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The Bigger Picture

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Just south of London, Ontario, the relatively small and unassuming Highway 3 cuts east to west through flat cornfields and gently rolling wilderness. This beautiful countryside is speckled with farmsteads, while horses graze on bright green grasses that stretch to boreal forests on the horizon. When driving this highway, you may get the feeling you're in the middle of nowhere, however, this couldn't be further from the truth. When you zoom out, the rows of cornstalks and black spruce disappear, and the bigger picture takes shape. This is the middle of everywhere.

Ontario Plants Propagation was founded in 2002 along this seemingly desolate stretch of natural splendor. As a family business with immigrant roots and generational wisdom, the passion for nurturing premium starter plants from seeds was pursued on a humble 7-acre plot of land just outside the town of St. Thomas. Few other places can boast a more remote and—yet—more centralized location than Ontario Plants Propagation, which has grown to become North America's leading supplier of high-quality starter plants for hydroponic and organic greenhouse growers. Today, the operation comprises 45 acres of high-tech greenhouse facilities that produce more than 60 million "ready-to-grow" young plants from seed each year. Approximately 40% of all greenhouses in North America get their starter plants from Ontario Plants Propagation.



Pictured: A look inside the St. Thomas, Ontario, location of Ontario Plants Propagation.

A dedicated team of more than 200 experienced professionals, led by experts from the Netherlands and Canada, makes this possible. The St. Thomas facility specializes in the propagation of greenhouse vegetable plants, particularly tomatoes, cucumbers, peppers, eggplants and berry plants. Following a meticulous, custom-made program for each client and crop, the little plants graduate from their version of kindergarten—ready to take on the world.

Shipped in trucks along Highway 3, these starter plants are a short drive to most of their customers in North America. Some make it as far as California, Texas and Mexico in climate-controlled trucks. By focusing on westward expansion, Ontario Plants Propagation is reducing both its carbon footprint and time to delivery. For more than two decades, North American growers have trusted Ontario Plants Propagation as the

industry's gold standard for high-quality starter plants, sustainable innovation and timely delivery.

The interior of innovation

From the Netherlands to the glacier-carved lowlands of Ontario, Canada, it would be remiss to say that Ontario Plants Propagation began in 2002. In truth, they brought dreams and expertise to North America with roughly 500 years of innovative Dutch farming practices in tow. Today, the experienced management team is led by highly accomplished industry veterans, who continue to seek the next best approaches to sustainable agriculture. The ultra-modern greenhouses along Highway 3 utilize sophisticated and proprietary growing methods adopted from Dutch propagation best practices, technologies and systems. Such game-changing innovations were almost non-existent in North America before this standard was set.

Ontario Plants Propagation is driven by customer needs. Their experts seek and leverage cutting-edge technologies and innovations at every stage to improve plant quality, service, sustainability and product offerings. Controlled environment agriculture (CEA) has recently become the standard in North America for a variety of crops, however, along Highway 3, beneath the endless rows of triangular-roofed greenhouses, CEA is a well-honored tradition.

Here lies another paradoxical secret to the success of Ontario Plants Propagation: their traditions are flexible rather than rigid. With the mission to be at the forefront of innovation, the company's experts must balance—quite deftly—the risk-averse needs of the now and the risk-required improvements for the future.

By growing hydroponically in greenhouses, Ontario Plants Propagation can produce crops with roughly 30 times higher yield than those in the open field while using less water. In fact, the facility recycles 660,000 gallons of water each day. Furthermore, hydroponics removes soil—and its diseases—from the equation altogether. Controlled and clean growing technology allows for minimal use of pesticides, herbicides and other synthetic chemicals. By working alongside customers and seed breeders, Ontario Plants Propagation helps to develop vegetable seeds and to drive new seeds naturally, meaning they aren't genetically modified (GMO).

Pictured: A look from a distance at the St. Thomas, Ontario, location of Ontario Plants Propagation.

Quality control is paramount for healthy crops. Strict hygiene measures are applied to greenhouses, personnel, carts, shipping trays and vehicles. The unexpected emergence of catastrophic diseases, such as Tomato Brown Rugose Fruit Virus (ToBRFV), necessitates the extreme level of biosecurity at Ontario Plants Propagation.

Additionally, remote facilities ensure significantly less exposure to common growing pests and diseases.

Above the plants, a checkerboard pattern of HPS fixtures and Fluence LEDs provide supplemental lighting for optimal growth. Ontario Plants Propagation's semi-retrofit of powerful and highly efficient LEDs throughout the 45-acre facility at St. Thomas is a major example of their dedication to innovation and sustainability. With support from Fluence's Technical Services Team, Ontario Plants Propagation received a major rebate that eased the financial and operational risks of investment and installation. The integration of advanced LEDs greatly reduced energy costs and unwanted heat output in the greenhouses, lowering peak energy



consumption by 5%. Critically, Fluence VYPR LEDs reduced the overall starter plant delivery time, giving customers a head start on the competition.

Such innovations help to explain why Ontario Plants Propagation is the leading supplier of starter plants in North America, but technology doesn't tell the whole story. With clients across the U.S. and Canada—encompassing a vast array of climates, crops and customer needs—Ontario Plants Propagation relies on a deep reservoir of “know-how” and “know-why.” Indeed, the ability to find success on a massive scale is perhaps their biggest industry secret.

Ontario Plants Propagation has incredible success rates with their seeds. Whereas the industry is known to overseed due to the difficulties of nurturing strong plants, the experienced team at St. Thomas finds consistent success with leaf-thin margins. Thus, it becomes clear why approximately 40% of North American greenhouses rely on this facility—in the middle of nowhere and everywhere—along Highway 3.

Future solutions for sustainable farming

The world is facing a food crisis. For this reason, there's a global initiative to establish more sustainable farming practices, particularly advancements in CEA. With the support of its owner COFRA Holding—the 180-year-old family-owned enterprise that invests to build long-term, flourishing businesses, Ontario Plants Propagation is on a mission to improve biosecurity, sustainability and customer service in North America.



Mathieu van de Sande, CEO at Ontario Plants Propagation, understands this mission. Having “grown up under the glass” of his family's greenhouse, Mathieu exudes the life-long passion and experience that's required to take on the monumental challenges of the agricultural landscape.

Pictured: Mathieu van de Sande, CEO at Ontario Plants Propagation.

“At Ontario Plants Propagation, our emphasis is on industry-best practices to provide top-notch starter plants,” he said. “We prioritize sustainability and biosecurity, channeling our resources to invest in both our people and innovative practices to proactively meet customer and consumer demands. Our dedication is rooted in a belief that controlled environment agriculture can, and must be, a force for good.”

The St. Thomas facility has provided the definitive blueprint for success and sustainability at immense scale. Still, their incredible growth isn't over. With the support of high-tech greenhouse builder Dalsem, Ontario Plants Propagation is constructing an 18-acre, state-of-the-art greenhouse facility in Glencoe, Ontario, which promises to set a new standard for sustainability, technology and biosecurity.

The greenhouse development will be equipped with a container growing system, a hybrid LED configuration and Dalsem's X-AIR Semi-Closed System. The integration of smart technologies with data capture capabilities is a big step towards sustainability and hyper efficiency. For instance, instead of reacting to sudden drops in outside temperature or cloud cover, smart systems allow growers to become predictive and proactive in their method-ologies. This data-driven approach is gaining momentum in every industry, but it's certainly promising and pressing in relation to agriculture.

The future is automation and Glencoe is proof. As population increases and arable land decreases throughout the world, the importance of sustainable and scalable controlled environment agriculture becomes ever more crucial for the health and happiness of billions of people. Ontario Plants Propagation's Glencoe facility is expected to be the next blueprint for delivering world-class starter plants from seeds, but it may prove something greater. When you zoom out, the green grasses and greenhouses disappear, and a bigger

picture takes shape.

Ontario Plants Propagation is in the middle of transforming agriculture as we know it.

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