

The 2018 Season

Well 2018 started a few years back.

No matter what I did, I had a hard time getting over 1000 pounds so I started by removing all the dirt to a depth of 24 inches in the greenhouses and running 4" drain tile every 18 in. all across the bottoms. The big greenhouses have 15 runs and the smaller greenhouses have 13 runs. I used a total of around 4000 ft in all. I added an inline fan to each of the runs with the air blowing down and ran solid pipe to the roof at the inside of the greenhouse to draw the hot air from. I can heat my ground from frozen to 55 degrees F in 3 days and 70 degrees in 7 days. After much experimenting 72 degrees is my magic number at a 12 in depth.

My soil

I had to do change this because my native soil had a ph of 7.8 and I could add as much sulfur etc but had minimal change and due in part to using water that had a ph of 7.5 or 7.6 . So my new soil was a mix of 25% loam, 25% compost 25% blond Pete moss and 25% normal Pete moss . I change out 4-6 inches every year. (very few weeds this way also)

I also dug a dugout to catch all rain water and snow melt. My Ph is very stable at 7

Added propane heat for our cold nights. Didn't work out so well, WAY TOO MUCH MOISTURE. Powdery mildew and diseases stalled me out by end of July, early August

So we added wood pellet stoves as primary heat and propane as back up. This stabilized my humidity and disease levels diminished.

Still couldn't get to where I thought I should be. Then came CO2 and then we started blowing things up, but had super growth. With CO2 came the realization I needed to be here literally 24/7 and monitoring it religiously. (picture #1 is the CO2 burner)

I played around with it for 2 years before I got to where I am today.

This year I started using CO2 the day I set out my plants which was May 8th The CO2 ran for 5 hrs every day starting at day break and turned on with a light sensor. So basically from 5 AM to 10 AM. and ran it at 900 ppm. Couple things that are very important, first I was running 2 fans for the CO2 by creating a circular pattern with the air, this is VERY important as the whole plant needs to get the same amount. Second is to expel the heat generated by a propane burner (CO2 burner) Every night I close all the greenhouses because mid 40's is very common any time of year and every morning I would open the roofs on the greenhouse (picture 2), as per the pictures and then reclose the doors. CO2 is heavier than air so the hot air would go up and out and the CO2 would fall and feed the plants.

So here is a time line of the plant

May 8th set out plants

June 15th pollinated female at 17 ft out. Blew it up at day 10. This is the day I shut off the CO2 for good

June 18th pollinated second female at 20ft (this is the keeper)

June 25th blew up first kin, set 2 more on side vines

June 29th Terminated Main Vine in a greenhouse you only have so much room

July 8th day 20, 300 pounds or 235.5 inches

July 10th Plant pretty much complete and all terminated but 2 side vines. I let them grow up the walls

Day 30 826 pounds or 330 inches

Day 40 1357 pounds or 394 inches Almost a 10 inch average for 40 days

Day 50 437 inches or 1768 pounds

Day 59 was the day we lost the sun for 2 weeks and the rest is history

So why did I shut down the CO2? I had blown up the first one and I had such incredible growth rates I would have never sustained it.

I also STOPPED feeding overhead and only watered until day 43. Absolutely nothing was added. My plant was spectacular and from what I had read, using CO2 will give you a super healthy and efficient plant. My plant was lower, smaller leaves than any other plants I had but it was the greenest and shiniest plant I had ever seen.

I have attached same day pictures on the 2 greenhouse, 1 of course with co2 and the other without.
Picture # 3 and Picture #4

As much as I believe co2 helped, I believe it was more of the bonding agent to get all cylinders running perfect .

Part of the success has to go Ron Wallace as he was my go to guy all year long with Don Young and Dave Stelts and Jim Sherwood. Ron directed me to get tissue tests at day 40 and again at day 55. Day 40 is attached and he help interpret them.

One more thing, kinda off the wall here, and did it as an experiment but Vine Bury Mix . I think the proof is in the tissue test. Ron W wanted a few field trials with his super starter packs. So I did a trial.

Each leaf node got a super starter pack, Azoz Micos Root and I also used Green Gro vine bury mix. All together a pretty good handful.

Things I learnt this year and general information

- 1) Co2 is not dangerous to humans at these levels you would need 3 times these levels
- 2) Bugs do not like co2 I had NO bugs, spiders or anything in the co2 greenhouse

- 3) Powdery mildew seemed to have been less prevalent , or is powdery mildew spread by bugs
- 4) The cost of all this??? Honestly its not that bad. I work in construction, and have all the equipment and I did all my own labor, made deals and trades with most everyone. For example my dirt, I had 2000 yards mixed and delivered for \$15.00 a yard
- 5) Cost of running the generator. For me zero as I heat anyway. BUT I used 1000 litres of propane for the time it ran and at 30 cents a litre that's \$300.00
- 6) Next year a lower base ppm of co2, probably 600 ppm. and smaller sq ft. I believe 700 to 750 would be ideal with my set up.
- 7) The 2145 seed is key and I believe its offspring are even more important because these genetics will allow for incredible sustained growth.
- 8) YES without a doubt 3000 is achievable and not far off

What's in the cards for 2019

4 or 5 plants with all the perks . more for the science than the top weight

I have a complete scale system and a company that will help with set up and calibrations. We will be growing a 2145 on a scale from start to finish. We working on a camera system and a possible web page or an app so everyone that wants to follow, will be able too. Hoping to do this with a picture taken of the scale every hour 24/7 from pollination to harvest .



Down To Earth Labs Inc.

The Science of Higher Yields

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Po Box 10293
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Report # : 54527
Report Date: 7/20/2018
Received: 7/19/2018
Completed: 7/20/2018
Test Package: T12

Project:
PO:
Grower: Eddy Zaychkowsky
Field: Test #1

3510 6th Ave North
Lethbridge, AB T1H 5C3
403-328-1133
www.downtoearthlabs.com
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Sample	ID	Type	Stage	Analysis	Result	Units	Tissue Sufficiency Range		
							Low	Optimum	High
180719P001		Pumpkin	5 Weeks	Total Nitrogen	4.19 %				
				Phosphorous	0.50 %				
				Potassium	5.49 %				
				Sulfur	0.27 %				
				Calcium	4.56 %				
				Magnesium	0.911 %				
				Zinc	42.96 ppm				
				Boron	50 ppm				
				Copper	11.78 ppm				
				Iron	306.07 ppm				
				Manganese	31.03 ppm				

Approved by

Raygan Boyce, Lab Manager



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Report # : 54528
Report Date: 7/20/2018
Received: 7/19/2018
Completed: 7/20/2018
Test Package: T12

Project:
PO:
Grower: Eddy Zaychkowsky
Field: Test #2

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Sample	ID	Type	Stage	Analysis	Result	Units	Tissue Sufficiency Range		
							Low	Optimum	High
180719P002		Pumpkin	5 Weeks	Total Nitrogen	2.99 %				
				Phosphorous	0.34 %				
				Potassium	2.70 %				
				Sulfur	0.24 %				
				Calcium	9.49 %				
				Magnesium	1.68 %				
				Zinc	39.82 ppm				
				Boron	57 ppm				
				Copper	12.06 ppm				
				Iron	174.14 ppm				
				Manganese	25.18 ppm				

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Report # : 54529
Report Date: 7/20/2018
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Test Package: T12

Project:
PO:
Grower: Eddy Zaychkowsky
Field: Test #3

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Sample	ID	Type	Stage	Analysis	Result	Units	Tissue Sufficiency Range		
							Low	Optimum	High
180719P003		Pumpkin	5 Weeks	Total Nitrogen	3.42 %				
				Phosphorous	0.41 %				
				Potassium	1.91 %				
				Sulfur	0.28 %				
				Calcium	11.5 %				
				Magnesium	2.00 %				
				Zinc	48.32 ppm				
				Boron	68 ppm				
				Copper	12.80 ppm				
				Iron	136.57 ppm				
				Manganese	27.03 ppm				

Approved by

Raygan Boyce, Lab Manager