MyFloraDNA

Service Portfolio

Enhancing ***Cannabis*** through genomic sciences to help build an **agricultural model that scales.**

https://myfloradna.com/

+1 (530) 485-8745

1451 River Park Dr. Suite 130
Sacramento CA, 95815

MyFloraDNA

Our Services

Plant Pathogen Detection

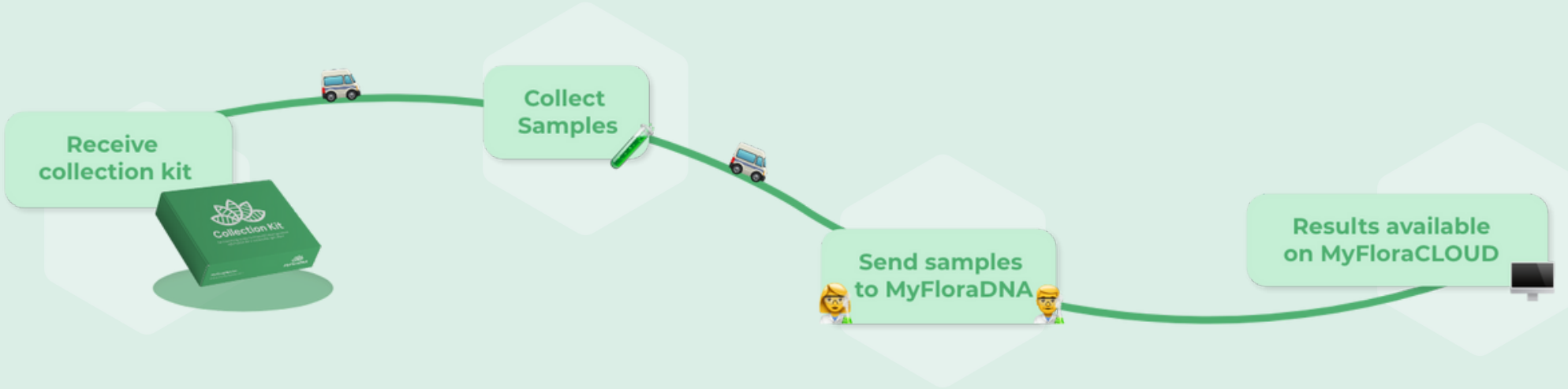
- Viroid and Viruses
- Fungi

Cannabis DNA Fingerprinting

- Certificate of Cultivar Identity (CCI)
- Cultivar Genetic Verification
- Phylogenetic Matrix

How it works

Simple.



1. **Request and receive your collection kit.**

2. **Collect your samples (use MyFloraCLOUD to store and submit your samples' information).**

3. **Use our collection box and return label to send us your samples.**

4. **Check your results on MyFloraCLOUD, within 36hrs after receiving your samples.**

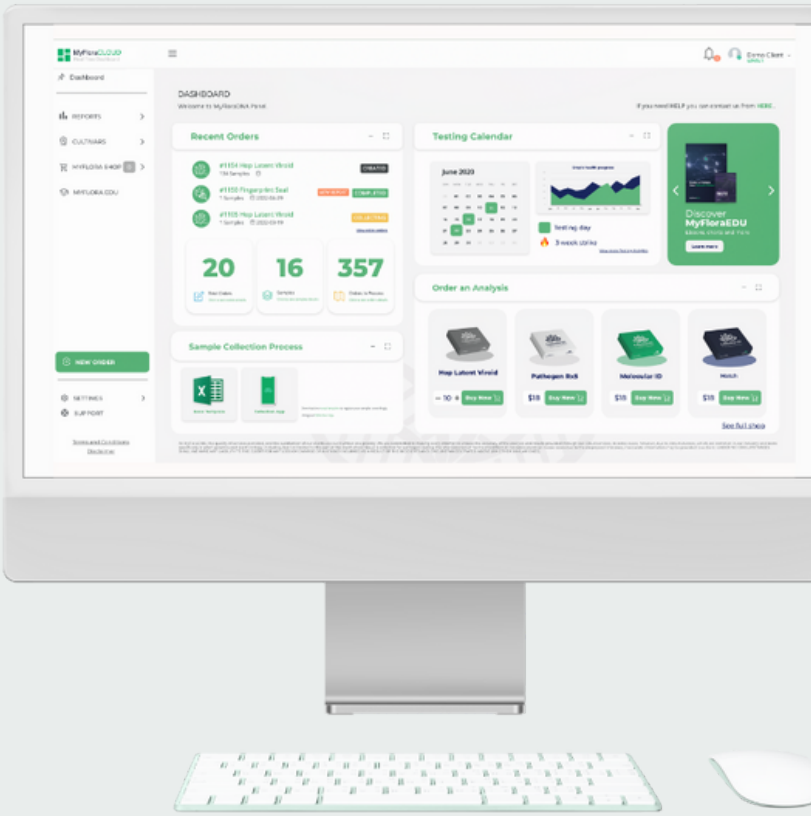
How to Collect Your Samples - Video Tutorial

MyFloraCLOUD

Client Portal

Results at Your Fingertips

With MyFloraCLOUD, you can easily access and review cultivar-specific data and assays insights.



Statistics

Track your data and visualize how it changes over time.

Security

Rest easy knowing that your precious data is safely stored in our database.

Education

Obtain educational materials and get in touch with our specialists.

Accesibility

Login from any device - whether it's your phone, home computer, or workstation - to see and download your results.

Register

Plant Pathogen Detection

Biosecurity Measures Poster

Our proprietary plant pathogen detection assay provides a high-throughput, low-cost solution for cannabis cultivators.

MFDetect™ combines two established technologies to accurately identify pathogenic viruses, viroids, and fungi in Cannabis.

MFDetect™ Applications

Viroid and Viruses

- Hop Latent Viroid — Know More
- Lettuce Chlorosis Virus — Know More
- Beet Curly Top Virus — Know More
- Cannabis Cryptic Virus — Know More
- Alfalfa Mosaic Virus — Know More
- Arabis Mosaic Virus — Know More
- Tomato Mosaic Virus — Know More
- Tomato Ring Spot Virus — Know More

Fungi

- Botrytis Cinerea — Know More
- Pythium Myriotylum — Know More
- Fusarium Oxysporum — Know More
- Fusarium Solani — Know More
- Golovinomyces Ambrosiae — Know More

Our Technology

MFDetect™

MFDetect™ is our proprietary plant pathogen detection assay developed by the MyFloraDNA research team that provides a robust high throughput, and reliable and low cost solution for cannabis growers.

Our innovative protocol **combines RT-LAMP and qPCR** technologies to facilitate the **accurate identification** of pathogenic viruses, viroids, and fungi.

Features

Fast Turnaround Times

Get results in less than 38 hours and quickly address any infection within your facility.

MyFloraCLOUD

Access and review all the information obtained from your assays.

Simple Collection Process

Simple and easy, send your samples quickly and with minimal hassle.

Crucial Testing Instances

- Mother Plants before and after cutting new clones
- Before and after crossing two cultivars
- New clones after sending a batch of them to your customers
- Before bringing new plants and seeds into your facilities

#VIROIDTESTING

Hop Latent Viroid

HLVd

IMPORTANT

For an accurate diagnosis, it is important to test tissue from different parts of a plant (top, middle, bottom, and roots). Check our scientific publication to know more about HLVd detection.

Hop Latent Viroid is a single-strained RNA viroid that may not produce any signs of disease until the infection takes all the plant.

HLVd was first found in Hops and was first detected in cannabis in 2018, becoming one of the most destructive pathogens on cannabis crops.

Order Now

#VIRUSTESTING

Lettuce Chlorosis Virus

LCV

Lettuce Chlorosis Virus (LCV), a single-stranded RNA bi-partite crinivirus. This RNA virus can cause stunted growth, reduced yield, and quality of your flower.

Is primarily spread through the bites of the greenhouse whitefly, which is a common pest in cannabis and hemp cultivation, and can also be transmitted through the use of infected plant material or by contaminated tools and equipment.

Order Now

Common Symptoms

- Yellowing leaves showing necrosis.
- Chlorotic leaves.
- Lower yield
- Leaf thickness

#VIRUSTESTING

Beet Curly Top Virus

BCTV

Beet Curly Top Virus (BCTV) is a highly contagious disease that can severely economically impact crop populations.

Beet Curly Top Virus nearly destroyed Idaho's sugar beet population before farmers bred new cultivars immune to the virus in 1935. First discovered in 1907, the virus affects more than 300 different plant species, including Cannabis.

Order Now

Common Symptoms

- Leaf curling.
- Yellowing of leaves with purple veins.
- Death of young seedlings.
- Bud deformation.
- Reduced bud quality and yield.

#VIRUSTESTING

Cannabis Cryptic Virus

CCV

Common Symptoms

- Rolling and/or yellow leaves,
- Smaller buds.
- Fewer trichomes, cannabinoids, and terpenes.

Cannabis Cryptic Virus (CCV) is a double-stranded RNA virus that is known to infect plants without causing obvious symptoms.

It´s frequently found on asymptomatic plants, causing smaller flower production, and reduced yield and quality.

Order Now

#VIRUSTESTING

Alfalfa Mosaic Virus

AMV

Alfalfa mosaic virus (AMV) is the type species of the genus Alfamovirus in the family Bromoviridae.

This pathogen is spread by aphids, they acquire the virus from an infected plant and transmit it to other plants through leaf tissue. Once plants are infected, there is no cure for mosaic viruses.

Prevention is key!

Order Now

Common Symptoms

- Severe stunting of plants
- Yellow mosaic or calico patterns occur on the foliage.
- Plants grow slow and generally produce poor yields.

#VIRUSTESTING

Arabis Mosaic Virus

ArMV

Arabis Mosaic Virus (ArMV) stands as a significant plant pathogen within the Nepovirus genus, under the Commovirinae subfamily and Secoviridae family.

This virus features a bipartite RNA genome, comprising two single-stranded positive-sense RNAs, enclosed in a non-enveloped icosahedral particle.

ArMV primarily spreads through soil via dagger nematodes (Xiphinema spp.), and mechanical transmission.

Order Now

Common Symptoms

- Leaf mottling
- Twisted and curled foliage
- Shortened internodes
- Stunted shoot growth

Source: Utah State University

#VIRUSTESTING

Tomato Mosaic Virus

ToMV

Tomato Mosaic Virus (ToMV), a pathogenic member of the Tobamoviridae family and Tobamovirus genus, poses a serious threat with its broad host range, including agricultural crops and weeds.

ToMV encodes four key proteins and has survived for up to half a century, capable of overwintering in seed coats, weedy hosts, and soil.

Order Now

Common Symptoms

- Necrosis
- Yellowing mosaic patterns
- Chlorotic spotting
- Distorted stems
- Severe stunting

#VIRUSTESTING

Tomato Ring Spot Virus

ToRSV

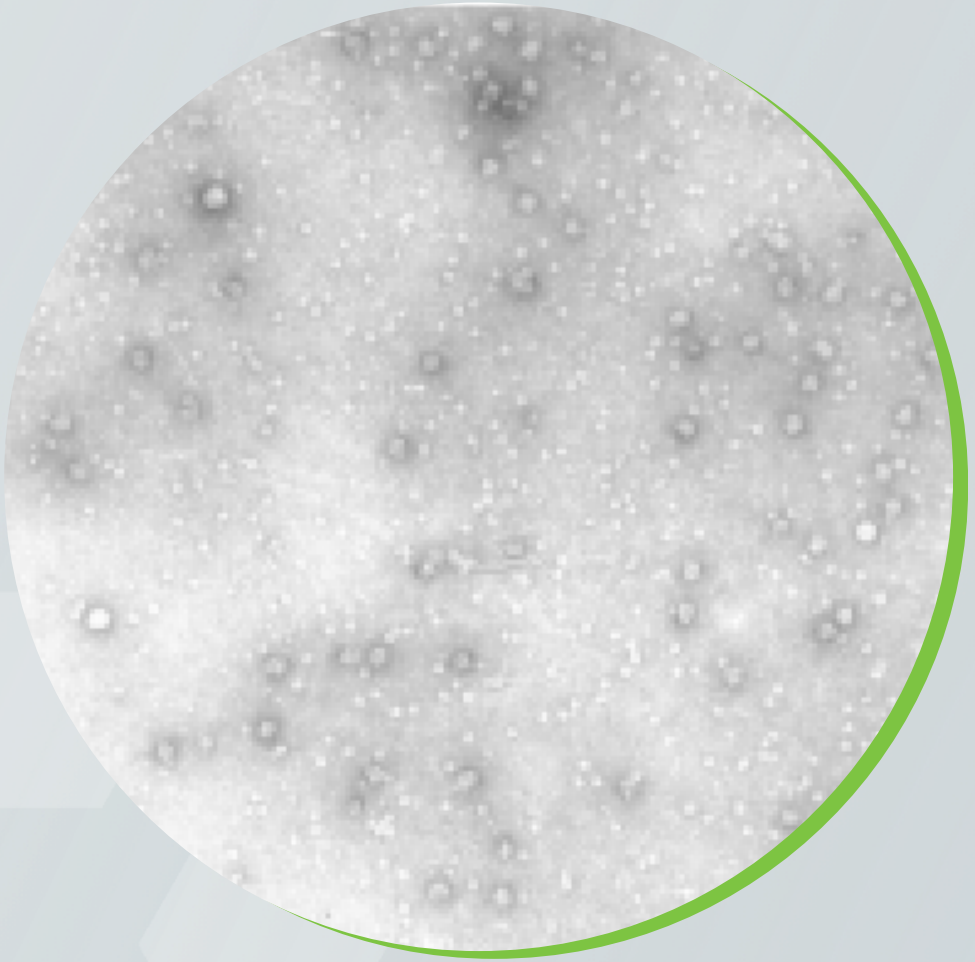
Common Symptoms

- Severe stunting
- Leaf mottling or yellowing
- Deformity

Tomato Ring Spot Virus (ToRSV) is a soil-borne virus transmitted by dagger nematodes, belonging to the Nepovirus genus.

Despite its name, its impact on tomatoes is minor. The bipartite genome encodes replication and movement proteins, facilitating its wide host range from deciduous trees to herbaceous plants like hops and hemp.

Seed-borne in many hosts, ToRSV spreads through soil nematodes and cuttings.



Order Now

#FUNGUSTESTING

Botrytis

Gray mold or Bud rot

Botrytis fungi are necrotrophic plant pathogens that can infect cannabis plants and cause the development of gray mold.

These fungi thrive in cool and humid conditions, and their infection can cause significant damage to cannabis crops, resulting in decreased yields and quality.

Botrytis spores can be dispersed through the air or transferred by insects and other organisms, and can also be transmitted through contaminated soil or plant material.

Order Now

Common Symptoms

- Brown, water-soaked spots on buds.
- Chlorotic areas on stems.
- Gray-brown mass of spores on buds.
- Interveinal yellowing leaves showing necrosis.
- Smaller buds.

#FUNGUSTESTING

Pythium myriotylum

P. myriotylum

Pythium myriotylum (P. myriotylum), classified in the Oomycota phylum within the Pythiaceae family, is a soil-borne necrotrophic oomycete with a broad host range.

This highly virulent pathogen surpasses others in virulence factor-related proteins, contributing significantly to plant host infection. The genes it carries **produce toxins** that hydrolyze polymeric components of plant cell walls in root and crown tissue, leading to destructive outcomes.

P. myriotylum **thrives optimally at temperatures ranging between 25-36˚C.**

Order Now

Common Symptoms

- Root and crown tissue destruction
- Wilting and yellowing of foliage
- Reduced growth and stunted development
- Root rot

Source: Punja, Z. K., Scott, C., & Lung, S. (2022)

#FUNGUSTESTING

Fusarium oxysporum

Fusarium is a fungal pathogen that attacks the root systems of plants, including cannabis. This pathogen is highly infectious and spreads easily in warm, moist environments, making it a significant threat to cannabis crops.

Additionally, Fusarium can be transmitted among seeds, further increasing the risk of infection.

Order Now

Common Symptoms

- The leaves begin to fall and turn yellow.
- The roots and stems begin to wither, in extreme cases, they can reach rot.
- The plant takes longer to fully grow.
- Brownish areas along the main stem.

#FUNGUSTESTING

Fusarium solani

Fusarium solani (F. solani) emerges as a filamentous fungus classified within the phylum Ascomycota in the Fungi kingdom.

Upon entering the roots, F. solani produces toxins that translocate to the aerial parts of the plant, resulting in interveinal necrosis and, ultimately, defoliation.

F. solani is known to generate chlamydospores, which overwinter on plant tissues, and seeds, or persist as mycelia in the soil.

Order Now

Common Symptoms

- Root rot
- Stem canker
- Sudden death syndrome
- Interveinal necrosis and defoliation

#FUNGUSTESTING

Golovinomyces ambrosiae

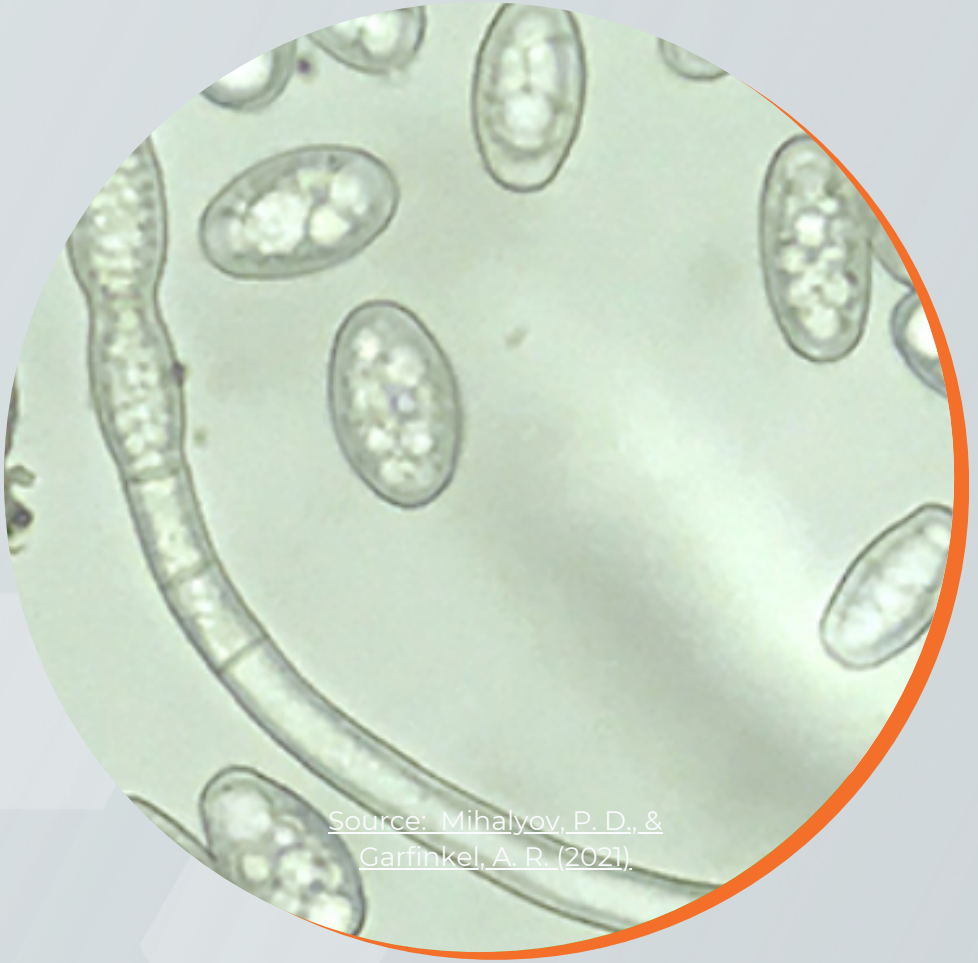
Golovinomyces ambrosiae, a genus of fungi in the Erysiphaceae family and Ascomycota division, is a major culprit of powdery mildew, notably affecting the Cannabaceae family in North America, Canada, and Switzerland.

The **powdery mildew** caused by Golovinomyces ambrosiae is characterized by a white, cylindrical-oblong asexual spore growth, **posing a risk of dispersion** through wind currents to neighboring plants or fields.

Order Now

Common Symptoms

- White powdery growth
- Impaired photosynthesis
- Early senescence



Source: Mihalyov, P. D., & Garfinkel, A. R. (2021).

Cannabis DNA Fingerprinting

The magic starts within the plant.

Today, breeders and nurseries use METRC codes, which enable them to track their plants and secure them with state regulators.

This code is not proof of cultivars' genetic identity.

MyFloraDNA created an innovative system, which allows breeders, nurseries, and cultivators to identify and validate genetics through DNA Fingerprinting analysis, guaranteeing authenticity and genetic fidelity.

With **MFValidate™**, we are able to extract, process, and develop the **Certificate of Cultivar Identity (CCI)** for our clients' cultivars, using a small amount of plant tissue.

Our clients can also **keep them online, shareable, and accessible to their partners**, depending on the purposes they pursue.

Our Technology

MFValidate™

MFValidate™ combines Illumina™ technology and proprietary SNP markers for generating unique Molecular IDs for genetics.

We fuse DNA fingerprinting with the most advanced IT technologies and robust data processing solutions to deliver the most powerful and useful tool to our clients.

Features

All-in-one solution

Get all the power of your genetics in one simple-to-use tool, and keep your cultivars' uniqueness safe.

MyFloraCLOUD

Access and review all the information obtained from your assays.

Simple Collection Process

Simple and easy, send your samples quickly and with minimal hassle.

Certificate of Cultivar Identity

CCI

Did you ever wish you could have a unique ID for your own genetics?

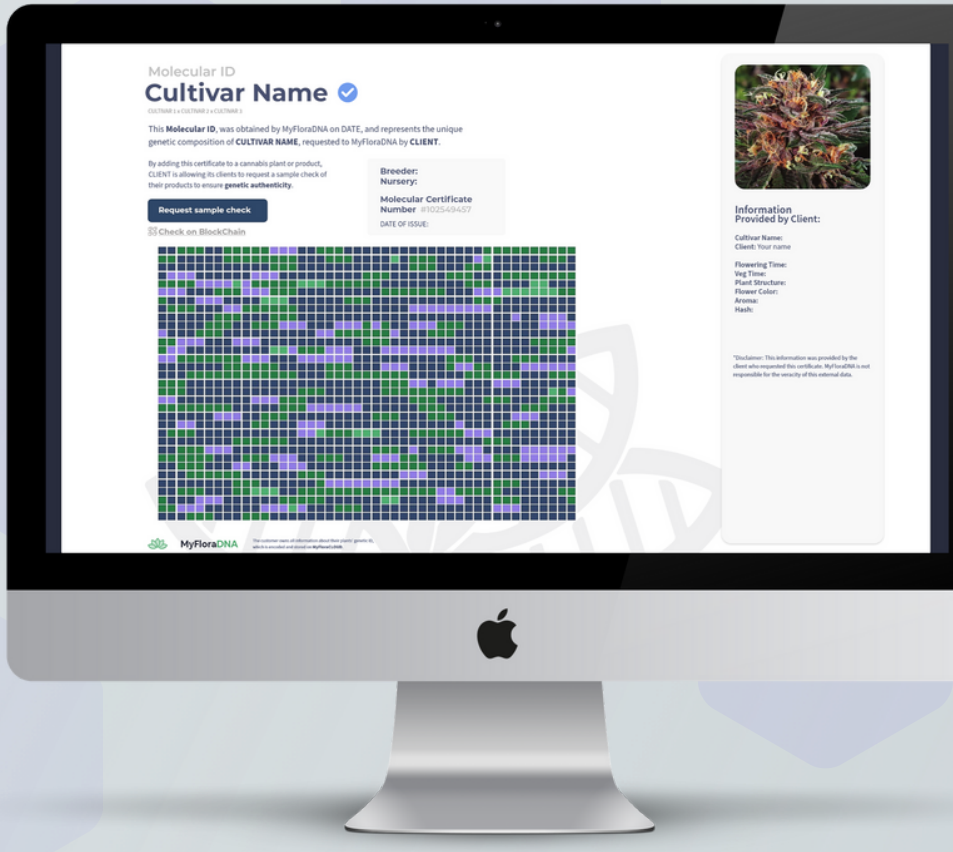
MyFloraDNA molecular analysis makes it possible.

Create a unique molecular image for your genetics.

Use the Certificate of Cultivar Identity (CCI) as the reference to identify your cultivars and proof of their uniqueness.

The CCI includes a unique serial number and a QR code. By **simply referencing the unique identifiers on the CCIs, you can confidently verify the genetic integrity and consistency** of your cultivars over time.

Order Now



Cultivar Genetic Verification

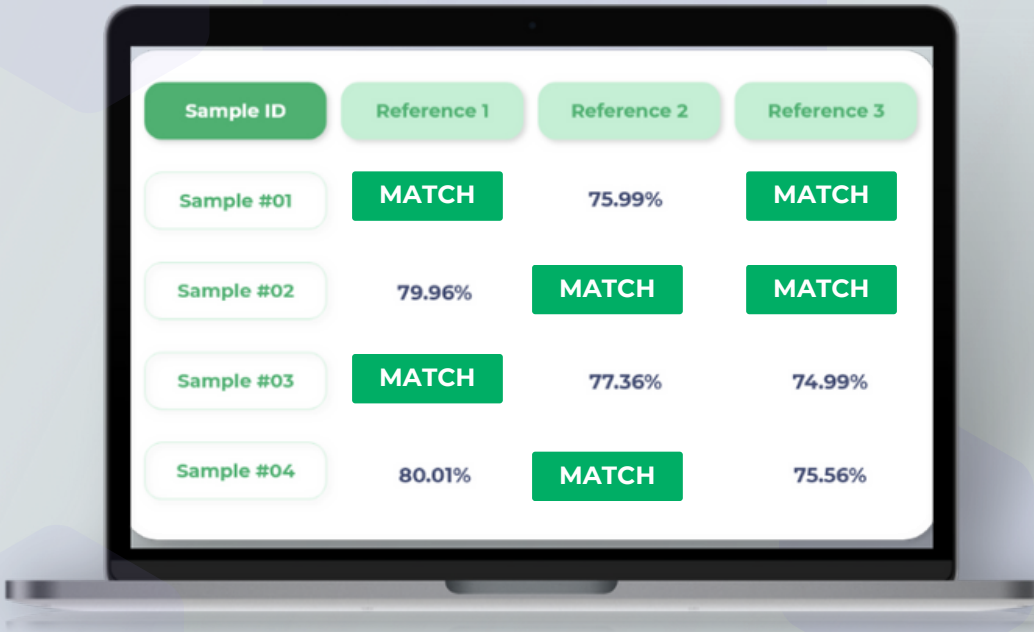
CGV

Have you lost track of your cannabis plant inventory?

Ensure your cultivar genetics meet your standards with our Cultivar Genetic Verification Service. Using **MFValidate™** technology, we accurately track and identify cultivars, aligning plant labeling to match your expectations and client needs.

Simply provide us with your reference plant and samples for cross-verification, and we will deliver a detailed genetic verification report.

Order Now



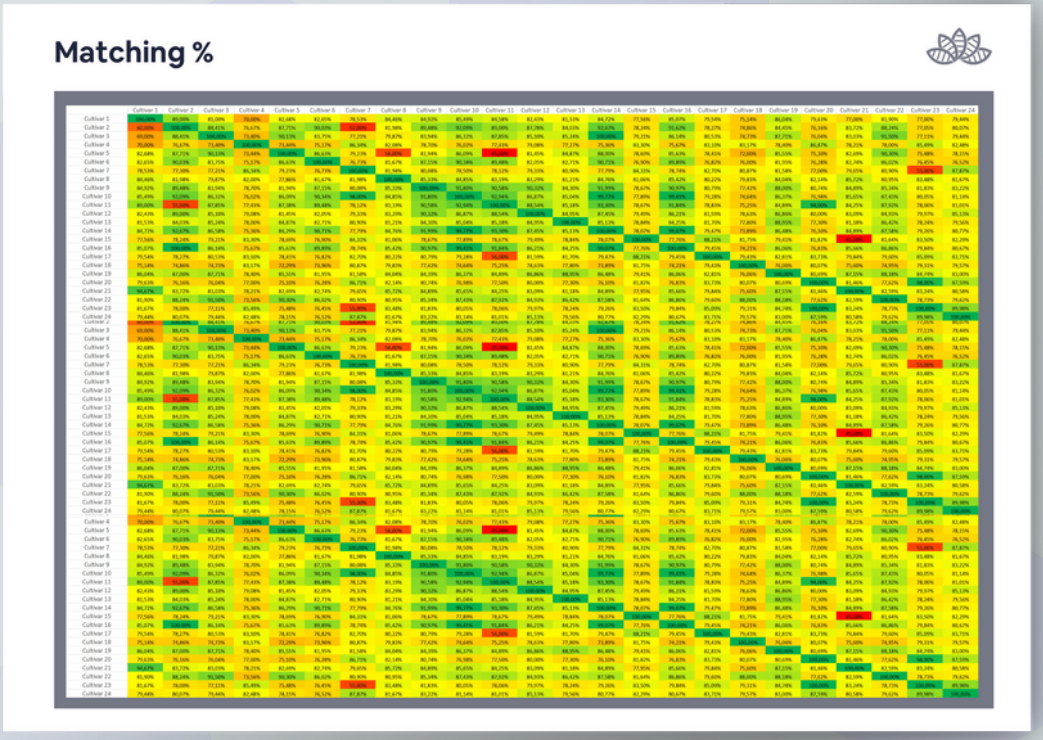
Phylogenetic Matrix

CGV

Are you developing new cultivars? Do you know how similar your genetics are?

Unlock your genetic stock's potential with our Phylogenetic Matrix, delivering precise comparison of your cultivars' molecular compositions.

Using our advanced **MFValidate™** technology, we create a detailed phylogenetic tree from your genomic data, empowering you to understand the evolutionary relationships within your unique genetics with exceptional accuracy and clarity.



Order Now

Molecular Breeding Support

Make informed cultivation decisions

Our Genotype Selection Support services aim to help our clients make crucial choices on the early development status of their plants.

The MFSelect™ technology is designed to target specific DNA markers related to the phenotype traits (e.g sex).

Our DNA assays combine the latest technologies with the industry's most powerful data processing app, MyFloraCLOUD, to provide you with accuracy and efficiency in one place.

Our Technology

MFSelect™

MFSelect™ is a PCR- based high throughput, fluorescent-dependent marker system that relies on unique DNA markers for determining selective phenotypic traits. The technology is broadly used for sex determination and cannabinoid chemotype profiling with minimal use of sophisticated technologies.

MFSelect™ was designed to facilitate the genotype identification of *Cannabis* plant sex in early stages of plant growth.

Features

Fast Turnaround Times

Get results in less than 36 hours and start making informed decisions.

MyFloraCLOUD

Access and review all the information obtained from your assays.

Simple Collection Process

Simple and easy, send your samples quickly and with minimal hassle.

Male Plant Detection

It is **very costly to maintain thousands of plants without knowing their gender** until they are fully grown.

Identify male plants before flowering with this PCR-based service. Using **MFSelect™** technology, we are able to detect male plants early, based on specific sex molecular markers. Make informed cultivation decisions and optimize yields and quality.

Order Now

Use our calculator to know how much money on labor, electricity, water, and other resources you will save using this service.

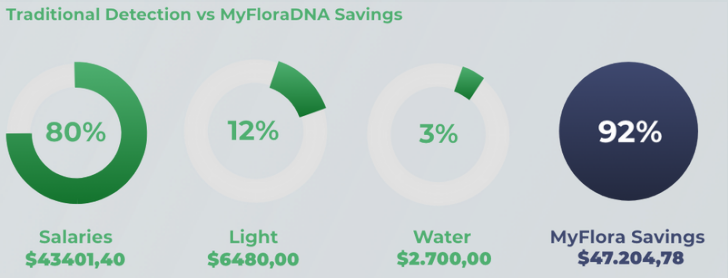
Save money and valuable time

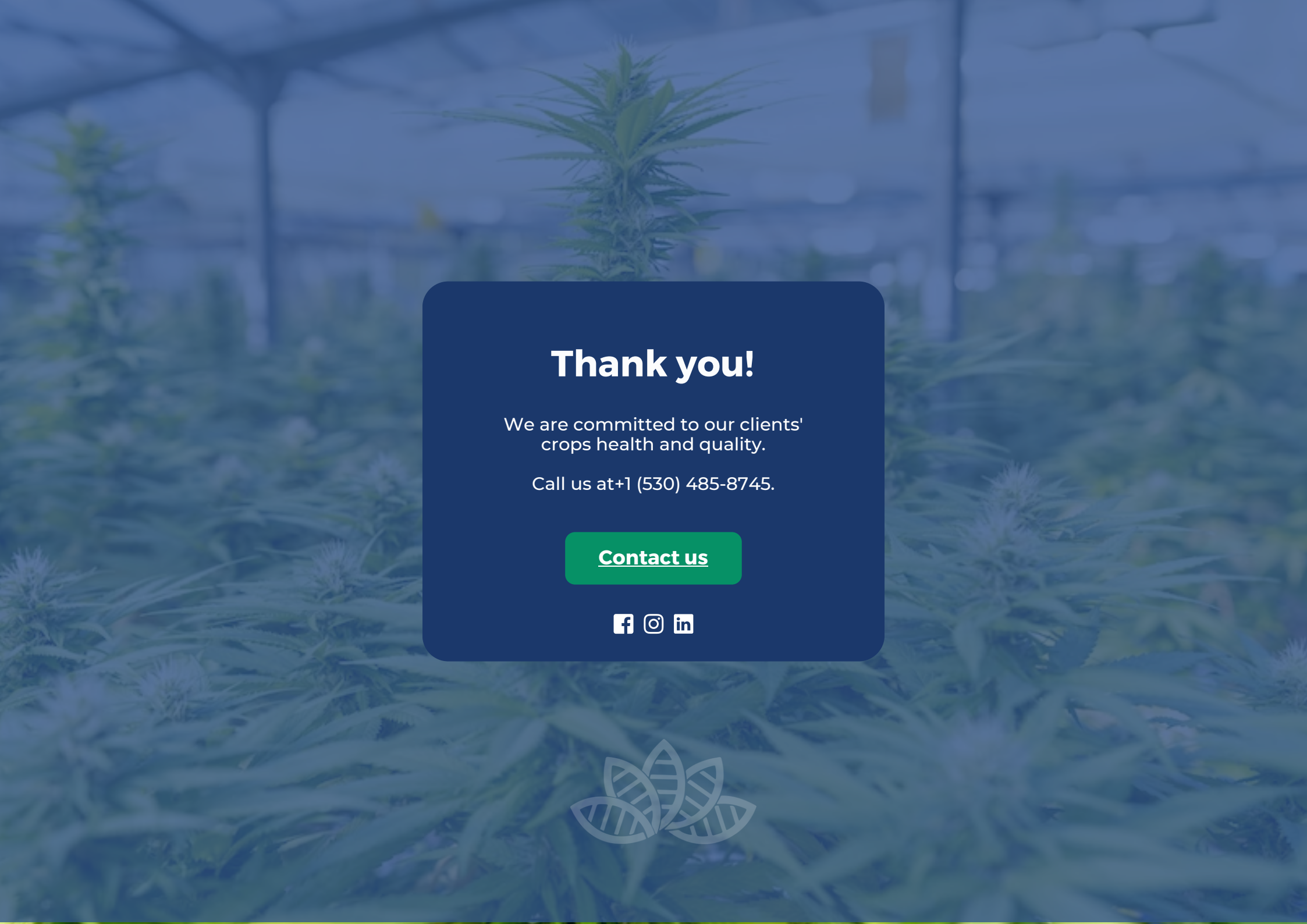
Gender determination

Traditional cultivation — 5-6 weeks

MyFloraDNA testing — 3-7days

Male Plant Detection Costs





Thank you!

We are committed to our clients' crops health and quality.

Call us at+1 (530) 485-8745.

Contact us