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Research update: the FRST database

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Piles of old physical files that contain legacy data to be preserved in the FRST database and used in the decision support tool. Much of the original correlation/calibration work conducted around the U.S. is unpublished, not digitized, and risks being thrown away as soil fertility faculty retire and empty their filing cabinets. The FRST team is collecting as much of this data as possible from both electronic and physical files from soil fertility faculty around the country. Photo by Sarah Lyons.

Back in June 2020, we told you about the Fertilizer Recommendation Support Tool (FRST), a database and tool in development that was created from soil fertility information gathered on a national scale. By collecting legacy phosphorus and potassium soil test correlation and calibration data and compiling it in one centralized database, the team behind FRST sought to create more uniform soil fertility recommendations.

The database was just a start. To both provide correlation information and give growers, researchers, and certified professionals an easy way to view data, work began on the decision support tool. The tool will harness data in the database, including more than 1,200 individual trials from a range of years, cropping systems, geographic regions, and management practices—and it's still growing.

In a new *Agricultural & Environmental Letters* article, the seven-member core team (including Sarah Lyons, Dan Arthur, Nathan Slaton, Austin Pearce, John Spargo, Deanna Osmond, and Pete Kleinman) announced the development of the database that will eventually be housed in the USDA-ARS Agricultural Research Outcomes System (AgCROS). Growers and researchers will soon be able to submit their soil test correlation and calibration data through an online form for review by the FRST team,

who will continue updating the database. The research team has also provided new guidance for research data reporting after creating the minimum dataset—that is, the crucial information needed to be collected for soil test correlation and calibration research trials.

Now that the database has been developed, the team is working on the decision support tool, including an iterative process of testing and refining to make it work best for growers. With better information, the goal is to promote clear and consistent interpretations of fertilizer recommendations, encouraging greater adoption of nutrient management recommendations in the process.

Dig deeper

Read more about the FRST project here: <http://www.soiltestfrst.org/>.

Read the new article in *Agricultural & Environmental Letters* here:

<https://doi.org/10.1002/ael2.20058>.

Check out the June 2020 *CSA News* magazine article on the FRST national soil fertility database here: <https://doi.org/10.1002/csan.20218>.

Read about the minimum dataset development in the *Soil Science Society of America Journal* here: <https://doi.org/10.1002/saj2.20338>.

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