

Experts suggest beefing up farm security

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James Hoflen and Doug Jacobsen advise farmers to take steps to secure their farm, including changing default passwords, backing up data, updating software and considering multifactor authentication. PHOTO / BOB BJOIN

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Make sure to change the default password, back up data, update software and use multifactor authentication to secure your farm.

Iowa farmers are encouraged to bolster cybersecurity defenses to shield their farms from potential cyberattacks by changing passwords, setting up multifactor authentication, updating software and backing up important data.

Experts say the winter months are an opportune time to review and enhance security measures by implementing improved cyber management plans.

“The bottom line is there are a very few simple things that you can do that will make you not be the low-hanging fruit,” said James Hoflen, an advisor with the U.S. Cybersecurity and Infrastructure Security Agency. “They’re simple, they’re easy, they’re common sense and they’re not that tough.”

Hoflen was joined by Doug Jacobsen, Iowa State University professor and director of the Center for Cybersecurity Innovation and Outreach, at a Cybersecurity on the Farm Conference in Ames Jan. 11. More than 30 farmers and ag industry professionals turned out to learn about protecting their systems and equipment from bad actors.

“If the Mission Impossible team shows up at your farm and wants to get into your tractor, they will. What you want to do is minimize your risk; don’t be that person that stands out like a sore thumb,” Hoflen added. “Focus on what you can control. Protect yourself and do the basics.”

Persistent adversaries

Agriculture is a critical infrastructure, and farmers work with the most refined technology and complicated equipment available while engaged in manufacturing, buying, selling, financial and data management. It’s no secret that adversaries are aware and are becoming more skilled in their tactics targeting the food and ag industry regularly.

“Our adversaries have gotten more sophisticated,” Jacobsen said. “Over the last five years, we have seen a transformation in how our adversaries interact.” They’re using artificial intelligence to create attacks that not only target larger sectors but also small businesses and individual farmers.

“They’re willing to interact with their victims much more than they used to be” through email, texts and social media, Jacobsen said.

Hoflen said the most common threat is business email compromise and accompanying financial transactions that can be susceptible to fraud.

“You have ... edge devices that gather data, send it to the internet and up to the cloud where that data is gathered and analyzed, then sent back to you so you can make good business decisions,” he explained. For farmers, that could mean how much fertilizer to use or the best feed mixtures for milk cows.

“Every time that there’s a place for doing that, there’s a vulnerability there,” he said.

Adversaries are more readily utilizing artificial intelligence to make it easier to scam by drafting and sending phishing emails.

“AI will make it harder to identify scammers,” Hoflen said. He gave, as an example, providing AI some information about a farm and its owner and then asking AI to draft an email forming a business relationship such as for buying feed.

“(They’re) trying to convince them to click on a link,” Jacobsen said.

Added Hoflen, “I can now draft a very convincing, exciting email — very nice, well-written email to try to convince (you) to enter a business relationship with me, the attacker.” From there, clicking on a link to a false invoice, website or request for credentials lets the bad actor in.

Generative AI, where new content can be created from pieces of old content — think photos and video — is the next misinformation challenge, Hoflen said. “Media manipulation is going to get worse,” he said. “Learning to discern what is misinformation is going to be a challenge.”

Implementation protections

There are resources available for Iowa farmers looking to beef up their farm’s security. The older generation can work with their children and grandchildren to update passwords and software or back up important data, even if it’s just on a flash drive.

The Food and Agriculture Information Sharing and Analysis Center filters information and sends important notices to farmers about potential cyberattacks specific to the ag industry.

Iowa State University is planning workshops to get the word out on cybersecurity importance. A how-to conference is being discussed to work hands-on with farmers who want to change passwords, implement a password manager or set up multifactor authentication. Other resources can be found at www.cyio.iastate.edu, security-literacy.org/, www.iowacyberhub.org, www.iowacyberhub.org/index.php/blog/ or www.stopthinkconnect.org/.

Several steps farmers can consider now for protection against a cyberattack include:

- Use strong passwords, vary them from program to program and keep them secret. “Change the default password on all of your devices,” said Hoflen. “Get a password manager, use a password book. Nobody’s going to hack a book.”
- Use multifactor authentication programs, designed to prove to the computer that the log-in is legitimate. The program typically sends a text to a smartphone or an email with a one-time code the user types in to access the program.
- Back up data using a cloud-based service or an external hard drive. The products are relatively inexpensive considering the value of computer data that would be devastating to lose.
- Consider implementing facial recognition or fingerprint logins. Eventually, retinal scans may become commonplace, Hoflen said.

In the event of a breach, both Jacobsen and Hoflen advise farmers and ag businesses to report the attack. “If you get hit with ransomware ..., call the FBI,” Hoflen said.

Share that you received a fraudulent email with the local internet service provider and neighbors so they know and can investigate.

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