

Focused on Plant-based Medicine, GB Sciences, Inc. has developed one of the finest Cultivation Facilities in the US and a suite of Cannabinoid-based Compounds showing promise in the Treatment of Parkinson's Disease and Neuropathic Pain



John Poss
Chairman and CEO

Growblox Life Sciences, LLC (wholly-owned subsidiary)
GB Sciences, Inc. (OTCQB: GBLX) (parent company)
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Interview conducted by:
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CEOCFO: Mr. Poss, you have a diverse background having serviced as CEO, CFO, COO and CTO in quite a number of different industries. What attracted you to GB Sciences and what in your background prepared you most for your current role as Chairman and CEO?

Mr. Poss: The truth of the matter is in the last thirty or forty years I have been working with companies that had one sort of problem or another. Often the company as a whole was in trouble, or one division had a problem, or there was some special issue and I would go in as a consultant and ultimately assume an operating role to get that problem fixed. That is why I have seen so many companies in my career. The one thing that is great about it and why I like that kind of business is there is something different every time we you show up to a client, a new problem to be solved. I pretty much retired and was minding my own business and got a phone call one day and said how would you like to look at a company and I said sure what is it and they said Cannabis. I asked where and they said Las Vegas, and I said oh no. They convinced me to come out to Vegas and take a look and what I found was a company with many problems and many symptoms. The company originally started as a technology company and then developed a technology to grow cannabis called Growblox, but they had trouble getting it built, getting it to work and understanding the market. Therefore, I was not particularly enamored with that but I saw they had research from Chaminade University and that they had a cultivation license in Clark County in Las Vegas and they had made very little progress on developing those two assets. I am an eighteen-year cancer survivor and I am doing quite well and have no problems. The cancer went away. I saw this as an opportunity to pay back those scientists that had developed the drug called Gleevec that saved my life. Therefore, I thought what better way to end your career than to develop a cannabis based compound or medicine that could help patients? That excited me and that is why I came here. In terms of what prepared me for it I think it is the diversity of my experiences and I would sum it up by saying I have a scar for everything you could screw up in business. I had lots of experiences in dealing with people and all sorts of issues. Some of the companies I have worked with have been startups. I felt pretty confident that I could get this one cranked up and so I took the job.

“We are the tip of the spear in advancing the complex compounds from cannabis. We are the tip of the spear in cultivation. Many cultivation facilities say this is the finest cultivation facility in the United States because we do it right and we are responsible in the way we approach partners, etcetera. We are the leader that nobody knows about.” - John Poss

CEOCFO: A big part of your strategy is to partner with Universities and CROs. Why is that important and would you tell us about some of the relationships and what they bring to the table?

Mr. Poss: We are a science company and everything we do is grounded in science. That is not true for all cannabis companies. We have several PhDs, we have ground-breaking research, we have a number of patents, and we have a

very technologically advanced cultivation facility that presents very well and produces very high-quality cannabis; medical grade cannabis. We start out in seeking partners with a lot of strong tools; our staff, our patents, our facilities and just the way we go about business. That attracts partners because they come and see it, and talk to our people and they understand we know what we are doing and are serious about what we are doing. We are not growing cannabis in dirt pots, we are trying to build a company that is going to be around fifty years from now. That approach to what we do makes us an attractive partner for serious organizations and when I say serious organizations, we have now partnered with the LSU AgCenter and are working on developing cannabis products for medical patients, as well as doing other research. The same is true of CROs; they do not see many cannabis companies that approach what they are doing with the rigor and seriousness with which we approach it. Our science is very well grounded and evidence-based and the approaches we take are not sloppy. We are trying to create a good documentation trail so that when we do approach the FDA or other regulatory bodies concerning bringing one of our compounds to market, we will have all the evidence and all the work we need. We hired Fenwick & West, one of the best intellectual property law firms in the country and they represent companies like Apple, Google and Pfizer Pharmaceuticals. They are serious guys, and we were their first cannabis client for the simple reason that they saw that we were serious about what we were doing. They looked at our research and saw that it was sound and in fact they were enthusiastic about writing patents for us. The same with universities and CRO organizations etcetera, so we present as a pretty good partner and we behave as a good partner too. We believe that good things happen if you have sincere intent and a sincere effort. The sincerity, transparency and professionalism that our staff shows make it attractive to an LSU AG Center or other organizations. We have a number of partnerships. This applies not only to the scientific side but the commercial side too. We have done a partnership with CURA, which is one of the biggest oil producers in the US. We have created a medical advisory board with people that are serious about addressing disease condition and serious about developing and unlocking the power of cannabis to help people with these conditions and those become partnerships as well. We just added Dr. Zoltan Mari, a nationally-renowned expert in the treatment of Parkinson's disease and movement disorders, to our scientific advisory committee and we are hoping to do our trial of a Parkinson's drug with Dr. Mari or one of his colleagues being the principle investigator. A pot company does not really get to partner with people like that unless they are very serious about what they are doing. That is our approach and we are always looking for partners to help us push the ball down the court and the selection of partners depends on their skill sets or their competitive advantages. The Parkinson's trial and the formulations are based on a patent that we filed about a year ago for neurological disorders. That is a suite of compounds that are efficacious in treating different neurological conditions; perhaps even we believe Alzheimer's and Huntington's diseases, and a number of other lesser-known neurological conditions. We have also filed patents on a cannabis compound that treats inflammation, so these anti-inflammatory compounds would potentially be helpful to people with arthritis or asthma for example. Another research avenue we are exploring is one for boosting the immune system with pro-inflammatory compounds and an offshoot of that shows great potential in the lab for diabetic wound healing and healing lesions, and helping those lesions heal faster. We have also filed a provisional patent on a heart formulation. First, we actually acquired a license to a heart patent, and then we used the receptor in the patent that we licensed as a drug discovery target for discovery of a cannabis-based heart therapy. These licensed patents actually deal with cardiac Hypertrophy, which is a condition that occurs late in the progression of heart disease that causes the walls of your heart to thicken and to lose some of their flexibility. It is one of the leading causes of death in adult males and basically the heart muscle thickens and it is more difficult to pump blood and it leads to heart failure. Our licensed patent demonstrated, at least in the lab rat, that triggering specific cannabis-receptors has reversed cardiac Hypertrophy and returned that heart to its pre-thickening stage. That is pretty remarkable! We have no idea yet whether this will work in humans and we are being very cautious with this in terms of this compound because of the risk associated with doing trials on the human heart, but it has immense potential. There are a number of other disease indications. Pain for example is an obvious target. We have licensed a time-released delivery formulation of a cannabis-based neuropathic pain formulation. In addition, we have a provisional patent on a cannabis-based pain formulation that contains no THC, so we probably have five target conditions that we are going for in our development pipeline. First it is going to be Parkinson's and that trial will be followed by others. Clearly to develop these drugs we are going to need partners, as the cost of a clinical trial is enormous. We are trying to do everything and to find a path that is acceptable to the FDA that will in fact reduce the cost of these drugs. It is pretty clear to us that we are going to need some other form of folks helping us with the financing and the expertise in moving these potential drugs to the market.

CEOCFO: Do your new drug formulations come from in-house development, licenses, acquisitions or a combination?

Mr. Poss: It is a combination but the core driver is our research collaborations. There are about 80 cannabinoids, 200 terpenes and 80 other bioactive agents in cannabis. There are a number of cannabinoids and proteins and bioactive agents and you cannot predict marijuana can help your condition because of all the diversity in the plant. If you are smoking marijuana it may contain some of the things that help today but the marijuana you smoke tomorrow may not have

them. The first thing we did is identify within rapid assays of various permutations and combinations of cannabinoids and terpenes against various cell models of specific diseases, in vitro. From that exercise, when we looked at thousands of combinations, and we were able to identify the things that helped and the things that hurt in very complex natural mixtures from cannabis genotypes. For example, of all those cannabinoids and terpenes, some of them may help Parkinson's but other may be contraindicated and reduce the effectiveness of the ones that help. Therefore, what you have to do is figure out which ones help, which ones hurt, and isolate the ones that help and find out what ratios and volumes of those are of the appropriate dosing for a patient in a complex therapeutic mixture (8 to 12 ingredients). We have gone through all the in vitro stuff, we are doing animal work and ultimately, we are hoping to start a human trial, a First-in-Man of our Parkinson's compounds to identify which of these combinations that we have identified have the greatest potential efficacy. That is a complicated answer, but that is what we do.

CEO CFO: *Is this more of a natural form of the cannabinoids or do you have to synthesize these so you can patent them?*

Mr. Poss: Right now we are using natural botanically sourced ingredients for our compounds. Our patents also cover a synthetic form, or a mixture of natural and synthetic compounds in the active mixture. We are starting our research with natural cannabinoids and terpenes, and as we progress and see progress, we at some point will decide where and to what extent to introduce synthetic compounds. The real difficulty that is presented by using cannabinoid (either botanical or synthetic) compounds is that the FDA has pretty weird and complicated rules regarding research on cannabinoids that also involve NIDA and the DEA. Because NIDA has set up a sole source system in the US, meaning that all of the "Research Use" cannabis and cannabinoids are supposed to come from the University of Mississippi, therefore, you have to get your compounds from Ol' Miss. However, Ol' Miss does not produce very good Cannabis, which means they are out of the question for us because of the quality of what they do and lack of consistency in what they do, and they are not controlling the compositions of the active ingredients at the level that we need it for medicine. Fortunately, there is an international loophole, which is that you can import cannabis and cannabis-derived compounds from certain countries with regulated national programs and demonstrated quality standards. We can source the ingredients and have a valid trial if you source the ingredients from a responsible foreign country, such as source them in Canada or source them in Spain. Even though we are sitting here on a high-tech grow, growing some of the finest cannabis on the planet and a fine extraction system, we cannot use our own stuff for the clinical trials because the FDA will not let us use US-grown cannabis in the US. Therefore, we have a partner in Spain, which is our partnership with the University of Seville, so we believe they will be able to provide us the raw ingredients and be able to do it for the compounds and formulations. We will be able to source them legally per the FDA and DEA. If we wanted to be real bold about this we could say we will not make these FDA approved drugs, we are just going to do them in Nevada, develop the formulation through a trial in Nevada, which the FDA will not accept because we did not source stuff in the right way. This would allow us to prove efficacy and just start selling in dispensaries. That may be the path we take but then we will lack a lot of the advantages of being approved by the FDA and our ability to make claims, our ability to cross state lines, our ability for insurance reimbursement for patients, so right now we are keeping all our options open but we are going to do everything as if it is going to be an FDA trial.

CEO CFO: *What is special about your facility?*

Mr. Poss: If you remember, we started out by studying the plant. We knew that if we were going to plant based medicine we needed to produce the same plant over and over again. I mentioned earlier the diversity in the plant and not necessarily getting the same thing every time. Two things control how the plant turns out. First is the genetics that you start out with and the environment that they need to grow. We developed a way, but there is a problem in the industry called genetic drift that comes from repeatedly cloning plants. If you clone the same plants then you clone the clone and clone the clone, clone, which is the way it is typically done in the industry. By the time it is done four or five clones, the genetic makeup of that plant is different and not the same. It does not have the same genetic that the plant started with and it is usually very sickly. We developed tissue propagation, which is used in other plants in agriculture, but had not really been perfected for cannabis. We perfected it and we can take a cutting in a particular location and treat it a certain way and create a plant that is an exact replica of the plant where the tissue originated. We can do that over and over again. Meaning what we have done is take the variability out of the genetics and the plant and have no genetic drip and get the same plant every time. If you take that and do the same genetics every time, unless you have a consistent growing environment, there will be variations in the genetic makeup of the ratios of terpene cannabinoids in the final plants. In order to solve that variability problem, we had to build a high-tech, tightly controlled cultivation environment and we did it with clean rooms. It is an oxymoron to call them clean rooms because it is organic material that we are putting in the clean rooms but they control like clean rooms, like you were making computer chips. We control every environmental factor in that room. We have highly automated nutrition systems, our own proprietary nutrients, CO2 enhancement, incredible filtrations and water control systems. Therefore, every plant is exposed to the same environmental conditions

every time. What that means is we now can produce a plant that is consistent and that is beneficial on two levels. The first level it is beneficial on is biopharma; that is, we now can produce plants that can consistently produce the raw materials in the same quantity and a predictable quantity that are needed to make medicine. It also has a happy side-effect. We grow beautiful weed. It is high in cannabinoids, high in terpene, it tastes and smells the same every time and has the same psychoactive ingredients and the same THC level so it becomes a very attractive consumer product. Right now, we are not making a drug, so we are selling into the open market in Nevada where it is legal and we sell everything we produce. It is top-shelf cannabis because of the quality and because of the consistency of consumer experience. If they buy X product from us today and come back in a month and buy some more, it will be the same as they bought last month even though it is different plants. That is a powerful advantage.

CEOCFO: *What has been the reaction so far from the medical and investment communities?*

Mr. Poss: There are always detractors and people who are just generally against cannabis and do not understand it, but for the folks that understand the potential power of cannabis as medicine, we are getting a great deal of support. Exhibit A LSU, Exhibit B Cleveland Clinic, Exhibit C the University of Seville, including individual physicians and researchers who come to us apart from their institutions. We are working with Dr. Norbert Kaminski at Michigan State, who discovered cannabis receptors in the immune system and is a former colleague of Raphael Mechoulam, but we are not working with him through the University, as it is an independent relationship. We have many people that are supporting us. The investment community has been a little bit difficult for us in some respects and a little easier in others. We are certainly happy and enthusiastic about the support we have gotten from Network One Financial Securities. They are a retail broker/dealer and they have raised essentially all of the money that we have used to get this company started and turn it around from where it was. We have been very pleased with that relationship and they have been super but we need to broaden our financial base and we will always be with our partner but we need to broaden the institutional support for our company because we are going to have to raise a lot of money in the future for our drug development. It is a difficult story to explain because investment bankers are kind of single threaded. If you have a complicated story you are going to have a difficult time getting support and our story has been rather complicated. It is starting to get easier to tell now that there are things that the bankers can see. When we were talking about taking the plant, making medicine from it, developing tissue culture and genetics, developing products for the adult use market, products for the consumer market, and products for the medical market; it was like "You cannot do all that; focus on one thing." There were many people pushing us both ways. The problem is both ways have different investor markets. One market of investors just want you to grow pot and sell it and there is a huge support for that. There are other companies that are trying to make medicines out of cannabis but they do not mess with actually cultivating it. There are very few companies that are interested in tissue and genetics and partnering with a major agricultural research centers to develop GMO for the future of cannabis, so we do a lot of stuff for a small company and that is a difficult story for investors and particularly bankers to grasp. Now that we are reaching these inflection points we do not have to tell them about it anymore, they come to our facility and they can go and talk to the folks at the LSU Ag Center and hear about what we are doing together. The story is going to be easier and easier to sell to the investment community but it has been a tough road to get to here. Thank God for the support of Network One Financial Securities.

CEOCFO: *Would you tell us about your team and what they bring to the table in this industry?*

Mr. Poss: The number-one job of any CEO is to put a good team together, you choose the right people, you tell them what you want them to do, you find out what tools they need to get the job done and you give them the tools and then you monitor them. That is all I do here and I have the help of my Chief Science Officer, Dr. Andrea Small-Howard. She has a PhD in biochemistry and molecular biology from USC. She also got an MBA from USC, and she has been involved in cannabis research on and off for fifteen years as well as serving as an executive in micro-cap Biotech Companies. She understands the plants and has fascinating and brilliant ideas about developing complex cannabis-based therapies, and she is hard-working and articulate. It is a blessing to have to have her. She collaborates with Dr. Helen Turner who is the Dean of Natural Sciences and Mathematics at Chaminade University. She is a great friend of Andrea, and they have done some amazing pioneering work in discovering cannabis-based medicines for neurological disorders, inflammatory disorders, heart disease, pain, and triple-negative breast cancer. We also have a botanist, Dr. Ulrich Reimann-Philipp and he is the one that has pioneered this tissue culture stuff over the past four years. Many people in the industry have tried to do micro-propagation using tissue, but they failed. They tried it for a couple of years but gave up on it. However, Ulrich stuck to it and got it to work, so we now have trade secrets on how we do it. The reason we don't want patent to patent it is because nobody else knows how to do it, but we are getting great success in tissue propagation. Its better as our secret. On the actual cultivation and production operation, I could not have been luckier than to have been introduced to Kevin Kuethe, our chief operating office. Kevin is a young man approaching 33 years old but he has been in the industry for nine years since it first became legal in Arizona. He has built eleven facilities throughout the legal states and some big facilities too. He is deeply steeped in knowledge of how to build these facilities but he also understands the plant and

Kevin has unlimited business opportunities because of his experience in this rapidly growing industry. He could make a lot more money working for somebody else but he will not. He works here because of what we are doing. He works here because he got to build a facility that is a state-of-the-art facility. He knows he is going to get to build some more. He gets to grow cannabis the way he has always wanted to and consequently the outcome is we are producing some of the highest testing cannabis in Nevada right now. He is a gem and even though he is only 32 years old, I made him my chief operating officer. I figured there is nobody that knows more about operating cannabis facilities than him and we are going to need that to expand our footprint and increase our cash flow while we are developing our drug. He is the man and I couldn't be more excited to have him on our team. I have a CFO and when I came here it was a turnaround and we did not have any money to speak of, the stock was being hammered to death and nobody would give our predecessor any more money because of the way the first funding had turned out. I said I need a great CFO so I was looking specifically for someone who was a manager from a big four accounting firm. Within a week, a young woman named Ksenia Griswold walked in our door. She was a top-ten finisher in the Nevada CPA Exam, a top of the class finisher in accounting at the University of Nevada Reno and a new manager at Ernst and Young. I said to her the company is a turnaround and we have a lot going in front of us but it is a huge opportunity and I want you to work for me. She took a \$16 thousand pay cut to come work for the company. I challenge anyone in the cannabis industry to show me a more qualified CFO. Finally, the last piece is Tom Arcuragi who is chief marketing officer and Tom is my age. I am 69 years old and Tom is 67. He has owned his own film studio and been involved with media properties like Ice Road Truckers and the Deadliest Catch and things like that. He has had his own ad firm and had been advertising producer for Coca Cola and many other big name companies. He is really long in the tooth and very experienced and respected in the media industry. I hired him as chief marketing officer because I felt like the cannabis industry was going to be digital content driven, so we are going to be able to put ads on TV. We are going to have to do viral marketing with the intense use of social media as well as independently produced content video content to promote cannabis and our brand. He came to work and has done an amazing job helping us develop the brand, developing a sales force. We sell every ounce of cannabis that we produce at premium prices. That team is the team that can lead this company a long, long way.

CEOCFO: *In closing, why is GB Sciences an important company to follow, from an investor, medical marijuana and a healthcare in general perspective?*

Mr. Poss: Even though we are small, we are the tip of the spear. When the State of Nevada came in and inspected us, they said we were the tip of the spear. Why are we the tip of the spear? We are doing something with a plant that others are not doing, and that is genetic replication and tissue propagation and we have a partner that can help us develop that to an advanced state and monetize it. Number two we have medical formulations that embrace the entourage effect. They are not single-molecule formulas. They include multiple cannabinoids and terpenes. That is going to be the future of healing with cannabis. Single molecule is what the industry is focused on now, as when you hear about medicine you mainly hear about THC and CBD. We however, embrace all the cannabinoids. In fact, our formula has improved many lesser known cannabinoids you never heard of and we have some formulations that contain no THC. We are the tip of the spear in advancing the complex compounds from cannabis. We are the tip of the spear in cultivation. Many cultivation facilities say this is the finest cultivation facility in the United States because we do it right and we are responsible in the way we approach partners, etcetera. We are the leader that nobody knows about.

