



**Date:** 1/16/2020

**PSU Ref. No:** 213437

**Title:** Apple and Peach Cultivar Testing for Long-Term Orchard Planning

**Submitted to:** Patti Keller

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**Submitted by:** Donald Seifrit

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**Proposed Project**

**04/01/2020 - 4/30/2021**

**Total Project Request: \$4,384**

**AUTHORIZED UNIVERSITY OFFICIAL**

*Jolene Smeltzer* DATE 1/16/2020

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**Please reference PSU Ref. Number in all correspondence.**

**Grant Proposal Submitted to SHAP Extension Committee**  
**January 24, 2020**

**Title:** Apple and Peach Cultivar Testing for Long-Term Orchard Planning

**Personnel:** Donald Seifrit, Extension Educator – Berks County  
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**Duration**

**of Project:** This is the first year of a proposed multi-year project.

**Justification:**

Long-term strategic planning is a necessity for a successful orchard. With high-density systems leading apple production across the industry, growers must place orders for trees several years in advance. This has created a gap in information from the creation of a cultivar at a breeding program, grow out of nursery stock, and growers finally receiving their orders. This grant would help remedy that dearth of information by providing growers the opportunity to request apples cultivars (and later, peaches) to be part of this long-term survey that would track the taste profiles and consumer preferences of these fruit.

There are roughly 7500 cultivars of apples in the world, and while we grow only a fraction of those commercially in the commonwealth of Pennsylvania. Without an apple breeding program to call our own, Pennsylvania growers should be able to taste the fruit they will be competing against, and using that knowledge, choose cultivars that they are confident will fulfill a similar niche in our local markets.

Cultivar trials are ideal work for Cooperative Extension. While many cultivar trials focus exclusively on horticultural properties, this trial would allow PA growers to track consumer preferences over a large timeframe. Combined with other Extension efforts, such as grafting and top-working workshops, this helps growers pivot towards different cultivars as their needs change. Furthermore, by placing this work in the hands of Cooperative Extension, it is possible to perform research that, while very valuable for growers, may be ignored by university faculty due to the nature of research for high-level scientific publications.

For the first year, the focus would be on apple production, but with positive feedback, this work could be expanded to include other tree fruit.

**Procedure(s):** The first year of this project will be dedicated to the collection of data from growers around PA. A survey will be conducted to create a set of standards that new cultivars will be tested against. Growers will be asked to provide a list of apple cultivars that they are currently growing and

another list of cultivars that they are interested in learning more about. These cultivars can be fruit that they may or may not have access to through clubs, breeding programs, etc. Once this survey has been completed, a list of cultivars for purchase for 2021 will be compiled utilizing the “standards” (cultivars that are being grown by the majority of growers surveyed) and the “experimental cultivars” (cultivars that the majority of growers are interested in but may not necessarily have in the ground at the time of the survey). This final list would likely consist of between 20 to 30 cultivars.

The second and consecutive years of this project will focus on the testing of the fruit and the updating of the original cultivar list. The fruit to be tested would be purchased using funds from this grant, stored at the Penn State Fruit Research and Extension Center, and then used in a tasting panel at both the Mid-Atlantic Fruit and Vegetable Convention (MAFVC) and at the Sensory Evaluation Center in State College, PA. Growers and consumers that take part in this tasting panel will be given some basic training on how to rate fruit. Consultation with the Penn State Sensory Evaluation Center will help guide this part of the process. Testing performed at the Sensory Evaluation Center at State College will help provide a more complete data set for various demographics.

During the testing at the MAFVC, growers will be asked to provide updated survey answers. Ideally, as the years progress, this selection process will allow cultivars that fall out of consumer and grower favor to be dropped from the data collection phase to make room for new cultivars. Keeping the number of cultivars tested to a manageable level should help alleviate some of the storage, transportation and purchasing costs. Furthermore, survey answers from consumers at the Sensory Evaluation Center could potentially be used to evaluate consumer awareness of the various cultivars.

Each year, after data collection is completed during the tasting panels, Extension will publish a “Consumer Panel Review” with photographs and data analysis. This publication should be helpful for growers looking to make cultivar purchasing decisions and should be available both digitally and in print formats.

**Budget:** Indicate projected costs with estimated annual costs. For multi-year projects, indicate estimated annual costs for subsequent years.

Salaries	___\$1301___	Supplies	__\$750__
Hourly wages	_____	Travel	__\$600__
Fringe Benefits	__\$493__	Miscellaneous	__\$1240__
Total	___\$4384___		

**Budget Justification:**

Salaries: 2.5% effort for Donald Seifrit to purchase supplies, set up and oversee testing and data collection, statistical analysis, etc.

Fringe Benefits: Fringe benefits are computed using the provisional rates of 37.85% applicable to Category I Salaries for fiscal year 2020 (July 1, 2019, through June 30, 2020). If this proposal is funded, the rates quoted above shall, at the time of funding, be subject to adjustment for any period subsequent to June 30, 2020, if superseding Government approved rates have been established. Fringe benefit rates are negotiated and approved by the Office of Naval Research, Penn State’s cognizant federal agency.

Supplies: Multiple bushels of apple cultivars for testing

Travel: Travel to and from State College/MAFVC for testing purposes

Miscellaneous: Sensory Testing Services and cold storage costs

F&A – Off Campus Instruction/Continuing Education

F&A rates are negotiated and approved by the Office of Naval Research, Penn State's cognizant federal agency. Penn State's current provisional off-campus rate for instruction and continuing education is 26.00% of MTDC from July 1, 2019, through June 30, 2020. New awards and new competitive segments with an effective date of July 1, 2020, or later shall be subject to adjustment when superseding Government approved rates are established. Per 2 CFR 200 (Appendix III, Section C.7), the actual F&A rates used will be fixed at the time of the initial award for the duration of the competitive segment. *Sponsor restricts indirect costs.*