Clean Mother Stock Guide
Developing a Clean Mother Stock Program

Background

It's difficult to mitigate pathogens in mother stock because of inaccurate tests and uniform pathogen screening and mitigation programs. A company-wide pathogen testing and prevention program can provide cultivation leadership visibility and access to actionable plant health data.

The major objectives when implementing a pathogen prevention program include:

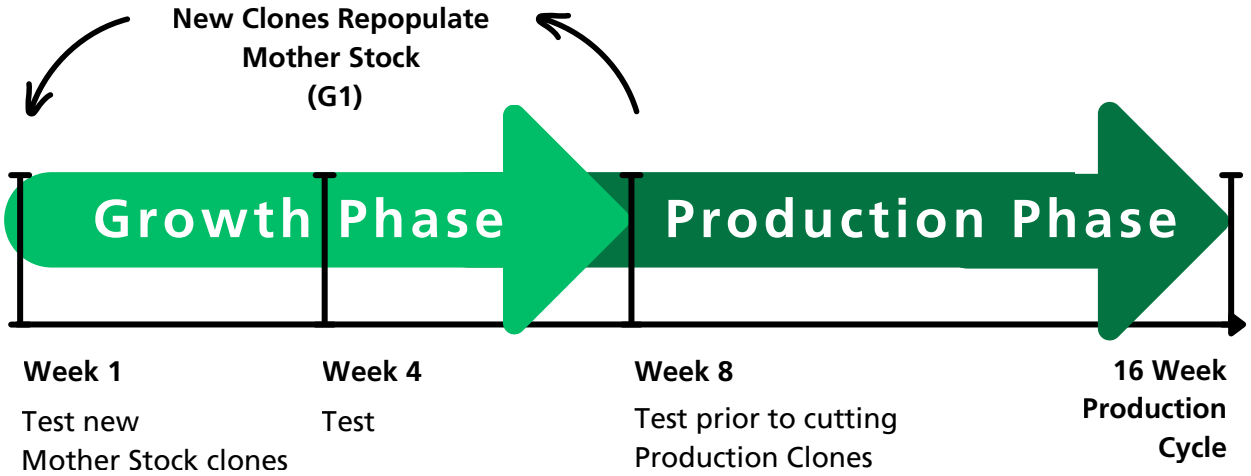
- Accurate identification and removal of infected mother plants, with an emphasis on limiting exposure to positive material.
- Instigation of a consistent, company-wide pathogen screening program to proactively limit introduction and spread of economically damaging pathogens.
- (Long Term) Establishment of a clean stock program to reduce the introduction of pathogens and to limit the potential spread of these pathogens to established cultivars.

Objectives

Implement a Company-wide Pathogen Screening Program

In order to ensure that the mother stock population is pathogen free, a continuous pathogen testing and mitigation program is required. TUMI Genomics can collaborate with an organization's cultivation team to establish and implement a consistent, periodic testing program similar to the one outlined below:

Testing Schedule for Mother Stock



The goal of this objective will be to reduce and maintain an infection rate of less than 3% in mother stock plants across all facilities. Maintenance of this low level of infection will allow maximum yield and quality of produced cannabis flower and limit negative economic impacts from pathogen infections.

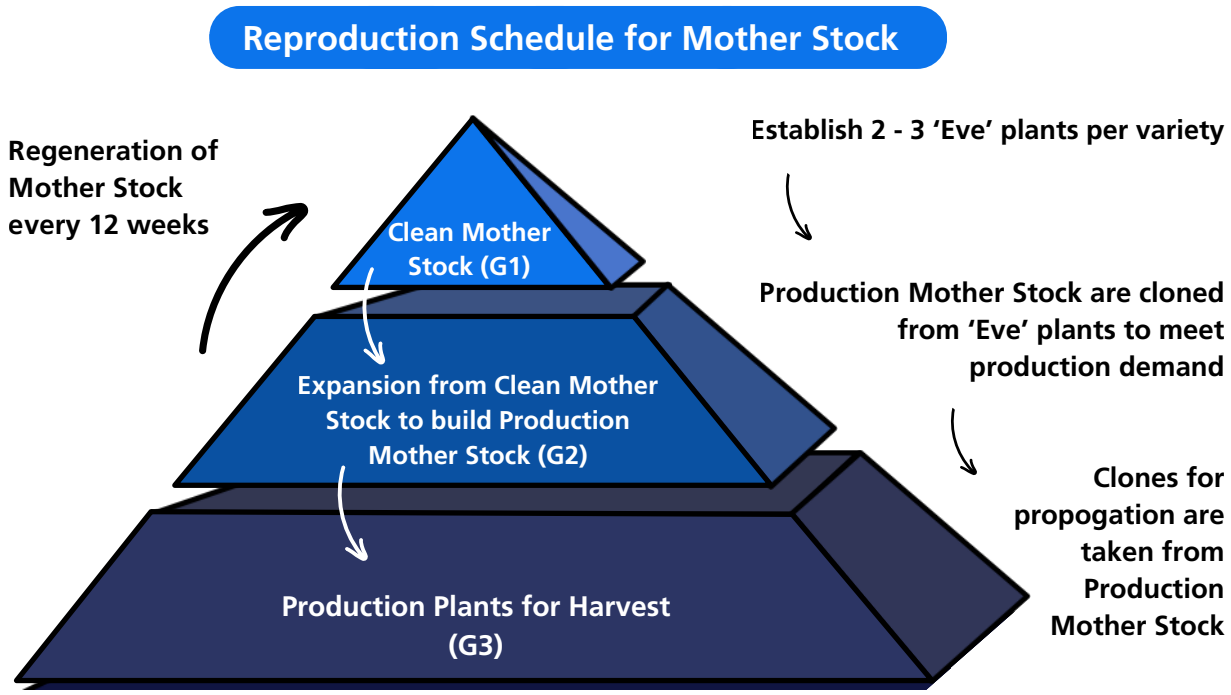
www.tumigenomics.com
sales@tumigenomics.com
720 - 807 - 8864
Fort Collins, CO

Establish a Clean G1 Mother Stock Program

Establishing a clean, G1 or 'Eve' mother stock can limit negative impacts from cannabis pathogens. TUMI Genomics' recommendations for clean stock programs are based on established clean stock programs in general agriculture.

A clean stock program starts by identifying and maintaining single plants per variety, that are rigorously tested with strict phytosanitary protocols in designated locations. Production mothers are expanded from these clean stock plants for facility production needs, safeguarding genetics and minimizing pathogen risks. These programs can be paired with tissue culture and/or micro-propagation for enhanced effectiveness.

The below testing schedule details an example time period for testing, but these time periods can vary depending on each organization's cultivation needs.



Connect with the TUMI Genomics team

Speak with a member of our science team if you're not sure how to start a clean mother stock program, or a general pathogen mitigation plan, for your facility. We offer a free consultation with insights on validated testing and sanitation measures.

Don't forget to check out these other resources:

Guides

- Sample Collection Guide
- S.T.O.P. Pathogens Program Guide

Literature Reviews

- Tool Sterilization to Prevent Viroid Transmission

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