



HOLLAND MARSH

Technical Innovation Roadmap

Executive Summary

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The Project is funded by the Ontario Ministry of Agriculture, Food and Rural Affairs. The information herein reflects the views of the authors and does not necessarily reflect the views of the Government of Ontario.



Executive Summary

Labour shortages in the agri-food sector is an ongoing issue that has only been amplified by the COVID-19 pandemic. The Holland Marsh which typically supplies 56% of Canada's requirement for carrots alone, forecasted a drop in production by 50% due to pandemic related issues, among which is insufficient labour. Often referred to as "Ontario's soup and salad bowl", the Holland Marsh produces a variety of vegetables with considerable dependency on temporary foreign workers to plant, maintain and harvest these crops.

There is a pressing need to make innovative changes to the way agri-food businesses operate to reduce reliance on labour, reduce illness transmission and thus maintain the local food supply. The background information that clearly demonstrates this need is outlined in sections 3.1 to 3.3 of the main report.

The purpose of this project was to identify technological improvements and/or innovations not yet widely adopted by the sector, and the Holland Marsh specifically, which would find solutions to these issues. Section 3.4 provides insight into the technologies and innovations that could provide these solutions, while section 3.5 outlines the foundations that are necessary to ensure successful implementation of these new technologies namely; infrastructure (reliable, high-speed internet and sufficient access to power), skilled labour and strategic planning capacity.

Through a combination of an online survey, virtual focus groups and telephone interviews the research team gathered information from stakeholders. 2020 has been a very stressful year for all due to the COVID-19 pandemic and along with the personal stress and anxiety, businesses on the Marsh reported increased costs to doing business and challenges in securing staff.

Identified Opportunities

The table below identifies opportunities and key improvements that stakeholders view as having the potential to achieve the three goals of being pandemic ready, relieve labour dependency and maintain food supply. Numeric responses indicate level of agreement from 1-7, where 1 is strongly disagree and 7 is strongly agree. Automated equipment, specialized cleaning equipment and software for the monitoring and administration regarding staff and staff health were the top three areas respondents see that technology/innovation will improve their ability to manage the effects of a pandemic, address labour challenges and/or support the local food supply chain.

However, when asked to pick one improvement that would significantly support their business the most common response was automated equipment. Based on responses from the survey, investment in technology would potentially see a reduction in labour requirements of 33%.

Key Technological Improvements

Key Improvement	N	Effects of Pandemic	Co-benefits addressing labour shortage	Support food supply
Automated equipment	8	7	7	7
Specialized cleaning equipment	1	7	7	7
Digital Support / Websites / Apps to support sales & marketing	1	7	5	7
Online Grocery ordering systems/ apps (for foreign workers)	2	5	4	4

N=12. Data presented is the median response.



Key Barriers to Implementation

The research explored the barriers to adopting new technology/innovation and found that financial constraints, availability of technology and infrastructure to support it are all barriers to investment in innovation and technology. These results are presented in the table below.

Survey Results: Identified Barriers to Investment and Areas of Business Improvement

	Count-Number of Responses				
Key Improvement	Automated Equipment	Specialized Cleaning	Digital Support-marketing	Online Grocery ordering systems	TOTAL
Financial	6	1	1	1	9
Not currently available in Canada	3				3
Unreliable internet	2		1		3
Unreliable power	2				2
Insufficient Local support	1			1	2

Recommendations

Through the engagement with industry, it became evident that three elements will be essential for successful implementation of new technologies and innovations in the industry.

1. Strategic Planning

An improved capacity among Holland Marsh growers to strategically plan for the acquisition and adoption of new technology/innovation and finally financial resources.

2. Access to Technology

The ability to acquire technologies either through access to international technologies or development of them within the Canadian market as well as improved local infrastructure.

3. Financial Capacity/Support

The Holland Marsh has a diversity of businesses, all with varying needs. The larger players e.g., growers/packers/shippers are more likely to be able to demonstrate significant ROI on large capital investments in automated equipment that has the potential to significantly reduce reliance on manual labour. However, there are also tools that should be explored to ensuring there is capacity for smaller (and all) businesses to be successful and manage crises such as the COVID-19 pandemic. Increasing the capacity for producers to maintain and access markets efficiently will help keep the variety of products currently being supplied from the Marsh sustainable.

It is therefore recommended that if a grant application process be implemented that there are broad categories which relate to labour savings, pandemic benefits, and overall business competitiveness. It would also be beneficial if this was linked with increasing the capacity of producers to plan strategically.

Key Contacts for this Project:

HOLLAND MARSH GROWERS ASSOCIATION

Jody Mott, Executive Director

Email: hmgexec@gmail.com

MAREN MARCOUX MARKETING

Nicole Marenick, Managing Director

Email: nicole@marenmarcoux.com

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