

LOLA – Landscape Ontario Labour Assessment

Technical Summary Report

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Landscape Ontario Horticultural Trades Association

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Background

So much research in the last year has been focused on solving the science behind COVID-19 and protecting human health. But the pandemic highlighted other issues within society: our lack of preparedness and economic impacts that were both predictable and unexpected. In particular, the pandemic shone a light on the nursery sector's dependence on temporary foreign workers and manual labour. The pandemic exacerbated a known issue – what to do if our labour force is not available?

Through the Landscape Ontario Labour Assessment (LOLA) project, the research team strove to identify what factors could mitigate labour vulnerabilities within the nursery sector. Automation, training, access to information, and other factors were considered. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) supported this project under the Technology Innovation stream of the Agri-Food Prevention and Control Innovation Initiative. There are two main outcomes for this funding initiative:

- To inform businesses of Innovative Technologies that may reduce the risk of COVID-19 exposure of agri-food workers in the workplace
- To promote the adoption and awareness of Innovative Technologies applicable to the sector that reduce the risk of COVID-19 transmission if implemented in the sector and also have co-benefits to help address labour challenges faced by the sector.

The LOLA project focused on three key objectives:

1. Characterization of the ornamental nursery sector
2. Development of an online framework for assessing on-farm labour and COVID-19 risks
3. Development of other educational tools and resources on Innovative Technologies and Management Practices

Project Summary

The LOLA project explored the key objectives through the following activities:

Characterization of the Sector

An evaluation of the sector's vulnerabilities experienced through the COVID-19 pandemic is partially complete and will continue as data is collected through the LOLA website. As 2021 progresses, nurseries are facing similar challenges as in 2020 with the lack or delay of Temporary Foreign Worker (TFW) arrivals, risks associated with COVID-19 outbreaks, and uncertainty with regards to access to markets during lockdown periods. Activities for this objective included:

- In-depth interviews of over 20 Ontario nursery operations,
- Accessing previous reports (e.g., Vineland 2017 report "Landscape Ontario Nursery Production Efficiency", Statistics Canada data, Green Infrastructure Ontario Coalition 2020 report "An Economic Impact Assessment of the Green Infrastructure Sector in Ontario", and other resources),
- Review of successful implementation of technologies in other sectors or jurisdictions through online sources and communications with suppliers and service providers, and

- Development of the LOLA website (lolanursery.ca), which will allow for collection of data over the next two years to facilitate the evaluation of activities, operations, and processes that are vulnerable to COVID-19 transmission and labour disturbances.

Development of an Online Framework

This activity included the development of online tools, including an online framework for determining on-farm labour and COVID-19 risks

- The framework was accomplished through the development of the lolanursery.ca website, that currently has three distinct support areas:
 - Self-guided labour “Nursery Assessment” tool for nursery growers to examine in detail the factors that contribute to labour needs and potential technologies that can mitigate labour vulnerabilities at individual farm operations,
 - “Worker’s Survey” focused on COVID-19 risk areas and activities, available in English and Spanish, and
 - Searchable resource of available automation and labour-related technologies (the “LOLA Sourcebook”).

The results of the Nursery Assessments and Worker’s Surveys will be available in a downloadable format for evaluation by the LOLA research team. Doing the online Nursery Assessment will give each nursery producer a baseline estimate of their production outputs and labour inputs by farm activity that, combined with information from the Worker’s Survey, will identify the highest labour and COVID-19 vulnerability areas.

Other Educational Tools & Resources

Webinars

Webinars were created to highlight key topics of relevance to nursery farms, including COVID-19 planning and emergency procedures, LEAN management, and automation resources. A total of five webinars were generated through the project timeframe, with additional webinars on Inventory Management and Materials Handling planned for the summer of 2021. All webinars can be found at:

<https://horttrades.com/landscape-ontario-labour-assessment-webinars>

<https://www.youtube.com/playlist?list=PLByURgHp4aTt1EIXk8Bi-2YZ7WmVZ67kY>

Additionally, the webinars will be posted on the ONnursery YouTube account.

https://www.youtube.com/channel/UCDUf7w4vL_H4SIbrFU5XSqg/videos

Horticultural training resources for ‘emergency’ labour include:

1. Canadian Nursery Landscape Association’s Nursery Worker Certification Training Manual, 2018
Available through cnla.ca

2. Dr. Ed Gilman’s Arboriculture Video Series
<https://hort.ifas.ufl.edu/woody/instructional-videos.shtml>

3. Southern Nursery Association's V.3. Best Management Practices: Guide for producing nursery crops, 2013
<http://contents.sna.org/bmpv30.html>

4. University of Guelph, Nursery Production (Field and Container) videos, 2000
Digital copies available upon request through lola@landscapeontario.com.

Other Observations & Outcomes

As the LOLA research team progressed through the project, other insights were obtained:

1. There is a strong interest in finding solutions to the TFW dependency;
2. Nursery owners have adapted to situations where workers are not available, although it is not sustainable;
3. The nursery sector is so diverse, it is difficult (or impossible?) to identify advanced automation technologies that would be accessible or feasible for all members;
4. Innovation does not only mean advanced automation technologies (i.e., sensor based or mechanical devices), but also approaches to labour management such as LEAN.

Next Steps

This is only the beginning! Through the project, the LOLA team discovered a keen interest by nursery growers to improve productivity with both the use of advanced automation (mechanical and sensor based) and alternate process improvement approaches. The lolanursery.ca website will be a central component for data collection as results of Nursery Assessments and Worker's Surveys are completed. These results will be used to identify future research needs. Currently, we have identified the following areas that justify further investigation:

- Expansion of access to LEAN management approaches and training,
- Developing capacity within the sector, including nursery specialists in LEAN management and ergonomics,
- Other automation/technology resources, and
- LOLA website enhancements, including the development of a community page.

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The project team included Dr. Jeanine West (PhytoServ), Dr. Ann Huber (Soil Resource Group), Christoph Kessel (OMAFRA, retired), and Jennifer Llewellyn (OMAFRA). David Berman Communications played a significant role in the rollout of the LOLA framework through the development of the lolanursery.ca website. The results are spectacular! The authors wish to extend sincere thanks to the nursery operations that contributed to the project through interviews and guidance, and to Landscape Ontario for their dedication to promoting ornamental nurseries in Ontario.