PNW PEAR RESEARCH PRIORITIES FOR 2027

Fresh and Processed Pear Growers of Oregon & Washington

The aim of the Pear Research Subcommittee (PRSC) is to solicit and support research on pears that can provide a favorable return on investment to the broader pear industry. The PRSC seeks research proposals that have clear, obtainable objectives. We encourage scientists to pursue other public and private sources of funding as appropriate, and to leverage pear grower funding to support applications for larger projects such as Sustainable Agricultural Research and Education (SARE), Organic Research Education Initiative (OREI), Specialty Crop Research Initiative (SCRI), state Specialty Crop Block Grants (SCBG), or other grants from the United States Department of Agriculture National Institute of Food & Agriculture's Agriculture & Food Research Initiative (USDA-NIFA-AFRI).



Pear industry stakeholders are clear in their desire for novel research projects which build upon previous knowledge and provide demonstrable value to the grower community. As such, we ask that **proposals include discussion of the project's potential return on investment (ROI)** in the near-, mid-, and/or long- term to the pear industry. In addition, impactful **proposals should include a plan for outreach** to ensure that those who would benefit from the project's outcomes, whether pear growers, consultants, packers, shippers, retailers, and/or other scientists, may fully realize and apply the benefits of the pear industry's investment in that specific research. Given the increasing production of organic pears, proposals should also **consider the specific needs of organic and regenerative practices** whenever possible. Most research projects funded by the Fresh and Processed Pear Committees are **1-3 years in length and have annual budgets of $25,000-60,000.**

The economic viability of the PNW pear industry is predicated on our ability to deliver consistently positive eating experiences with high quality fruit that trigger repeat purchases from consumers, all within a sustainable production cost structure with adequate margins to allow pear growers and packers to reinvest in their operations. To that end, we have identified four key areas or "legs of the table" that can most significantly improve grower returns; research proposals that address these needs are highly encouraged and have greater potential to be funded:

1. Clean fruit produced under stable, sustainable pest management programs with reduced inputs
2. Consistent, productive yields (50+ bins/acre in current standard blocks) of high-quality fruit in sizes and grades to maximize flexibility for warehouses to pack, store, and ship fruit in profitable formats
3. Consistent delivery of properly ripened, nutritious, and delicious fruit to the consumer
4. Reduced losses due to decay, shrinkage, and repacking

Research Priorities

We welcome all research proposals that address challenges to pear production, packing, and storage in the PNW; we have identified the following subjects as our highest priority areas in hopes of attracting proposals which address some of the most urgent needs brought forward by our industry stakeholders.

KEY ISSUES FOR 2026-2027

- **Bartlett crop size:** How many fresh & cannery fruit can industry produce with sustainable returns? What is the market for small fruit? How do we prune and manage crop load for fresh market quality & size? How should we grow and store Bartletts to support sales of quality fruit into February and March?
- **Rust and pear blister mites:** Damage is exploding in some areas across industry – how do we manage them effectively, especially in organic/regenerative or soft/IPM blocks? What spray programs can help manage these mites without disrupting current IPM programs?
- **Ethoxyquin alternatives:** How will we manage scald with the pending loss of ethoxyquin? Will likely increased use of 1-MCP to mitigate scald lead to delivery of more fruit that does not ripen well?
- **Human nutrition:** New studies which demonstrate health benefits of eating pears could help marketing efforts – how should industry support this "food as medicine" type of research?
- **Mancozeb alternatives:** With Canada's pending revocation of mancozeb MRLs, what alternatives exist for early season psylla control and fruit finish programs, especially in wetter districts like the mid-Columbia?

POSTHARVEST/ FRUIT QUALITY

Goal: to develop novel postharvest practices which extend the storage season, optimize fruit quality, and minimize storage losses

- Decay control including organic and biological options
- Storage optimization, especially to extend Bartlett sales season
- Eating quality/increasing consumption
- Scald control without ethoxyquin
- Scuffing prevention
- Sanitation/food safety
- Fruit condition (mineral content, cuticle, etc.) effects of storability
- Organic tools for postharvest physiology
- Inhibition of premature fruit yellowing
- Survey of all sources of postharvest losses and identification of which research targets offer the greatest potential financial gains (potential for AI to help analysis?)

HORTICULTURE

Goal: to increase production of high-quality fruit (packed boxes/acre) while reducing grower cost inputs

- Crop load management
    - Orchard systems
    - Pollination strategies
    - Pruning strategies, especially to promote fruit size & quality (Bartlett); potential for bud counting to inform pruning and thinning for all varieties
    - Promoting fruit set
    - Organic "stop drop" options
    - Promoting annual cropping in all varieties to facilitate consistent marketing
- Crop physiology
    - Irrigation
    - Fertility/nutrition
    - Fruit finish
    - Fruit disorders (cork, greening, etc.)
    - Cold temperature hardiness
- Rootstock genetics/genomics and breeding
- Scion genetics/genomics and breeding
- New technologies for orchard automation, spray application, field sensors, labor assist
- Canopy management strategies to accommodate future automation
- Irrigation management to minimize cork spot

CROP PROTECTION

Goal: to protect fruit and trees from damage from pests and diseases using economically and environmentally sustainable methods as pest complexes continue to evolve alongside new IPM strategies

- Pear psylla
- Mites, especially rust mites
- Fire blight
- Codling moth
- Stink bugs
- Induced secondary pests: Pandemis, Box Elder bug, blister mites
- Weed management, especially for organic/regenerative systems
- Pest genomics
- Disease/disorder genomics
- Organic/regenerative options for pest & disease management