



# Metabolomic Profiling Services

Take your project to the next level through innovation in biochemistry.

Metabolomics is an emerging field in horticulture, offering invaluable insights into underlying biological activity and cellular states. By leveraging the power of metabolomics, you can unlock new possibilities for optimizing your work and achieving your goals.

## How does it work?

We specialize in comprehensive metabolite profiling of plants, microbes, soil and environmental samples.

What sets us apart? Vineland's highly trained staff with expertise in analytical and organic chemistry, mass spectrometry-based metabolomics and biotechnology provides support from experimental design to the translation of complex metabolic data to empower you with relevant, accurate, meaningful results to deliver solutions tailored to your requirements and goals.

## Vineland's workflow:

### Consultation & support from beginning to end

We help clients use metabolomics to best answer their questions with consideration given to budget, time and space.

### Analytical chemistry equipment & expertise

Using our in-house mass spectrometry equipment and rigorous quality control measures, we can offer rapid turnaround for every project, whether measuring 1 molecule or 10,000.

### Complete, customized analysis pipeline

We translate terabytes of raw chromatographic and mass spectral data using advanced statistical analyses, data science and decision support systems and validation measures to ensure results you can be confident in.

### Output

We consider the specialized metabolic abilities of each organism to identify potential genes and chemistries to benefit your products and provide next-step options to help get the most out of your data.



## We specialize in:

- Genetically-modified plants
- Greenhouse, field-grown and wild plants
- Trees, shrubs and ornamentals
- Inoculated and infected plant tissues
- Cannabis
- Insects (friend and foe)
- Soil and irrigation media
- Bioactive products and treatments
- Horticultural waste streams and by-products
- Fermentation products

## Services offered:

Harness hidden chemistry:	Discovery-based research:	Comparative profiling:
Find molecular markers for phenomena of interest and traits.	Discover the molecules relevant to the problems you are solving without having to know what you are looking for in advance.	Compare the similarities and differences between the metabolites in your samples.
Genetic and transcriptomic complementation:	Troubleshooting/diagnostics:	Product development cycle:
Use metabolic pathways to inform gene mapping, discovery, expression and mutation effects.	Investigate the how and why of unexpected or unusual results from your plants and products.	Know which molecules are driving your results; their effect on organisms and their environment; which formulations work best and why.
Quantitation and exploration:	Validation experiments:	Multi-disciplinary research:
Pair accurate quantitation of specific compounds while exploring the overall chemistry of your sample.	Confirm the identity of the molecules you are interested in, whether those compounds are commercially available or newly discovered.	Integrate metabolomics with in-house expertise in Biological Crop Protection; Consumer, Sensory & Market Insights; Horticultural Technology Solutions; Plant Responses & the Environment; Plant Variety Development.

## Looking for more information?

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