

Short Term Juvenility in Apples Internship with Tymon Marell James

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Pullman, WA
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Introduction

In this internship, Damian Sheetz, a senior attending Washington State University has assisted Cameron Peace and Tymon James in their apple juvenility experiment. The goal of this experiment was to breed different apple varieties and to find the gene responsible for causing short juvenility. The reason short juvenility is important is since apples may not produce fruit until up to about ten years. Apples trees that show signs of short-term juvenility produce fruit within a few years. If this gene can be discovered, developing juvenility testing will allow apple producers to use it to ensure a faster development of their crop, profits, and overall revolutionize the apple industry.



Fig. 1 *Damian Sheetz taking measurements for apple tree diameter in cm.*

Summary

This experience has fostered my professional growth because it has shown me how to lead and follow a weekly work schedule. The ability to work hands on in the lab and field has given me insight on how scientific data is taken as well as how to record it myself. This professional opportunity has allowed me to understand more about the agricultural field. This is important because I plan to get my degree in Landscape, Nursery, and Greenhouse Management which will most likely have interactions with fruit tree management.

Responsibilities

During the internship it was the responsibility of Damian Sheetz to water and maintain the greenhouse area where the apple trees were being grown. This included regularly watering Monday and Wednesday, as well as watering on Friday but with fertilizer water. The greenhouse area was cleaned and maintained bi-weekly to ensure cleanliness and prevent the drains from clogging. Collection and dissection of different apple varieties in lab was done to extract apple seeds. These seeds were sent to be sequenced. Later, during the end of the fall semester the apple tree data was recorded. Data measurements included; height(cm), width(cm), apple cross, number of stems, number of branches, flowering, leaf size, main stem color, crazy leaf, and branch angle.



Fig. 2 *An example of watercore in apples.*



Fig. 3 *Damian Sheetz taking measurements for apple tree diameter in cm.*