Science Societies

Red parent soils create wetland problems

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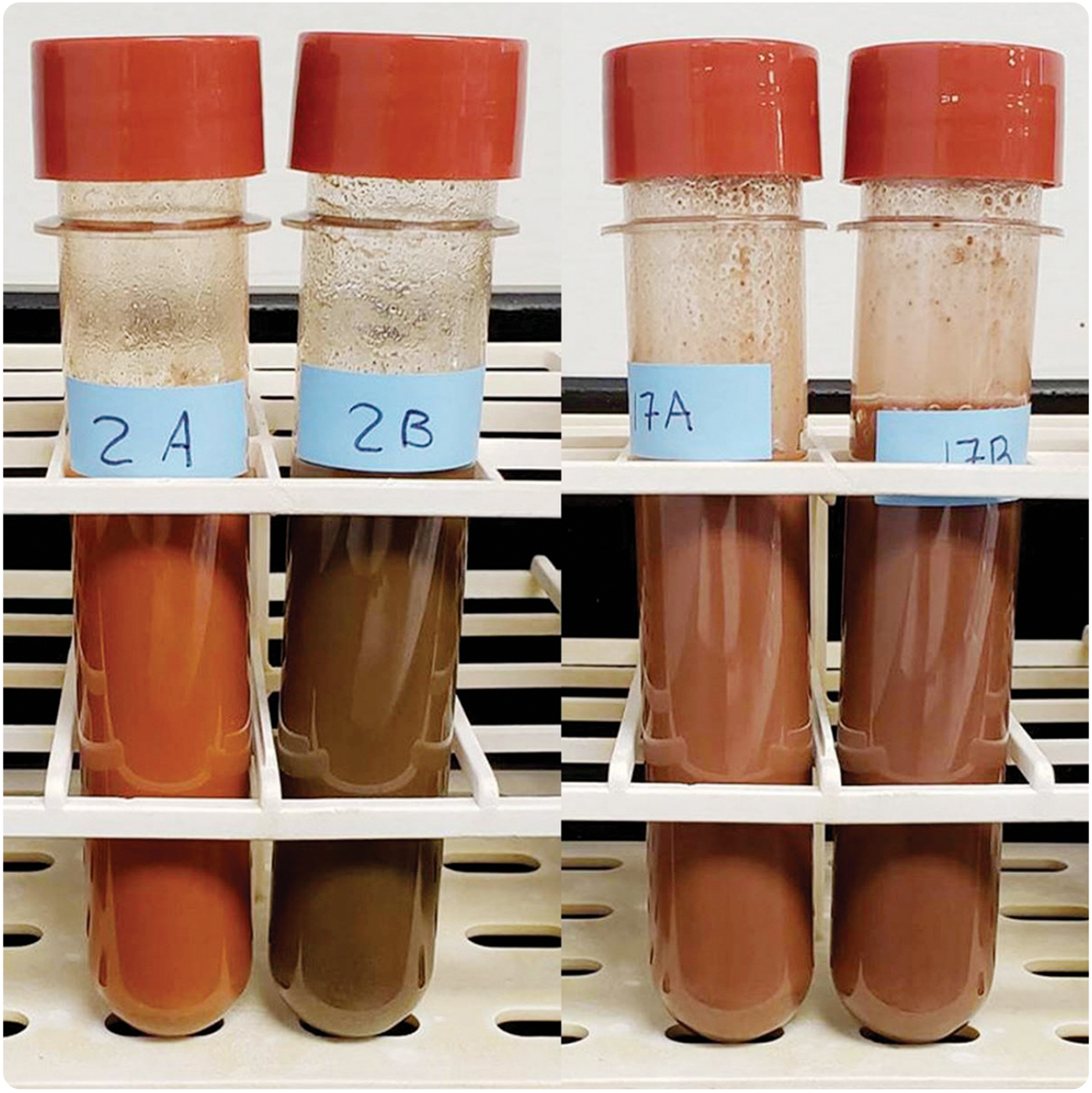

On the left is a typical (non-problematic) sample 2A, which an hour after reagents are added at room temperature, results in a discernible change in color (from 2A to 2B). On the right, however, is an example of a problematic red parent material (PRPM) soil sample 17, which an hour after reagents are added, results in only a slight change in color (between 17A and 17B). Photo courtesy of M.C. Rabenhorst.

Identification and protection of wetlands requires recognition of hydric soils. Usually this is straightforward, but sometimes challenging or problematic situations arise. Recent research demonstrated that problematic red parent material (PRPM) soils, which we have known about for several decades, are actually quite widespread and found from Michigan to Arizona and from Texas to Massachusetts.

In 2017, the USDA-NRCS set up a special field indicator (F21–Red Parent Materials) to aid soil scientists in recognizing hydric soils formed in PRPM, but use of this indicator requires knowing that the soils and geology are in fact PRPM. Until now, researchers required a lab-based analysis using sophisticated and expensive color-measuring equipment to make that determination.

A recent article in the *Soil Science Society of America Journal* reports on a simple field test that can be conducted in an hour. The test uses some plastic tubes and a Munsell color book, which is commonly utilized by most field soil and wetland scientists. This method will increase the ability of field scientists to confidently recognize and identify hydric soils and wetlands associated with PRPM.

Dig deeper

Rabenhorst, M., Buchanan, A., Morozov, E., Shay, J., & Mack, S. (2020). Field test for identifying problematic red parent materials. *Soil Science Society of America Journal*, 84, 1006–1010. **https://doi.org/10.1002/saj2.20066**

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Back to issue

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