The Cannlytics Story

The story of Cannlytics began when I, Keegan Skeate, went out on a limb and took a job as a laboratory analyst after finishing my studies in economics. Data entry frustrated me as a lab analyst because it kept me from doing more interesting work in the lab, where I often got to work with senior chemists on experiments (method development).

Now, starting entirely from scratch, I have started a collaborative build of a LIMS for cannabis-testing labs that can provide a faster, simpler, and easier to use system that provides true traceability.

Cannlytics exists to make people in the cannabis industry and people who use cannabis lives better. By generating, tracing, and delivering lab results with true traceability, Cannlytics empowers consumers to choose products that are free from pesticides and other contaminants.

Cannlytics streamlines the lab testing process for cannabis, allowing everyone in the supply chain to maximize the value of their lab data. Cannlytics helps ensure that cannabis lab tests are accurate and transparent, boosting consumer safety.

**Why does Cannlytics exist?** To make people in the cannabis industry and people who use cannabis lives better.

**What problem is Cannlytics trying to solve?** Generating, tracing, and delivering lab results.

Streamlining processes. Allow everyone in the supply chain to maximize the value of their lab data.

Reduce delay and waste.

Improve the laboratory process by saving time on every test.

Cannlytics is easy to integrate into your lab.

Lab Owners

You have a limited bandwidth, so, let Cannlytics manage your data connectivity.

A full suite of testing required for quality assurance testing.

The aim is to minimize the number of clicks, learning from pain points in my past.

Labs want a fully customizable CoA and integration with the state traceability system.

We want producers to demand to user our software.

1. Get testing as precise as possible.
2. Let consumers make informed decisions.
3. Ensure results match labels.

There is not a lot of research available. Cannlytics can provide analysis of historical data.

Consumers rely on results, but it is difficult to see prior results. Cannlytics can provide transparency into results.

Dr. Tania Sasaki and Jay Burns wants a list of tests for sample types.

Dr. Tania Sasaki reported 20% of samples self-selected for pesticide testing fail for a pesticide above the action limit. There are 10 compounds that make up 80%+ of the fails.

Ultimately, we need to get CoAs to consumers. Minimize communication time.

Uncle Ike’s is loved by the community for randomly testing products on the shelves at retailers.

Jeff Doughty, has a background in physics, is working on pesticide methods and statistical analysis of traceability data. Jeff believes that good science takes time. Jeff believes that labs should be required to have a LIMS.

Jeff Doughty would like to see more testing for microbials and heavy metals. Jeff Doughty would like to see more data published.

Jeff Doughty stresses that for the data entry process:

Jay Burns says that someone manually enters data into the state traceability system (Leaf Data Systems). **I could offer to write a soluction to automate data uploading to the state traceability system.**

A LIMS should be used to track samples. Many labs use ad-hoc LIMS, which is worrisome.

Every time you make a change, there needs to be an audit trail.

A login is required for any changes.

At Confidence Analytics, Nick Mosely uses math/statistics to predict the probability of failure for pesticides when concentrating flower into processed products.

Amber Wise at Medicine Creek has no interface with state traceability. There is interesting data and statistics that can be discovered with traceability data.

Producers want terpene data so that they can put the terpene content on their product’s labels.

Traceability that goes above and beyond state traceability.

Keep track of instrument maintenance to minimize instrument upkeep costs

Paperwork, quality control, traceability, and inventory management are costly. Variable goods (standards) are expensive and it is important to keep track of what is on hand and ensure it is stored properly. Bench sheets can be messy and lead to poor traceability.

\*\*\*Kaleb Asafa\*\*\* wants to create a billion dollar biotechnology company. Currently, Merso Labs in Santa Barbara County is the only lab doing digital agriculture. Kaleb states that, “Our goal is to be a scientific resource for the community.” Merso Labs’ unfair advantage is that they leverage scientific grade field technologies and data science to provide insights. Merso Labs wants to deploy agriculture sensors to collect environment data to supplement lab result data. He offers his clients a client portal with rich data and analytics. Kaleb stresses that it is important to structure and keep track of data. He plans to capture 30-40 data points with his sensors. Once data is collected, he plans to use an algorithm to help producers predict cannabinoid concentrations of their products and give insights on how the production environment could be altered to improve results. All data is funneled into a database and presented with a user interface. An important piece is a client portal that shows CoAs, feedback, and logs to producers. Weekly statistics are also useful to the producers. He is also supplementing the data with public data on pesticides, heavy metals, and microbes in California. Kaleb needs to build a team, because he has 500+ clients. Kaleb is close to his clients and wants to make them agricultural powerhouses. In general, Kaleb believes that producers are underserved by laboratories. Kaleb wants to find new ways to improve and innovate, creating social and economic value for the community.

There is a large amount of variation between labs. Only 5 or 6 cannabinoids are required to be tested, but there are dozens that different labs test.

There needs to be public trust in data. Producers and processors should audit the lab that they choose to use.

**Collect data so you can keep your laboratory profitable.**

You want internal standards.

One system to handle terpene, residual solvents, cannabinoids, pesticides, microbes, heavy metals, and any other analyte you can throw at it.

Confidence intervals.

MassHunter Workstation – Quant MyWay

Different permissions for different employees helps with quality control.

It is important to track the use of your materials so that you can identify exactly what went wrong if anything goes wrong.

People who work in the lab come from a science background and are likely exposed or have favorable opinions of the Python programming language. So, it could be a plus to lab owners to know that their software is built with Python and that anyone who knows Python could make additions or adjustments.

Lab owners:

Ryan Hurley – Director of Patient Experience at Kaycha Labs in Florida.

Wholesalers

Vendors do not want a gap in their material.

Vendors are particularly interested in correlating THC levels with sales.

Vendors sell out everything. Vendors love in-depth analysis. Vendors view the traceability system as the “source-of-truth”.

Every second you waste is lost revenue.

Wholesalers feel that there is a lack of data transparency and a lack of collaboration.

Wholesalers ask, “How do I get terpene data? I want terpene data on my labels.” Cannlytics can help deliver terpene data directly into a wholesaler’s software system.

Retailers want certificates of analysis (CoAs) to be accessible and clearly linked to incoming products. Cannlytics can utilize QR codes so that any product can be scanned and the corresponding CoA can be viewed.

In particular, Bob at Oz. (pronounced Ounce) in Seattle is interested in a central website where all lab results can be viewed. Cannlytics aims to provide exactly that: a website where you can scan or lookup products by ID and see their lab results.

There is concern by retailers that lab results are not linked properly to products and may be being illegitimately re-used.

Retailers and wholesalers want super tidy inventory management. Lab results being difficult to access creates an unwanted nuisance for the retailers and wholesalers. Cannlytics will ensure that lab results are linked correctly to samples and are not re-used in a illegitimate way. Lab results will be easy to lookup in the Cannlytics system by anyone who needs to view them.

Dave Sorensen, the owner and operator of Studhorse Mountain Farms, a cannabis processor. Dave reports that he has huge testing bills. He is concerned about moving forward with more regulations and in being confident in the safety of products.

Dave argues that the traceability system is fundamentally flowed, not well-developed, and it is not easy to access data from the database.

Producers that are producing medical cannabis do not have time right now to deal with more testing. Medical cannabis producers have strict rules because they operate without pesticides. A large portion of the cost of producing medical cannabis comes from the cost of lab tests. Both pesticides and heavy metals are required to sell medical cannabis in Washington State.

It is important for producers for branding to ensure that pesticide levels are what they label them as.

Producers acknowledge that there are a lot of pesticides in the world and pesticide drift is a problem. Pesticide drift may come from food crops.

Producers in Washington think that heavy metal testing will be a big hurdle and be a waste. Producers argue that consumers do not know about heavy metals and that heavy metals are cost prohibitive.

Producers (such as Danielle Rosellison) are curious if anyone has “run the numbers to figure out the difference in cost in requiring pesticide and heavy metal screening.” **Cannlytics could do a study to estimate the cost.**

Danielle Rosellison wants to minimize testing costs.

Producers note that they use multiple labs for different types of testing. A medium size producer may do 60-160 tests per month. So, **Cannlytics could help aggregate all the lab results and provide analytics and insights to producers.**

Producers believe that the system depends on the integrity of traceability. Producers agree that final product is necessary to say what a product is.

Producers are worried with more attention on testing that small producers will bear the cost. Producers do agree that they want an increase in safety for consumers, but do not want to be overburdened with costs.

Some producers think adding microbes like *Salmonella* and *E. coli.* May be more beneficial than adding heavy metals.

Ultimately, producers do not want to pay a lot for testing.

Producers say that retailers will send back products or drop you if lab results are not connected properly to products. **Cannlytics can ensure that all products have matching lab results.**

Producers in Washington think that “traceability currently sucks.” Producers think consumer safety should be at the forefront.

A producer said, “I can’t imagine a world where I wouldn’t want testing.”

Danielle Rosellison wants more research on Pyrethrins and Piperonyl Butoxide (PBO).

Outdoor and organic cannabis has a beautiful terpene profile. Producers care a lot about terpenes and want to get their terpene data, so that they can put terpene profiles on their products.

Producers are worried about trace amounts of pesticides. A robust traceability system at every stage is vital to root out pesticide contamination.

In general, producers do like to test for pesticides, for traceability and accountability. Producers want to clean things up, make it better for producers and processors, and increase consumer confidence, but they do not want to increase costs.

Producers:

* Jeff WIlhoit
* Charlene Bohbot
* Danielle Rosellison
* Alfred Hermiz, Owner of Endo Farms in Arizona

Consumers

Ultimately, Cannlytics keeps the end-user in mind.

THC levels are important to producers when selling their products. A 12% variation in THC is huge.

More data the better. Cannlytics can be used to import lab data and provide the lab data to clients. Adding cannabinoid (THC/CBD) data points to your data can greatly enhance your analytics.

Weekly reports are important. Daily, weekly, monthly, yearly maintenance routines.

Dynamic forecasts are interesting.

Investors

Investors are looking for predictable sales and a high lifetime customer value. Furthermore, investors take into consideration the cost of acquiring new customers.

Acquisition costs may include press releases.

Acquisition costs can be reduced by automated onboarding.

Investors are looking for:

1. A product.
2. A team.
3. People who care about it.

First, we need to find people to give Cannlytics feedback. I have launched a Cannabis Data Science meetup group to begin to identify people who care about data science applied to cannabis data.

I need to build a strong elevator speech and slide deck. The slide deck should show:

* Cash-flow projections
* Conversion rates
* Validation that the software works

A good business strategy could be to find a strong alpha/beta partner. With the partner, we could be encouraged to build out a well-functioning system. Once completed, the partner could agree to a 6-month contract to use the software, with the ability to exit the contract if the software does not function.

It could also be worthwhile to find established labs, like Quest Diagnostics or Bella Costa Labs in California who may with to sponsor the seedling of an idea to build out a system for the future. That way, large labs are able to expand into the cannabis industry when they are ready with a proven technology.

A partnership would provide a strong foundation and the opportunity to demonstrate growth from the use of the Cannlytics software.

Ultimately, the partner will need to understand that the software is part of the Cannlytics business and not feel used by providing a launching pad for the software platform. Any partnership will need to be entered into with caution by both parties.

Key performance indicators will be used to measure performance. For example, Cannlytics was able to increase the lab tests per day by X% for lab A. Streamlining processes is another selling point of Cannlytics, so, it may be worthwhile to measure the amount of time reduced by using Cannlytics software. Therefore, it is of key importance to measure the results for any lab partnered with. It will also be important to ensure that the lab has the bandwidth to be a strong partner, having the longevity and ability to deliver value.

A business model could be to charge for the number of instruments connected.

There needs to be a fair and trackable timeline. The software should provide exactly what is going to cut it. Don’t overpromise, while still recognizing value. What is the Cannlytics software going to do for a lab? What is the timeline for building? What is the timeline for adoption? These need to be clearly defined in any partnership.

Knowing how much to charge is important. It may be worthwhile to price above Confident Cannabis. Cannlytics helps reduce time and provides a richer feature set. Cannlytics is a premium product.