



2017 Apple Horticulture and Postharvest Research Priorities

Research priorities from WTFRC Apple Horticulture and Postharvest Committee are grouped into Critical, High, Medium and Low priority groups and listed in *alphabetical order, not priority order*, within those groups.

Critical priority

Food safety

- Sanitation, implementation and validation
- Outreach efforts

Labor

- Improve labor productivity and safety in full range of horticultural tasks
- Improve horticultural production systems to facilitate mechanization and automation

Postharvest decay control, both field and packinghouse components

Soil health and productivity

- Conventional and organic systems

High Priority

Alternatives to antibiotics

Environmental stress and water relationships

Food Safety

- Risk assessment
- Overhead cooling issues
- Improve HACCP systems

Fruit quality pre and postharvest

Improved scion and rootstock genetics

Orchard infrastructure engineering

Soil health and productivity

- Systems approach based on better understanding of soil ecology/biology
- Development of diagnostic test with decision support system

Systems approach to calcium disorder

Medium Priority

Apple replant

Provide better understanding of causal agents

Analyze rootstock host plant-pathogen-environment interaction

Crop Load Management

Enhance uniform cropping

Fruit Quality

Postharvest chemical application methods

Pre-harvest fungicides

Organic systems

Soil Health and productivity

Clearer understanding of soil indices

Low Priority

Apple replant

Focus on impact during both establishment and production

Crop load management

Improve application timing and techniques

Improve robustness and versatility of mechanical thinning

Improve understanding of reproductive biology and fertilization models

Physiological activity of chemical thinners

Food safety

Enhance product traceability