Science Societies

Outstanding paper finalists named for Society flagship journals

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The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America are pleased to announce the finalists for the Outstanding Paper Award for each Society through their three flagship journals: *Agronomy Journal* (ASA), *Crop Science* (CSSA), and the *Soil Science Society of America Journal* (SSSAJ). Authors of the winning papers will be acknowledged during an awards ceremony at the CANVAS 2025 meeting in Salt Lake City, UT, Nov. 9-12, 2025.

The process for being acknowledged as a finalist or receiving this award starts with you submitting your work to one of the flagship journals published by our Societies. Following submission, your paper will be reviewed by experts who have the goal of providing constructive suggestions. Whether the paper is accepted or rejected, we believe that the reviews will help you improve the quality of the paper. Following acceptance, our Societies may promote your work through various means such as webinars, video summaries, plain language summaries, podcasts, awards, social media, magazine articles, and emails.

Published papers for the prior two years are considered for the Society Outstanding Paper Award. Finalists for this award are selected based on the number of citations and full-text views. The final selection for this award is made by a highly qualified committee that may include the Society's president, editor-in-chief, journal editor, technical editors, and an additional Society member appointed by the president for a given Society. The committee will evaluate the selected works for clarity, originality, and importance. All finalist papers are truly outstanding, and they represent less than 1% of the submitted papers. We encourage you to read these papers below.

In 2025, the Outstanding Paper Award finalists were selected from 499 papers from *Agronomy Journal* for the ASA Society Award, 547 papers from *Crop Science* for the

CSSA Society Award, and 277 papers from the *Soil Science Society of America Journal* for the SSSA Society Award.

Agronomy Journal

Finalists for the ASA Society Award for Outstanding Paper

Finalists for this award are chosen from ASA's flagship journal, *Agronomy Journal*. The journal publishes reviews and original research in agriculture, natural resources, soil science, crop science, agroclimatology, agronomic modeling, production agriculture, crop genetics, plant breeding, and instrumentation.

Mechanism for Weed Suppression of a Cereal Rye Cover Crop: A Review by authors Silva, G.C., and Bagavathaiannan, M. Read it here https://doi.org/10.1002/agj2.21347

Internet of Things (IoT) in Digital Agriculture: An Overview by authors Dhal, S., Wyatt, B.M., Mahanto, S., Bhattarai, N., Sharma, S., Rout, T., Saud, P., and Acharya, B.S. Read it here: https://doi.org/10.1002/agj2.21385

Climate Change and Managing Insect Pest and Beneficials in Agricultural Systems by authors Eigenbrode, S.D., and Adhikari, S. Read it here: https://doi.org/10.1002/agj2.21399.

A Global Meta-Analysis of Cover Crop Response on Soil Carbon Storage Within a Corn Production System by authors Joshi, D.R., Sieverding, H.L., Xu, H., Kwon, H., Wang, M., Clay, S.A., Johnson, J.M., Thapa, R., Westhoff, S., and Clay, D.E. Read it here: https://doi.org/10.1002/agj2.21340

DFNet: Dense Fusion Convolution Neural Network for Plant Leaf Disease Classification by authors Faisal, M., Leu, J-S., Avian, C., Prakosa, S.W., and Köppen, M. Read it here: https://doi.org/10.1002/agj2.21341

Artificial Intelligence in Farming: Challenges and Opportunities for Building Trust by authors Gardezi, M., Joshi, B., Rizzo, D.M., Ryan, M., Prutzer, E., Brugler, S., and Dadkhah, A. Read it here: https://doi.org/10.1002/agj2.21353

Tomato Leaf Disease Classification Using Image Processing and Weight Ensemble Learning by authors Javidan, S.M., Banakar, A., and Vakilian, K.A. Read it here: https://doi.org/10.1002/agj2.21293

A Nitrogen Fertilization Impact on Hemp (*Cannabis sativa* K.) crop production: A review by authors Kaur, N., Brym, Z., Oyola, L.A.M., and Sharma, L.K. Read it here: https://doi.org/10.1002/agj2.21345.

A Vision of Precision Agriculture: Balance Between Agriculture Sustainability and Environmental Stewardship by author Nath, S., read it here, https://doi.org/10.1002/agj2.21405

Few-Shot Learning for Plant Disease Recognition: A Review by authors Sun, J., Cao, W., Fu, X., Ochi, S., and Yamanaka, T. Read it here: https://doi.org/10.1002/agj2.21285.

Sustainable Sweetpotato Production in the United States: Challenges and Opportunities by authors George, J., Reddy, G.V.P., Wadl, P.A., Rutter, W., Culbreath, J., Lau, P.W., Rashid, T., Allan, M.C., Johaningsmeier., S.D., Nelson, A.M., Wang, M.L., Grubba, A., Ling, K-S., Meng, Y., Collins, D.J., Ponniah, S.K., and Gowda, P.H. Read it here: https://doi.org/10.1002/agj2.21539.

Crop Science

Finalists for the CSSA Society Award for Outstanding Paper

Finalists for this award are chosen from CSSA's flagship journal, *Crop Science.* The journal publishes reviews, interpretive articles, and original research on any aspect of crop science, including agronomy, physiology, and genetics. The top-cited (excluding self-cites) and downloaded papers published in the past two years are the final candidates for the award. Among the 14 finalists below, two winners are being selected—one review article and one research paper.

Calibration of a Crop Growth Model in APSIN for 15 Publicly Available Corn Hybrids in North America by authors Win, C.A., Archontoulis, S., and Edwards. J. Read it here: https://doi.org/10.1002/csc2.20857

Effects of Humic Acid-Enhanced Phosphate Fertilizer on Wheat Yield, Phosphorus Uptake, and Soil Available Phosphorus Content by authors Gao, S., Zhang, S., Yuan, L., Li, Y., Zhao, LK., Wen, Y., Xu, J., Jur, S., and Zhao B. Read it here: https://doi.org/10.1002/csc2.20909

Identification of Quantitative Trait Loci and Candidate Genes for Seed Sucrose and Soluble Sugar Concentration in Soybean by authors Liu, C., Chen, H., Yum Q., Gu, H., Li, Y., Tu, B., Zhange, H., Zhang, Q., and Liu, X. Read it here: https://doi.org/10.1002/csc2.21080

Reducing the Generation Time in Winter Wheat Cultivars Using Speed Breeding by authors Schoen, A., Wallace, S., Holbert, H.F., Brown-Guidera, G., Harrison, S., Murphy, P., Sanantonia, N., Sanford, D.V., Boylwa, R., Mergoum, M., Rawat, N., and Tiwari, V. Read it here: https://doi.org/10.1002/csc2.20989

Production and Cultivation Dynamics of Millets in India by authors Yadov, O.P., Singh, D.V., Kumari, V., Prasad, M., Seni, S., Singh, R.K., Sood, S., Kant, L., Rao, B.D., Madhusudhana, R., Bhat, B.V., Gupta, S.K., Yadava, D.K., and Mohapatra, T. Read it here: https://doi.org/10.1002/csc2.21207

Strawberry Breeding for Improved Flavor by authors Porter, M., Fan, Z., Lee, S., and Whitaker, V.M. Read it here: https://doi.org/10.1002/csc2.21012

Mega-Environment Analysis and Breeding for Specific Adaptation by authors Yan, W., Nilsen, K.T., and Beattie, A. Read it here: https://doi.org/10.1002/csc2.20895

The Dendrobium Orchid: Botany, horticulture, and Utilization by authors Ketsa, S., and Warrington, O.J. Read it here: https://doi.org/10.1002/csc2.20952

DELLAs Directed Gibberellins Responses Orchestrate Crop Development: A Brief Review by authors Sarwar, R., Zhu, K-M., Jiang, T., Ding, P., Gao, Y., and Tan, X.L. Read it here: https://doi.org/10.1002/csc2.20825

Contributions of Plant Breeding to Soil Carbon Storage: Retrospect and Prospects by authors Poffenbarger, H., Castellano, M., Egli, D., Jaconi. A., & Moore, V. Read it here: https://doi.org/10.1002/csc2.20920

SSR-Based DNA Fingerprinting of Fruit Crops by authors Testolin, R., Messina, R., Cipriani, G., & Mori, G.D. Read it here: https://doi.org/10.1002/csc2.20896

Breeding Cereal Rye (Secale cereale) for Quality Traits by authors Brzozowski, L.J., Szuleta, E., Phillips, T.D., Van Sanford, D.A., Clark, A.J. Read it here: https://doi.org/10.1002/csc2.21022

Yield Improvement and Yield Components: A Comparison of Corn and Soybean by author Egli, D.R. Read it here: https://doi.org/10.1002/csc2.20925

Corn Response to Long-Term Seasonal Weather Stressors: A Review by authors Ortez, O.A., Lindsey, A.J., Thomison, P.R., Coulter, J.A., Sigh, M.P., Carrijo, D.R., Quinn, D.J., Licht, M.A., and Bastros, L. Read it here: https://doi.org/10.1002/csc2.21101

Soil Science Society of America Journal

SSSA Soil Science Society of America

Finalists for the SSSA Society Award for Outstanding Paper

Finalists for this award are chosen from SSSA's flagship journal, the *Soil Science Society of America Journal*. The journal publishes basic and applied soil research covering all areas of soil science in agricultural, forest, wetlands, and urban settings. It provides an internationally recognized and comprehensive venue for soil scientists, biogeochemists, and agronomists to publish their research.

Transferability of Large Mid-Range Soil Spectral Library Between Two Fourier-Transform InfraredSpectrometers by authors Sanderman, J., Gholizadeh, A., Pittaki-Chrysodonta, Z., Huangm, J. Safanelli, J.L., and Ferguson, R. Read it here: https://doi.org/10.1002/saj2.20513

Cover Crops and Soil Health in Rainfed and Irrigated Corn: What Did We Learn After 8 Years by authors Blanco-Canqui, H., Ruis, S.J., Koehler-Cole, K., Elmorfe, R.W., Francism C.A., Shapiro, C.A., Proctorm C.A., and Ferguson, R.B. Read it here: https://doi.org/10.1002/saj2.20566

Influence of Plasticity and Porewater Salinity on Shrinkage and Water Retention Characteristics of Biochar-Engineered Clays by authors Cai, W., Bordoloi, S., Zhu, C.,

and Gupt, C.B. Read it here: https://doi.org/10.1002/saj2.20591

A Mechanistic Inquiry into the Applicability of Permanganate Oxidizable Carbon as a Soil Health Indicator by authors Christy, I., Moore, A., Myrold, D., and Kleber, M. Read it here: https://doi.org/10.1002/saj2.20569

An Evaluation of Nitrogen Indicators and Soil Health in Long-Term Agricultural Experiments by authors Liptzin, D., Rieke, E. L., Cappellazzi, S. B., Bean, G. M., Cope, M., Greub, K. L. H., Norris, C. E., Tracy, P. W., Aberle, E., Ashworth, A., Tavarez, O. B., Bary, A. I., Baumhardt, R. L., Gracia, A. B., Brainard, D. C., Brennan, J. R., Reyes, D. B., Bruhjell, D., Carlyle, C. N., ... and Honeycutt, C. W. (2023). Read it here: https://doi.org/10.1002/saj2.20558

Current Status of US Soil Test Phosphorus and Potassium Recommendations and Analytical Methods by authors Lyon, SA.E., Clark, J.D., Osmond, D.L., Parvej, M.R., Pearce, A.W., Slaton, N.A., and Spargo, J.T. Read it here: https://doi.org/10.1002/saj2.20536

Fourier-Transform Infrared Spectroscopy for Soil Organic Matter Analysis by authors Margenot, A.J., Parikh, S.J., and Calderón. Read it here: https://doi.org/10.1002/saj2.20583

Impact of No-tillage, Crop Rotation, Cover Crop, and Drainage on Soil Physical and Hydraulic Properties by authors Saha, A.K., McMain, J.T., Trooien, T., Sexton, P., and Graham, C. Read it here: https://doi.org/10.1002/saj2.20614

Soil Phosphorus Balance in Minnesota Soils and its Effect on Soil Test Phosphorus and Soil Phosphorus Fractions by authors Sim, A.L., Fabrizzi, K.P., Kaiser, D.E., Rosen, C.J., Vetsch, J.A., Strock, J.S., Lamb, J.A., and Farmaha, B.S. Read it here: https://doi.org/10.1002/saj2.20549

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