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Artificial Intelligence Is Learning With Farmers

Farmers have always collected and evaluated a large amount of data each growing season. It started in ledger books. Then it was moved to spreadsheets, which were eventually saved on USB drives.

Now, we have real-time reports enabled by field monitoring equipment, enriched by artificial intelligence (AI), and available to farmers on tablets and smartphones.

New digital tools offer farmers customized insights with a few taps on a screen. Today, this digital transformation is changing the way farmers can spend their days and make decisions on the farm.

My experiences in agriculture have allowed me to see this transition firsthand.

Growing up in India, I used to visit my grandparents in Punjab and go to their cotton and wheat farms. My memories from those days include farmers riding bullock-driven carts, tilling the fields, applying fertilizer by hand, and harvesting crops using manual tools. That perception of the farm, although idyllic and simple, is actually outdated, old-fashioned, and inefficient. Modern agriculture is filled with digital innovation.

Equipment, AI, and automation are helping farms of all sizes produce enough while using fewer natural resources. AI-based digital tools are enhancing decision-making in almost every field. Farmers can use a sophisticated mix of data, analytics, hardware and software, and unique algorithms to go beyond what the eye can see to make informed decisions about their operations. AI can also help farmers select the best seeds, apply crop protection exactly where it is needed, or diagnose plant diseases threatening their crops in real-time.

ADVANCED TOOLS WITH SIMPLE SOLUTIONS

Today at Bayer, we are applying AI to develop better products, make our supply chain more efficient, and improve customer experience for farmers.

We are combining AI with all of our R&D platforms — plant breeding, plant biotechnology, crop protection, ag biologicals, and digital advisors — and developing solutions by integrating all of these platforms. Much like the iconic launch of the iPhone as a device that integrated the phone, iPod, and internet into one device, we are aiming to deliver simplified and personalized integrated solutions to address the diverse needs of farmers. AI supports these efforts.

SEEKING PROGRESS THROUGH AI

We've been on this journey for years now, and during that time we've identified five key elements for success in AI:

1. Asking the right questions to provide the most value
2. Availability of data along with the ability to cleanse, steward, and secure information
3. Diversified talent to bring the right domain, math, and engineering knowledge
4. Technology to process the data at scale
5. Partnerships to accelerate innovation

We've been making steady progress in each of these areas, which has led us to make advances and innovations that are delivering value to farmers. Time and again, we have seen that combining human ingenuity with artificial intelligence is more powerful than artificial intelligence on its own. Together we can change the way farmers grow.

Bayer crop science： https://www.forbes.com/sites/bayer/2019/10/14/artificial-intelligence-is-learning-with-farmers/#70680b805ee1