

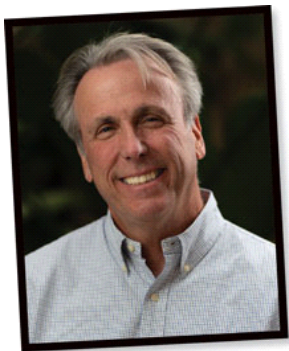
GROWERTALKS

Acres & Acres

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How You'll Be Using AI

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Let's talk intelligence. Not the real kind, like you and I possess in abundance. The artificial kind, the kind that's causing uproars over data centers, fears of a cold war with China and the existential question, "What happens when the machines are smarter than us?" (Umm ... we pull their plugs?)

Here's a stat that will blow your mind: the AI chatbot ChatGPT was released to the public on November 30, 2022. By January 2023 it had an estimated 100 million monthly active users. In comparison, TikTok took nine months to reach that number; Instagram two-and-a-half years; the Internet as a whole took about seven years; and the telephone, television and automobile each took decades to reach that number.

No wonder we're nervous! But there's also no stopping it. And why would we? Personally, ChatGPT is the most powerful computer tool I've ever used. I don't Google anymore; I ask Chat (or Grok, Claude or Copilot). Google gives me a million websites where I might find the answer. Chat gives me the answer, with citations, a summary, an analysis, and more options for related questions or other angles I might not have considered. On any topic, too, from the early players in Florida's caladium industry to the likely cause of pulsating brakes on my pickup.

But that's me, a journalist. How will growers be using AI in the coming years? Here are a dozen possible ways:

AI crop scouting becomes normal. AI-powered cameras—fixed, handheld, drone and robot-mounted—will continually scout for pests, diseases, nutrient problems, water stress and growth abnormalities, and will analyze the data, detecting pest and disease symptoms days ahead of human growers.

"Walk the crop" becomes a data-generating activity. You—or eventually a robot—will move through your greenhouse or nursery while AI identifies individual plants, records their condition and builds a history of each crop section or even each plant. (It's on the way; at Cultivate'26 I reported on FloraTrack AI, an AI headset that captures images and takes notes.)

Greenhouse climate control gets predictive. Instead of "temperature exceeded 75F, turn on Stage 1 of fans," AI will ask, "Given today's weather forecast, crop stage, humidity, solar radiation and historical data, what should I do over the next six hours?"

AI becomes the climate-control interface. Just as I now pose human-style questions to ChatGPT and get human

-style answers, you'll ask your climate system, "My crop looks like it might miss my sale date. What can I change?" AI will pull data from the climate computer and suggest—and eventually execute—changes.

Pest control decisions become more precise. AI will increasingly combine insect and disease identification, population trends, crop stage and environmental conditions to recommend whether to treat, where to treat and when to treat, using traditional chemicals and biosolutions.

Plant growth becomes measurable like never before. We graphically track poinsettias—why not every crop? Height, leaf area, flower count, fruit size, color, branching, internode length and other traits can be extracted automatically from images. The concept is not new; advanced growers in Europe have been sorting crops using computer imaging for decades. AI will turn that data into crop production decisions.

Breeding gets faster. AI will help breeders sift through enormous amounts of genetic data to identify promising crosses. The biggest near-term change may not be AI creating a new plant, but AI helping humans decide which 2% of the plants deserve a closer look.

Nursery automation gets a boost. Tools like the Harvey and Burro robots (plus new ones) will become more useful with AI, performing tasks like inventory, grading, tracking crops through production and directing robotic plant spacing based on what the camera sees.

Inventory management gets really good. AI and cameras will know that you have 49,712 finished 4-in. petunias, 240 that aren't quite ready and 48 that look questionable. Inventory will become something the computer observes rather than something employees periodically count.

Technical knowledge will become more accessible. Breeders, seed companies, greenhouse suppliers and even growers will feed decades of production records, trial results, manuals and emails into an internal AI, making all the accumulated knowledge available to anyone. Ball's Technical Services is a good example of this, as they build a searchable (eventually by AI) library of crop culture problems and solutions.

The best growers will use data, not just instinct. Instinct and a "feel" for the plants won't disappear, but the grower who combines instinct with 24/7 machine observation via AI will have an advantage over the grower relying solely on occasional human scouting.

AI will become boring. When I came into horticulture, computers were new. Today? They're in our pockets. You won't say, "We're using AI!" You'll say, "Our climate computer does that." Or "The scouting system caught it Tuesday." Or "The software told me to up the feed to 200 ppm."

Or in the case of brilliant stuff like this, "I read it in *GrowerTalks*." **GT**