

BASF Launches App Identifying Weeds and Pests, Developed by Bayer

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Scouting is time consuming and requires plenty of knowledge. Knowing what a weed is at the very early stages of emergence or identifying a disease before it spreads too far can have an economic impact on your farm. A new app from xarvio - the Digital Farming Company - which is how BASF refers to this newly acquired business, offers a high-tech way to speed scouting, and make inexperienced scouts more effective.



IN FIELD TOOL: The new xarvio scouting app uses real-time computer power and a vast database of images to make early identification of weeds and crop diseases easier even for novice scouts.

"The app has artificial intelligence and machine learning algorithms that help identify weeds and disease in the field," says David Gray, xarvio's commercial and business development manager. "When you're in the app you snap a picture of the weed and it tells you with a percentage of confidence what you're looking at. At over 90% confidence you should consider that accurate." What sets this weed/disease app apart from others is that the identification is being done by a remote server that has more than 150,000 weed and disease

images in a massive database for comparison. In effect, the computer sees your picture and quickly compares it to all other images to find just the right match. And your pictures get added to the database and over time the system gets even better. "Each picture makes it smarter. We've used several thousand images to train the app and the algorithm gets smarter and more refined with each new image. The same weed in North Dakota may be slightly different than the Illinois version," Gray explains. With each new image from each subscriber, the system gets smarter. This anonymized weed identification info, which is also geolocated for the database, helps the computer improve. Launched in 2017 during Agritechnica for the European market, the system is already in use in 90 countries with more than 58,000 users. Beyond the initial database of images, the program is on track to add another 100,000 U.S. images in 2018. The digital farming group is working with 10 leading research universities across the U.S. including the University of Nebraska, Virginia Tech, Kansas State University, Texas A&M University, University of Tennessee, Illinois University, Oklahoma State University, North Dakota State University, Southern Illinois University, and Washington State University.

With a traditional analog weed identification app you're often asked questions about the weed to help hone in on the identification. In the case of the xarvio app, the system does the work. Add in that there's a disease identification tool, and the app has greater power. "This app works at the very early stages of infection when diseases can be harder to identify," he explains. "We've focused on gray leaf spot and northern corn leaf blight and we can identify each disease at the early stages when lesions are small and it's hard to distinguish." Gray notes that the system can even identify weeds at the just-emerged cotyledon stage. "This is when seasoned scouting veterans can recognize weeds and diseases," Gray says. "This is a full-service scouting app where someone who is not as experienced can get information they need." The work of identification doesn't happen in the phone. You take the picture and the app sends that image to the server over the Internet. The conclusion then comes back to the phone. Gray says it works faster where your web speed is faster but depends on how many pictures you send to the server for identification.

The app is free and available for download from your favorite app store, just search xarvio to find it. Farmers can try it out at the Farm Progress Show and learn more there. "We want farmers to improve their scouting and their use of crop protection products," Gray says.

"We are looking at the future of agriculture and what tools growers will need to compete 2, 3, 4 or 10 years from now. This business is more than just selling jugs." The xarvio division was created by Bayer but divested to BASF during the Monsanto acquisition. Gray says that BASF is "very interested in continuing the same line of technology approach" that the division started working on when created. Farmers can learn more at xarvio.com.