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Groundbreaking pollinator-independent indoor berry productionÂ may enable reliable, year-round berry production

02 March 2026 | News

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Montel Inc., a leading Canadian manufacturer of high-density mobile systems, has announced a strategic partnership with researchers from Toronto Metropolitan University (TMU) to develop a pollinator-independent indoor berry production system. This initiative is supported by the Weston Family Foundation through the Homegrown Innovation Challenge Scaling Phase, which invests in innovative solutions for reliable, year-round berry production in Canada.

As part of the collaboration, Montel will construct and host a dedicated pilot farm called MoFarm at its facility in Montmagny, QuÃ©bec. This facility will serve as a testing ground for TMU's innovative airflow-based pollination technology, allowing researchers to evaluate its effectiveness under controlled, real-world growing conditions.

In June 2025, TMU professors Habiba Bougherara and Lesley Campbell received a grant of up to $5 million to advance their work on a system that enables raspberriesâ??and potentially other berriesâ??to be grown indoors without relying on bees. Their patented technology uses airflow and microclimate control to autonomously transfer pollen between flowers, addressing a major challenge in controlled-environment agriculture. This breakthrough could reduce dependence on vulnerable pollinator populations while improving yield predictability and enabling multi-layer berry production through compact plant architecture.

The Weston Family Foundationâ??s support has been pivotal in advancing this project, which aligns with its mission to strengthen Canadaâ??s domestic food production ecosystem. Montelâ??s involvement underscores its commitment to contributing to a sustainable and self-sufficient food future. By providing the infrastructure for this research, Montel enables

the convergence of scientific discovery and engineering excellence.

Montel, recognized for its expertise in indoor vertical farming systems, will play a key role in supporting TMUâ??s scientific leadership. MoFarm, designed and located adjacent to Montelâ??s manufacturing facility, will serve as a critical site for assessing the performance of the pollination technology, running continuous year-round growing cycles, and creating a research environment that mirrors real vertical farming conditions. This collaboration also fosters stronger partnerships between TMU scientists and Montel experts, reinforcing a shared vision of building a resilient and sustainable food system for Canada.

Yves BÃ©langer, VP of Sales for Vertical Farming at Montel, emphasized the companyâ??s mission to help growers â??grow moreâ?• with less space. He noted that collaborating with TMU allows Montel to push the boundaries of indoor agriculture by combining advanced science and engineering.

TMUâ??s research focuses on overcoming a significant barrier in indoor berry cultivation: effective pollination without bees. By integrating plant science, mechanical engineering, and precise microclimate control, the project aims to support pollinator-independent fruit set, improve yield stability, and advance sustainable, Canadian-grown berries year-round. Professor Habiba Bougherara highlighted the importance of this funding, stating that partnering with Montel provides the opportunity to validate their technology in real indoor growing conditions.

This initiative represents a national effort to reinvent food production by addressing critical challenges in controlled-environment agriculture. The MoFarm pilot farm exemplifies the potential of collaboration between industry and academia to drive innovation. By enabling pollinator-free berry production, this project not only supports Canadaâ??s agricultural resilience but also paves the way for sustainable, locally grown food solutions that could transform indoor farming practices.