that the higher the level of sugars within the plant's tissue, the healthier the plant is and the better the yield will be.

#### **BRIX:** Definition

A measurement of the sugar level in plant extracts as created through photosynthesis. Brix is measured with an instrument called a Refractometer.

#### The origin of the word 'BRIX'

Professor A. F. W. Brix was a 19th Century German chemist (b.1798, d.1890). He was the first to measure the density of plant juices by floating a hydrometer in them. The winemakers of Europe were concerned that they could not predict which of various grape juices would make the best wine. Being able to judge quality ahead of actual bottling was of immense importance in an industry where a bottle of the best wine might sell for hundreds of times more than a bottle of everyday wine. He was also honoured by having the measuring process named after him.

- BRIX is a measure of the percent solids (TSS) in a given weight of plant juice nothing more and nothing less.
- BRIX is often expressed another way: BRIX equals the percentage of sucrose. However, it is important to understand that the "sucrose" can vary widely. For, indeed, the BRIX is actually a summation of the pounds of sucrose, fructose, vitamins, minerals, amino acids, proteins, hormones, and other solids in one hundred pounds of any particular plant juice.

• BRIX varies directly with plant QUALITY. For instance, a poor, sour tasting grape from worn out land can test 8 or less BRIX. On the other hand, a full flavoured, delicious grape, grown on rich, fertile soil can test 24 or better BRIX.

A refractometer is an optical device that takes advantage of the fact that light passing through a liquid bends or refracts. Thicker, i.e., more dense, liquids refract more. Solids dissolved in a liquid will cause it to exhibit a refractive index in direct relation to the amount of solids. A refractometer substitutes a cali-



brated prism and an etched screen for the liquid. Refraction is extremely exact and no modern chemist wishes to be without a refractometer.

FRUITS	POOR	AVERAGE	GOOD	EXCELLENT
Apples	6	10	14	18
Bananas	8	10	12	14
Cherries	6	8	14	16
Grapefruit	6	10	14	18
Mango	4	6	10	14
Peaches	6	10	14	18
Pineapple	12	14	20	22
Strawberry	6	10	14	16
Tomato	4	6	8	12
Watermelon	8	12	14	16

#### REFRACTIVE INDEX OF CROP JUICES - CALIBRATED IN % SUCROSE OR DEGREE BRIX

The above chart illustrates the differences between a poor brix reading to an excellent reading for typical common fruits. The higher the brix reading the better the quality and flavour of the fruits. This principle can be applied to any plant so the object is to raise the brix level in the plant.

#### BATS

One of the stranger ways in which bats help us out is with their bodily waste. Bat feces, called guano, is rich in nitrogen, making it a powerful plant fertilizer. Bat guano, or feces, has a long history of use as a soil enricher. It is obtained from *only fruit and insect-feeding species*. Bat dung makes an excellent fertilizer. It's fast-acting, has little odor, and can be worked into the soil prior to planting or during active growth.

As a fertilizer, bat dung can be used as top dressing, worked into the soil, or made into tea and used with regular watering practices. Bat guano can be used fresh or dried. Typically, this fertilizer is applied in smaller quantities than other types of manure.

Bat guano provides a high concentration of nutrients to plants and the surrounding soil. According to the NPK of bat guano, its concentration ingredients are 10-3-1.

#### WORMS

When we think of earthworms, if we give them any thought at all, is how to prevent them from getting into our pots and containers. As most growers of potted hibiscus are well aware, earthworms in our potted plants can eventually cause serious problems and even kill the plants if not removed by repotting the affected plants.

But these creatures are one of nature's great treasures. As they eat decaying organic matter they of course produce worm feces or as it is known "castings". So worm castings are the organic material that has been digested by worms .

**Hibiscus International** 

What makes this important is the fact that *they can produce their own weight in castings every* 24 *hours*. During the digestive process, many insoluble minerals are converted to a plant-available soluble form and long-chain molecules such as cellulose are partially broken down by bacteria in the digestive tract.

What makes this a "treasure" is that it has been shown that fresh earthworm casts are *several times richer* in available nitrogen, available phosphates and available potash than the surrounding topsoil. Worm castings also contain many beneficial bacteria and enzymes. An analysis of worm castings has revealed that the number of beneficial bacteria in the ejected worm casting is much higher than in the material ingested by the earthworm.

So as they eat they are enriching the soil around them. This has led to large scale vermiculture (raising of worms to produce castings). Today you can have your own in home worm bin or you can purchase worm castings commercially.

There are two species of worms that are used in commercial and home vermiculture – the red wiggler and the African night crawler. There is debate over which species produces the most and best castings but worm castings of either species is like "gold".



Both species live well in close, highly populated conditions and don't burrow.



Worm Castings are the unprocessed, natural manure of earthworms. They are high in beneficial bacteria, organic matter, humus, nitrate nitrogen, calcium, magnesium, phosphorus and potassium in an easily absorbable form. This odorless material provides good aeration, moistureretaining capabilities, and will not leach from the soil.

Worm Castings benefits soil in many ways:

- It improves its physical structure
- It enriches soil in micro-organisms, adds plant hormones such as auxins and gibberellic acid, and adds enzymes such as phosphates and cellulase
- It attracts deep-burrowing earthworms already present in the soil
- It improves water holding capacity
- It enhances germination, plant growth, and crop yield
- It improves root growth and structure.



#### GLACIERS

Over many generations of growing crops around the world, mankind has depleted the soil of many minerals that the plants (crops) require. The best way to replenish the soil's mineral content (remineralization) is with glacial rock dust. Almost any rock dust will contain minerals but because the glaciers ground down rock over large areas, glacial rock dust provides a wide spectrum of minerals.

"Glacial Rock Dust is a natural mineral product which is produced over many thousands of years by glacial action. A wide variety of rocks which contain a broad spectrum of trace minerals are collected and pulverized by the expansion/contraction action of the glacier."

Glacial rock dust provides an excellent source of calcium, iron, magnesium and potassium, plus trace elements and micronutrients (reportedly over 60 different ones).



#### **OTHER SOIL AMENDMENTS**

There are other soil amendments that can be used to improve the soil conditions to promote healthy soil. Among them are:

- Greensand Greensand is an organic fertilizer that contains the deposits of minerals that were once part of the ocean floor. Also called "glauconite," greensand has a bluish-green color. The NPK ratio for greensand is approximately 0-0-3. It is a good organic source of potash (important for overall plant health and disease resistance).
- Compost A good compost is almost a given and if you wish to use an organic approach then it should be a "green" compost made from vegetable matter rather than an animal manure based one. In either case, compost is a simple way to add nutrient-rich humus which fuels plant growth and restores vitality to depleted soil.
- Kelp Meal Kelp meal is seaweed, normally from cold northern waters, and is harvested from the ocean. Kelp meal is a very high-quality organic fertilizer with an N-P-K ratio of approximately 1-0-2 making it a good source of nitrogen and potassium. It also contains minerals, amino acids, and trace amounts of other micronutrients.
- Liquid Kelp Strictly speaking liquid kelp is not a soil supplement but it's value should not be underestimated. It normally comes in a concentrated form which is diluted down and used as a foliar spray. Among the many benefits of kelp is the ability to Increase and stabilize chlorophyll in plants, which results in darker green leaves and increased sugar content in plants.
- Fish Emulsion Once again not really a soil additive but like liquid kelp a fertilizer, fish emulsion is made from the left over fish parts when fish is processed. As well as the NPK value (nitrogen, phosphorus, potassium) in fish emulsion it also contains many micronutrients that plants need.

### Create your own potting mix

Commercial potting soils are sterilized to eliminate weed seeds, fungal spores, plant-borne diseases, and insect eggs, which is of tremendous benefit when starting seeds. However, sterile potting soil lacks the nutrients that you would find in fertile soil. So for plants to thrive and eventually flower in containers, they need the nutrients they would find in nature - primarily, nitrogen, phosphorus and potassium (or NPK).

If you grow your hibiscus in pots as many of us do, particularly those of us in northern or temperate climates you can chose to create your own potting mix for your plants. As a basis for the mix you can start with coco coir which is made from the husks of coconuts. When it is processed it provides a sterile growing medium that absorbs water easily, allows excess water to escape d retains moisture for a log period of time.



Coir comes in compressed bricks or blocks

Some people use peat but it is a non renewable resource and has the disadvantage of being very difficult to rehydrate if it dries out.



Once you have this basic growing mixture prepared any or all of the soil amendments can be

castings, kelp meal and glacial rock dust in the

plants with a well draining, moisture retaining

To make the basic growing medium more porous and allow air into the medium, either perlite or vermiculite can be used at a ratio of 80% coir to 20% perlite or vermiculite. Both of these will absorb and retain moisture but perlite would be my material of choice.



The goal is to feed the soil. If the soil is healthy and "alive", the plants will take care of themselves.

mote healthy plants.

## 1st of a Series

### HOW I GRAFT HIBISCUS By Ian Rabonda

To paraphrase Wikipedia; "Grafting is a horticultural technique whereby tissues from one plant are inserted into those of another so that the two sets of vascular tissues may join together. In most cases, one plant is selected for its roots and this is called the rootstock. (For hibiscus I personally favor Pride of Hankins and Hibiscus archerii as rootstock) The other plant is selected for its flowers, and is called the **scion**. The scion contains the desired genes to be duplicated in future production by the stock/ scion plant.

In stem grafting, a common grafting method, a shoot of a selected, desired plant cultivar is grafted onto the stock of another type. In another common form called bud grafting, a dormant side bud is grafted onto the stem of another stock plant.

For successful grafting to take place, the outer layer of green vascular cambium tissues of the stock and scion plants must be placed in contact with each other. Both tissues must be kept alive until the graft has 'taken', usually a period of a few weeks. Successful grafting only requires that a vascular connection take place between the grafted tissues. Joints formed by grafting are not as strong as naturally formed joints, so a physical weak point often still occurs at the graft. The existing structural tissue (or wood) of the stock plant does not fuse."



I use a large size exacto knife with a razor blade inserted into it to do the cutting for small diameter wood. For thicker wood where a longer stronger blade is required I use a utility knife. Keep in mind that replacement blades for utility knives may be coated in an oil to prevent rusting. Removing this oil with rubbing alcohol is necessary before grafting but the blades will rust readily after the coating is removed. Rubbing alcohol should be used frequently to keep cutting blades clean between grafts. Of course pruners are handy for rough cutting of rootstock and scion pieces. I use regular elastic bands cut at one end for holding the

#### **Hibiscus International**

graft together. I've tried many different waxes and sealants on grafts. My favorite is Trowbridge's. Some grafters claim to get good results with plain candle wax. I find candle wax to be too brittle and not to adhere to the graft long enough. Others swear by the water soluble tars. I have found that the tars react with the elastic causing premature failure of the elastic and hence the graft.

Finally I think my biggest point of contention with grafting is my reliance on a cutting board. I find this the best way to make straight cuts easily and safely without endangering my hands with serious injuries due to errant grafting knives slipping and cutting what they are not supposed to. Safety cannot be overemphasized. Grafting knives are extremely sharp by design and can do a lot of damage if used foolishly or carelessly.

Cuttings that are fresh have a much better chance of taking on a graft than cuttings that have been in the mail for days or weeks. The longer wood has been standing around or in the mail the more it weakens so cuttings should be grafted as soon as possible. As a general rule of thumb cuttings that have been in the mail longer than three weeks have a much reduced chance of success. Also grafts have the greatest chance of success when plants are healthy, growing vigorously, and at their peak. So if you live in a cold climate like I do summer time is best.

Large rootstock plants are stronger and have greater power to revive a weak cutting. Therefore when I re-



ceive cuttings in the mail that

are especially precious I tend to graft on a larger rootstock plant in order to get the wood started in my collection with a view to regrafting the wood later to create a prettier looking plant once the wood has been established. Grafting low to the soil level on a smaller rootstock plant will produce the prettiest result and the best looking plant overall. Illustrated below on the left; Dragon's Breath, a low graft on small rootstock using my own wood. On the right; Queen of Dreams and Heartbeat on a larger rootstock plant with scion wood received by mail.

Start by cutting the bottom of the scion wood into a wedge. The cuts must be as straight



as possible to get a good match between the surfaces of the rootstock and the scion wood. Do not do this by holding the scion freehand in the air as this may result in cut fingers and always results in wood cut with a curved surface. Instead cut the wood against a cutting board. Press down vertically against the wood on a cutting board for an even straight cut.



The scion wood, the part grafted on top, should be the same thickness as the rootstock that it is grafted on so that the two match in size. So I take the scion wood and compare it to my rootstock plants and select a piece of rootstock to graft on that is as close as possible to the same thickness as the scion wood.





Cut the rootstock just above a node where there is a leaf or a branch. Life giving sap flows to nodes so you want the graft near a node. If you cut just below a node the wood will die back to the next lower node and any graft at the top of the rootstock will also die.

**Hibiscus International** 



Check the length of the scion wedge. Place the point of your cutting tool in the middle of the rootstock the same distance from the top of the rootstock as the length of the scion wedge. Make a single cut in the top of the rootstock angled so that the top of the cut is at the edge near the node on the rootstock.



Insert scion. The scion should be a tight fit with no gaps so that there is contact between scion and rootstock wood. Tighten by wrapping an elastic around the graft to help force the two pieces together.





Remove any excess elastic and seal the graft with wax. Place the finished result in a clear plastic bag for a few weeks to create a humid environment where the scion will not dry out too quickly.

**Hibiscus International** 

How the finished graft is treated afterwards may be as important as the grafting itself. I have found that my grafts work better in rainy weather which seems a pretty obvious indication that keeping the grafts moist and humid is a good idea.

In the past I placed the finished result in a clear plastic bag for a few weeks to create a humid environment where the scion will not dry out too quickly. However I have always had trouble with grafts rotting inside the closed and stagnant environment inside a plastic bag.

Consequently my next step in experimentation with grafting will be to leave my grafts under a mist system like those used to root cuttings. I am also experimenting with wetting the scion in water before inserting it into the stock in order to enhance the contact between the tissues.



If you are grafting for the first time you might ask; when will I know if the graft is successful? How long will I need to wait? The answer is that the length of time it takes will depend on your conditions and how successful the graft is. I have waited for months for grafts in the winter of my cold climate yet in summer grafts can show signs of success within days.

If the scion begins to shrivel, get skinny, dry up and lose moisture, it's a very bad sign. If it stays fat and full of moisture it's a good sign. Generally, if new green shoots start growing on the scion wood it's a pretty sure sign that the graft has been a success. If you love hibiscus, a successful graft is one of those really exciting things like a seed pod with seeds. It's the beginning of a new plant.

If you have never yet tried it I would highly recommend it. I hope that, far from being the final word on grafting, my short note will encourage others, perhaps even more experienced than myself, to write also how they do it, so that all of us might learn and have even more fun with hibiscus!



## A Quick Guide to Naming a New Cultivar

Adapted from:

#### International Code of Nomenclature for Cultivated Plants

A publication of the International Society for Horticultural Science

An ideal name is both easy to spell and pronounce in the various countries in which the cultivar might be distributed. The rules for creating a new name allow you to use or make up any word or words you want but the name will not be allowed if it is likely to cause confusion with an existing name. The following check list is a guideline in choosing a name for your cultivar.

# 1. Make sure your suggested name is unique – check the existing database to ensure uniqueness (see step by step illustrated instructions at the end of this guide to ensure that the name is unique)

2. Make sure that your name cannot be confused either in spelling or pronunciation with an existing cultivar

3. Make sure that your name does not convey the merits of the cultivar (i.e. do NOT use superlatives such as 'Best Ever', 'The Greatest' and 'Tastiest of All'

4. Each word of a cultivar name must start with an initial capital letter unless linguistic custom demands otherwise. Exceptions are words after a hyphen unless they are proper nouns. (ex. Commander-in-Chief)

#### 5. Make sure that your name has no more than 30 characters, excluding spaces

6. A cultivar name should be as short as practical and should not consist of nor contain overly long words that may be difficult to write or pronounce. (ex. "Diplomgartenbauinspektor" may be considered difficult to write or pronounce)

### 7. A cultivar name that contains the name of a living person should not be used unless that person has given permission for their name to be used.

8. Avoid the use of Latin Words

9. Do not use any of these banned words in any language in your name: "hybrid", "cultivar", "grex", "group", "form", "maintenance", "mixture", "selection", "sport", "series", "variety" (or the plural form of these words in any language) or the words "improved" and "transformed"

10. Do not use fractions or symbols

11. Do not use any punctuation marks except for the apostrophe ('), the comma (,), the hyphen (-), and the full stop or period (.); a maximum of two exclamation marks (!) may be included but they may not be side-by-side

12. Do not use single letters or single numbers, or combinations of a single letter or number with a punctuation mark.

### How to check the database for duplicate names

Use the search engine function available here - <u>http://www.internationalhibiscussociety.org/SEArchive/</u> <u>SEindex1.php</u>

Click the radio button for cultivar.

Choose a key word from your proposed name. For instance, suppose you decide to call your new bloom "Chocolate Truffles".

In the search box enter %Truffle% and click search.



This search will find all cultivar names with the word "Truffle" in it regardless of the position of the word in the name. One of the search results is pictured here.



One of search results has the name "Chocolate Truffles" which is too similar to your name of "Chocolate Truffle". Therefore your name *cannot be used* as stated in the regulations and a new name *must* be chosen.