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Presented at the 5th International Strawberry Congress



Presentation outlines

- Overview of the industry in Canada
- Production system
- Experiences sharing
- Growing media
- Future opportunities

Statistics of the industry in Canada

Total fruit area (Ha)

	2020	2021	2022	2023	2024
Field Strawberries	3 858	4 099	3 672	3 364	3 386
Greenhouse					84 Ha

Fruit production volume– metric tons

	2020	2021	2022	2023	2024
Field Strawberries	24 134	24 615	25 022	22 184	26 139
Strawberries, greenhouse	2 554	2 731	5 041	6 832	7 522

Fruit farm gate value– thousands of Canadian dollars

	2020	2021	2022	2023	2024
Field Strawberries	126 975	128 380	140 756	141 473	174 878
Greenhouse-grown Strawberries	15 522	18 486	50 063	69 581	75 221

Fresh fruit-import value– thousands of Canadian dollars and tons

Imports	2020	2021	2022	2023	2024
Value (\$)	570 239\$	643 440\$	667 313\$	703 168\$	734 907\$
Volume (t)	134 370 t	144 014 t	147 628 t	145 049 t	157 050 t
United States	405 745\$	436 035\$	450 588\$	477 437\$	489 181\$
	1 008 643 t	1 018 318 t	919 707 t	921 895 t	994 226 t
Mexico	103 498\$	134 312\$	140 721\$	158 770\$	185 118\$
	393 351 t	423 726 t	392 198 t	412 618 t	406 524 t

Major imports-based industry: Country production around 30-35k tons, 20% food autonomy

Price: 4 to 6 €/Kg (June to October) to 8 to 12 €/Kg for out of season production. Clamshell 10 x 1l, 12 x 750 ml

Production is delivered by different size of grower and around 15 varieties are grown through the country depending on the maturation behavior and the system

Mixed-up of Short-day and Day-neutral varieties have been growing for more than 30 years

From field-grown strawberries to shelter-grown strawberries



Picture: Pierre Lahoud, 2024

Late spring frost in Quebec
Soil-borne disease
Soggy soil
Schedule cropping
Season extending
Fruit quality

Transitioning from traditional field-grown to soilless system



Raised-mound culture



Raised-mound culture
equiped with a mini tunnel



Furrow on the top of the raised
mound structure



Raised-mound culture
In a high tunnel

- Potential for increasing yield and fruit quality, and lowering disease
- Media reusage potential and nutrient recycling system
- Needs specialized equipment

Infrastructures to grow strawberries (multi-row coverage)



From single-row coverage to multi-row basic structure

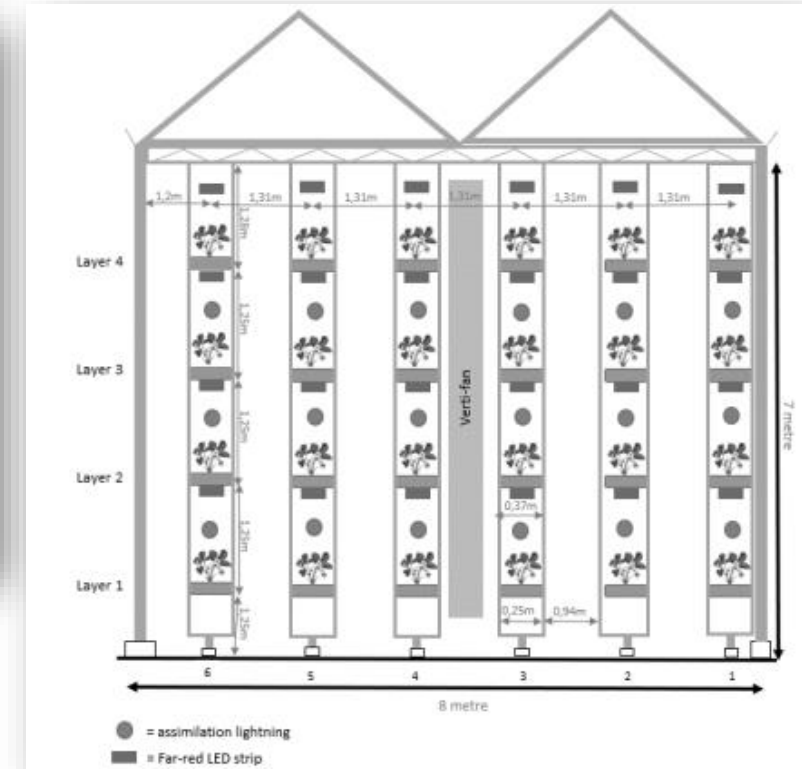


To more sophisticated structure

Single layer of greenhouse—grown strawberries



Different attempt to increase the yield per surface



Outdoor hydroponic strawberries, New Zealand (2006)

Gruda, N.S. (Ed.). (2020). Advances in horticultural soilless culture (1st ed.). Burleigh Dodds Science Publishing.
<https://doi.org/10.1201/9781003048206>

Hofkens, M., Melis, P., Laurijssen, S., Baets, D. and Van Delm, T. (2021). Four layer strawberry cultivation. Acta Hort. 1309, 663-670
DOI: 10.17660/ActaHortic.2021.1309.96
<https://doi.org/10.17660/ActaHortic.2021.1309.96>

Irrigation adaptation in the context of growing system and growing media



Crop standing in the greenhouse



Crop monitoring



Soil monitoring

Sensor-based irrigation



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Understanding and optimizing the physical properties of growing media

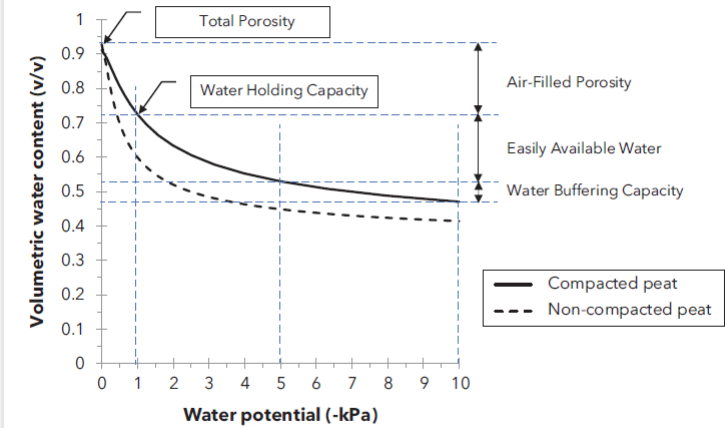


Figure 3 Water retention curves for a compacted- and a non-compacted white- (or blond) milled peat, with graphical identification of the main physical parameters for compacted

Gruda, N.S. (Ed.). (2020). Advances in horticultural soilless culture (1st ed.).

Burleigh Dodds Science Publishing.

<https://doi.org/10.1201/9781003048206>

Importance of transplant quality



Growing media



Growing media

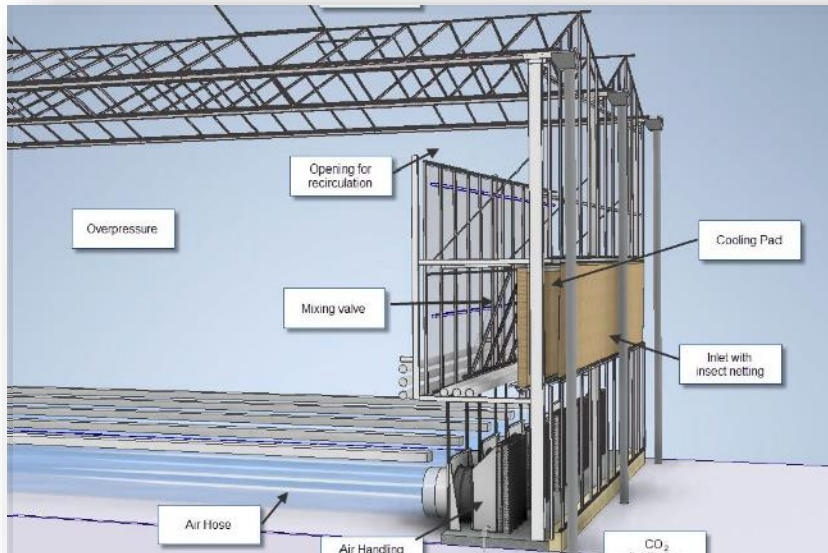


Next development phase

Carbon-neutral semi-closed glasshouse - **Kubo Ultra Climate Greenhouse**



- Brand new greenhouse greenhouse construction (12Ha)
- Energy efficient greenhouse: reusage of hot water from a data center
- GHG reduction of 1000 tons/ha/year
- Rain water collection and water recycling
- Growing media recycling for other crops
- Biological control combined with UV treatment
- Compostable and recyclable packaging will be used
- Blackout curtains to eliminate light pollution



Questions

Thanks for your attention



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