FARMER FREEMAN

1415 Elliot Pl NW, Building B, Washington, DC 20007
202-697-7640 support@farmerfreeman.com
www.farmerfreeman.com

Pathogen Diagnostic Report

Pan-Pythium

CUSTOMER NAME	**REPORT DATE**
Morgan Chen	October 15, 2026
COMPANY / ORGANIZATION	**RUN DATE**
Farmer Freeman	October 15, 2026
EMAIL	**DATE OF LAB RECEIPT**
support@farmerfreeman.com	October 14, 2026

Diagnostic Results

Sample ID	Strain	Nickname	Sample Type	Pan-Pythium	IC
VT00001	Sour Diesel	SD-A01	Root	DETECTED 26.10	N/A 24.30
VT00002	Chemdawg	CD-B02	Root	NOT DETECTED	PASS 25.20
VT00003	Forbidden Fruit	FF-C03	Root	DETECTED 23.80	N/A 23.90
VT00004	Northern Lights	NL-D04	Root	NOT DETECTED	PASS 25.60
VT00005	Jack Herer	JH-E05	Root	NOT DETECTED	PASS 24.70

- DETECTED — Pathogen present; IC not required for detection
- NOT DETECTED — No pathogen signal; IC valid
- UNDER ANALYSIS — IC failed; being retested, ready in 1–2 business days
- Lower Cq values typically correlate with a greater pathogen load in the sample.

Interpretation Summary

Pathogen Detected

One or more samples tested positive for: **PYTH**. Immediate action is recommended. Isolate affected plants and equipment. Do not take cuttings from positive plants. Sanitize tools between plants. Contact a cultivation advisor to develop a remediation plan.

About the Pathogens Tested

Pan-Pythium (PYTH)

Channel: FAM **Type:** Oomycete **Threshold:** Cq < 35

The Pan-Pythium Detection Test screens for a broad range of Pythium oomycetes responsible for damping-off and root rot in cannabis. This assay detects the following species: P. aphanidermatum, P. catenulatum, P. dissotocum, P. myriotylum, and P. ultimum. Pythium thrives in wet, poorly drained conditions and spreads through water, contaminated tools, and growing media. A positive result warrants immediate review of irrigation practices and sanitation protocols.

Methodology

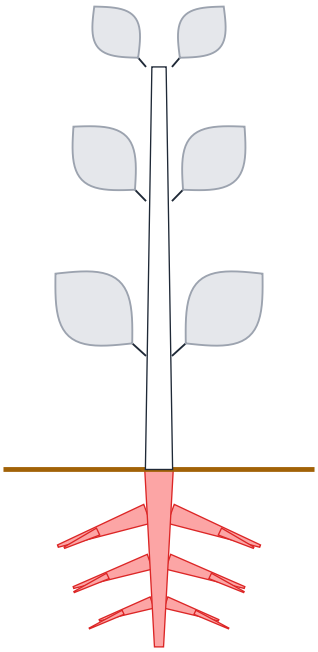
This report utilizes quantitative PCR (qPCR) performed on an Agilent AriaMX Real-Time PCR instrument. DNA is extracted from plant tissue using a validated extraction protocol. Each reaction includes an internal extraction and amplification control (IC/HEX channel) to confirm assay validity. A Cq threshold of 35 cycles is applied for most targets (40 cycles for Russet Mite): samples with Cq at or below threshold are reported as Detected. Samples with Cq between 35 and 40 cycles are also reported as Detected when the IC Cq is below 35, confirming assay validity. A positive target result is reported as Detected regardless of IC status. Wells with no target signal and a failed IC are reported as Under Analysis and will be retested by the laboratory.

Questions? Contact support@farmerfreeman.com or call 202-697-7640. Submit new samples at www.farmerfreeman.com.

VT00001

Sour Diesel

SD-A01



No pathogen detected
Pathogen detected
Not tested

PANEL
Pan-Pythium

SAMPLE TYPE
Root

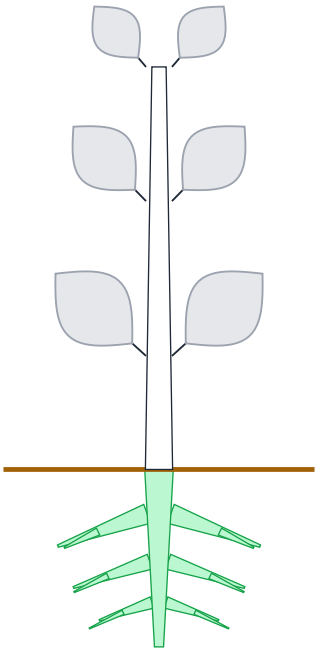
DATE OF RECEIPT
October 14, 2026

Results

Pan-Pythium	**DETECTED**	Cq 26.10
Internal Control (IC)	**PASS**	Cq 24.30

VT00002

Chemdawg
CD-B02



No pathogen detected
Pathogen detected
Not tested

PANEL
Pan-Pythium

SAMPLE TYPE
Root

DATE OF RECEIPT
October 14, 2026

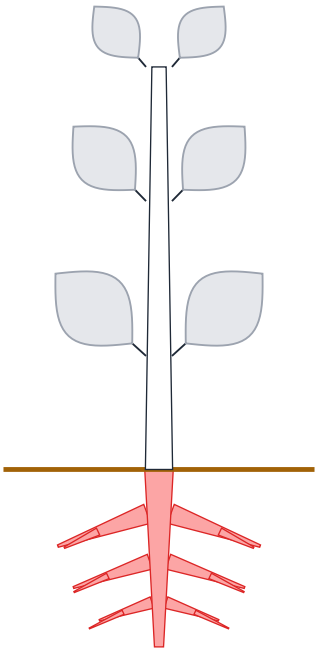
Results

Pan-Pythium	**NOT DETECTED**	No Cq
Internal Control (IC)	**PASS**	Cq 25.20

VT00003

Forbidden Fruit

FF-C03



No pathogen detected
Pathogen detected
Not tested

PANEL
Pan-Pythium

SAMPLE TYPE
Root

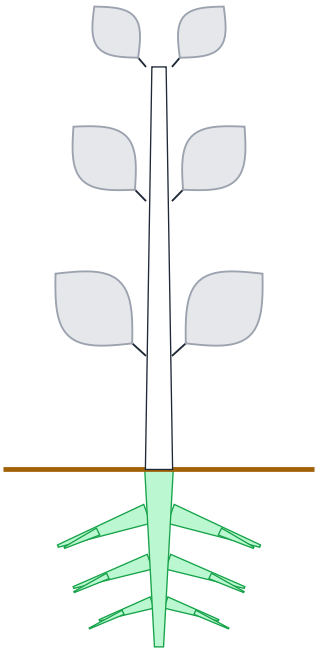
DATE OF RECEIPT
October 14, 2026

Results

Pan-Pythium	**DETECTED**	Cq 23.80
Internal Control (IC)	**PASS**	Cq 23.90

VT00004

Northern Lights
NL-D04



No pathogen detected
Pathogen detected
Not tested

PANEL
Pan-Pythium

SAMPLE TYPE
Root

DATE OF RECEIPT
October 14, 2026

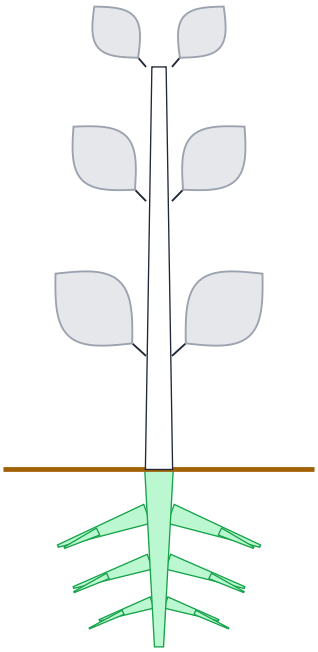
Results

Pan-Pythium	**NOT DETECTED**	No Cq
Internal Control (IC)	**PASS**	Cq 25.60

FARMER FREEMAN

VT00005

Jack Herer
JH-E05



No pathogen detected
Pathogen detected
Not tested

PANEL
Pan-Pythium

SAMPLE TYPE
Root

DATE OF RECEIPT
October 14, 2026

Results

Pan-Pythium	**NOT DETECTED**	No Cq
Internal Control (IC)	**PASS**	Cq 24.70