



vineland

RESEARCH & INNOVATION CENTRE



Horticulture Innovation

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Vineland Mission

Improve the economic viability, sustainability and competitiveness of horticulture in Canada



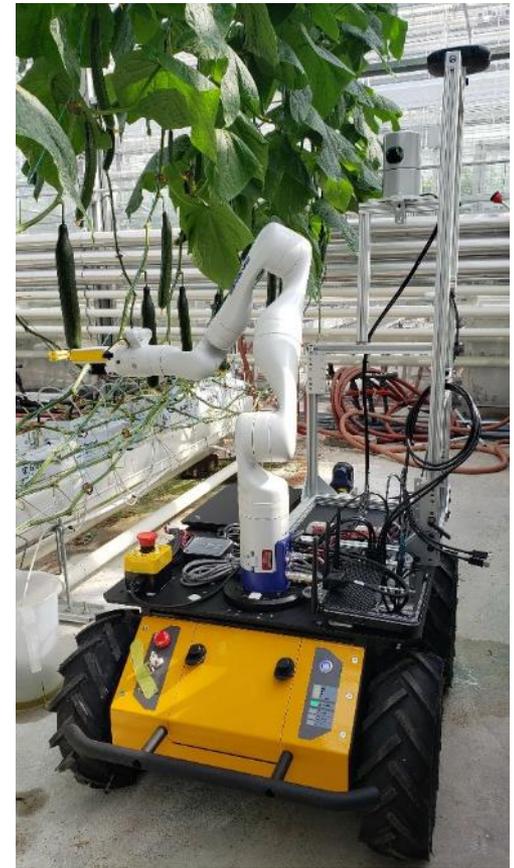
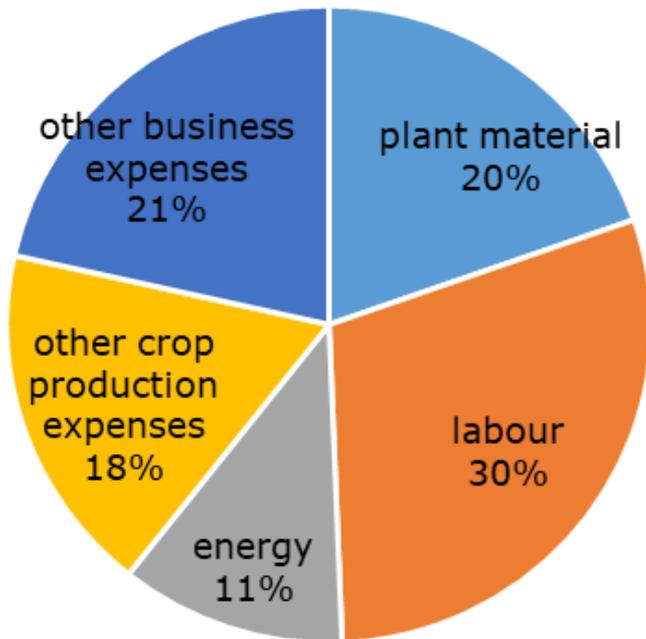
Top Priorities for Canadian Horticulture

1. Automate to address labour cost and availability challenges
2. Ensure access to premium plant varieties that are optimized for Canadian conditions
3. Position horticulture as a provider of environment and climate solutions
4. Move more crops into greenhouse production

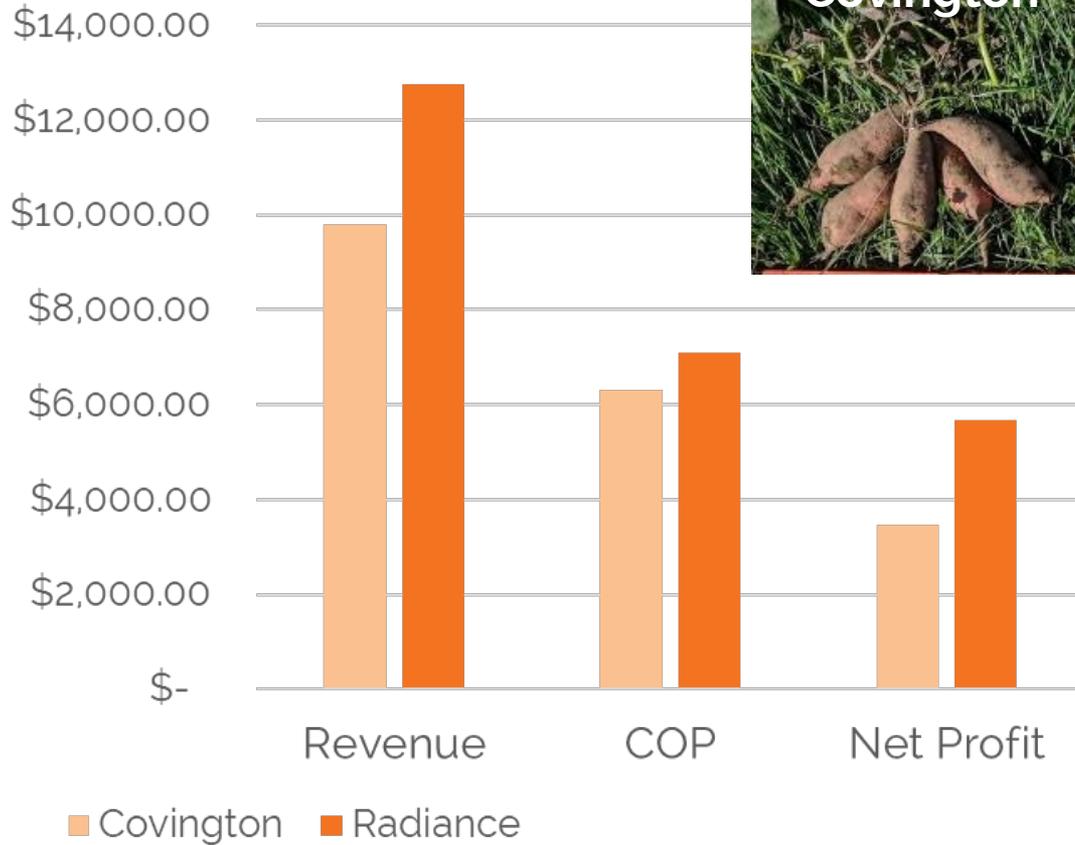


1. Labour and automation

Production costs -
Greenhouse



2. Canadian-adapted varieties



3. Climate Solutions



Horticultural products provide nature-based solutions

- The right plants, soils, technologies and designs
- More resilient cities, landscapes



4. Greenhouse production



	Field tomatoes	Greenhouse tomatoes
Average yield (tonnes/ha)	40	496
Production season	2 months	8 months
Pest control	Reliance on chemical pesticides	Greater use of biological control agents
Water use	med Rain + irrigation	low Hydroponic, recirculation
Energy use	low	high
Food safety	Outdoor, soil-based production	Controlled environment, soil-less production

R&D Capacity

Plant Variety Development



- Plant breeding
- Plant pathology
- Genomics
- Bioinformatics
- Biochemistry

Consumer Insights



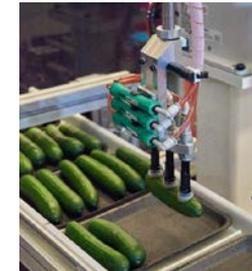
- Consumer analytics
- Sensory science
- Market research

Plant Responses & Environment



- Nursery production
- Plant biology
- Agronomy
- Soil science

Automation



- Vision systems
- Machine learning
- Robotics
- Systems integration

Biological Crop Protection



- Integrated pest management
- Entomology

Strategic R&D or
Fee for Service

Thank you
