Science Societies

Soil judging goes virtual for 2021

By Bryant Scharenbroch, John Galbraith, John Lawley, Chris Baxter, Kris Osterloh

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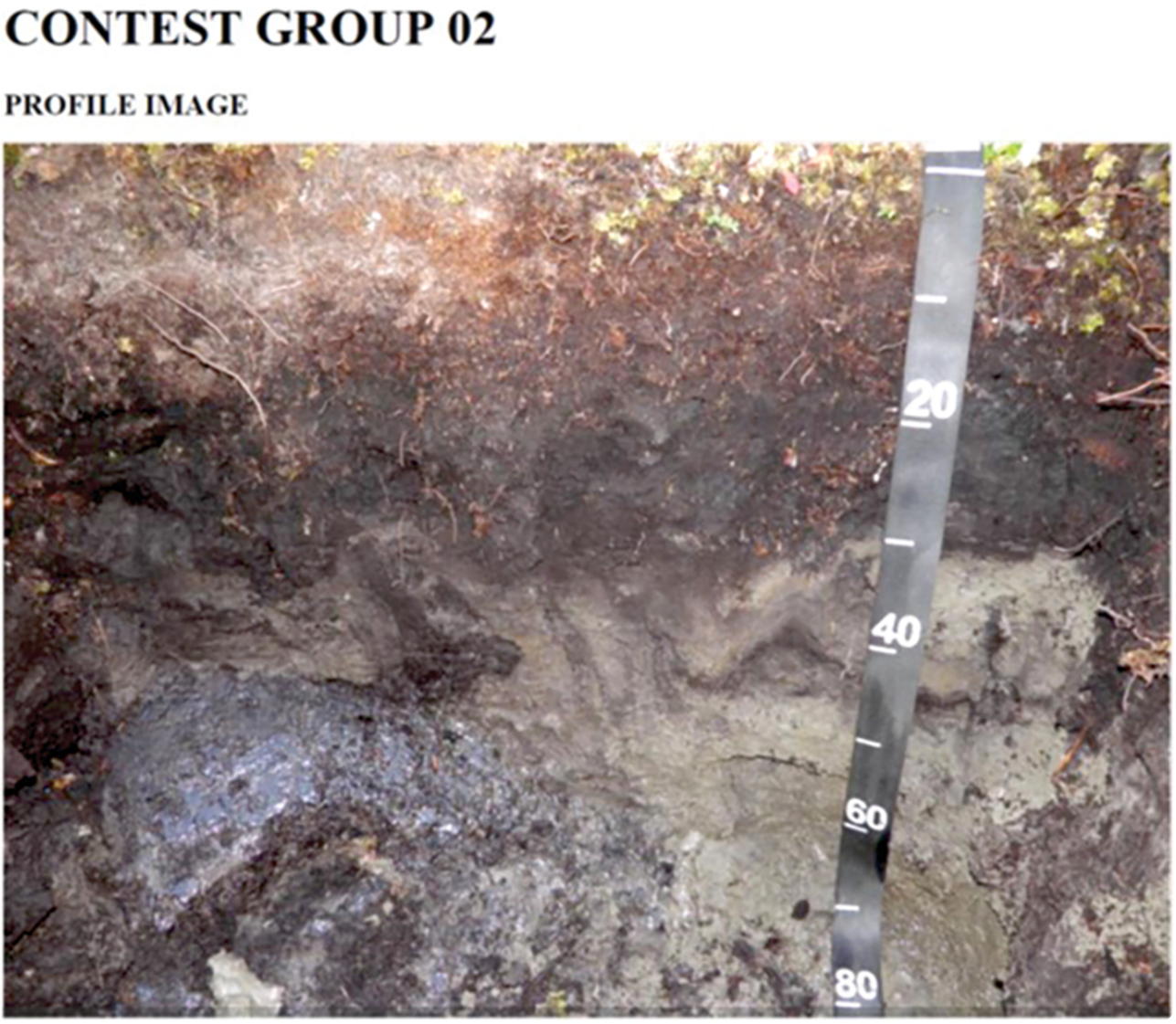


Soil pedon (Histoturbel) profile picture for Virtual National Soil-Judging Group Contest. Image courtesy of Nic Jelinski (University of Minnesota–Twin Cities).

The 2021 Virtual National Soil-Judging Contest (VNSJC) was held on 5–16 Apr. 2021. This soil-judging experience was unique not just because it was, in part, virtual. The contest was also unique because it provided increased soil diversity and accessibility for participants. The contest included 11 of the 12 soil orders and 24 great groups, and 21 teams and 140 students participated at *no cost.* Students learned how to describe and interpret soils without touching them or being in a pit (which is a difficult, but useful skill). They also learned many new and diverse soils, textures, and features that they would typically see in a traditional soil-judging contest.

According to the contest committee, "This virtual contest was created and necessary because we did not want the pandemic to deny a whole set of students to miss out on the learning opportunity provided by soil judging. The contest was a huge success because it allowed teams to have some continuity in teaching students and keeping the soil-judging clubs and teams active during the pandemic."

The Soil-Judging Contest

The 2021 VNSJC included three components. The first component included soil pedon descriptions, interpretations, and classifications. In the description portion, students named horizons, calculated textures, and answered questions about soil and site properties, soil classification, suitabilities, and limitations for specified uses such as building development, agronomy, and wetlands. Coaches contributed practice pedons

representing a common soil in their region. For the second component, students had to hand-texture soil samples to identify the percentages of sand, silt, and clay as well as the texture class. The contest organizers and the USDA-NRCS Charles E. Kellogg Soil Survey Laboratory provided texture samples. The last component included identification of soil morphological features.

The contest featured 26 soil descriptions representing 11 of the 12 soil orders, 20 texture samples with known sand, silt, and clay content, and 40 multiple-choice picture questions about soil features and landscapes. The contest had both individual and group parts. The students had three hours to complete three descriptions by themselves and then were given 20 minutes each to complete two more as a group. Students did five soil textures as individuals and three more as a group and were given 10 minutes for each sample. The feature and landscape identification included 20 questions for individuals and 20 more for the group that had to be answered in 20 minutes each.

2021 Virtual National Soil-Judging Contest Top Five Winners

Team results:

1. Virginia Tech
2. University of Wisconsin–Stevens Point
3. Utah State University
4. Cal Poly San Luis Obispo
5. University of Minnesota–Twin Cities

Group results:

1. Utah State University
2. West Virginia University
3. Virginia Tech
4. University of Missouri
5. North Carolina State University

Individual results:

1. Jagger Borth, Kansas State University
2. Sarah Higgins, University of Missouri
3. Bernie Frantz, Virginia Tech
4. Morgan Fabian, University of Minnesota
5. Emily Yulga, University of Wisconsin–Stevens Point

Graduate results:

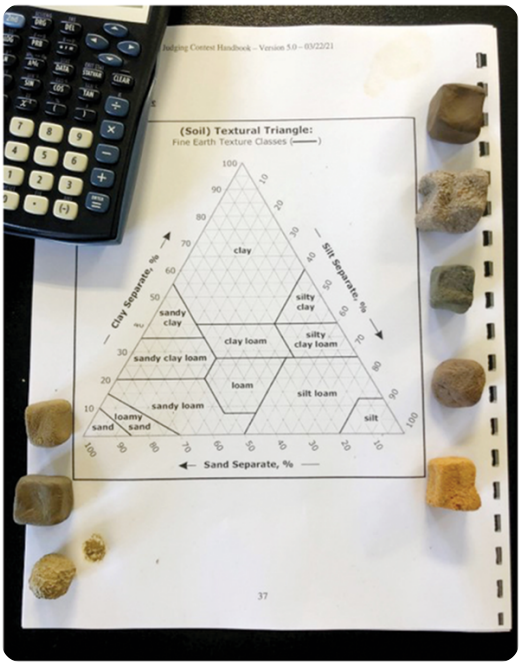
Joey Loffredo, University of Rhode Island

Check out the contest website here:

https://nationalsoiljudgingcontest2021.weebly.com/.

Virtual Contest Expands Reach

This virtual contest challenged students—they had to learn about a wide variety of soils formed in very different conditions, from the tropics to the desert to the Arctic, Virginia Tech coaches Jaclyn Fiola and John Galbraith explain. In a virtual challenge, the practices covered almost all soil types and soil features on earth. It was a comprehensive study in soil genesis, chemistry, morphology, and classification. The contest preparation really supplements what students learn in other classes.



Soil texture triangle and soil cube and sphere artifacts. Image courtesy of North Carolina State University.

The virtual format of the 2021 contest offered a unique learning opportunity to students at all colleges and universities, not just the ones with established soil-judging teams. Because of this unique learning opportunity, the contest will very likely be offered again in a virtual format even after in-person contests begin again this fall. In fact, a version of the contest is being planned right now for the 2021 SSSA Annual Meeting. The learning materials are free, and the organizers welcome educators to use them in college classes, as well.

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Many thanks to our contest organizers: Bryant Scharenbroch of Wisconsin–Stevens Point, John Galbraith of Virginia Tech, John Lawley of Utah State, Chris Baxter of Wisconsin–Platteville, and Kris Osterloh of South Dakota State. Awards were sponsored by SSSA through liaison Susan Chapman.

The contest was dedicated to long-time supporters of soil judging who have recently passed away. Bill Smith (Clemson University), John Mikulcik (Murray State University), Larry Morris (University of Georgia), and Gabe Krantz (USDA-NRCS).

Soil Judging at the Annual Meeting!

The contest committee is organizing an in-person contest at the Annual Meeting on Sunday, 7 November. The event will be held at the Salt Palace Convention Center, with no outdoor component. Rumor has it that there will also be a soil-texturing contest open to all attendees! Learn more about the two contests at **www.acsmeetings.org/undergraduates**.

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