

Water Stewardship is Community Stewardship

An interview with greenhouse expert and Owatonna resident, Marco de Bruin



Growing Smarter: Water Wisdom from a Greenhouse Expert

Water. It's essential for life, yet often taken for granted—especially in places like Owatonna where it's abundant and clean. But what if using water more wisely could not only conserve this precious resource but also produce healthier lawns, stronger plants, and reduce costs for the entire community?

That's where Marco de Bruin comes in. A third-generation greenhouse operator originally from the Netherlands, Marco has spent decades designing high-efficiency growing systems for industry leaders like Bushel Boy and Revol Greens. Now based in Owatonna, Marco's career has spanned continents—but his advice hits close to home.

Engineering Efficiency at Revol Greens

When Revol Greens was founded in Owatonna, Marco and his partners set out to tackle one of agriculture's biggest challenges: water use. While traditional outdoor lettuce farming in California may consume four acre-feet of water for a single crop, Revol's greenhouse system produces 17 to 20 harvests annually using only about two acre-feet in total.

Their secret? Closed-loop water systems that recapture rainwater, condensation, and even water condensed from the flue gas of their natural gas heating system, treat it with ultraviolet light and ozone, and reuse it over and over again. The result: less than 3% of the water used in the facility ever exits the site, mostly through evaporation and in the harvested produce itself. That level of efficiency even helped Revol receive regulatory approval to bypass a traditional stormwater runoff plan—because they simply didn't produce any.

Cleaner Inputs, Better Outcomes

Owatonna's naturally clean water plays a big part. Low levels of sodium and bicarbonates make it ideal for closed-loop irrigation. "Clean water is like liquid gold," Marco explains. "It's the foundation for systems that don't waste, don't pollute, and don't need to be flushed or reset." Even Revol's leftover growing medium is composted and

repurposed by local businesses, like Nagel's sod farm.

Backyard Lessons from the Greenhouse

So what does all this mean for the average homeowner? A lot, actually. According to Marco, the best thing residents can do for their lawns is to mimic some of the greenhouse principles: water less frequently but for longer durations. This encourages deeper root growth, which builds resilience and requires less water over time.

He also emphasizes timing: "If it's good weather to dry your laundry, it's terrible weather to be irrigating." The best time to water is just before sunrise, when evaporation rates are low and the soil can absorb moisture more efficiently. Newer smart sprinkler systems can even automate this by syncing to local sunrise times.

Less frequent watering has added benefits: it improves the balance of oxygen and moisture in the soil, which supports the growth of fine root hairs—essential for nutrient uptake. Overwatering, by contrast, can suffocate roots and lead to over-fertilization, which contributes to runoff pollution.

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Even in a place like Owatonna, where water isn't scarce, using it wisely matters. "Every gallon used has to be treated, moved, and managed," Marco explains. "The more we consume, the more infrastructure we need. It drives up costs for everyone."

That's why Marco supports OPU's new irrigation policy, which staggers watering days based on address and aims to flatten demand across the week. He even suggests creating incentives for watering on weekends, when system loads tend to be lower.

Whether designing high-tech greenhouses or encouraging smarter lawn care, Marco de Bruin brings a systems-level perspective rooted in sustainability and common sense. His message is simple: by being more thoughtful with our water use, we don't just help the environment—we help ourselves and our community.