

Apple Horticulture and Postharvest Request for Proposals

Some of the priorities listed do not specifically ask for organic options. Considering the significant amount of organic apple acreage in WA, we are interested in having organic practices considered in all proposed work, when appropriate. Novel ideas in areas not listed as priority are encouraged. It is suggested to contact Ines Hanrahan (hanrahan@treefruitresearch.com) to discuss any ideas outside of the priorities identified by the RFP, before submitting a preproposal.

2020 Research Priorities

Systems approach for controlling bitter pit & calcium-related disorders

Determining the cause and developing management strategies to mitigate green spot in *COSMIC CRISP*[®]

Achieving sustainable production and consistent fruit quality:

- managing soils and tree fruit production
- optimization of yield potential
- fruit maturity and storage management
- prevention of physiological disorders

Soil and rhizosphere ecology:

- How to manage and maintain soil fertility

Preharvest fruit pathogen management

Understanding the basis of fruit color development (collaborative project):

- Genetic, biochemical, physiological factors
- Practical ways to manage and increase color

Abiotic stress management:

- Climate science: understanding chilling requirements for apple trees

Food safety and sanitation (practical approaches to be implemented directly into operations):

- Survival of microbes on waxed fruit
- Disinfection in orchard (i.e. spraying ozone, chlorine dioxide)
- Organic approaches to packing line food safety

Technology projects for apples alone or across several different crops are encouraged. Of special interest are proposals addressing methods for the reduction of manual labor needs in orchards. Those projects may be moved into the technology committee. Specific priorities:

- High density systems for automation
- Non-destructive crop stress modeling
- Real time fruit growth measurement