

## Ontario Tree Fruit Innovation and Technology Roadmap

### Weather Station Data

#### Evaluating New Technologies

	Feasibility and cost	Implement	Labour Reduced	Changes in production	Training for staff	Impact on risk of COVID-19 Transmission
Identified Technology	low, medium, high	easy, medium, challenging	% estimate	easy, medium, hard	none, medium, high	none, low, medium, high
Crop Protection – Weather Station	low	easy	10-20	easy	easy	low-medium

### Crop Protection

Current Status – Weather stations located in grower’s orchards can assist growers with decision making for the optimum timing for applying chemical thinning sprays. Weather station information is critical data for use in conjunction with predictive models for pruning and thinning, for applying preventative sprays for diseases and insects as well as for crop timing and wind/frost protection. Useful information collected by a weather stations includes; rainfall, current temperature, minimum and maximum temperatures, wind speed, temperature inversions and relative humidity.

Feasibility of Implementing – Most companies that supply weather instruments provide information for setting it up. An inversion tower would be needed to provide wind speed and temperature inversions useful to determine when to start wind machines for frost protection.

Impact on Labour – Reliable weather data used in conjunction with predictive models for pruning and thinning activities as well as for crop protection applications can improving efficiencies in orchard operations and help reduce overall labour requirements.

COVID-19 Mitigation Risk - This technology used in conjunction with predictive models may help increase labour productivity and reduce overall labour requirements for orchard operations therefore implementation can lower the overall risk of COVID-19 exposure and transmission for orchard operations.

Need for Change, Research and Training – Some training would be required to set up the weather station and to recover the data for use.