

## Ontario Tree Fruit Innovation and Technology Roadmap

### Detection Systems for Spray Applications

#### 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
Detection systems to apply sprays	medium - high	medium	20-30	low	medium	high

Current Status - New and innovative detection systems can detect green foliage and adjust the volume sprayed. The new Sensor Tech can adjust to the density of the foliage and control the output for each nozzle in real time.

Feasibility of Implementing – The capital cost to purchase this equipment is high, it would be easy for the operator to use since it is fully automatic.

Impact on Labour – Manufacturers suggest there is a 25% increase in spray application efficiency so each tank of spray can go further. This would translate to a savings of equal proportion for labour operations.

COVID-19 Mitigation Risk – This is low risk to the applicator since the operator spraying in a sealed cab with air filtration. The operator has protective gear and air filtration masks when not using the spray cab. This technology helps to 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 – The spraying module is automatic, and no training is necessary.