

Ontario Tree Fruit Innovation and Technology Roadmap

Harvest Containers (Bins and Plastic Totes)

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 |
| Harvest containers – bins and plastic totes | medium | easy | 20-40 | medium | medium | medium |

Current Status - Some tender fruit growers are using new container technologies such as shallow bins and plastic totes which replace 11-quart wax baskets. For tender fruit, the plastic totes are palatized in field manually, loaded on trailers, brought into facility, then cooled and manually unloaded/tipped into the pack-line so the fruit is only touched once by the picker.

Feasibility of Implementing – Initial cost to implement would be medium to high for the plastic totes and would require a washing station.

Impact on Labour – Studies have shown that harvesting tender fruit into plastic containers improves labour efficiency at harvest. Research and time trials have been conducted and results show that the plastic tote method is the most efficient and cost-effective method versus 11-quart baskets. It takes the pickers less time to pick a kilogram of peaches which makes this method 40% more efficient for harvest. The plastic totes can be immediately palletized in the field making the process more streamlined for placement into cooling and storage areas and eventually to bin tipping equipment.

COVID-19 Mitigation Risk – The risk is lower since the fruit is put directly on pallets in the field and loaded/unloaded by machine reducing the contact with workers handling baskets. This technology may reduce labour needs and therefore helps lower the risk of COVID-19 exposure and transmission for growing operations.

Need for Change, Research and Training – Some operational changes may be necessary when implementing different harvest containers based on storage capacity and equipment capacity.



**Ontario
Tender Fruit
Growers**

Washing and sterilizing plastic totes would be an additional task to ensure food safety standards.