

# Growers Vine

Gardener's Journal

Special 10th Fall Anniversary Edition  
Giant Vegetable Growers of Ontario



Thanks to all Commonwealth Members

2096 Meier 14 , 2102 Meier 14, 2323 Meier 14.



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Volume 2 Issue 5

# Editor Notes

## Q: What is a chelated product?

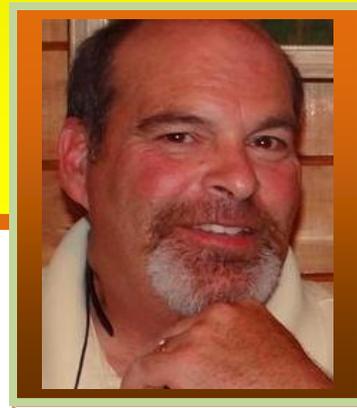
Chelation is the process of attaching a specific organic molecule to a mineral in two or more places to form a molecular ring. The molecule holds the mineral with an ionic bond protecting it from release. Chelates can be either synthetic or natural. Besides amino acids, other natural organic chelation agents include citric acid, fulvic acid, ligno sulfates, and some types of sugars as well as other organic acids. EDTA, DTPA, EDDHA are examples of synthetic chelating agents.

Welcome to the fall edition of the GVGGO newsletter. This is our last look at what went right in 2014. From disconcerting summer weather patterns to soil issues that cause plant problems and sticky surfactants we hope you'll find the many Tips & Solutions inside valuable. This issue is once again packed full of growing tips to help you get your over the chart fruit, intact and transported to the scales.

*The GVGGO continues to be the most trusted source for giant vegetable growers in the Commonwealth. Our vision endures the friendships, knowledge and growing experiences shared by all growers reaching members throughout the world.*

The secrets to growing the great pumpkin and humongous vegetables are revealed inside. Follow these steps to grow your own monster fruit.

Russ Landry



## Time to Renew

**Sign up NOW or renew your 2015 GVGGO membership today by Paypal.**

**GVGO Fund Raising goal for 2015**

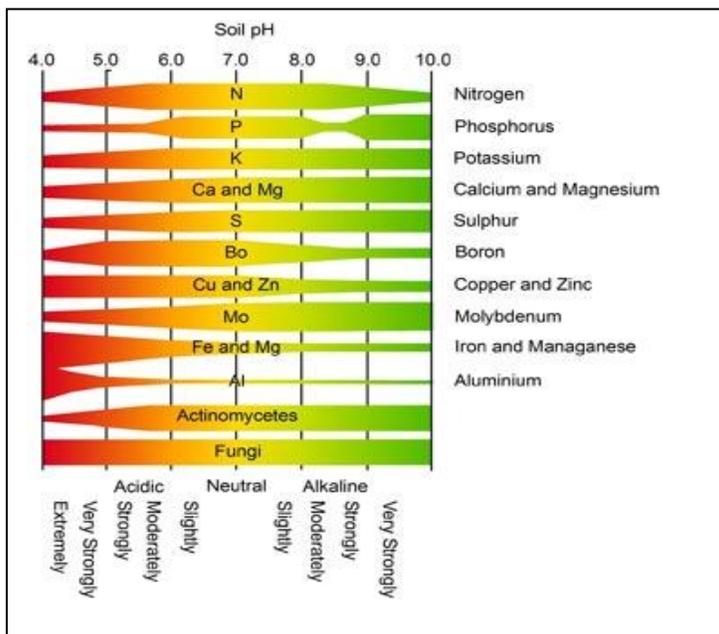
The GVGGO is once again host auctions please donate your seeds generously.

Most micronutrients will be sufficient in plant leaves. Foliar spraying say for example can correct low Calcium (Ca) or other micros in the leaves. However in fruit it does not. This is in part because Ca is not mobile in the plant.

# Solubility of Nutrients

Maximize your yields by ensuring you have ample supplies of nutrients available in the plants root zone

Nutrient cycling to ensure maximum availability in the root zone is about maintaining soil fertility. For competitive growers of giant intensive fruit and vegetable crop systems it is often the most difficult chore to master correct adjust.



Plants require three main components for a good growth and reproduction: light, water, and essential nutrients. Managing garden and patch soils to provide a best possible supply of nutrients, is often the major difference among major growers.

## Kahuna's Keys:

Ensure availability of nutrients in the root zone by drenching with essential elements at frequent periodic intervals

absorbed by plant roots. The chemical elements for plant growth must be inorganic chemicals and dissolved in the soils water solutions. They are obtained from the soil and required by all plants.

Firstly as noted in the chart the grower needs to control pH is of paramount concern as this ensures ranges of availability.

## Sources of plant nutrients

Plants obtain mineral nutrients through direct root uptake from the soils watery solutions. Sources of these soluble nutrients in soil include:

*Decomposition of plant residues, animal remains, and soil microorganisms, weathering of existing minerals, fertilizer applications of manures, compost, kelp (seaweed), and other organic amendments. Natural nitrogen fixation by legumes or bacteria such as azospirillum. Rock products including lime, rock phosphate, and greensand. Along with inorganic byproducts such as wood ash, coal ash or biochar. Atmospheric contributors, such as N and S from acid rain or N-fixation by from lightning strikes.*

What is a Water Soluble Soil Test: soil pH & nutrient tie up issues.

## Water Soluble Soil Testing?

A water soluble soil test is merely a snap shot of what is actually available in the soils water solutions. The solubility test reveals the true levels of nutrients that are found in exchangeable forms and are freely available to the plants root systems. An abundance of nutrients in a standard soil test does not always represent the true levels of nutrients. Nutrients maybe become tied up or blocked out from uptake by other competing Nutrients or cations in the soil

## **Top Ten**

### **Pieces of Advice and Wisdom for Fall 2014**

**by: Phil Joynson**

- 10. An optimist talks to his pumpkin. A realist swears at his pumpkin.**
- 9. A world record fruit and a huge failure are both compost in the spring.**
- 8. A smart man has savings account for growing supplies. A wise man has a secret credit card.**
- 7. A friend with seed is a friend indeed!**
- 6. Save time and money by buying brown socks.**
- 5. Use a credit card with air miles to buy growing supplies. Your spouse may be out of the country when the bill comes in.**
- 4. Both ugly people and pumpkins tend to go heavy to the charts.**
- 3. A few cans of orange gloss spray paint can make just about any pumpkin a Dill prize contender.**
- 2. Save time and effort by blowing your leaves into the street. Then wait for your neighbors to gather and bag them. Simply drive around and collect them for pumpkin patch use.**
- 1. Buying your GVGO executive members a beer will greatly enhance your chances of winning the lottery!**

**Amazing but True!!**

## CO-PRESIDENTS' MESSAGE

By Phil Joyntson &  
Russ Landry

From the Office of *Phil*



Another growing season has come and gone. Was 2014 a success for our GVGO members? If you want to compare our Ontario grower's results to the rest of the world wide growers ... well... other than a few bright spots, no. I'm not sure if Ontario has ever fared so poorly in the Atlantic giant category. There was one Canadian pumpkin in the GPC top 100 this year. The obvious culprit this year was the weather we had this summer. Not many growers have read the writing on the wall as far as greenhouses and a controlled growing environment are concerned. I know this is a huge expense but results don't lie. If we want to play in the big leagues we have to get on even footing with the other guys.

### **There were some bright spots this year however...**

How about Brant and Brandon Timm's 1675 lbs. pumpkin in Wellington? That's the 3<sup>rd</sup> biggest ever grown in Ontario during the worst conditions in years. Then there was Paul (heavy hitter) Dettweiler with a pumpkin just a painful half a pound shy of 1500. As always Todd Kline rolled down the 401 and won more than his fair share of prize money this year. Todd's biggest was 1507 lbs.

How about field pumpkins? Nova Scotia's own John MacKinnon set the bar again this year (211 lbs.) but competition for that Ontario record was just amazing. The record was set at the earliest weigh-off (Bracebridge) with Phil and Jane Hunt's 140 lbs. That record was broken by Brant and Brandon Timm with 153 lbs. in Pembroke. Another weigh off and another record. John Butler at Port Elgin weighed in a 159 lbs. whopper. Not content to be the record holders for only two weeks, Phil and Jane regained the title with a 175 lbs. specimen at the Woodbridge weigh-off. There was also rumors of one of these guys have a field pumpkin blow up at about the 280 lbs. mark. Wow! Todd Kline

also consolidated his mastery of the long gourd with 136.75 inches.

The GVGO rutabaga (Swede) contest looks to have been a great success. Lots of growers took the challenge and planted a few plants. We still haven't crunched the numbers but it looks like a new Ontario record has been set.

As you know, we had two patch tour sites and dates this past year, Port Carling and Wallaceburg. Both events went very well and everyone in attendance had a good time talking about growing veggies and spreading rumors. Thanks go out to Nathan and Jenn Veitch, Greg Montgomery, Mike and Cindy Demars (get well soon buddy!) and Craig Balkwell. Thanks for opening your homes to the GVGO membership. Fine food and company!

One of the high lights for my personal GVGO year occurred at a late weigh off. I was approached by a GVGO Hall of Fame member and quietly passed an envelope. When I asked what it was he said that it was a donation to the club. He felt guilty not having to pay membership fees and really enjoyed the newsletter and appreciated the time, effort and cost club members put in. I told him that this was entirely unnecessary as he earned his membership during his growing career. He insisted anyway so I brought the envelope home and dropped it on my dresser. A few days later I was shocked to find several hundred dollars inside as well as a nice thank you note. Thanks to this Hall of Famer for the money but a bigger thank you go out for the positive feedback. It's nice to be appreciated. There are so many good people in this club that keep things ticking over. Take a bow guys!

Finally, as most of you may have heard, we lost one of The GVGO's finest a few weeks ago. Sally Hunt was taken from us far too soon. Sally brought so much to the Pumpkin growing community. She was the heart and soul of the Port Elgin Pumpkinfest and for several years put together the GVGO club newsletter. Above all Sally was funny and bright and will be missed by all that called her friend.

From the Office of *Russ*



Finally the season is over. Weigh-off season is behind us hopefully you're now resting and sorting your seeds peacefully as you prepare for winter. The weigh-offs just past have left with us the reminder of just exactly how challenging the summer growing season was here in Ontario. Never have the summers temperatures been so below normal for so long. The relentless winter of 2013 and 14 turned into the 2014 summer that never was in Southern Ontario. Remarkably though the climate has turned around with a much more moderate fall and Great Lakes that continue to rise back to normal levels.

Growers can rest assured that next spring may present better growing opportunities. The trend to indoor growing in large climate controlled greenhouses has taken hold as a number of growers including the world record holder **Beni Meier set a new World Record with a 2323.7 pound Giant Pumpkin!** Also there is **Scott Holub setting a New World Record for Giant Squash at 1578 Pounds** weighed at the Bauman Farms Weigh-off, in Gervais, OR. **Records also fell in Tomato with Dan MacCoy at 8.41 and John MacKinnon at 211 with a field pumpkin.**

It's now once again time for reflection and study as all this indoor greenhouse growing has opened up a host of new skills growers will need to acquire. The GVGO continues to foster learning for new and educated gardeners in understanding greenhouse or indoor growing.

We hope Santa Claus will bring GVGO growers new tools to combat the mystery of Mother Nature's weather challenges. Growers will need to begin investigating the new popularity of growing indoors. Fruit sizes are being swelled by leaps and bounds as Great Pumpkin Commonwealth (GPC) members are now expanding into large hoop house constructions.

## Adventitious Roots

Are young and newly forming fine hair like roots that freely absorb water and nutrients into the plant and distribute them via the xylem or the plants vascular up river.

We are soon planning a possible revamp of the newsletter. The new edition coming soon will be called *Over the Top*. I am looking forward to helping you grow indoors and out and helping all the GVGO members thrive in the new season to come is my goal.

Also it is very difficult to announce the passing of two great GVGO friends. We have lost John Lyons at the end of the summer and just recently Sally Hunt passed away.

Good Luck & Good Growing  
Sincerely, Russ

## GVGO Memberships

Run from January 1st - December 31st  
Pay it now, to get the annual seed giveaway and the most informative growers newsletter.

by: PayPal, email money transfer or mail

PayPal to: [vgogrowers@gmail.com](mailto:vgogrowers@gmail.com)

Email Direct Transfer To: [vgogrowers@gmail.com](mailto:vgogrowers@gmail.com)

Mail To: **C/O Jane Hunt, GVGO Treasurer**  
**4376 Hwy 35 N**  
**Cameron, Ontario**  
**Canada**  
**K0M 1G0**

## Time to Renew

**Single...\$30...Family...\$40...out of province...\$30 US or CAD**

- Full Voting Privileges, with eligibility to hold office. (Ontario Residents Only)
- Entry into club seminars & meetings
- 10% discount on soil analysis from [A&L Canada Labs](#) in London, Ontario
- Seed giveaway (++) seeds in every pack)
- 3 Newsletters
- Entry into patch tours
- GVGO Championship Largest Pumpkin

[Add to Cart](#)



# Giant Vegetable Growers of Ontario

Visit the gvgo on [facebook](#).

<https://www.facebook.com/pages/GVGO/140780926101331>

Editors: Nathan & Jennifer Veitch



*Comment on our wall, tag your pictures and send them to our facebook editors*



## The New Heavy Weight Champ



## of the world

**Scott Holub's, New World Record for Giant Squash at 1578 Pounds**

**1578 Holub 14.**

615 Cantrell Self 425.0 1,571.0

<http://www.bigpumpkins.com>



Susan Parent Project Manager of Premier Tech Horticulture at the Homegrown Hydroponics Expo in Toronto on Oct. 26th, 2014.

## Pumpkin Flower Pollination

Pre stimulation of flowers has been show to be the best ways to control pollinate your flowers. High pitched vibration similar to insects beating wings helps to effectively ensure complete fertilization.

# gvgo.ca

**AZOSpirillum** is a bacterium that supplies Nitrogen and produces plant growth hormones (auxins) that cause the plant to produce more roots. The better the root system, the stronger the plant. Simply, stronger plants thrive and they produce more sinks and larger fruit at harvest time.

## Organic Matters Manure

Manure is organic matter used as organic fertilizer in agriculture. Manures contribute to the fertility of the soil by adding organic matter and nutrients, such as nitrogen, that are trapped by bacteria in the soil. Higher organisms then feed on the fungi and bacteria in a chain of life that comprises the soil food web. It is also a product obtained after decomposition of organic matter like cow-dung which replenishes the soil with essential elements and adds humus to the

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# Mineral Junction

## Sulphur (S)

**Sulfur is a yellow mineral, it is an essential element for all life.** It is used as a component of fertilizers and to lower soil pH. The most important form of sulfur for fertilizer is the mineral calcium sulfate. Elemental sulfur is not soluble in water and, therefore, cannot be directly utilized by plants. Over time, soil bacteria convert it to soluble forms and acids which can then be utilized by plants and or modify soil pH. Sulfur improves the use efficiency of other essential plant nutrients, particularly nitrogen and phosphorus.

# Over The Top

Gardener's Journal

E-Zine

**Over The Top** is a new E-zine whose focus is on growing anything green for the serious hobbyist or for market grower. Published bi-monthly, growers **Over the Top** E-zine features reams of information about new products and exciting growing tips to boost growth and improve harvest yields.

Launching soon **Over The Top** will be available to thousands of growers at several large internet sites including **Big Pumpkins.com** and the **Giant Vegetable Growers of Ontario**. Each web site carries with it enormous marketing opportunities for keywords and SEO to grow your business into the highly competitive search engine driven world of ever increasing sales.

Also a direct E-Zine mail out list will be distributed to GVG0 member growers who obtain a base subscription.

## Published by: Russ Landry

Increase the size of your footprint into the world of fine competitive gardening by advertising with a large distribution network in North America

**Over The Top** is published 6 times per year. **OTT** can make sure your products are noticed and seen by your customers

# Over The Top

Gardner's Journal

**Tissue Testing** > though you can treat the results of a leaf tissue test via foliar sprays this does nothing to address the main root cause of the problems. Low Nutrient levels do not only exist in the leaves they affect the fruit too. Low Nutrients are but a symptom of either uptake stress or environmental stress.

One of the most difficult things to address is not only what does the plant actually need but what is the best method of delivery to correct or dial in a deficiency.

Most micronutrients will be sufficient in plant leaves. Foliar spraying say for example can correct low Calcium (Ca) or other micros in the leaves. However in fruit it does not. This is in part because Ca is not mobile in the plant.

I have discovered that if you want big fruit they need to have larger concentrations of Micro nutrients at all times from the beginning of development of the growth tips and fruit bud all the way to the finish line.

The best way to do this is in providing the plant with a good supply of nutrients in the root zone. By ensuring you have maximum solubility of nutrients with no tie up issues you are helping young hair like fibrous adventitious roots uptake all the nutrients the plant requires





Photo Credit: Christy Nelson

## The World Record 1578\* Holub

### Green Squash – Green Genetics

By Scott Holub

**1578\* Holub 2014 world record squash  
(615 Cantrell x self).  
Weighed at Bauman's Farm,  
Gervais, Oregon, USA.**

My basic pumpkin growing principles are to grow the best genetics and provide optimal nutrients, optimal water, and optimal temperatures without costing me too much money. Nothing too exciting in the growing methods, really. I just use standard agricultural principles and copy more experienced growers, but I will cover that later on in the article.

I think the more interesting part of getting to 1578 green pounds was the genetics and seed selection. Before we go too much further, it would be helpful if you Google “Mendelian inheritance”. Through some crosses, observation, and testing, mostly by people other than me (Pitura,

Shymanski, Cantrell, Haist, and others), we have determined that green fruit in *Cucurbita maxima* is a recessive Mendelian trait. Recessive traits are those that can “skip a generation” and that is clearly what green-fruitedness does when crossed with non-green-fruited plants. A cross between a modern orange-fruited “pumpkin” and a green-fruited “squash” will almost always yield seeds that will all grow into what look like pumpkins, no

greenies, but those “F1 hybrid” pumpkins will have a hidden green gene in their seeds. (See the diagram.)

Look at competition weights and you see that pumpkins have the obvious genetic advantage over squash. This is due to the more intense and rigorous selection that pumpkins have had from being much frequently grown.

**“1578\* Holub seeds  
should all produce  
green squash with the  
potential to reach**

This year, and in previous years, there were about  $1/10^{\text{th}}$  as many squash grown as pumpkins and that

makes a huge difference in the ability to select for weight in squash; outlier weights are a lower probability occurrence, so selecting for them is difficult. Weight-wise the pumpkin x squash (or squash x pumpkin) F1 hybrids would be expected to be intermediate between squash and pumpkins, since weight acts more as a quantitative trait than the on/off Mendelian green/not-green fruit color. So offspring from the F1 will just look like slightly smaller pumpkins.

However, when these F1 hybrids with the hidden green gene and intermediate weights are selfed or crossed with each other in a second generation this gives the green-fruitedness an opportunity to appear again in that "F2" generation (at a rate of 1 out of 4 offspring, on average). At this stage we'd predict that some of these F2 offspring with intermediate genetic weight potential will be GREEN! (See the diagram.) This gives these fruit a substantial competitive advantage for weight in the

green squash class. This phenomenon is what I gambled on in the

selection of the seed that ultimately produced the new world record green squash:



## 615 Cantrell 2013

(913\* Boyce 2011 x 1221.5\* Robinson 12)

a seed from this fruit grew the 1578 lb world record squash.

Photo credit: Dave Cantrell

hybrids from the above discussion and diagram. Some notable pumpkin heritage in the 615 Cantrell (and thus the 1578\* Holub) includes 1634/1461 Werner, 1236/1725 Harp, 1421.5/1662.5 Stelts, and 1385/1689 Jutras on the Boyce side, and

1807/1351 Stelts, 1495 Stelts, 1161/1566 Rodonis, and others on the Robinson side. 996\* Haist, 800\* Neily, 895.5\* Hester and 990\* Hebb make up most of the squash genetics. The maternal line was squash: 895.5\* Hester.

I planted out 8 plants from 615 Cantrell seeds in one patch and grew them all, in full competition mode, to the first female stage in mid June. I pulled plants that showed yellow or striped-yellow small females as they appeared. There were 3 green-fruited plants and 5 yellow-fruited, consistent with the 1/4 green estimate based on the single gene Mendelian recessive assumption. It's worth pointing out that each single plant is either entirely green-fruited or entirely yellow-fruited. You won't normally find an individual plant that has both green and yellow baby females unless something weird is going on. I selected what I thought was the best colored, best positioned, and best growing plant of the 3 green-

***Green baby x Green baby = Green baby***

fruited ones and pulled the other two leaving just one plant to occupy that patch and grow out to harvest.

Since the 1578\* Holub (615 Cantrell x self) was green, and it was selfed, the seeds should all produce green squash with the potential to reach high weights. Even greater squash weight gains are probably attainable as future generations of hybrids are developed that incorporate even more advanced pumpkin genes. Meeting the color rules for squash is always tricky business even in "purebred" squash lines where we sometimes see non-squash colors showing up in patches or spots on the fruit that will disqualify it from entry in the squash category. These disqualifying color traits are likely not related to the green-fruitedness gene directly, but are probably influenced by other genes, gene interactions, and environmental effects not fully understood. Just a word of warning that perhaps not all green-female squash x pumpkin F2 crosses will successfully meet the color guidelines. It also helps to get lucky.

**[No fruit on pollinator**

The 913\* Boyce seeds and the 1221.5\* Robinson seeds are F1 AG x Squash hybrids and the 615 Cantrell seeds are the F2

**Here's a brief summary of my growing methods, just what I did, not a recommendation.**

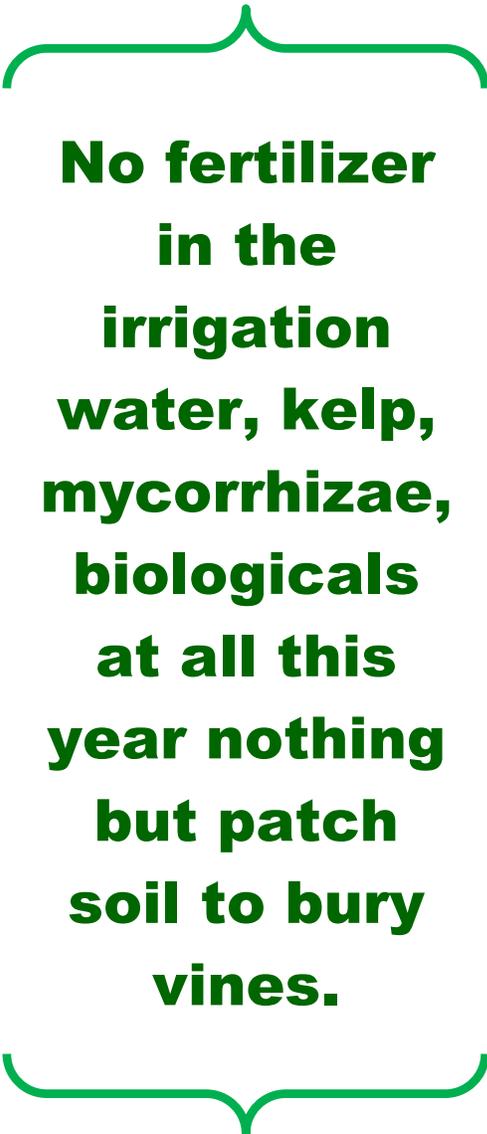
Nutrients: I grow on nice river terrace sandy loam, which is a great place to start. I finally broke down and got my first soil test this year and also did an early- and mid- season foliage test. (I'm such a cheapskate, so it was hard to write those checks, but worth it, I think.) Deficiencies were addressed, but probably not always adequately corrected as some persisted despite treatment. Pre-planting this consisted mainly of leaves collected from my neighborhood, dolomite lime, 16-16-16, urea (46-0-0), and K-Mag (0-0-22); all from the farmers' co-op. Micro nutrients were purchased locally or online and applied pre-plant to the soil and foliarly through the season per test findings. Low rates of periled/pelletized fertilizers were also applied by hand under the leaves on a few occasions during the season. No fertilizer in the irrigation water, no kelp, no mycorrhizae or biologicals at all this year, and nothing but patch soil to bury vines. I don't completely discount that stuff, but first things first (i.e. N-P-K-S-Ca-Mg from ag strength fertilizer), since I try to keep costs down. I did foliarly apply some monopotassium phosphate once it went on sale later in the season, but I think that did more to burn the leaves than help growth, hard to say. Cheaping out on a later foliar test was probably a mistake; I think there were signs of potassium deficiency I didn't catch early enough and some leaf bloating indicated that I ended the season way too high in nitrogen.

Temperature management: I germinated the seeds indoors in late April using the ziplock and moist paper towel method on a heating pad, but I overheated my first batch when the thermostat slipped out from the heated area. A few survived, and more replacement seeds (Thanks, Dave!) were started a few days later. The world record plant was one of the replacement seeds. Seeds were grown inside the house until the first true leaf was well formed and were then placed out in mini green houses (two plants per hut) in early May after hardening off. Green houses were opened and closed daily and nightly per the weather conditions. Later during pollination female flowers and developing fruit were shaded with plastic chairs and old sheets until they reached a size where just sheets would work. When possible and when temperature forecasts indicated, blankets were added over the fruit to keep it warm at night or cool on hot days.

Water: More by evolution than by design, I use standard 50 ft garden soaker hoses on a 3-station

automatic timer for most of the daily (or 2 or 3x daily) watering needs. (I bought soaker hoses my first year out so I just keep using them and buying more. There are probably better and cheaper ways to get water out to the plants.) I added approximately 50 to 150+ gallons per plant per day depending on the weather. I hand watered after fertilization to wash material in and I hit dry spots by hand occasionally. I like to keep fruit and leaves dry when possible.

Diseases and insects:  
Slugs, cucumber beetles, powdery mildew, and aphids were my main problems. I used traditional slug bait with Metaldehyde . I used DeBacco's diluted milk method early in the season for powdery mildew prevention. Later in the season I added in chlorothalonil when I saw PM showing up. I also did a couple doses of myclobutanil during some high humidity, high disease pressure periods. For insect control my first line of defense was planting fennel in a couple spots in the patch even before I put the pumpkin/squash plants out. Fennel attracts a wide variety of beneficial insects to the patch: lady bugs, wasps, etc. I also had mixed flocks of birds visiting and foraging for insects almost every morning. I did spray bifenthrin if the beetles or aphids



**No fertilizer  
in the  
irrigation  
water, kelp,  
mycorrhizae,  
biologicals  
at all this  
year nothing  
but patch  
soil to bury  
vines.**

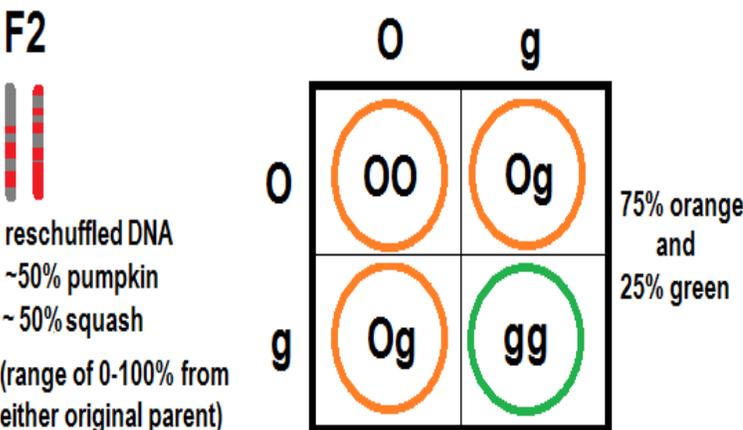
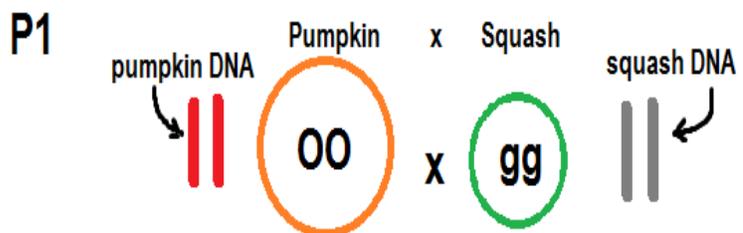
got too vigorous for my liking. Weeds were sprayed with glyphosate both ahead of the vines and carefully under the leaves, where feasible, with some hand pulling as needed. Again this is just what I did, not in any way a recommendation.

Check out my diary on [bigpumpkins.com](http://bigpumpkins.com) – my handle is bathabitat. At some point I hope to add some patch pictures, vine training diagrams, etc. Feel free to post other questions to the squash message board on [bigpumpkins.com](http://bigpumpkins.com).

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NOTE: The GVGO would like to thank Scott for sharing his story with our membership. All the best in 2015.

Cheers, Jane & Phil Hunt - 



# GVGO

## SEED Auction 2015

### WE NEED SEEDS

**Chris Lyons & Peter Burton are the Auction chairmen**

PLEASE try to donate 1 awesome proven seed to our cause. The auction team is looking for seeds that are currently producing the largest/prettiest pumpkins or the largest of the other giants we grow in our sport today from the top 20 pumpkins grown this year.

The auction will take place early in the New Year on a Saturday or Sunday afternoon to allow for participation from our Euro members as well as growers from North America

**for details contact:**

Phil J at [gvgo@outlook.com](mailto:gvgo@outlook.com)

Thank you very much in advance for your continued support. Have a great off-season.

GVGO 2015 Auction Team

# The Secret Luck of Growing a Giant

by: Phil Wellington

The vast majority of growers simply won't share their tip top and most sensitive secrets. However the truth is that the main secret is one third is in the Genetics...growers need to have the right seeds.

## *Growers need the right seeds*

Another third of the secret is deeply within the dark organic matter laden earthy soil. The soil must have the right content and be of just the right stuff. Tilt and nutrient content are extremely important.

The final third is often luck. This revolves around doing the right thing at the correct time. Growers having the optimum amounts of water at critical stages of growth helps with luck. Eliminating the bad insects or conversely having the right insects ensures success.

## *The third is Luck,*

Excessive rainfall may cause erosion or stops the growth of vegetable fruit. Excessive sun is a factor as the skin hardens, dries and cracks because it can't expand. Most people cover their pumpkin and watermelon with tarps and blankets. Bugs and mice cause the fruit to die from inside hidden from sight. Giant Pumpkins can grow up to 40 pounds a day, often these fast growers result in splits. But there are numerous other factors which may have caused the split. Fertility is important if it is not sound the outcome of the fruit maybe in trouble.

The average grower spends two to three hours tending plants a day. Some even sleep in the garden overnight fearing sabotage by other growers or by mice and insects. Sometimes Mother Nature is not so nice! Soon the biggest pumpkins will approach 3000 pounds and all giant vegetables records are falling.

The luckiest story is that of Gordon Graham. He wanted to get into the Guinness Book of World Records. His plan was to grow the longest or tallest tomato vine

ever. He planted a Delicious type tomato and fertilized it every day and kept adding cages as it grew taller each day. He gave it with Nitrogen everyday and when it was over 8 foot tall it was hit by big winds during a thunder storm. Top heavy it fell over and slumped and landed on a nearby cantaloupe plant. The next morning Gordon was devastated at the sight of his damaged and prized tomato plant. Devastated he just quit gardening for about two weeks because he thought he had failed. His garden was a muddy mess of twisted vines, clumped leaves, twigs and puddles!

## *Muddy mess of twisted vines*

Two weeks later he glanced at the garden and was amazed to find that his meager plant had now grown to over 16 foot long. Another week later he discovered one single tomato on the vine. It was a big one and not ripe so he decided to let it grow. The tomato grew to be a Guinness Book of world record that weighed 7 pounds 12 ounces. That record stood for 28 years.

Consider this....Nitrogen causes lots of leaves and vines but no fruit. Gordon had quit fertilizing when the plant fell over. The soft soil from the rain during the storm caused the vines on the ground. The neighboring cantaloupe plant had been getting fertilized with a balanced mixture of nitrogen, phosphorus and potassium. Phosphorus being essential for roots and blossoms luckily resulted in one fruit developing in a shady place in the garden. The fruit now growing was being feed by 16 feet of vine and roots now firmly rooted into the ground!

If the plant would not have fallen over during the storm his plant would never had gained 16 feet of vine growing roots and if he had not quit feeding the nitrogen then the plant would never have produced blossoms. Had the storm not given the right amount of rain to make the garden a soggy muddy mess he would not have given up nor would he been fortunate enough to have heaviest tomato ever grown.

## *Graham's lucky records*

So that is the luck that led to his success! Gordon Grahams thunder stuck tomato plant had garnered Two Guinness Book of World Records and a main vine that ended up at 53 feet. 6 inches!

<http://www.tomatocausal.com/2007/09/05/world%E2%80%99s-largest-tomato/>

**gvgo.ca**

# Dan MacCoy

**2014 GPC Champion & World Record Holder of Giant Tomato.**

*Dan MacCoy is AKA > Master P at bigpumpkins.com*

GVGO, Dan Welcome to our annual growers quiz. Congratulations you had a terrific year with your new World Record 8.41 pound tomato. The Giant Vegetable Growers of Ontario are interested to hear the story of how you grew the big one. Thank you for taking the time to tell us your story.



Q. Dan, you have certainly raised the bar for all giant tomato growers. Please tell us what you see is behind the genetics of your new world record? **The 4.57 MacCoy that grew the 8.41 is the 5.07 Boudyo x open. The 5.07 grew some big ones. I think the 8.41 MacCoy should be a great seed.**

Q. Did you ever envision such a Monster would come off your 4.57 MacCoy? **I knew the 4.57 would be a good seed, but I had no idea it would grow the next world record and 8 lb tomato my second year growing them.**

Q. Dan, Please tell our growers how it feels to wear that Red Jacket? **Marv did a great job with the jacket! I'm not sure it set in yet. It's an unreal feeling!**

Q. On Monday April 8th you wrote **"here is the one to beat this year....my 4.57 from last year! I'm hoping for 8 lbs. a very low stress year without the pumpkins!"** When did you think

you really had something special? **The 8.41 bloom was set around July 1st. By the 20th it was at 4 lbs at 20 days old. That was when I knew!**

Q. You used Dunkel's Tomato Turbo, Voodoo Juice and Mykos from Extreme Gardening can you comment on these products and suggest any new products you might use in the coming year? **Right after the seedlings popped up, I drenched with Advanced Nutrient > Voodoo Juice. Once a week, throughout the whole life of the plant I drenched with 2ml. of Voodoo juice in a liter jug." Watered with compost tea from Xtreme Gardening several times during the season and drenched the plant several times using Dunkel's Tomato Turbo. "Early on I used a small spray bottle with Uncle Dunkel's to foliar feed but once the plants got too big for that I didn't foliar feed again." I fertilized during the season using mostly 0-0-25 after fruit set. I used liquid form 0-0-25 from Growth Products. I mixed 1/4 cup of it into a 2 gallon jug of water and drenched the plant once a week after fruit set for the life of the plant. I will be adding a couple more products to the line up next year. Stay tuned!**

Q. The root picture of the 6.88 plant you posted at BP.com looked very healthy and there is no hint of root problems. Did you have any sort of soil disease issues prior to this past year?

**No, I never had a soil disease problem in the greenhouse.**

Q. Dan did you have concerns either from a soil virus or say nematodes? **Nope, not at all.**

Q. Was your record 8.41 grown in virgin soil? **No, I have been growing giant pumpkins there for 3 years prior. I actually had a pumpkin plant right next to the tomato plants this year.**



Dan MacCoy 

Q. Was there a specific starting soil mixture you used?

**I like to use the peat pellets to start them. It takes up way less space in the germ chamber. Then ten days after I pot them up in cups of miracle grow potting mix.**

Q. Was there certain amount of water given to your plants? How often did you water them?

**I used rain water collected in a rain barrel and water from a dehumidifier. "I watered just when the top layer of soil began to look dry. In the dead of summer it was every other day. I watered ten gallons over all ten plants when I did water. I think it helped to be in a greenhouse so I could control the watering and not have to contend with rain. I have a rain barrel and I also dumped my dehumidifier water from my basement in it.**

Q. You decided to halt top growth of your plants at your fruit. Why was this done and did you find any information that may have lead you believe this technique would work?

**I grew my 4.57 on a small 3 foot high plant. That's where I got the idea from. I set all of my tomatoes on the first fruit truss. No more than ten days after I knew the fruit set I trimmed all suckers and vines down to a single stem of only 36 inches or under.**

Q. Why did you want to see how big you could grow on a mater small plant why? **I did this with the 7.33 Hunt plant, it was only 18 " high. I wanted to focus more on building a bigger root mass vs. more plant. I got a 4 pounder from it!**

Q. Dan, The small plant idea of yours worked tremendously well. Where and how did you develop this small plant theory? **Same as above, I grew my 4.57 on a small plant with good results my first year out. So I decided to take a chance and do it for all ten plants.**

Q. You grew your big giant Mater in a greenhouse. Can you please tell us Dan what precautions you took to control the conditions inside? **During pollination I like the greenhouse around 75°F. Any other time I don't like it over 85. There are two doors I can open to cool it off. I can roll up one side of the greenhouse and there are two windows I can**

**open too. When it's really hot I have a cheap box fan mounted at the top of one of my doors blowing into the greenhouse that I can turn on. My system to keep it cool is > Open doors first > then the windows > then turn the fan on > and then roll up the side. On very hot days when all of that wasn't enough to keep it around 85 I would mist the plants with cold water from my garden hose. I do not use shade cloth. If it's too cold I build a smaller tent around the block of plants that I want to keep warm and I have an electric Stanley garage heater in there. I only had to do this at night during the last week before harvest.**

Q. For example did you modify humidity or temperature and provide air movement?

**I did not modify humidity. I just controlled it by opening or closing the doors.**

Q. Dan, what were your soil conditions inside the grow areas. Did you perform soil tests or tissue samples and can you share any results with us? **I have sandy loam soil. I did not do a soil test for 3 years until the end of this season. My soil pH was 5.2 with an Organic Matter in the 8's.**

**Soil pH 5.2 OM > 8**

Q. Can you please comment on the other types of soil supplements you used to grow your monster plant producers? **I chopped up my 1122 lb. pumpkin and composted it into the garden. Over the winter I threw my wood ashes into the garden. I heat with wood so whenever my bucket was full from the stove, I threw it out there, overall about 6 buckets full." In the spring I tilled in around 12 pounds of dehydrated chicken manure, 12 pounds of humic acid, 12 pounds of 10-10-10, 1/2 cup borax and 6 pounds of kelp meal. In the spring each planting hole also received one hand-full of Mykos. I also put WOW Wallace (tea bags) under some of the plants.**

DAN, on behalf of all growers at the GVGO and in the Commonwealth we say thanks to you for helping us to celebrate your World record. Thanks for sharing with all of us. Good Luck & Good Growing in 2015 and beyond.

**Thanks for the support! Dan MacCoy.**

# GOT PEAT!

By: Steve Connolly

What's up with the sudden interest in soil conditioning with Peat Moss, Vermiculite and Perlite? Aren't these some of the most common ingredients around? OK so the largest 3 pumpkins in the world were grown in essentially a soil less medium of PEAT and perlite. Does that mean we all have to do it, to stay competitive, and grow our first 2000 pounder? Well that depends on the goals you set for yourself. So let's size up our options, and first understand more about the Pros and Cons of this composted vegetation called Spaghnum Moss.



Peat comes from Peatlands. A Peatland is an ecosystem that develops in a bog. A lake or a pond holds rain and ground water. Vegetation, largely sphagnum moss, grows, slowly filling the bog. As the sphagnum moss dies each year after about 5000 years it partially decays in the bog, creating "peat moss".

Peat Moss is heralded by many growers as a wonderful soil conditioner. It helps to loosen and enrich the soil. Peat holds moisture, and then releases it over time. Its loose nature leaves plenty of room for air, which is vital to healthy pumpkin plant roots. We use this mixture every spring for potting soil, to give our chosen seeds the best possible start and root growth. Many Growers also use **Peat pots** which are naturally organic. Peat is compressed into round or square pots of varying sizes, from 2 -1/2 inches to 5 inches in diameter. The pots are organic and porous, yet strong enough to hold seed starting soil and your favorite, young seedlings.



At planting time, transplant the Pumpkin seedling in the pot right into the garden, minimizing broken roots and transplant shock. Broken roots can stunt/delay plant growth and set you back 1-2 weeks. Undisturbed roots will easily grow through the pots. Just keep the Peat Pots damp, and then good and wet the day you transplant outdoors. If inclement weather is keeping you from transplanting, and the roots are showing outside of the pot, you can replot the seedling, pot and all, into a larger one.

For most potting applications, use one part peat to 2 parts regular garden soil. Now comes the critical part of this discussion. How much could you add to your whole patch to gain some of the following known benefits, all year long.

## Benefits of Peat Moss

- > Ads structure to sandy soil
- > Loosens and aerates heavy clay soil
- > Stores fertilizer and nutrient.
- > Reducing leaching of nutrients from the soil
- > Saves and holds water, but not too much in the soil
- > Added to compost piles to speed up decomposition, and reduce odors.

It seems like there are an endless lists of benefits to Peat amendments, Here is another one. Peat moss prevents soil from hardening. The organic matter which composes peat moss improves soil composition. But there is dark side about this soil-less median for Pumpkin Growers to be aware of.

Peat by its self is not good. PEAT has been around a long time and known my ancestors as a great growing amendment, but there are some draw backs....Below are some negative effects:



## GOT PEAT



### - PH of peat is too low, for the Cucurbit Maxima species.

It's very acidic without some adjustments. It normally has a pH in the 4.0 range. Pumpkins need a 6.5 pH. You as the grower can make adjustments with the addition of some lime stone.

- **Too Much Water Absorption:** Peat moss absorbs 20 times its weight in water and slowly releases it. Peat is also full of organic matter. Yes this means that the plants have a steady supply of water over a long period of time, but it also leads to rotting vines or roots (from a heavy rain storm) if they are left too wet for too long. Growers can make adjustments like adding perlite or Vermiculite to help aerate the Peat before mulching it into garden soil.

- **If Peat is only spread on the surface** as a top layer mulch to suppress weeds, and left too dry, it can cake up and harden creating a surface layer that prevents rain water (a minimal rain storm) from getting down deep to the roots, before it evaporates away. This can be prevented with a good till to evenly mix the Peat into the soil in the beginning of the season.



If you are thinking about adding a **LOT** of PEAT, next year, better think about covering your patch or building a green house, over it for protection from a midseason deluge. Lots of organic matter equals lots of water absorption. It's a catch 22. But if you are like 98% of the growers and grow your pumpkins outdoors, there is really nothing wrong with using this soilless medium in moderation, especially tilled in around the planting hole with the regular soil. And now growers have the option of buying it premixed with some great additions. Like mycorrhizae. Seems like the word is out, to the general population, about the beneficial roots enhancements from this fungi host plant. The viable spore counts probably don't match that of our pure mycorrhizae suppliers, but PRO MIX is making a run at the gardening business. And they are even incorporating the following into the bales of PEAT. Biofungicides (Bacillus Subtilis for root protection) pH adjusters like Limestone, to lower acidity levels, making it compatible with cucurbit and Perlite for soil aeration.

The choice is yours. Be aware of your options.

# GVGO

## Plant Protection

### *Trichoderma Harzianum*

is a fungus that is also used as a fungicide. It is used for foliar application, seed treatment and soil treatment for suppression of various disease causing fungal pathogens like fusarium. It is a Powdered/granular Biological beneficial microorganism.

- Trichoderma ( Rootshield biological fungicide)



## The squash bug

is from a large family of mostly herbivorous insects leaf-footed type bug. The adults are in size from 7 to 10 mm long in size. Their body shape is quite triangular. In North America, they are called "squash bugs", because some types are pests of squash plants and other cucurbits. They are also called "leaf-footed bugs" due to the leaf-like expansions some species have on their hind legs.

**GVGO Memberships** run from January 1st, 2013 - December 31st, 2014.

# Time to Renew

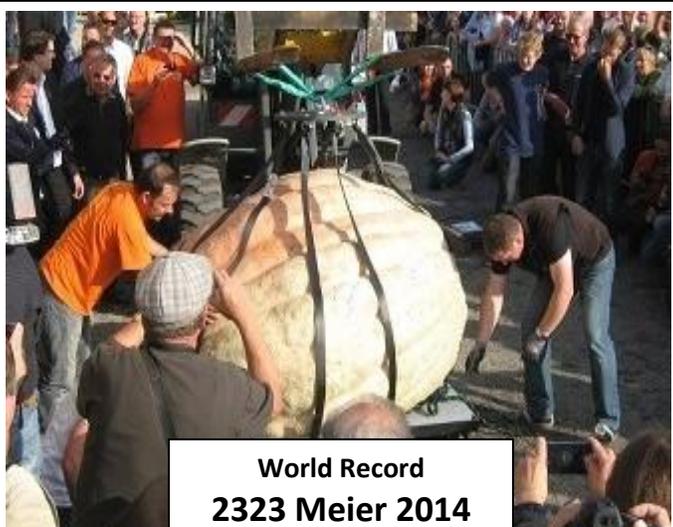
## Europe, from the Netherlands

By: Brad Wursten

It's not breaking news anymore, but for only the second time in the history of Atlantic Giant growing did the world record fall outside of North America. It actually fell three times, but that is just a matter of weighing the fruit in the right order.

It all started when Swiss grower Beni Meier took his smallest of three pumpkins to a regional weigh-off in Germany. Taping in at just 1900 lbs, he couldn't have known it would become a new world record. But the scales stated otherwise. **At 2096 lbs, Beni had his first world record.**

A week later Beni took his second largest pumpkin to the Swiss weigh-off. Taping just shy of 2000 lbs, it could have gone either way. It went heavy and weighed in just four pounds more than the one a week earlier. Now things were getting really interesting, because the third pumpkin was taping considerably less than the other two weighed. For the grand finale, Beni loaded up his last pumpkin, grown off the 2009 Wallace, and headed to Ludwigsburg, Germany, for the European championship. Growers from all over Europe had flooded to the weigh-off to see what they hoped would be the new world record. They weren't disappointed. In front of a massive crowd, the largest of Beni's pumpkins was loaded onto the scales. **As the crowd held their breath, the scales settled. 2323 lbs! Beni 3, the rest of the world.**



**World Record  
2323 Meier 2014**  
Hitting the scale

The most unique thing is not that Beni finished 1, 2, 3. Just last year a guy from California did pretty much the same. Actually it would have been strange if it didn't happen that way. Why would the one pumpkin be so much smaller than the others, given the same treatment? Several years ago Christy Harp grew a world record pumpkin and one of the world's largest tomatoes at the same time. Joe Jutras grew a world record pumpkin and world record long gourd in one year too. The unique thing is that Beni grew an even heavier pumpkin the year before. And that hasn't happened before.

One thing is clear though. The professional growers really cashed in this year. Besides Beni, Jos Ghaye and the Paton twins are also professionals. They have the knowhow, the equipment, greenhouses, fertilizers, etc.

- **Jos Gaye set the Belgian pumpkin record at 1840 lbs.**
- **The Paton brothers busted the British record at 1884 lbs.**
- **Janko Lovse beat his own Slovenian record (1751 lbs)**
- **Stefano Cutrupi the Italian record (1726 lbs).**
- **Arnold Horde whipped the Old Dutch record at 1520 lbs.**

In one of the trickiest growing climates in European history it wasn't just a pumpkin year for continent.

- **Herman Boonen of Belgium grew a new European record squash (1287 lbs).**
- **Martin Rudorfer of Germany grew a new European field pumpkin record of 173.7 lbs, to put him right up there in the top of the world.**
- **David Thomas beat the European record for cabbage by a hair at 124.34 lbs.**
- **Iwan Horde grew a new Dutch field pumpkin record at 164.7, which also puts him way up there.**
- **Britians Joe Atherton grew a new world record long parsnip (6.28m/247.3") and long beetroot (6.67m/262.7") while his colleague Peter Glazebrook beat the incredibly difficult record for heavy carrot (20.0 lbs). New grower Tony Glover grew the new WR onion (18lbs 11oz), beating the old record of Peter Glazebrook by 10 ounces.**

As to the ongoing squash and long gourd battle between the Dutch and Germans, well, I beat the Germans on both, but no records were made.

- **Polish grower, Piotr Holewa, beat my long gourd by a fraction of an inch to take the European title (123.86").**

## Frost a Deadly Encounter

**By: Russ Landry,**

Damage to crops, vegetables and flowering plants by frost or freezing temperatures often results in yield losses, lessens appearance, quality and value. Defined **Frost** is the solid deposition or condensation of frozen water vapor from saturated air during cooling. It is formed when solid surfaces are cooled to below the dew point of the adjacent air.

Frost events are often referred to as being either Advective or Radiative. Advective frost is caused by an influx of cold air from passing frontal systems with windy conditions and below freezing temperatures. This type of frost damage cannot be prevented due in part to extreme cold and wind accelerating heat loss. Radiative frosts are induced by excessive heat to the atmosphere. They take place during clear cloudless, calm nights and they often occur in temperatures slightly above the freezing point. Radiative frosts can be mitigated by a number of means.

## Radiative Frosts

Asking a farmer or grower what type of frost that had occurred would simply end in a description of the night air temperature being just got too darn cold for intolerant plants survive. Looking further into the grower's definition it is clear that frost is ice and nothing more than that. However as with all things in nature there are often more details to complete the rest of the story.

There are indeed many ways in which the grower can protect tender plants and safe guard harvest yields from this icy leaf killing marauder. Grower's need to be aware of these protection methods in order to determine if they are feasible and economical for battling frost and freeze damage.

Firstly let's take a close look at exactly what happens to plants when they are exposed to ice crystal frost. Non hardy types of annuals and vegetable plants are most susceptible to this type of frost injury.



These plants will die if subjected to ice forming frost at low temperatures upon their leaf tissues. Plant leaf cells are damaged by sharp protruding and penetrating ice crystals as they form on the leaves surfaces. The leaf cells are ruptured by the sharp crystals. The damage is usually complete and death follows quickly.

There is however some conditions in which these frost intolerant types of plants can survive cooling air temperatures below 32°F. Sometimes, atmospheric air conditions with low dew points may prevent the formation of frost. Lower relative humidity halts water vapor condensation and thus in cooling below 32°F many non hardy plants can and will withstand the chilling injury. Leaf tissues under these conditions remain intact in a super cooled state not affected or injured as the deadly ice piercing crystals have not yet formed upon their leaf surfaces.

## Battling Frosts Icy Blow

There are some points the gardener can consider in order to help ensure the plants survive a blast of nature's chilling air. Either outside or inside the sheltering affects of the greenhouse house or cold frames frost can often occur. It is important to consider that usually the coldest air is always at ground level. Movement of this air upward can prevent frost injury by drawing in warming air from aloft.

Open air heating works in much the same way. We have all seen farmers rush about in winter protecting

citrus crops in Florida from frost. They light open pot fires to create convective air movement and keep the ground surface air warmer. Fans blowing upwards do much the same job. Water sprayed on crops carries with it latent heat and prevents frost from forming on crops. Often even further cooling allows water sprayed ice to develop on the leaf surface. Ice is less damaging due its lack of air entrainment. This prevents damaging crystal formation. Watering or misting tactics can be used on large scale farms or in smaller intensive flower or vegetable gardens and offer protection a several degrees below freezing. Overhead foliar irrigation is very effective in reducing damage of even heavy frost conditions. This often adequately protects yields of early spring plantings or fall crops by extending the growing season.

## Foliar irrigation is very effective

Weather plays such an important role in frost formation. Atmospheric conditions must be just right for radiative type ice crystals to form. Windy conditions often prevent frost formation by raising ground temperatures as the movement of the coolest ground air is replaced with warmer air aloft. A calm and clear night is the gardener's worst enemy. Conversely clouds on cool nights are really the gardener's best friend. Cloud cover prevents radiation of warmth from the ground and the surfaces of buildings. The clouds help to trap warmer air in the atmosphere much like a thermal protective blanket.



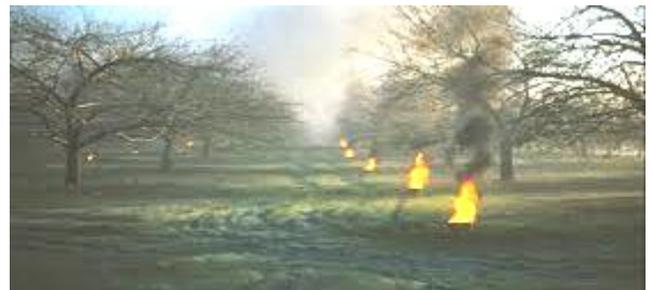
Monitoring air temperature readings is another key important factor. As the thermometer plunges nightly it is critical that the gardener be alerted. Frost ice damaged leaves can occur at temperatures which often appear to be above the freezing point. This is caused by temperature inversions that concentrate the coldest air

near the ground. The gardener needs to be aware that such conditions can exist as high as 36°F. The damaging time occurs most often near or just after sunrise. The sun's warming rays begin to heat the upper atmosphere and further invert the cold air pushing it down to the ground.

## Frost can occur above freezing

When wide spread frost is forecast farmers and growers alike need to spring into action. Implementing and proactively installing a protection plan that will benefit the crop. Erection of covering shelters is often the simplest and best method in frost defense. Shelters made of plastic sheets suspend above the leaf canopy trap heat and prevent its radiation into the atmosphere. Care must be taken to ensure the sheeting or films do not touch the leaf area as this will allow the direct transfer of the exterior cold onto the leaf surface.

Reemay, a protective floating row cover is often used to forestall light frosts down to 30°F. It is a white cheese cloth like polyester fabric that is available in large and small dimensions; it is light weight and can be easily placed over top or suspended above the plants canopy with a rope or spider like network of lines. Reemay can be left in place covering the plants throughout spring or fall period as it allows for light transmission.



The potential damage to a beautiful frost filled farm or garden area will very quickly become apparent as the new day dawns. Blackened frost damaged foliage is the end result of a cold and starry night. It is also the end of growing season for some crops.

However, when trying to determine if frost will form a valuable lesson learned is that it's far easier to cover and protect before dusk than run about scurrying in the night darkness, heating and ventilating. Risking your plants to the deadly encounter of frost will only end in sudden death and ultimately an untimely death

## GVGO Sticky - Leaks

Late Breaking News

### ***Cucumber Mosaic Virus (CMV)***

is a plant pathogenic virus. This virus has a worldwide distribution and a very widest host range of any known plant virus. It can be transmitted from plant to plant both by sap and by cucumber beetles and aphids. It can also be transmitted in seeds and by the parasitic weeds.

This virus was first found in cucumbers showing mosaic symptoms in 1934, hence the name *Cucumber Mosaic*. These include other vegetables such as pumpkins, squash, melons, peppers, beans, tomatoes, carrots, celery, lettuce, spinach and beets, various weeds and many ornamentals and bedding plants. Symptoms seen with the virus include leaf mosaic or mottling, yellowing, ring spots, stunting, and leaf, flower and fruit distortion.

CMV can cause pumpkins to turn pale and bumpy. The leaves of these plants turn mosaic and their surface, becomes wrinkled and misshapen. Growth of the plants is usually stunted and few flowers are produced. Often fruits are oddly shaped.

The virus is easily spread through cultivating and even touching healthy plants after touching infected plants. This virus can overwinter in perennial weeds, flowers and often crop plants by surviving in the roots. In the spring the virus grows with plant and emerges in the top leaves, where it is picked up by insects and carried to other hosts. The virus causes a systemic infection.

There is no cure once the plant is infected No chemicals can not cure a plant of a CMV infection. Control measures for all plant viruses include prevention and eradication. There is no perfect control for the virus. Therefore, every effort should be made to prevent introduction of virus diseases into the garden. However, removing weeds and diseased plants from fields can reduce the chance of infections. Maintaining clean and sanitized tools, machines and hands can help. Crop rotation is often the best control measure

## Foliar feeding

Special GVGO News

**Foliar Feeding** is a method of feeding plants by applying liquid types of fertilizer or compost teas and nutrients directly to the surfaces of the leaves. This may help to increase yields or boost sink health and plant structure and stimulate growth.

Feeding plants with foliar sprays is best used to supplement or help supply difficult to obtain nutrients from the soil and the roots.

Plants are able to absorb most essential elements through their leaves and move some of them into phloem or the plants two way internal river. Foliar fertilizers are also absorbed right at the site where they applied and used, they are usually very fast acting.

Absorption of the topical spray takes place through the leaf stomata and also through their epidermis or skin of the leaf surface. Transport is usually faster through the stomata, but total absorption may be as greater through the epidermis.

Foliar feeding and spraying is best done early in the morning, in the evening or on cloudy days but not if rain is expected. This ensures maximum absorption as leaf stomata generally open at night to respire oxygen and take in Co2.

Leaves are green food factories where the complex chemical interactions of photosynthesis take place and produce the sugary compounds plants need for growth.

Leaf sprays are very highly efficient fertilizers as nutrients have been seen to be transported at the rate of about one foot per hour to all parts of the plants. The effects of leaf sprays can be seen in a few hours.

Growers can regularly spray the both sides of the leaves every 7 to 10 days. After all, foliar feeding is another task to add to that long list of gardening chores.

# Giant Tomatoes

By Bill Foss

Thinking back to what was different than the last couple of years? Besides pruning, I also set this year to lower the PH level of 7.0-7.5, so this was the first year I added peat and sand to the mix. The previous years I was using a lesser quality of potting soil, which may or may not have help in lowering the PH. Unfortunately I didn't take a PH after planting.

Here is what I wrote down when I was mixing things up and after the season. If you think I was cleaning out my older supplies you would be right. This is one of those times I would say don't believe what you read. I sent this out to several growers and my recommendation is to get a bag of Pro-Mix potting soil with Micros and mix that in.

## Garden Preparations

35 x 60 planting area in fall 2013, added several loads of aged compost, Sulfur, gypsum, Manganese. In spring 2014 added gypsum, 30-4-6 fertilizer and Manganese. My Manganese levels had been low for years and I have been bringing it up slowly.

## Tomato planting hole prep.

Dig each hole 2-3 feet in diameter and 2 feet deep. Place the soil to the side.  
In a wheelbarrow add the following for 4 holes.  
Micro ¼ cup  
Pumpkin Pro ¼ cup  
Fish dried 1 cup  
Seaweed Dried 1 cup  
Worm Castings 1 gallon  
Peat 2 gallons  
Sand 2 gallons  
Composted manure 4 gallons  
Composted (leaves/grass) 4 gallons  
Mix thoroughly and put a shovel full of soil back into the hole, now a shovel full of the mix in the hole and mix them together, repeat until hole is full and you have used approx. 1/4 of the mix.

## Plant fertilization/water

I used a mixture of two packs of Uncle Dunkels until I ran out, 1 cup liquid seaweed /fish mix. Sometimes I would add 2 table spoons of Calcarb and Azos in a two gallon sprayer. I would spray the base of the plants weekly when I sprayed pumpkin

vines until around July. I also watered & fertilized them with a hose inline drip system when I felt they needed it. In Sept I did not add any ferts or water we had enough rain to keep them moist.

## Support

Before planting I put in steel T fence post and tied zip ties, one every ½ foot starting at two feet. To this I would tie cord to hold up vines and cloth strips to hold up the tomato.

## Pruning

I didn't start pruning until the plant was several feet high and then I removed all low hanging leaves and usually left two branches. The plants probably were close to three feet before I tied them up. That was a mistake I did a major pruning at that time to remove leaves and branches. My goal was to let my plants grow to five feet with the tomatoes at around three feet. I started all the nice mega blooms where ever they appeared. The 5.84 and 6.61 were about 18 inches, and the 7.1 about 30 inches from the ground. I started multiple tomatoes on all three plants and selected the one I was going with at the beginning to middle of August. I saw Dan's plants on the 22 of August and on the 23 I pruned all my plants back to 40 or fewer inches, removed some branches and leaves to about half and kept all new growth off. At that time these three tomatoes were in the two pound range. I belief that fertilization, pruning, timing, the right mega bloom were the keys to my success. However, as I look back I think a little more attention would have gone a long ways. My early tomatoes were in the 3-4 lb. range and these were for the early weigh-offs or early tomatoes and I have other plants trying to hit the late fall weigh-offs, these were also be in the 3-4 range.

***The GVGO would like congratulate Bill on his great tomato season in 2014. Bill had 3 maters over 5 pounds, one breaking the 7.00 mark at 7.1 Pounds. His other two top tomatoes weighed in at 6.16 & 5.84.***

***We wish to thank Bill for sharing his growing information to our members.  
Phil Hunt - GVGO***

# ANNOUNCEMENTS

## Remembering: **Sally Hunt**

**Sadly Sally** has left us all too soon. Sally was the former editor of the GVGO growers vine, GVGO & GPC director and Pumpkinfest Coordinator.

Hunt: Sally Peacefully with her husband at her side, Sally Hunt (Sara Jeanne Chamberlain) ended her short cancer battle on November 4th at Grey Bruce Health Services. Sal and her family are thankful for the comfort and support provided by everyone involved with her fight, especially the doctors, nurses and staff of the 6th floor and including those who didn't get a chance to visit during the time she had. Sally leaves behind her beloved Rick Hunt and their family of pets in Port Elgin. She is survived by her mother Jan Chamberlain (the late George 2005) of Owen Sound and her three brothers; Michael (Lisa), David (Karen) and Brian (Carolyn). Rick's family, John and Betty Hunt of Carlsruhe and his siblings; John (Darlene), Jane (Maurice), Carolyn (Mark), Margie (Al) and Elaine (Doug) will also mourn her loss. She will be fondly remembered by her many cousins, nephews, nieces and countless friends. Pumpkinfest and Facebook will certainly never be the same.

## Remembering: **John Lyons**

The passing of former Champion Grower John Lyons after long battle with his health came with great sadness to GVGO members. John, father of grower Chris Lyons was a formal WR holder & long time grower of giant pumpkins, squash, LGs & tomatoes. John & Chris grew together for many years & were one of Canada's top growers, winning many events. John was a former member of the Ottawa Valley/St. Lawrence Giant Pumpkin growers & one of the founding members of the GVGO (Giant Vegetable Growers of Ontario). He was inducted into the GVGO Hall of Fame in 2008.



## ***Glycine & Amino Acids***

Amino acids are biologically important organic compounds that can be proteins. Glycine is the smallest of the 20 amino acids commonly found in proteins. It is a colourless, sweet-tasting crystalline solid. Glycine is used in the manufacture of the herbicide glyphosate, a non-selective systemic herbicide used to kill weeds, especially perennials. Recently Glycine has been used as a chelator in foliar sprays. It has been used successfully by Dan MacCoy to carry calcium and other nutrients into his new world record producing tomato plants.



# Prince Edward County Pumpkinfest

Wellington Ontario



The annual Prince Edward County Pumpkinfest was held Saturday October 18<sup>th</sup> in beautiful Wellington Ontario. As usual the parade was a must see event with several thousand pumpkin lovers coming out to see the giants. Although the numbers of AG pumpkins was down slightly this year, given the year we had we were very pleased with the event. Brant and Brandon Timm were the overall champions of the day weighing in there monster at 1675 lbs. The 1675 was grown off the 1789 Wallace (The Freak) and pollinated with the 1985 Miller. Thanks go out to our MC Sue Vincent and our Judge Phil Joynson.

## First Place Results:

Heaviest Pumpkin - 1st 1675 lbs Brant & Brandon Timm Pembroke, ON  
 Bill Greer Memorial Prize Largest Grown in PEC. 1st 731 lbs Dan Langridge Picton, ON  
 Howard Dill Award/Best Looking, symmetrical over 600 lbs... 610 lbs Sarah Langridge Picton, ON  
 4H Award for Heaviest 4-H Mem Pumpkin 638 lbs Shannon Langridge Picton, ON  
 Giant Field Pumpkin - 1st 127 lbs Mike Rusenstrom Bristol, QC  
 Heaviest Squash - 1st 997 lbs Jim & Kelsey Bryson Ormstown, QC  
 Long Gourd - 1st 115 " Todd Kline Shawville, QC  
 Tallest Sunflower 1st 247" Jim & Kelsey Bryson Ormstown, QC  
 Giant Watermelon 51 lbs Noah McGill Picton, ON  
 Giant Tomato 5.46 lbs Brant & Brandon Timm Pembroke, ON  
 Giant Cabbage 1st 74 lbs Noah McGill Picton, ON  
 Giant Rutabaga 29.3 Shannon Langridge Picton, ON

Once again the PEC pumpkin growers will offer their annual seed sale offering. Please check out our web site often for this seed sale posting. The 2014-2015 sale will be up in early December. This is the main fundraising effort for the weigh off. Please support the sale.

<http://www.pec.on.ca/pumpkinfest/>



Noah McGill and his 74 lb cabbage!

# Ontario News & Review

*By: Phil Hunt, east regional rep.*

Well, the 2014 season certainly one for the books. It was one of the coldest, wettest summers that we've ever had. Weights were down for the most part, but there were a few shining stars in 2014. The biggest news of the season though was the passing of our own shining star, Sally Hunt. There isn't much more that I can say that hasn't already been said. Sally was taken from us much too early & we will miss her very much. Like the song says "Only the good die young". I'm sure her star is shining brightly now & will help guide growers to new PBs in 2015. RIP Sally.

The busy weigh off season started off in **Bracebridge** in mid-Sept. Even though it was only its 2<sup>nd</sup> weigh off, it was received well with the growers. The weather was miserable, with a light misty rain all day long. Highlights include winner Joel Jarvis with his 1109# pumpkin, Todd Kline – 136.75" LG (Que. Record) and 140# field pumpkin (Ont. Record at the time) by Jane & Phil Hunt.

Next on the list was **Pembroke**. The big story there was Brant & Brandon Timm. They weighed a 6.89 pound tomato and 153# field pumpkin (new Ontario Record). Todd Kline took top honors for pumpkins with 1308 pounds, while Al Eaton took top spot for long gourds with a 127.56" beauty.

**Port Elgin** was the next weigh off on Oct 3rd. The story there was the double win by Todd Kline. He took top honors with his 1507 pound pumpkin and 1279 pound squash. This is only the second time that a grower has taken top honors for both at Port Elgin. The 1<sup>st</sup> time it was accomplished was just last year with the Hunts. Congrats also to my friend Paul Dettweiler who placed second with a new PB of 1499.6 pounds. Way to go Paul. Once again the Ontario field pumpkin record was broken, this time by John Butler at 159#. John Nieuwenhoff placed 1<sup>st</sup> with a 128" LG. A new category was introduced this year & Rutabagas were chosen as the featured other vegetable. There were some big Rutabagas being weighed, but in the end, Eric Sundin set a New Canadian Record at 96.2#. The Hunts took home the top prize for cabbage at 81#.

**Sunday's action at Port Elgin** (Non-GPC site) saw Paul Dettweiler take top spot with a 1411.6 pound Pumpkin. Doug Court scored a 1<sup>st</sup> place finish with a 976# Squash & 1<sup>st</sup> with a 3.51# tomato. The Ontario field pumpkin record was broken for the 4<sup>th</sup> time this season, with Bob Mackenzie weighing in a 160.2# beauty. Bob also took top honors for cabbage (69.4#). Other winners include Marv Mitchell (157.8# Watermelon, 108.25: LG, 294" Tall Corn, 23" Sunflower face & the longest ear of corn), Jean Marshal 201.75" Tall Sunflower, Madison Ashton 29.3# Rutabaga & Courtney Ashton with the weirdest pumpkin.

Next on the list was the **Erin Fall Fair**. John Nieuwenhoff took home the top award for pumpkins at 1389#, while Mike Jammer claimed the top spot for squash at 219# & Brian Cleave won 1<sup>st</sup> with a 125# Field Pumpkin.

The next weekend seen the action move to the **Woodbridge Fair**. This **Team Lunatic** sponsored event was taken up a notch this year, as Bryan Mailey (Head Lunatic) took nothing for granted to make sure this was the best weigh off Woodbridge Fair has ever held. This year's winner was Fred Hain with a 1322# pumpkin, while Paul Schweigert from NY took home the top prize squash at 638#. Other notable winners were a 123.5" LG by John Butler a 96# Watermelon by Eric Sundin. Jane & Phil Hunt of Cameron scored big wins with a 4.77# Tomato, 96.5# Rutabaga (New Canadian Record) and last but not least a 175# Field Pumpkin, smashing the old Ontario Record for the 5<sup>th</sup> time in 2014.

The last GPC event of the season had Ontario growers migrate to the Prince Edward County area to attend the **Wellington Pumpkinfest** festivities. This weigh off features a parade, which includes many of our growers and their pumpkins. It's always a big hit with the kids as growers toss candy to the children along the route growers. Although we missed this year's events, the parade was always our favorite part. The community really supports the parade as hundreds of people flock to the small village of Wellington to watch & support it, rain or shine. This year's champion was none other than Brant & Brandon Timm with a 1675 pound monster, the largest weighed in Canada in 2014. They also took home the top prize for Tomatoes at 5.46#. Way to go guys. Other winning fruit were a 997# Squash by Jim & Kelsey Bryson, 115" LG by Todd Kline, 51# Watermelon by Noah McGill & a 127# Field Pumpkin by Mike Rusenstrom.

# Mater Matter's

In other note Phil Joynson took top honors at the **Keene Pumpkinfest** with a 1284 pounder.

The last & final weigh off of the season was the **Royal Winter Fair**. This year's winner was Chris Lyons with a 1270.2# pumpkin. Chris also grew a Turnip that just missed the World Record by 1 pound. It weighed 38#. Matt Rabbie took top honors for Watermelons with a 201.6# monster. Joanne Borcsok was named The 2014 RWF Grand Exhibitor. Congratulations Joanne.

## The **GVGO Auction**

will be held early in the New Year. Our goal is to have it on a Sunday afternoon @ 1 pm. This will allow our members and friends to attend from the USA and overseas in Europe. The line-up will offer bidders the chance to get one of today's hottest seeds. The great part about winning your chosen seed or lot is that not only do you get the seed you really want to grow, but it also helps support the club and the many weigh offs the GVGO supports every year. A special thanks to those who have supported us in the past. We hope that you continue your generous support in the future. Thanks.

**In closing, I would like to thank the GVGO executive & all the growers who organize & volunteer at our weigh offs. Without your help, your drive & support none of this would be possible. It's people like you, who aren't afraid to take on a new challenge, that make this club & our hobby second to none. We are always looking for help when it comes to volunteering at weigh off sites &/or with Club activities & the fundraising auction. Why not donate a few hours a year to help out. Thanks for your consideration.**

The pruning of Dan MacCoy's mater plants is really about removing apical dominance. This is basically removing the topmost shoot of a plant. Apical dominance is controlled by the production of plant growth hormones (auxins) that are developed in the plants leading shoot. These auxins inhibit and slow the growth of other branching and lateral shoots. Removal of this top most dominant shoot, results in a lowering of auxins throughout the rest of the plant. In turn this allows new lateral shoots to be produced that are more vigorous and robust. This Forces the lower branches and architecture of the plant to become stouter instead of being restricted by the apical dominance of the inhibitory auxins. Simply the other parts the plant become larger and vigorous than they normally would develop.

The result is a plant that has more full-bodied vascular systems. Thus apical pruning alters the basic design of sink source relationship. The pathways leading into the potential new fruit of the other parts of the plant develop bigger than they normally would have become. So that's the simple reason why the excessive pruning of the 8.41 tomato plants was very successful. **Forcing the plants vascular systems and structures to grow bigger therefore signals vine plants to develop bigger and larger fruit.**



# GVGO



## Master Grower Levels

- Pumpkin - 1400 lbs**
- Squash - 1150 lbs**
- Long Gourd - 120"**
- Watermelon - 200 lbs**
- Tomato - 4.5 lbs**
- Cabbage - 60 lbs**
- Corn - 275"**
- Sunflower - 250"**

# GPC Rules

## Article I weigh-off sites

**Get your jacket soon!**

5) The GPC requires each of its sanctioned weigh-off sites be open to all growers who wish to participate. Each site may have their own registration fee as long as these fees are equal for all growers wishing to enter. Each site may have their prize payout structure as they choose as long as the main prizes are available to all growers entered in their weigh-off. The main prize structure shall be defined as the majority of the money and prizes available for all competing growers. Sites may, at their own discretion, offer additional regional bonuses not to exceed the value of the main prize structure.

### What are the biggest mistakes a rookie grower can make?

Simply over & under care are chiefly the two most common problems a novice grower encounters. Over watering, too much fertilizing and incorrect dosing. There is very famous saying in the pumpkin world and that is stop being a "more-on". Fiddling about the patch and fretting about things is a large issue. Growing giants is often an exercise in patience. The old saying time heals all wounds lends itself well for a grower. Let the plant tell you when it needs water and fertilizer by reading the leaves. Always use the correct dosage and measure twice before applying any supplements to the plants or soil. Above all only grow enough plants that you actually have time to care for. Lazy growers produce plants that have poor care. If you truly want to grow a giant pumpkin it takes on average an hour a day per plant throughout the growing season.

A) The GPC rules will be strictly enforced for weights, fruits soundness, certification of scales, and color as stated herein.

B) Each site will be responsible for providing no less than 3 and no more than 5 judges.

C) Judges for a weigh-off will consist of any combination of the following: club/grower representative, site coordinator, and site representative, and two experienced growers.

D) All judges' decisions are final. All judges will be responsible to have a complete knowledge of all rules and how to implement them fairly. It will be necessary to have a current copy of the rules present at each site in public view so anyone may reference them

E) If any Judge has his/her entry in question or cannot be present the day of the weigh-off, they will be excused from the Judges panel and another will be appointed in their place from the above mentioned guidelines.

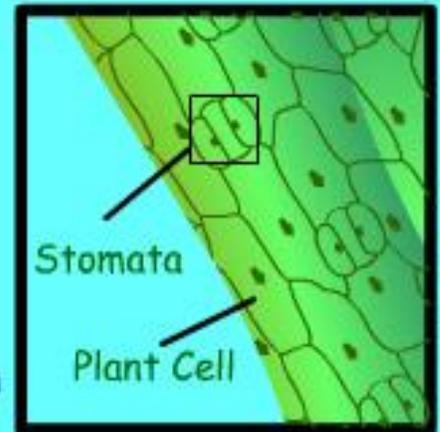
# GVGO

# How Transpiration Works

## Transpiration

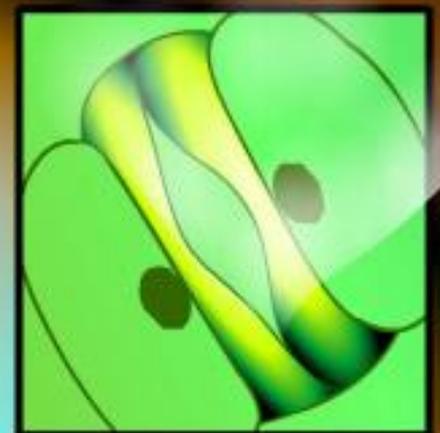
Water vapor escapes through open stoma (singular = stomata), mainly on the undersides of leaves.

Play



Water moves up the stem through the xylem vessels, which conduct water and minerals to the leaves.

Guard cells open, creating a pore through which water vapor can escape.



Water is taken in through the root hairs.

Photo Credit: Ian Paton

# Jack the Pumpkin Grower

**By: Rocco Brewer**

Fall is here and well under way again thanks to a chilly another November. The clocks have rolled back and the "Frost" has long since shriveled the orange and green masses of fruit Jack grew in the summer's warmth. At his best another type of Jack, sends an awakening message to all growers to arise from their early fall slumber. You see, Jack's pumpkins and his patches are not winter hardy. For, Jack Frost the enemy is nipping at his heels. The early slippery snowfall reminds Jack the Grower of this perilous chilly fight as he ply's the wet mucky soil that lies within his patches.

Preparations for seasons to come have begun in earnest for most of Jack's counterparts. Seed gathering has many a Jack, scampering up to October 31st for the kitchen carving set as Halloween fast approaches. Their shelves are becoming burgeoned with tan coloured seeds as the prospects of tomorrow dry in the solitude of a dark and dingy basement corner.

Slicing and dicing takes with it a certain finality of the season just past. With all types of organic matter strewn about the patch Jack flounders toward the ever shortening days as he watches the plummeting thermometer. Hopes of the great pumpkin having long since been abandoned and faded quickly away, his dreams of a Giant lay perched in a lofty cloud as his thoughts turn to the coming holidays and all its fancy trimmings.

Yes, the calendar says it's time for the annual chore of soil enlightenment. Pumpkin patch preparations are but another spade to be turned over in his hunt for the holy grail of God's greatest and largest member of the vegetable family. His search has started once again as the next harvest date is set far off in the future. Growers and Jack had gathered at weigh-off sites all over the province. From Port Elgin to Woodbridge they displayed their progeny in hopes of a first place ribbon.

Friendships are renewed, secrets are exchanged and deals are made for seeds that would enable any poor soul to capture poor Jack's Beanstalk in the palm of his hand. Jack's search for the big one has begun the moment the tail gate dropped on his pickup truck at Port Elgin. Garnering that special,

prized seed is considered the crowning moment in a grower's career and Jack has come of age.

Finally arriving at fork in the road along the edge of oblivion, Jack the pumpkinator has fresh hopes of landing the Golden Goose from the most monstrous Giant in next year's seed line up. Similar to his favorite sports card collection there is always a bunch of favorite seeds Jack has coveted. Amongst the vines of future years he envisions Meier and Wallace sprouting about the hoop house.

Quickly scurrying away and harboring his labor of love is the memory of sweat and tears gone by. No amount of vine burying can shield him from the encroaching winds of winters burgeoning seasonal change. The fall is fast coming to an end and the birds have long since departed. The emptiness of his garden is replaced by the storage bank held within each weighty seed. Encased inside the shell is the pod of Jacks favours and entry up the stock.

Another generation of heavy Giant genetics, pure bred orange and yellow is stashed away in most cases for an eternity. Never will they battle the microbes, break ground or venture skyward. Holding on the runway for takeoff is the main form of employment for most of his seeds. The exception for that special seed is germination with destiny in the Garden of Eden and a chance at what Jack has traded his prized cow for a certain date with a giant.

Of course many of Jacks friends trade seeds and chase that cherished bovine for other profitable reasons. The dung of the domesticated hoofed beast of course provides the riches of nutrients and humic organic matter to fill the harvest void left in the blackened fall soil. A mixture of which can enable any of Jacks good seeds the chance to plunge a root earthward in search of a nutritious meal. This Jack has now become a gatherer as he shuns his beasts of burden. He squirrels away not only seeds for another time but organic matter for another run at glory and a runaway scale.

Most would consider the New Year as the start of a new beginning. For Jack, the newly renowned pumpkin grower the year has already begun. His misplaced energy is focused on the belief that more is certainly better. When it comes to seeds and organic matter there are never enough of these two vital components for they are the gold he seeks. No domesticated livestock feces are safe in Jacks encrusted and shovel filled hands. At this soon to be frigid time of year he can be found mashing about in his patch.

A giant lurks far in the distance and it's only a small seed away. His trusted cow is swiftly swept away to greener pastures. This may sound like a pile of crap. But that's the fairy tale ending of this story. As Mr. Jack Frost now approaches and winters fury begins raging the storms signal Jack the grower to retreat to his den while waiting the dawn of a new season.

The simple pleasure of soil prep, seed procurement and storage has lead Jack on a new journey up the beanstalk to find the Goose, That Lays the Golden.....Pumpkin...

## Canada, East Coast

By: Dawn Northrup

It's that time of year that everyone has been waiting for where the pumpkins have been nurtured and the fruits of their labour have paid off. It's time for the pumpkins to hit the scales. Let the weigh-offs begin!

Pumpkin growers from around the Province made their way to Neguac on September 21st for the 20<sup>th</sup> annual pumpkin festival. It was a beautiful warm day; the autumn leaves were glistening in the sun as pumpkin growers made their way to Neguac. There were 17 entries this year. Charles Ebbett and Daryl Tingley battled it out for second and third spot. Charles came in third with a weight of 959. Daryl took second spot with a weight of 978. Bill & I won the weigh-off with a weight of 1352 pounds. Charles Ebbett won the Howard Dill award for prettiest pumpkin and also had a new personal best with his field pumpkin weighing 138 pounds!



The next weigh-off was on September 27<sup>th</sup>. This was the 6<sup>th</sup> Annual Annapolis Valley Giant Vegetable Growers – Glad Gardens weigh-off in Waterville, NS. It was a beautiful warm sunny day as pumpkin growers came out for this exciting event. There were 17 entries this year. Bill & I took third spot with a weight of 972. Brian Keannelly secured second with a weight of 1015 and Gerard Ansems won with a whopping 1297 pounds. Paul Ferguson won the Howard Dill Award. John MacKinnon set a new Canadian Record with his field pumpkin with a weight of 197 pounds!

### The Food Network flew in from NY to film this exciting event!

The next day's weigh-off was on Sunday September 28<sup>th</sup>. Growers travelled to Edmunston, NB on a beautiful sunny warm day. The autumn leaves were gorgeous! Thousands of spectators came out to watch the event! There were 14 entries this year. Gail Ebbett came in third with a weight of 879.5. The crowd watched in high anticipation as they took our pumpkin to the scale. Everyone was in disbelief as the scale read 1001 pounds. Our pumpkin went 18% light! Daryl Tingley won with a weight of 1156.5. Bill & I won the Howard Dill Award.



The 30<sup>th</sup> Annual Pumpkin weigh-off was held in Windsor on October 4<sup>th</sup>. This was a very exciting weigh-off! We got to see a new world record hit the scales! A field pumpkin grown by John MacKinnon hit the scales and weighed a whopping **World Record 211 pounds!** Congratulations John!!



There were 17 entries this year in the pumpkin category. Daryl Tingley and Andrew Ansems tied for third spot with a weight of 1117. Will Neily secured second spot with a weight of 1118. Bill & I tipped the scales with a whopping weight of 1389.

**John MacKinnon**  
**World Record**  
**Field Pumpkin**  
**211 pounds**

**GVGO**

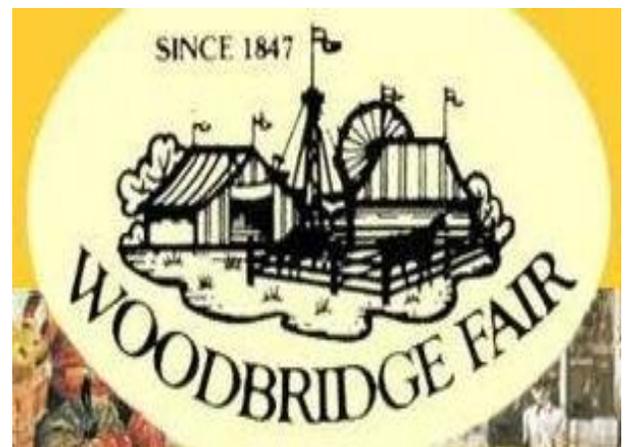
**Erin Giant Pumpkin Growers**



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[www.ErinGiantPumpkinGrowers.weebly.com](http://www.ErinGiantPumpkinGrowers.weebly.com)

[www.ErinGiantPumpkinGrowers.weebly.com](http://www.ErinGiantPumpkinGrowers.weebly.com)



# GPC Update

by: John Vincent  
GPC Vice President

The 2014 season has come and gone and what a banner year it was for the GPC. We expanded this year to **101 sites worldwide**. We now boast sites in **Japan, Australia and Tasmania, the former eastern bloc country of Slovenia**, as well as expansion in Europe, the US and Canada. We were pleased to add the Bracebridge fall fair to our list here in my region.

**Beni Meier and his new world record at 2323.7 is now well known and the bar is now set extremely high. Beni has proven that learning to master ones environment is the key to growing big pumpkins.**

Several other New World Records were set in 2014 including:

**Squash at 1578 by Scot Holub**  
of Eugene Oregon.

**Field Pumpkin at 211 lbs, John Mackinnon**  
of Strathlorn Nova Scotia

**Tomato at 8.41 lbs by Dan MacCoy**  
of Eli, Minnesota

The GPC annual convention and awards show, affectionately called the “Big Show” will be held this year on March 20<sup>th</sup> - 22<sup>nd</sup> in Wilkes-Barre, Pennsylvania. This is easy driving distance for us here in Ontario and the new venue is allowing us to substantially cut the prices for the convention and

accommodation fees. We look forward to seeing many Canadians there.

The GPC continues this partnership with the NYBG (New York Botanical Gardens), bringing the largest pumpkins in the world to be displayed and carved in the Big Apple. If you are lucky enough to grow one of the big three, this is a trip you won't want to miss out on.

## Dave Stelts

There will be some changes in the GPC executive this year. **Long sitting member and GPC president Dave Stelts will be stepping down this year after 9 years on the committee.** The new president is to be announced at a later time. I personally have another two years left in my term on the committee at which time I will be stepping down. I am actively looking for a replacement to take over my region in January of 2017.



Check out the web site and follow the links:

[www.greatpumpkincommonwealth.com](http://www.greatpumpkincommonwealth.com)

***Bracebridge Fall Fair & Horse Show***

# The Big Show

"Honouring the past, preparing for the future"

The GPC 2015 Edition of 'The Big Show' will be in Wilkes-Barre, Pennsylvania at the Gennetti Best Western Hotel. The seminar will be held March 20th, 21st and 22nd, 2015.

If you didn't attend in 2014, you missed out!



## Registration Information

Registration form must be completed in full then turned in with payment – [form](#) – make a copy then e-mail to [jim@gpc1.org](mailto:jim@gpc1.org) & [kelly@gpc1.org](mailto:kelly@gpc1.org)

## Rate Information

- \$95 Full convention including all 3 sessions, soft drinks at all times, Friday night networking room, Saturday night awards show, & lunch on Saturday – does not include Friday & Saturday dinner buffets.
- \$145 Full convention including Friday & Saturday night dinner buffets, **THIS IS A \$20 DISCOUNT.**
- \$30 Friday night "Dinner & a Movie" Italian buffet – Extra meal & not included in full convention fee for \$95.
- \$40 Saturday night awards show premium buffet – Extra meal & not included in full convention fee for \$95.
- \$20 Saturday lunch buffet – Extra lunches for those who did not purchase the full convention fee & want to join a full registrant for lunch on Saturday.\* **Hall of Fame members, Biggest Over all Champions, & Grower of the Year Champions have their full convention fee**

of \$95 covered. This does not include any meals that are offered besides the full convention fee costing \$95 these extra meals will need to be purchased separately. The extra buffet meals are the Friday night "Diner & a Movie" (\$30) & Saturday Night Award Show (\$40).

## Reservation Instructions

- When calling to make a hotel room reservation call this number: **570-823-6152**, then press **1**. The group number is **1286** or say that you want to reserve under the Great Pumpkin Commonwealth room block.
- All staying at the Gennetti Hotel will have a complimentary hot breakfast buffet for the morning after each night of stay.
- BEST WESTERN Gennetti Hotel & Conference Center 77 E Market Street

Wilkes-Barre, Pennsylvania, 18701-3116  
<http://book.bestwestern.com/bestwestern/US/PA/Wilkes-Barre-hotels/BEST-WESTERN-Gennetti-Hotel---Conference-Center/Hotel-Overview.do?propertyCode=39036>

- The GPC asks that you make your reservations using our room block. This allows the GPC to offset costs and keep them as low as possible to our attendees.
- The GPC reserves the right to charge \$50 extra for each registration if you are staying in a room booked outside the GPC room block.
- Registration will increase \$50 on 3/1/2015.
- Please be mindful of our deadlines we must make our food & beverage orders so we need a hard count for attendees by these dates. Reservations can be made after the cut off dates but these cost us extra to add so please be prompt with your reservations.
- Deadline for food head counts are 2/28/2015 the GPC cannot guarantee meals after this date. The GPC reserves the right to charge \$10 extra for each meal purchased after this date if we still have meals to offer.
- Please use the Paypal account for payment, if you do not have a PayPal account there is a place to use your credit card as well. If you prefer to pay by check or money order made out to the GPC (US only please) mail it in with your completed registration form to:

Jim Sherwood  
PO Box 273  
Molalla, OR 97038



## Delectation of Tomatoes

### 3.75 Catapano BZ 07 Update

By: Dale Thurber

Just curious if you anyone out there is growing under plastic? Cool and wet indoors seems to make all kinds of fungi thrive. A few weeks ago in early November I still had 36 tomato plants growing, producing large tomatoes and even putting out new blossoms in my unheated high tunnel house. But every single plant had fungal disease by then. I kept it closed up all day and all night so the humidity is always very high. Around here, most summers are hot and dry so blight and other fungal diseases are rarely a problem.

With cooler weather now on Nov. 2nd, the Big Zac (3.75 Catapano 2007) is really not doing much except growing fungus. I plan to harvest it in the morning and take it in for a certified weight. Unfortunately, the GPC rules prohibit consideration of any tomatoes harvested this time of year. The "Early Tomatoes" entry is only good for specimens harvested before October 1st; after that, tomatoes must be submitted at an official weigh-off site.



Here in this part of Utah, October is usually the best tomato growing weather, though 2014 has been an exception because of much cooler than normal summer temperatures. That Big Zac (3.75 Catapano 2007) vine was very impressive. Since I didn't really observe any huge mega blooms, I didn't initially track (measure on a regular basis) any tomatoes. But it still put out tomatoes of 1.788, 2.394, 2.628, 2.745 and 4.670 lbs. progressing up from truss #2-6; The 3.75 plant did have an impressive mega bloom on the 1st

Truss which turned out to be a dud that never grew. It died because I couldn't get enough pollen to it.

The 4.670 tomato was 24% heavier (almost 1 lb.) than any Big Zac I've ever grown, and I've raised a LOT of Big Zacs over the past few years! It turns out that my taped circumference measurement along the Z axis was off by quite a bit when I tried to measure while this tomato was still on the vine. Standard Caliper measurements (difficult with large tomatoes – caliper arms are not long enough!) put this one estimated at 4.746 lbs., 3 CC's at 5.136 pounds, GAF-adjusted 3 CC's estimated 4.751 pounds, and finally 1 CC (23.27") put it at 4.352 pounds. I didn't even start tracking the 4.670 fruit until October 4th and I estimate harvest at 71 days after fruit set. It grew on truss #5, with several tomatoes already being harvested on the 3.75 plant.

## 24% heavier (1 lb.)

The plant did not get any special attention other than topping it off when the tomato was already at least 30 days along. Using Dan MacCoy's strategies, I think this line has as good of chance as any at pushing the envelope!

**Big Zac (4.670 DT 2014)(3.75 Catapano 2007)**  
*Utah State Record*, certified and witnessed.

Actually it's a bit embarrassing to break the state record four times in one year, because so few people here are even very serious about growing giant tomatoes. Now giant pumpkins in Utah are another matter! In 2013, more pumpkins were submitted at the Thanksgiving Point (Lehi, Utah) weigh-off than at any other sanctioned GPC site in the world! Don't know about 2014 yet (Despite heavy rain all day, it looks like #3?), but that's pretty remarkable considering Utah is #33 of 50 in terms of population!

Anyhow, 2014 turned out very well for growing big tomatoes around here! If you've not seen it, here's the updated list of the big ones from this year:

[http://www.gianttomatoseeds.com/dt\\_seeds.html](http://www.gianttomatoseeds.com/dt_seeds.html)

**Note:** Dale grew 80 tomatoes over 2 pounds this year

Thanks, and better luck next year!

**Dale Thurber**

3170 W. Lehman Ave.

West Valley City, UT 84119

## ANNOUNCEMENTS

**We continue to actively seek proven seed donations for this coming auction season.**

Donations can be sent to Chris Lyons or Peter Burdon they will be happy to include them in the coming GVGO fall auction events.

Phil J. at [gvgo@outlook.com](mailto:gvgo@outlook.com)

## Membership

**Don't forget to renew today**

PayPal to [gvgogrowers@gmail.com](mailto:gvgogrowers@gmail.com)

Email Direct transfer to [gvgogrowers@gmail.com](mailto:gvgogrowers@gmail.com)  
or by mail with check.

Please with payment to:

GVGO  
C/O Jane Hunt, Treasurer  
4376 Hwy 35 N  
Cameron, ON. Canada.  
K0M 1G0

## Exudates

An **exudate** is a fluid emitted by plant roots. These fluids help beneficial fungi thrive on the surface of plant roots. The fluids develop through pores or wounds, in a process known as exuding. **Exudates** include sweat, plant sap, root **exudates** and or microbial **exudates**. Composition of **exudates** varies, but generally they include water and the dissolved sugars of the main plants circulatory fluid such as sap.



## BEETROOT

### 2015 featured other vegetable

At the last seminar gvgo'ers picked beets for this contest for 2015. Swedes were the fruit picked in 2014. This proved very popular with some great results and a new provincial record. Most growers on the patch tour seemed to have a few growing. Let's all try Beets! We will have two categories Red Beet and Fodder Beet

### Request your GVGO now has seeds



John Evans, Alaska 42Lbs, 12oz

Thanks  
to all our club volunteers  
we couldn't do it without you

# Eatons Pedigrees

by: Al Eaton2014

## Top 30 Atlantic Giant's & 6 ancestors before the mother

Another great year has come and gone and now it is time to look at the question. Where did these Atlantic Giants (AG's) come from?

On the mother's side of the pedigrees are 2 "grandparents" and 4 "great grandparents". Using those 6 ancestors and the top 30 GPC AG's we can look at this aristocratic gene pool of 120 ancestors. The results below give a good picture of our modern gene pool of AG survivors and the growers who produced them.

**2013** 220 DeBacco---- 2 CT

**2012** 2009 Wallace ---- 15 RI **WR**  
 1472 Mathison -- 1 CA  
 1756 Lancaster -- 1 MA  
 1623 Wallace --- 1 RI

**2011** 1554 Mathison --- 5 CA  
 1278 Goetze ----- 5 MA  
 1789 Wallace ---- 4 RI  
 1494 Bordsen ---- 3 CA

**2010** 1409 Miller ----- 25 CA  
 1674 Marsh ----- 6 SD  
 1548 Marsh ----- 4 SD  
 1810 Stevens ----- 3 WI **WR**  
 1622 Liggett ----- 3 OH  
 1596 Werner ----- 3 PA  
 1554 Rose ----- 2 OH  
 1495 Stelts ----- 2 PA  
 1634 Werner ----- 1 PA  
 1381 Checkon ---- 1 P

**2009** 1725 Harp ----- 30 OH **WR**  
 1658 Young ----- 7 IA  
 1622 Young ----- 7 IA  
 1421 Stelts ----- 4 PA  
 1462 Starr ----- 3 OR  
 1303 Sweet ----- 3 MI  
 1544 Revier ----- 1 MN  
 1488 Marsh ----- 1 SD  
 1236 Harp ----- 1 OH

**2008** 1288 Wallace -----5 RI

**2007** 1385 Jutras ----- 24 RI  
 1161 Rodonis ----- 4 NH

**2006** 904 Stelts ----- 2 PA  
 985 Werner ----- 1 PA

Totals -- 180 positions,  
 -- 33 individual AGs, grown in 13 states  
 -- 21 Growers

These 33 AGs were all grown in the USA and a list of the 120 positions follows:

RI=49 OH=36 CA=34 PA=14 IA=14 SD=11 MA=6  
 NH=4 OR=3 MI=3 WI=3 CT=2 MN=1  
 Totals = 180 positions and 13 states

## 7 growers have multiple AG's in this club

<b>Wallace - 4</b>	<b>Marsh - 3</b>
<b>Werner - 3</b>	<b>Stelts - 3</b>
<b>Mathison - 2</b>	<b>Harp - 2</b>
<b>Young - 2</b>	

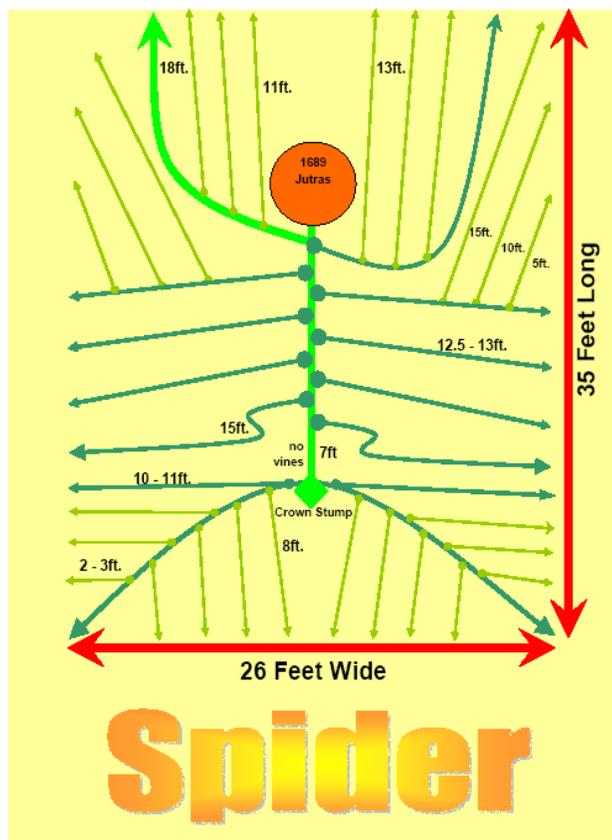
Every year, from the thousands of AG seeds started, there are a relatively small number that make the top 30 on the GPC list. The top growers get a lot of attention and it is well deserved. At the same time the extreme competition between AGs in the gene pool results in most seeds being eliminated. The list above shows the top survivors. Growers of the above survivors get special recognition; enjoy seeing their names on the list.

This is the first year growers have been able to cross a 2,000 pounder with different 2,000 pound pumpkin.

## The 4k Cross List

Weight (lbs)	Grower Name	Seed (Mother)	Pollinator (Father)	OTT	Est. Weight	Pct. Chart
2,323.7	Meier, Beni	2009 Wallace	2328 Meier	479	2035.0	14
2,096.6	Meier, Beni	2328 Meier	2328 Meier	463	1902.0	10
1,928.0	Globus, Rob	2032 Mathison	2009 Wallace	473	1979.0	-3
1,873.0	Steil, Scott	2009 Wallace	2328 Meier	449	1779.0	5
1,751.5	Vincent, Gary	2032 Mathison	2009 Wallace	447	1762.0	-1

# Pruning Patterns



*Growers Vine* is published each spring, summer & fall.

Produced by Editor: Russ Landry

Major contributors to the growers vine

Dawn Northrup, Al Eaton, John Vincent, Phil Hunt, Dan MacCoy, Bill Foss, Dale Thurber, Scott Holub, Phil Wellington, Dave Stelts, Phil Joynson, Brad Wursten, Rocco Brewer Don Crews & Russ Landry.

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For information, comments or content reprints

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# CO<sub>2</sub>

It is well known that a CO<sub>2</sub> levels in the air between 700 and 900 ppm helps to improve crop development and boost harvest yields. Most ornamental plants grown for flowers or foliage optimally develop best at about 800 ppm. For many fruits and vegetables, including giant pumpkins the ideal CO<sub>2</sub> level in the garden greenhouse should be at least between 1000 and 1200 ppm.

## PUMPKIN CRUISE IV

**Pumpkin Cruise IV  
Coming in 2015!**

For info Contact: Joan Gibson

330 222-2215

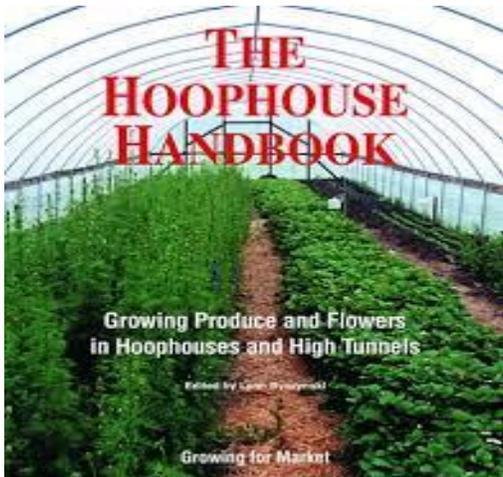
ptcounselor@msn.com



# Greenhousing it

by: Ron Barker

To start things off when I moved to our current location, there was a vision of growing in a large greenhouse. The dream started to evolve in the 3<sup>rd</sup> year at the new location. I started by making my temporary greenhouses a bit bigger than the typical mini hoop houses we traditionally used to start our plants. In the beginning looking through the diaries on Big Pumpkins.com I found an excellent resource for greenhouse building ideas.



Having a former world record holder living and still growing just a few short miles away helped. With another good friend and grower Stan Pugh just a few more miles away I felt my location for success was set. I followed and took in what I could from reading the diaries of Stewart and Ian Patton, Dale Marshal. Along with Stan's suggestions they had many tips about growing and especially starting seedlings in greenhouses. Then I expanded my search for information about greenhouses to Tenino, Washington and the home of Jack La Rue's and then onto Mulino Oregon and Jim Sherwood.

The more greenhouse plans I came across the more I dug into indoor growing. Someday I wanted to Design, build and grow my plants primarily in the greenhouse and not just for the few weeks in the early part of the season. I couldn't wait to get started on my greenhouse plans.

After increasing the length and width of my three smaller greenhouses to 20' by 25' I started putting a new larger 20' x 60' greenhouse building up. Shortly I was faced with the new season starting; already I had the three smaller hoop houses ready to go. However

the big house didn't have the ends up yet and it was now time to put the plants in the ground. As the season went along I placed three plants in the newly finished larger house and one each into the smaller houses.

Most of my learning to grow inside the greenhouses came with the cost of low weights in my first two years. **The plants had to deal with huge temperature swings. There were other control issues, either it was too hot or too cool, not enough air circulation or disease problems developed along with poor lighting, and not to mention difficult access to the pumpkin plants and so on.**

The question became how a greenhouse grower could really make a jump in pumpkin sizes if all these things couldn't be properly regulated. Outdoors local growers didn't have to control nearly as many issues. Despite this after that first indoor season my weights had gone up. Other grower's weights remarkably just went crazy big that year. First the 1818 came along then the next year 2009 and then 2032 last year. The benchmark weight standard of 1000 lbs. very quickly grew to 1400-1500. Even now a 1600 pound pumpkin may not crack the top 50 in the GPC world rankings.

## Make a jump in pumpkin sizes

Back to the drawing board I went. My search continued for more greenhouse information to better improve the size of my pumpkins. At the GPC event in Orlando it was announced that Beni Meier was going to speak on how he grew the 2328 in a greenhouse and Russ Landry on what it is going to take to get to the next level. It seemed this seminar was tailor made for my pumpkin requirements.



Beni Meier's greenhouse includes hand operated roll up sides and fully automatic venting and a fresh 8" layer of compost

The speeches in Orlando really impressed me and if you are anything like me you can't get enough of good growing information. So I asked Russ if he could come and speak at our club spring meeting. After picking him up I took him on a mini pre season local patch tour. When he viewed my patch he gave me some real good advice concerning growing in green houses and some good things to help combat diseases associated with green house growing. He told me about the Maximum Yield the magazine he writes for and its resource articles for growing indoors.

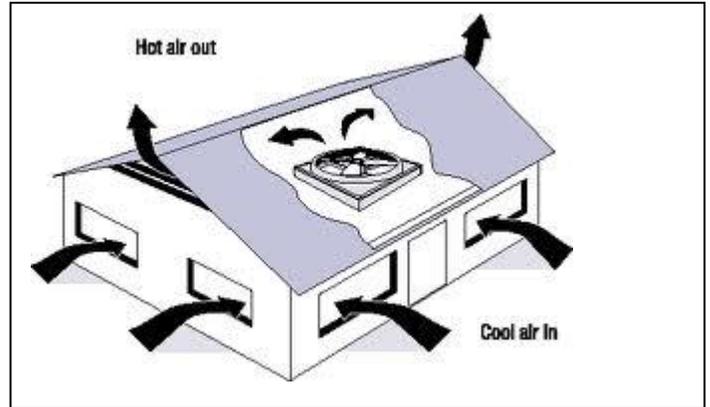
With the new information I gathered from the Orlando seminar and some new products such as Root Shield, Advanced Nutrient products and a balanced soil I felt 2014 season could be a big change for the better in my beleaguered pumpkin patches. During the summer I discovering some additional greenhouse issues that I hadn't considered before. **Low Carbon Dioxide (Co2) levels often slow growth in green houses. This is caused by tight internal air exchange as the plants gobbled up Co2 the ppm levels decreased.**

## ***Low Carbon Dioxide (Co2) levels often slow growth in green houses.***

By the seasons end I had heard rumors that Co2 was used during the season by the current world record holder whom had grown 3 pumpkins over 2k pounds. Still in spite of this, my pumpkin weights had improved considerably. Now with three pumpkins that taped greater than 400 inches and a new PB of 1424.5 lbs is was getting closer to the heavy hitters.



So incorporate Co2 into my greenhouse without a huge expense was now a needed measure. I also wanted to control the temperatures in the greenhouse while insuring good air circulation. Much to my surprise there is a new grower in our club has offered to help me wire and set up a system to warm up the greenhouses to optimum temperatures and lower them when it's too hot.



Basically the optimum temperature range for the growth of giant pumpkin is 75 - 90°F. Above 90 degrees the plant tends shut down by closing stomata to conserve moisture. Working to set this system up during the winter is now a rather important priority. The other item remaining was how to get higher ppm levels of Co2 into the greenhouse. Not spending a fortune in manifolds, meters, lines, timers let alone paying for the Co2 throughout the season became a huge consideration.

Talking with Russ, Ian and Stewart I found out the right amount of Co2 for the plants could be as high as 1000 ppm. The trick was going to be to deliver a cost effective climate to the plants on a consistent basis. Looking through the Maximum Yields latest edition it hit me SUDDENLY. Russ had mentioned a Co2 product before and it blew right by me. TNB Naturals had a product that emitted Co2. Activated by water when the suns warmth heats up the bottle Co2 gas is emitted (with a little shake of the bottle in the AM) and then at night it slows down the quantity of Co2 released.

***With additional CO2 plants can grow up to 50% larger***

I promptly watched all the videos and I forwarded the info to the Patton's and Russ for their opinions of this product. The price of The Enhancer bottles for a season of growing is less than what it would cost me to set up a Co2 bottle for a whole year's use and of all the control components are eliminated.

So after talking with TNB Naturals about the availability of the "Enhancer" and settling the temperature issues in the greenhouse this coming season could be a huge game changer for the Barker pumpkin patches. Of course we all know there is so much more to this story with soils, seeds, amendments, plant protection and a whole lot of skilled and of course luck has to be considered. Is greenhouse growing for you?

Ron Barker is the current president of the Pacific Northwest Giant Pumpkin Growers

TNB Naturals "Enhancer" is available from Vernon, BC at the link below <http://www.tnbnaturals.com/>

Tell them you're a giant pumpkin grower!

When plants began to appear and evolved on Earth, the atmospheres carbon dioxide (CO<sub>2</sub>) concentration was much higher than it is now. The CO<sub>2</sub> concentration was higher than 1000 parts per million (ppm). Today, the average CO<sub>2</sub> concentration in outdoor air is nearly 400 ppm on the planet's surface.

Therefore most, plants will grow with higher CO<sub>2</sub> concentrations. Through photosynthesis, the carbon in CO<sub>2</sub> is taken in by the stomata and takes part in the building of leaves, stems, flowers and fruits. Proper CO<sub>2</sub> concentration from early growing to fructification allows for faster maturation and larger yield. Many indoor growers supplement garden with CO<sub>2</sub> during photosynthesis to supply plants with this essential cell building material.

## Western Report

By: Don Crews

This is the time of year we try to wrap up the season and make sense of the results. It's sometimes not clear what made the difference between failure and success but this year it was a little easier to figure out. Right about the time we should have been hitting peak growth, smoke rolled in from forest fires in the far north, cutting our sunlight down to the about same as a very overcast day. This went on for over 6 weeks. There were a few breaks but nothing for very long. Talking to other growers at the Smoky Lake weigh off confirmed this had been a factor in their seasons as well.

### Smoky Conditions at Smoky Lake

Our late season was warm at least. First killing frost took place during the second week of September. It was an unseasonably cold one though and went down to -6 C. That did in everything that wasn't in a greenhouse. Of course then it went back to summer temperatures. I could have used the extra time for the field pumpkins as they were a week or so from being completely done. It did give me a good bit of extra time for the 2032 Mathison that was still growing. I needed that time to dry a soft spot that developed where a leaf stalk had rotted against the fruit. A little bleach and a fan and that cleared up, after scooping out some diseased flesh.

It was fun as always meeting everyone at Smoky Lake. It was a little different without Barry Wood, but the show went well. I know there was lot of work to do for the organizers as they tried to fill his shoes.

A lot of growers had the same problems. A late spring and a lot of smoke from forest fires that cut growth. Still there was some respectable fruit show up. Kellan Melnyk narrowly defeated Alan Makarchuk to win the long gourd prize with a 103" gourd. Mary Lobay Had a 119.5 lb field pumpkin. Mary Lobay also won the watermelon. I had a big one but when it was inspected a small hole was found. I gave it a quick inspection before I took it up

but missed it. Never have I saw a spot like that in a watermelon before. Live and learn.

**Alan Makarchuk took first place in the squash category at 646 and I got the win in the giant pumpkin category with a 1210.5 entry. I got lucky because a local company stepped up to match the prize money for first place, doubling the payout!**

There has been quite a bit of discussions about greenhouse growing. I grow in a variety of things one could call a greenhouse. I have a couple that are just small hoop houses and a couple of larger ones that are more typical of what people consider to be greenhouses. The small ones are easier to heat but harder to cool. The small ones heat up so fast that without cooling fans the plants would be literally toast. The large ones buffer the heat a little better but cost big bucks to keep warm.

## **Much discussion about greenhouse growing**

In any case, there are many things that you have to consider when thinking about a greenhouse. If it's a permanent one you won't get any leaching of excess salts or nutrients from rain water or winter snow melt. In fact it works in reverse, the loss of water from the greenhouse sucks up all the salts from the surrounding soil. If I was doing it again I would put weeping tile underneath so it be easier to leach out the "extra" stuff we need at parts of the year. Humidity can cause all sorts of diseases. The perfect climate for plants also lets aphid and mite populations thrive.

Don't forget that ventilation is required. Now you are panicking if there is a power failure and you not around to be able to open it up manually. Yup happened to me this summer during the hottest day. Plants require CO<sub>2</sub>, so you may have to monitor that just in case there is insufficient ventilation to maintain a good level. I really need to do that myself. There are portable meters available that I should invest in. Oh and you need fans for air movement, have to keep a supply of CO<sub>2</sub> to the stomata's. One more thing, light intensity is reduced by at least 25%.

That's the bad parts. The good is that you can control moisture, temperature and wind. Those are the most important parts of the equation. The extension of the season makes all the difference in

the world for us that live in a climate that is too cool to grow giant pumpkins in otherwise.



## **Carbon dioxide supplementation for giant pumpkin vegetable growers in green houses.**

**In general, carbon dioxide supplementation of 1,000 ppm during the day when vents are closed is best. At 10% vent opening the CO<sub>2</sub> supplementation can be shut off or reduced to 400–600 ppm.**

**To improve efficiency, CO<sub>2</sub> levels can be set depending on light levels. The following is a recommended strategy for vegetable growers.**

**Sunny days when the vents are closed, supplement with 1,000 ppm CO<sub>2</sub>**

**Cloudy days when the light level is low supplement with only 400 ppm CO<sub>2</sub>.**

**Normally CO<sub>2</sub> supplementation is not required at night as no photosynthesis occurs. CO<sub>2</sub> concentrations will gradually build up during the night. This is natural with normal plant respiration. It is common to find elevated levels (500–600 ppm of CO<sub>2</sub>) in the early morning hours.**

# Beets and more beets

By: Brad Wursten

In 1987 I won first place at the Ancaster Agricultural Fair with a 25lb red beet. The year after my red beet was disqualified. That was because in 1987 the rules stated “red beet” and mine was red. The year after the rules stated “red table beet” and mine was a mangold.

So let’s take a closer look at what makes a beet a beet. It would seem that all beets originate from *beta vulgaris* *maritima*, what we would call today “sea beet”. Through cultivation several different types of beets emerged. Some were cultivated for the use of their leaves, others for the roots and some for the sugar content. Mangolds were cultivated in the 18<sup>th</sup> century and quickly became an important source of cattle food. After the introduction of corn, it lost its popularity but is now making its comeback because of its salt tolerance, particularly in Asian countries where the soil has been ruined through irrigation and salt levels are too high for traditional crops.



There are several different ways of naming plants. The easiest is to use the system developed in 2004 called the ICNCP (International Code of Nomenclature for Cultivated Plants).

Beets are members of the Amaranth family and adhere to the genus of *Beta*. There are a few species of beets, but the one which interests us is *vulgaris*. The subspecies is also *vulgaris*. The ICNCP then splits them up into groups. This is a bit complicated, because a plant can belong to more than one group. A group consists of plants with a similar trait, for example, variegated leaves, or white flowers. Here is a list of the most common groups for *Beta, vulgaris, vulgaris*:

- ***Altissima* group: sugar beets**
- ***Crassa* group: mangolds**
- ***Condivita* group: edible/table beet**
- ***Cicla* group: spinach beet/leaf beet**
- ***Flavescens* group: chard/swiss chard**



**Spinach beet**



**Chard**



**Fodder beet**

These groups can also have subgroups. In the case of *Condivita* there are subgroups including: *Alba*, *Lutea*, *Rosea* and *Rubra*. The subgroups are all based on colour (white, yellow, pink and red). For competition purposes we are interested in the last one:

### ***Beta vulgaris vulgaris condivita rubra***

Technically speaking any of the other subgroups would be allowed, but none of them seem to grow as heavy as the red ones.



As far as shape is concerned, we discern three types in the *Condivita* group: round, half long and long. The round ones are the heaviest. The long ones are used in competition for longest beetroot. The half long ones are also known as cylinder beets.

Within the subgroup of *rubra* there are many varieties and even several different colours, ranging from normal red, through purplish to almost black. Varieties include *Bull's Blood*, *Crosby's Egyptian* and *Cylindra*. Egyptian varieties are flat and not suitable for growing competitively.

Kevin Fortey – 35lb beetroot (2014)



*Condivita Alba* "Blankoma"



*Condivita Lutea* "Golden Burpee"



*Condivita Rosea* "Chioggia"



*Condivita Rubra* "Bull's Blood"



*Condivita Rubra* "Crosby's Egyptian"



*Condivita Rubra* "Cylindra"

## ***Beta vulgaris vulgaris altissima***

Early in the 17<sup>th</sup> century a French scientist discovered sugar crystals in beets, but it wasn't until 1747 that a German named Andreas Marggraf was able to extract the sugar and crystallize it. Through selection, slowly, but surely, the **sugar beet** was developed. Initially it only had 6% sugar content, but these days that is as high as 17%. Sugar beets are inedible (too hard) and white.

In 1974 a group of sugar beet and hobby growers in the province of North-Holland (Netherlands) started a club called **De Dorstige Biet (The Thirsty Beet)**, with the sole intent of growing the world's largest sugar beets. In 2014 there were 274 entries. (In 1995 there were 469.) The winner weighed in at 121lbs while fifth place was still an impressive 112lbs. Club member, Piet de Goede, holds the world record at 156.6lbs (2005). Former Dutch pumpkin grower and club member Jaap Mol held the previous record at 135.8lbs (2001).



**Sugar beet**



**Harvesting giant sugar beets**



**World record sugar beet**

## ***Beta vulgaris vulgaris crassa***

It's called mangel-wurzel, mangel, mangold, fodder beet, field beet and who knows what else. It's related to the sugar beet, but doesn't have the high sugar content. There are multigerm and monogerm varieties. The multigerm varieties produce more than one plant per seed and are useless for commercial growers as they need to be thinned out. The modern monogerm varieties produce one plant per seed and the roots are generally oval and easy to mechanically harvest.

Mangolds can be orange, red, white, yellow and often are combined with greenish tints. They can be oval or long. They are never dark red/purple like table beets and never round. "Mammoth Red" belongs to the *Crassa* group.



**Fodder beet**



**Fodder beet, yellow**



**Fodder beet, white with green tint**



*Field of harvested fodder beets (Netherlands)*



The **Thunder Bay district giant pumpkin growers** have something to be extremely proud of. They put on their first giant pumpkin weigh off called Pumpkin Mania held at Belluz farm in Slate River, Ontario.

There were 18 giant pumpkins brought in to be weighed in spite of our poor growing season. The event had fun for all ages including a petting zoo, pumpkin decorating, pumpkin carving, a giant straw maze, wagon tour rides, great food and plenty of fresh fall vegetables.

We also had a bash the car event with all proceeds going to the Thunder Bay Alzheimer's society. For a finally we dropped a 1038 lb. pumpkin on the car a squished it. We also dropped a giant pumpkin filled with candy for the kids to enjoy. "WOW" what a day it was!

We would like to thank all our sponsors for their support in making this event a giant success and a big thank you to all those who attended. Planning has begun to make next year's event even more spectacular

