GROWERTALKS

Features

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You Can’t Automate Vision

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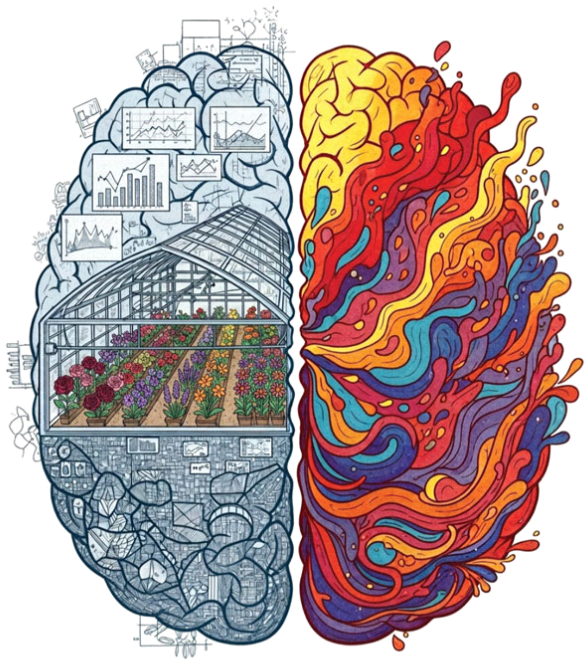

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Greenhouse and nursery production has always required a mix of discipline, as well as instinct. As growers, we manage temperature, fertility, irrigation, plant growth regulators, spacing, pest pressure, crop timing and labor—often all at once. There are schedules to follow, crops to ship and customers expecting a consistent and high-quality product. But even in a well-managed operation, some of the best improvements don’t begin with a perfect plan; they begin with curiosity and asking questions.

Creativity isn’t separate from good growing—it’s part of it. It shows up when a grower pauses, notices something unusual and asks a better question. Why is this bench drying faster? Why did this crop stretch more than expected? Why did this cultivar respond differently than it did last year?

Those small questions matter. Often, they’re where real progress begins.

We write this article from different seasons in our careers: one at an early point in their career; the other reflecting on decades of discovery and mentorship. From both vantage points, we’ve seen how practical, problem-solving creativity makes science and growing better. It appears when someone changes an approach, questions an assumption or follows a small observation others might overlook.

This is our shared reflection and a reminder that creativity isn’t extra in horticulture—it’s one of the skills that keeps the industry moving forward.

Creativity as a way of thinking

Most people imagine science as a straight line: Ask a question, run a test, get a result. In practice, the path bends and the results surprise you. Sometimes the most important step isn't finding the answer, but realizing you need to ask a different question.

That's also true in greenhouse and nursery production. A crop plan may look perfect on paper, but plants rarely follow the plan exactly. A plug tray dries unevenly. A poinsettia crop responds differently to a PGR than expected. A group of liners doesn't root as uniformly as it should. A hanging basket crop stalls even though the fertility program hasn't changed.

These moments can certainly be frustrating, but they're also opportunities to look closer.

That's the essence of creativity in horticulture. It's not always a grand idea or a major innovation. Sometimes, it's simply the ability to look at a problem from more than one angle.

Is the issue really fertility or is it irrigation uniformity? Is the crop delay caused by temperature or is root development holding it back? Is the growth habit genetic or did spacing, light or timing change the outcome?

The best growers are often the ones willing to sit with those questions a little longer. They don't rush to the easiest answer. They observe, compare, adjust and learn.

As Walt Whitman said, "Be curious, not judgmental." Curiosity lets us see possibility in uncertainty instead of rushing toward a single "right" answer.

Rethinking what progress looks like

In research, product development and production, there's often pressure to prove something new or find a solution quickly. Over time, it becomes clear that creativity doesn't always mean building something entirely new. Sometimes it means seeing an old problem differently.

A failed crop response doesn't always mean something simply went wrong. It may be pointing to something important. A PGR rate that worked well in one season may behave differently under another light or temperature pattern. A substrate that performs well in one container may not behave the same way in another. An uneven crop may be showing us something about irrigation distribution, airflow, spacing or root health.

Thinking outside the box doesn't mean ignoring science; it means leaning into it. Data isn't just numbers; it's behavior, timing and context.

This is where creativity lives: between method and meaning, between control and curiosity.

It also shows up in everyday conversations. Some of the best ideas begin before they're fully polished. A grower mentions something odd they noticed. A team member suggests a different way to move carts through the greenhouse. Someone sketches a new bench layout, irrigation zone or transplanting flow.

Progress rarely begins with a perfect pitch—it often begins with someone being willing to speak up and explore an imperfect thought.

In commercial horticulture, many valuable improvements aren't headline innovations. They're practical adjustments made by people close to the crop, i.e., a better way to group plants by water use, a small change in irrigation timing, a revised spacing pattern, a cleaner sanitation routine or a more efficient shipping workflow.

Those are creative acts, even if we don’t always call them that.

Creative habits that make better growers

Creativity doesn’t begin and end in the greenhouse, nursery or lab. Often, it’s sparked in places that look nothing like work.

Playing music, woodworking, writing, sketching, gardening or fixing equipment can all reset the mind. These habits build patience, sharpen observation and train us to notice details. Those skills transfer directly back into growing.

A grower who builds or repairs things develops a hands-on understanding of materials, structure and cause-and-effect. A researcher who writes or sketches trains the eye to notice nuance. A person who gardens outside of work remembers that plants don’t always follow the rules we assign to them.

These skills matter in horticulture, where small observations often make the difference between a crop that works and one that struggles.

Creativity is also something we can lose if we don’t practice it. In a field where schedules are tight and efficiency matters, it’s easy to fall into routine. Routine is necessary, but it can also make us stop noticing.

One simple habit is to treat every workshop, trade show, grower meeting or greenhouse walk-through as a chance to learn one new thing. It doesn’t need to be groundbreaking. It may be a propagation detail, a spacing strategy, a sanitation tip or a question you hadn’t considered before.
That steady practice of curiosity keeps creativity alive.

Tinkering is more than a pastime; it’s a training ground. Hobbies that encourage trial-and-error strengthen the same instincts we use when adjusting crop strategies, rethinking airflow or improving production layouts.

Sometimes stepping away from the crop gives the mind enough space to solve the problem. That reset—whether found in a sketchbook, a messy workbench or a patch of soil—can send you back with clearer eyes and better ideas.

The mind behind the crop

Growers demonstrate creativity every day. It’s in the person who reworks bench spacing to improve airflow. It’s in the grower who changes irrigation zones after noticing one crop is always wetter than the rest. It’s in the team that rearranges the shipping area after watching the same bottleneck happen every Friday. It’s in the decision to adjust transplant timing because the crop is telling you it isn’t ready, even if the calendar says otherwise.
These are acts of design, adjustment and responsiveness.

Creativity starts with observation. A good grower doesn’t just see that a crop is short, stretched, pale, uneven or late. They begin asking why. They connect what they see above the bench with what may be happening in the root zone, the environment, the irrigation schedule or the production process.

Technology can help. Automation can improve consistency, reduce labor and help growers manage increasingly complex operations. But automation doesn’t replace judgment.

Growers still carry a map in their heads. They know what normal looks like. They remember how a cultivar behaved

last year. They notice when the house feels too humid or when a crop doesn't look like itself. They catch the small pattern before it becomes a large problem.

Trusting that internal feedback loop is part of staying creative, even in structured systems. This is also why an overemphasis on optimization can backfire. Efficiency matters, but if there's no room to question, test or occasionally fail, creativity dries up.

What often separates excellent growers from good ones isn't just how well they follow protocol—it's how well they observe, adapt and create. Tweaking a fertility program, adjusting airflow, changing PGR timing or building a better production workflow may seem like small decisions, but they're often the decisions that move an operation forward.

Learning through failure

One of the hardest things to accept is that failure isn't always a sign you've gone off course. Sometimes, it's part of the course.

In commercial production, crop failures are expensive. A missed ship date matters. Poor quality affects customers and reputation. No one is suggesting that failure should be taken lightly. But when something does go wrong, there's usually something to learn.

A crop finishes too early. A rooting percentage drops. Disease appears where it wasn't expected. A new cultivar responds differently than the standard. A change in substrate, container size or irrigation timing creates an outcome no one predicted.

Creative thinking gives failure purpose. It helps us see mistakes not only as problems, but as leads. It encourages us to keep asking: Is there something here we didn't see?

Some of the most valuable discoveries in horticulture have come from in-field observations, improvised workarounds or passing comments. They weren't always part of the original plan, but someone noticed them. Someone leaned in instead of brushing them aside.

That mindset isn't always taught, but it can be modeled. Mentorship plays a powerful role here. Encouraging young professionals to question, explore and even disagree can plant the seeds of future breakthroughs.

We don't just pass on knowledge. We pass on the confidence to be curious.

The root of all discovery

This isn't a call to abandon structure because structure does matter. Protocols, schedules, crop records and production plans are essential to good growing. But it's a reminder to leave space for wonder.

If you're in the greenhouse, nursery, classroom, lab or field, pause and ask: Are you still chasing the right question? Has it changed with what you've learned? Is it time to look at the problem another way?

We need room to think, test, fail, tinker and try again. That's where learning happens. That's where the next idea lives.

As Albert Einstein reminded us, "Imagination is more important than knowledge."

Draw that sketch. Rework that bench layout. Revisit the note you almost dismissed. Ask why that crop behaved

differently than expected. Pay attention to the small thing that keeps catching your eye.

Sometimes the most important thing we grow in a greenhouse isn't just a crop, it's a better question. **GT**

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