

## Ontario Tree Fruit Innovation and Technology Roadmap

### Bin Carriers and Trailers

**Evaluating New Technologies**

	<b>Feasibility and cost</b>	<b>Implement</b>	<b>Labour Reduced</b>	<b>Changes in production</b>	<b>Training for staff</b>	<b>Impact on risk of COVID-19 Transmission</b>
Identified Technology	low, medium, high	easy, medium, challenging	% estimate	easy, medium, hard	none, medium, high	none, low, medium, high
Bin carriers and trailers	medium	medium	30-50	medium	low	high

Current Status – Bin carriers are used by apple growers and a few peach growers to haul bins of fruit from the fields directly to the pack house and into storage. Bin carriers are typically an add-on to go with the platforms but can be separate and include bin trains. Add-on bin carriers are attached to the platform or harvesting machine and usually carry several bins. Trailers to haul bins in from the orchard are attached to tractors and pick up several bins at a time. There are single bin trailers that can be attached to others and form a chain to bring bins out of the orchard. Bin loaders are a self loading and unloading trailer designed for transporting fruit bins in and out of the orchard quickly and efficiently, without the operator having to leave the tractor seat. Current innovative research aims to develop an intelligent bin-managing system supported by a robotic self-propelled fruit bin carrier.

Feasibility of Implementing – Implementation cost is medium and is simple to incorporate with the harvest platforms orchard process.

Impact on Labour – New bin carrier/bin train technologies can reduce labour needs by improving productivity of the fruit picking process with more efficient management, placement and collection of bins within harvesting sites. Add-on bin carriers have been used by apple growers and a few tender fruit growers for several years. Most tender fruit growers pick up 11-quart baskets of fruit from under the trees in the field and place them on the orchard wagon. Once the fruit arrives to the packing house, they would have to unload the 11-quart baskets, place them on the skid on racks and then move them into cold storage. Changing to shallow bins and a bin trailer would reduce labour.



**Ontario  
Tender Fruit  
Growers**

COVID-19 Mitigation Risk – New bin carrier/bin train technologies can reduce labour needs; therefore, implementation can lower the overall risk of COVID-19 exposure and transmission for orchard operations.

Need for Change, Research and Training – There would be some in-orchard operational/process change to implement new bin carriers or trains. Very little training is required for the loading and unloading of the bins.