



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,
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Hardin County Extension News Release

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New App Helps Farmers Know When to Apply Fertilizer

Hardin County – A new app from The Ohio State University will help farmers save both money and the environment. The Field Application Resource Monitor (FARM) uses advanced weather forecasting to advise farmers on when to apply fertilizer and manure so that they aren't washed away by rain.

According to Aaron Wilson, climate specialist for Ohio State's College of Food, Agricultural, and Environmental Sciences (CFAES) and project manager of FARM, it is much more than just a fancy weather app. "The app allows you to specify the location of your field in high resolution," said Wilson. This means that the app can actually give specific forecasts for an area as small as 1.5 miles wide—allowing for incredibly accurate and detailed forecasts. "It then provides guidance on the best time to apply fertilizer and manure based on the precipitation forecast" Wilson continued.

Beyond the high resolution forecasts, FARM has another unique feature: historic forecasts. According to Elizabeth Hawkins, an OSU Extension agronomist based in Clinton County, FARM's database of forecasts for specific locations is "its most unique feature." "This feature gives farmers the ability to look back at the forecasts that were available when they applied the fertilizer," said Hawkins. "That information is usually quite hard to find."

In the event that a forecast is wrong, historical forecasts may provide documentation that farmers were operating under proper procedures and working in accordance with forecasts that were accurate at the time. For example, the Western Lake Erie Basin has laws that prohibit farmers from applying fertilizer or manure.

These rules do not allow the application of fertilizer if there is more than a 50 percent chance of 1 inch of rain in the next 12 hours. If there is more than a 50 percent chance of ½ inch of rain in the next 24 hours, manure cannot be spread in the Western Lake Erie Basin. Applications can only be made if certain conditions are followed. If the forecast calls for a 20 percent chance of rain and a farmer decides to apply fertilizer or manure only for the rain to fall, the farmer can cite the app conditions for the day.

FARM users can also set up accounts and receive detailed emails notifying them of real-time precipitation alerts and forecasts. As the app expands, Wilson anticipates adding phone alerts that will further streamline the process of keeping farmers in the know. “This equips farmers with the tools to help them make decisions,” Wilson said.

The app can be viewed on most computers and mobile devices. “It’s very accessible. It’s very easy for anyone to use, and it’s very intuitive,” said Hawkins. The app provides both economic and environmental advantages. When warned about precipitation that exceeds good management practices, farmers can avoid applying fertilizer and manure that are doomed to wash away, saving both time and money. Washed-away nutrients also make it difficult for farmers to anticipate how much more fertilizer may need to be added.

“If the fertilizer is washed away, that is one input they have lost,” Hawkins said. If farmers don’t know how much fertilizer or manure is actually acting upon their crops, then it’s difficult to predict growth. The app offers a significant environmental benefit as well by helping prevent fertilizer and manure from washing into Ohio waterways.

“If you have too much phosphorus washing into rivers and eventually Lake Erie, you have a greater potential for harmful algal blooms,” Wilson said. “This is detrimental to the waterways farmers depend on.” It’s no secret that farmers and the environment have a mutual codependence on each other. FARM gives farmers a distinct opportunity to look after the environment in a way that also saves them time and money. For more information about FARM, visit farm.bpcrc.osu.edu.

Article written by Yiannis Sarris - OSU CFAES and edited by Mark Badertscher – OSU Extension, Hardin County.