

GROWING KNOWLEDGE

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Succulents at VanBelle Finished Plants showcasing consistency and quality in one of their many high tech greenhouses. PHOTO BY LLOYD NACKLEY

The 2025 IPPS Western Region meeting in Canada offered growers many chances to connect and learn

BY LLOYD NACKLEY

Every year, the International Plant Production Society (IPPS) Western Region annual meeting offers attendees a chance to step out of day-to-day operations, connect with colleagues, and explore the latest trends in plant production.

This year's meeting, held September 16–19 in Langley, British Columbia, deliv-

ered all of that and more. From cutting-edge technology in tissue culture labs to sprawling nursery production facilities, the conference showcased both innovation and scale and reminded us why we love this industry.

Lessons from the cutting edge

One theme kept surfacing: the way technology, science, and human ingenuity intersect to solve the practical challenges of plant production.

In tissue culture labs, for example, the transition from fluorescent bulbs to modern, spectrum-tuned LEDs illustrates

how small adjustments in light quality, intensity, and duration can have outsized effects. In my greenhouse classes, I often emphasize light in three dimensions — quality, quantity, and duration — while reminding students that durability, energy efficiency, and operating costs are just as critical for growers. Seeing LEDs applied at commercial scale brought that lesson to life, highlighting how theory becomes tangible problem-solving.

Research by Professor Bruce Bugbee at Utah State and others has shown how modern, spectrum-tuned LEDs maintain low energy demands while enhancing

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plant performance.

For decades, tissue culture relied on fluorescent bulbs for low light intensity with a higher blue-light ratio, but LEDs allow growers to customize spectra without driving up energy costs. Though Hannah Ball did not focus on it, her presentation at the IPPS meeting sparked curiosity about what might come next: could manipulating spectral quality or intensity accelerate callus formation, perhaps even shortening tissue culture cycles as seen in floriculture research by Michigan State University's Professor Roberto Lopez and Eric Runkle.

In a session about drones, we were reminded at the conference that technology is a tool, not a solution. In the Willamette Valley, most spray drone research focuses on pesticide applications, like some of the demos we've hosted at NWREC and other Extension events. However, spray drones are not yet permitted for pesticides in this part of Canada.

Mia Gabrielson from SkyAg Solutions pivoted to applications like whitewashing glasshouses. What initially seemed niche quickly revealed itself as a clever adaptation. Touring massive Fraser Valley greenhouses, it became clear that autonomous sprayers are not just practical but more efficient than crews scaling tall glass structures.

This lesson echoes throughout horticulture: automation works best when it complements human labor. This way it can enhance safety, efficiency, and consistency rather than attempting to replace people entirely.

Equally compelling was the story of adaptive learning and grower ingenuity.

At Qualitree Propagators, the shift to recycled irrigation water posed a challenge in nutrient management. What stood out was not just the technical solution, using in-house spectrophotometry to monitor water quality, but the story behind it. Staff without prior formal training became a functioning water-quality lab, developing practical, reproducible systems that improved nutrient efficiency while minimizing environmental impact.

Stories like this are what IPPS is all about: seeking and sharing knowledge. They are a vivid reminder that innovation



At Reimers Nursery Ltd. (Chilliwack, B.C., Canada), loading forks, conveyor belts and buffer belts help increase efficiency across their production. PHOTO BY LLOYD NACKLEY

often comes from people empowered to learn and experiment. This lesson resonates far beyond any single greenhouse. Supporting those ideas regionally is Kwantlen Polytechnic University (KPU), Institute for Sustainable Horticulture. Faculty there shared insights highlighting the challenge of balancing sustainability, cost, and energy use while incorporating AI and automation.

They also showcased KPU's Applied Genomics Centre, a first-class lab supporting professional development and industry partnerships. Students gain hands-on experience in molecular genetics and metabolomics, translating directly to the needs of commercial plant production. This model stands in stark contrast to the defunding pressures currently facing U.S. agricultural research.

Plants themselves remained at the heart of our work. Shelby Klassen and DeVonne Friesen from Bloomin' Easy

walked attendees through the multi-year process of taking a plant from selection to release, emphasizing breeder relationships, regional trials, and marketing strategies to ensure successful introductions.

Guy Meacham from **J. Frank**

Schmidt & Son Co. highlighted evolving criteria for urban trees in a changing climate, focusing on resilience and space efficiency, while Ryan Contreras from Oregon State University showcased breeding programs that draw on global genetic material to tackle disease, drought, and other environmental challenges.

Together, these presentations reinforced that innovation in horticulture is a blend of science, patience, and practical problem-solving. Hearing these talks back-to-back, I was struck by the human dimension behind every plant: the years of careful observation, repeated trials, and decisions that balance aesthetic appeal, environ- ➤

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The railyard at VanBelle Youngplants showing commitment to efficiency. This system has been around for decades and is something they designed around. Growers touted how much faster it is to move whole benches rather than loading and unloading plants on to a trailer. PHOTO BY LLOYD NACKLEY

mental resilience, and ease of production. For students and early-career professionals, these sessions are a masterclass in the complexity and joy of horticulture.

Touring the Fraser Valley's nurseries

If the speakers were inspiring, the tours were mesmerizing. This year's itineraries were thoughtfully designed to provide a view of Fraser Valley's diverse production scales. We visited Reimer's Nurseries Ltd. and Cedar Rim Garden Center. Both operations demonstrate personal touches and a commitment to innovation. These nurseries integrate technologies such as planting machines and precision equipment while serving a wide array of customers.

We also toured large-scale operations at Qualitree, **Van Belle Youngplants**, and Rainbow Greenhouses, where efficiency, standardization, and communication are essential. These facilities focus on supplying North America's largest retailers. A takeaway from all three was how scaling



Hardy hibiscus tree from Ryan Contreras and Oregon State University's Ornamental Plant Breeding Program was showcased at the conference. PHOTO BY RYAN CONTRERAS

up requires simplification of processes and empowering staff to make real-time decisions. Walking through these massive greenhouses, it was impossible not to be impressed by the choreography of human and machine working in tandem.

One striking observation was the commodification of holiday plants. Four-year-old Alberta spruces, cultivated with meticulous attention to water, pruning, and pest management, will be sold and transformed into six-week office decorations, glittered and potted in bright tins. It is a vivid illustration of how horticulture balances long-term care with short-term consumer demands, demanding precision, patience, and agility from growers.

Touring both small operations and massive greenhouse complexes highlighted that attention to detail, smart workflow design, and empowered staff are critical, regardless of scale. Regardless of the size of your operation, the principles of observation, care, and continuous learning remain the same.

Takeaways: Connection, curiosity, and common ground

Some of the best lessons came from informal conversations with Canadian and U.S. colleagues while walking between nurseries or over dinner. We discussed labor management, new cultivars, and shifting regulations.

Beyond the plants and technology, the most meaningful aspect was connecting with peers across borders. Tariffs, currency exchange, and political currents were topics of conversation, but the shared joy of growing and selling plants transcended any cynicism. The challenges and rewards were strikingly similar on both sides of the border.

I left these conversations reflecting on the importance of community in our work, and how sharing both successes and failures makes all of us better growers and educators.

Bob Geneve, our banquet keynote, brought it all back to wonder. His talk, "The Fascinating Ways That Plants Move," captivated an audience of horticulture experts with examples of plant movement that are often imperceptibly slow or occasionally astonishingly fast.

Even after decades in the industry, it reminded us that there is always room for curiosity and amazement. I found myself thinking about students who might see their first circumnutating vine or rapidly closing mimosa; the excitement in the room is exactly what we hope to instill in the next generation of horticulturists.

Oregon IPPS had a strong showing, and the door is always open for more involvement. The annual meeting rotates each year: in 2026, it will be held in Utah, with a return to our Pacific Wonderland in Oregon in 2027. For those who have not attended, it is an opportunity to learn, be inspired, and share experiences with a community of passionate professionals who, despite differences in scale, geography, or specialization, all share a love for plants. ©

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