



Introduction

Dr. Dhingra's lab is dedicated to understanding the key roles that genetics play in the physiology of plants. They use this knowledge to advance industry standards and aim to support farmers and tree fruit growers world-wide by providing key information of biological processes that help in both pre-harvest and post-harvest situations.

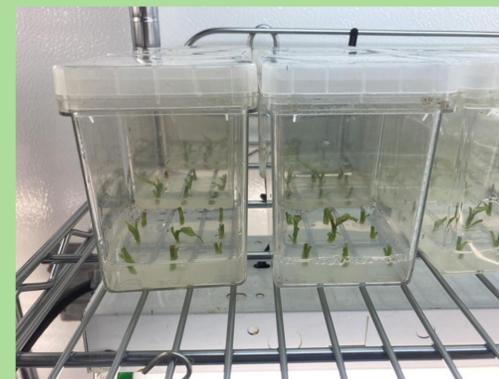


Vogel Plant Biosciences Building
 2nd Floor Research Labs

Responsibilities



During my internship, I assisted the lab in a collaborative project to multiply the quantity of apple rootstocks through tissue culture. The first step is excising young shoots from the rootstocks that were planted in the greenhouse.



One of my responsibilities involved processing the plant material for multiplication in tissue culture through sterile techniques that involved cutting up the young shoots into nodes after the plant material had been sterilized.



I was also tasked with monitoring the processed tissue to ensure there is no contamination either fungal or microbial. In the case of contamination being visible, the plant is then re-sterilized and transplanted onto new media.



When a plant has grown to a developmental stage where it has grown roots to support it soil, it is planted and cared for in the greenhouse or placed in a state of dormancy through long periods of cold temperatures.

Summary

This summer internship has allowed me to work alongside graduate students and under the supervision of experienced plant tissue culture managers. I experienced first-hand how the industry in plant tissue culture can provide farmers and orchard owners with true to type, healthy plants in a time frame that was not possible before.

The skills I practiced through aseptic techniques and what I learned about gene editing and genome sequencing can help me pursue a career in a plant tissue culture lab or in advancing my understanding through pursuing graduate level research.

This experience has allowed me to gain a valuable insight in how the industry is rapidly advancing with state-of-the-art gene editing technology. It has also allowed me to set clear goals for myself as I look towards pursuing an industry job in tissue culture. I will be able to apply what I have learned in this work experience and build on my plant bioscience knowledge.