

2027 Request for Proposals (RFP) for Technology



The Washington Tree Fruit Research Commission (WTFRC) is seeking proposals for technology. Technology projects for apples or across different crops (apples, cherries, pears, stone fruit) are encouraged. Of special interest are proposals addressing methods assessing labor utilization or for the reduction of manual labor needs in orchards. Please refer to the current Technology Roadmap for more detailed background: <https://treefruitresearch.org/about-us/technology-roadmap/>

General Considerations:

- **Economic Viability:** Maintaining profitable and sustainable tree fruit operations is paramount. Therefore, all project designs must incorporate economic considerations.
- **Organic Practices:** While not explicitly stated in all priorities, we encourage the integration of organic practices where applicable.
- **Industry Outreach:** Proposals with outcomes that directly translate into management changes must include a robust industry outreach component.
- **Related projects:** before submitting a preproposal review the lists of currently funded projects.
 - <https://treefruitresearch.org/technology-research-review/>
 - <https://treefruitresearch.org/apple-crop-protection-research-review/>
 - <https://treefruitresearch.org/apple-horticulture-postharvest-research-review/>
 - <https://treefruit.wsu.edu/?s=WTFRC+funding+2026>

Crop Load Management

- Pruning: Focus on one single pruning cut and automate (e.g. click pruning) or cutting of selected branches on a tree to achieve desired crop load.
- Bud counting: Develop a sensing method to distinguish fruiting from vegetative nodes
- Blossom and green fruit thinning: variable rate application
- Accurate crop estimation (yield, size profile, fruit to leaf ratio) / real time fruit growth measurement.
- Integrate vision systems into thinning models i.e. Pollen Tube Growth Model, Fruit Size Distribution model
- Next generation crop load management metrics based on vision systems data.

Harvest Automation

- Partial or full automation of harvest for apple, pear, stone fruit, and cherry using broad collaboration (multistate, private/public). May include assistive technologies, labor management systems, and harvesting robots.

Other Areas

- Novel pest management hardware.
 - o Examples:
 - Full or partial automation of cardboard banding in organic codling moth management
 - Rodent control
 - UV light for the control of fireblight / powdery mildew in tree fruit.
- Removal of unpicked fruit for orchard sanitation (see AHP RFP)
- Plant health monitoring with automated sensors. Finding more economical ways of disease and pest detection. Broad scale efficient detection and control for Apple, pear and cherry crops. (background: example of satellite imaging companies are making big leaps in row crops using infrared, Lidar, and other imaging). AI assessment of orchard imagery for pest and disease detection.
- Smart Orchard Project – Assess available tools to help growers gauge potential suitability.

Novel Ideas and Assistance during the Proposal Process:

We encourage **novel ideas** beyond the listed priorities. For projects outside the 2027 Request for Proposals (RFP) priorities, please **contact Ines Hanrahan** (hanrahan@treefruitresearch.com) for a discussion before submitting a pre-proposal. **WTFRC staff** are also **available** at any time to discuss your ideas, provide feedback, and offer guidance **to help you craft a successful proposal**.