

GROWERTALKS

Features

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A Quality System for Growing Quality Plants

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The *GrowerTalks* Cover Story in November 2019 took on the great debate of benches vs. floors and their relative impacts on production efficiencies.

Pictured: Clockwise from left: Laying underground pipes for water and nutrient transport is an early step when installing the ErfGoed system.

This is somewhat of a continuation of a sidebar within that story about the ErfGoed permeable floor system that's been gaining popularity with North American growers over the past five years after years of successful results in Europe. Early results in the U.S.

and Canada have been very positive and the system has some clear benefits in terms of flexibility, efficiency and sustainability.

Two greenhouse operations using this system are Rainbow Greenhouses and Qualitree, both located in British Columbia. We talked to Rob O'Hara, head grower at Rainbow, and Tony Van Oort, sales manager at Qualitree, who were kind enough to share benefits that they've seen since installing the system.

Let's start with a ringing endorsement from Tony who said Qualitree won't do anything else but ErfGoed in the near future.



“In the next 10 years, we could add 100 acres of greenhouses and it will be all ErfGoed.” He cited practical reasons, as well as ethical ones, which we’ll explore.

Pictured: Greenhouse fabric covers layers of gravel, creating a flat base for indoor and outdoor production.

Rob is equally positive about the system, explaining it’s the best option for the majority of what Rainbow grows. “We can produce all of the crops we grow on these floors, except seedling propagation.”

What is ErfGoed?

Let’s dig into the details of what exactly the ErfGoed floor and irrigation system brings to the table. It’s a flood system with multiple layers of gravel and fabric groundcover with capillary mats that’s shown to be very labor and automation friendly, while allowing an operation to conserve water and fertilizer through full recapture. The practical benefits are realized in labor savings and crop health, according to both Rob and Tony.

“It’s allowed us to require fewer growers per acre of greenhouse and it’s more efficient for a grower irrigating flood floors than other systems,” Rob said. “It’s also a trustworthy and reliable system, resulting in a very uniform crop.” This allows picking crews to pick and ship plants faster at the time of sale, saving labor, he adds.

The system can be an excellent way to increase efficiency by allowing for easy transport of plants throughout the operation.

“It’s a better floor and foundation to bring plants to people,” Tony said. “It’s easy to drive productivity in a comfortable building.” Having level floors that make forklift transport possible was a key factor when Qualitree made the decision to install the system.

Crop health

Increasing efficiency, reducing labor and creating a good working environment are all positive considerations, but what about the health of the plants and growing environments? We all know plant loss can bring down profitability quickly and shrink is a killer. How does the ErfGoed system stack up against standard flood floors? Tony has seen one clear benefit with a permeable floor.



“Concrete can have micro-puddles and the plants sitting in these puddles will be wetter than the rest,” he explained. This issue is eliminated with the gravel floor system.

Pictured: Multiple layers of gravel used in the ErfGoed system lead to the permeability necessary for complete recapture of water.

In addition, the floor creates its own biosphere, so, in theory, water coming off the plants includes living organisms that help fight disease. Tony said the Qualitree team is still evaluating this claim, but has

seen evidence to support it.

Disease reduction is another stated benefit. “All systems have advantages and disadvantages, depending on the crops and growers,” Rob said. “We believe we have fewer disease issues simply because we aren’t applying water onto the foliage.”

He believes Rainbow sees reduced disease pressure from mildews and Botrytis, but soilborne diseases can be an issue if they’re not watching the crops.

Challenges & considerations

Of course, a new system will require new learning and processes. Some of the challenges shared by Tony and Rob include nutrient management and the range of pot sizes used.

“Nutrient management on a completely closed recirculating system is a challenge,” Rob said. “Monitoring EC, pH and nutrients is critical to make sure things aren’t going off track.”



Pictured: A new crop is in place, demonstrating the consistency that results in high quality.

And Tony explained they’ve decided to closely consider what they’ll grow in an effort to maximize the benefits of the new ErfGoed floors.

“We have moved from 5-gallon to 2-gallon and 1-gallon to 6-inch—intensive culture and high volume.” He added that Qualitree grows longer-cycle crops and the system seems ideal for this.

And some things to consider when deciding if the ErfGoed system is right for your operation are really what any grower should factor in when determining ways to improve production. What is your budget? What are all the crops you need to grow? What are the intricacies of the climate and area you grow in? Perhaps benches make the most sense for crops that turn over very quickly.

Maybe your propagation houses aren’t the best place for a permeable flood floor. The best way to plan for growth in the short and long term is to talk to as many growers and system manufacturers as possible and develop a solid list of pros and cons to consider.

Future plans

Both Rainbow and Qualitree plan to install more square footage of the ErfGoed system in the future. “We feel that building this type of greenhouse irrigation system allows us to grow any crop we wish at the highest quality our customers have learned to expect,” according to Rob.



Tony echoed this sentiment and explained, “Our direction is full automation. This is an awesome floor for growing high-quality crops, moving plants however we want throughout the operation.”

For more information about the ErfGoed system, visit www.erfgoed.com where you’ll find full contact information, as well as references from growers around the world. **GT**

Pictured: Vehicles with pneumatic tires move easily over the level floor system at Qualitree, transporting plants to where they’re needed during production.