

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Faculty Publications, Department of Statistics

Statistics, Department of

---

5-10-2023

## Increasing racial diversity in the North American Plant Phenotyping Network through conference participation support

David LeBauer

Alexander Bucksch

Jennifer Clarke

Jesse Potts

Sonali Roy

Follow this and additional works at: <https://digitalcommons.unl.edu/statisticsfacpub>




Part of the [Other Statistics and Probability Commons](#)

---

This Article is brought to you for free and open access by the Statistics, Department of at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Faculty Publications, Department of Statistics by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# Increasing racial diversity in the North American Plant Phenotyping Network through conference participation support

David LeBauer<sup>1</sup>  | Alexander Bucksch<sup>2,3</sup>  | Jennifer Clarke<sup>4</sup>  | Jesse Potts<sup>5,6</sup>  |  
Sonali Roy<sup>5</sup> 

<sup>1</sup>Arizona Experiment Station, University of Arizona, Tucson, Arizona, USA

<sup>2</sup>Department of Plant Biology, Warnell School of Forestry and Natural Resources, Institute of Bioinformatics, University of Georgia, Athens, Georgia, USA

<sup>3</sup>School of Plant Sciences, University of Arizona, Tucson, Arizona, USA

<sup>4</sup>Department of Statistics, University of Nebraska at Lincoln, Lincoln, Nebraska, USA

<sup>5</sup>Department of Agricultural and Environmental Sciences, College of Agriculture, Tennessee State University, Nashville, Tennessee, USA

<sup>6</sup>Institute for Food and Agricultural Systems, University of Florida, Gainesville, Florida, USA

## Correspondence

David LeBauer, Arizona Experiment Station, University of Arizona, Tucson, AZ, USA.

Email: [dlebauer@arizona.edu](mailto:dlebauer@arizona.edu)

Assigned to Associate Editor David Ertl.

## Funding information

AG2PI

## Abstract

A key goal of the North American Plant Phenotyping Network (NAPPN) annual conference is to cultivate a new generation of scientists from diverse backgrounds. As part of their effort to diversify the plant phenomics research community, NAPPN acquired funding to cover all attendance costs for participants from historically black colleges and universities (HBCU) for the 2022 annual meeting. Seven award recipients represented the first attendees from HBCUs in the conference's 6-year history. In this commentary, we report on the impact of the conference awards, including lessons learned, and the future of the award.

## 1 | INTRODUCTION

### 1.1 | Overview

Annual conferences provide an important venue for scientists to share their research and learn about the latest work and tools in a field. Scientific conferences also provide one of the primary opportunities for networking. Networking is often the beginning of collaborations that turn into successful research

projects, employment possibilities, recognition in a scientific discipline, and/or training opportunities. However, conferences are often organized by well-connected, established members of a scientific community, often with networks that lack diversity. As a result, conferences can be insular and unwelcoming to new members, including networks of underrepresented groups in science, technology, engineering, and mathematics (STEM) disciplines. As a result, it is critical that a scientific conference makes an intentional effort to expand the relevant research community by reducing barriers to attendance.

Potential conference attendees face many hurdles in their ability to attend conferences. Time and money are universal hurdles, but historically black colleges and universities

**Abbreviations:** AG2PI, Agricultural Genomes to Phenomes Initiative; HBCUs, historically black colleges and universities; NAPPN, North American Plant Phenotyping Network; MSIs, minority serving institutions; PUIs, primarily undergraduate institutions; STEM, science, technology, engineering, and mathematics.

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2023 The Authors. *The Plant Phenome Journal* published by Wiley Periodicals LLC on behalf of American Society of Agronomy and Crop Science Society of America.

(HBCUs) have been historically underfunded relative to their peer primarily White institutions (Herman, 2021; Sav, 2010). It is clear from the makeup of society meetings such as North American Plant Phenotyping Network (NAPPN) that attendance at major conferences is overwhelmingly favored at historically White compared to historically Black institutions. On one hand, institutions, departments, and research groups vary in how much they value and can support conference attendance. This leads to unequal opportunities to attend. On the other hand, the conferences themselves can be less welcoming and less accessible to people from underrepresented groups.

A recent paper found virtual conferences to be more inclusive with more participants overall, but with the largest gains among women, LGBTQ+, international, and early career participants (Skiles et al., 2021). The authors speculated that this increase in inclusivity may be attributed to a combination of reduced financial and personal-life burdens. While virtual conferences can be more inclusive, there are many drawbacks. Virtual conferences are less immersive, hence less engaging, and provide less interaction time than in-person conferences. The amount of time spent interacting at conferences is proportional to the number of collaborations a scientist has (Zajdela et al., 2021). Therefore, it is important not to rely on virtual conferences in their present form to provide the same networking opportunities as in-person conferences.

## 1.2 | The NAPPN annual conference

The NAPPN (Carroll et al., 2019) is a community of researchers from a range of sciences and technologies in engineering, agronomy, ecology, and plant systems biology. Its members come from academic, government, and commercial entities. NAPPN and its annual conference grew out of the Phenome conference series from 2016 to 2020. The first NAPPN conference in 2021 was fully virtual. NAPPN 2022 was hybrid (both virtual and in-person).

Conference organizers have worked to make NAPPN an organization that is inclusive of people from diverse human and scientific communities. NAPPN has an Equity, Inclusivity and Diversity committee and an official statement (<https://www.plantphenotyping.org/eid>) that commits the organization to building diversity in the community. The conference's scientific committee considers this diversity when inviting plenary speakers and selecting submitted abstracts for presentation. But we also recognized the need to build out the community of researchers more actively.

Diversity is important to the NAPPN community for several reasons: a membership diversity that reflects the larger community would indicate greater equality of opportunities along the educational and career paths. A diversity of indi-

### Core Ideas

- Racial diversity distribution among NAPPN members is less than the United States population as a whole.
- Travel grants helped increase participation by researchers from historically black colleges and universities.
- We report on successes and lessons learned based on participant feedback.

vidual lived experiences brings together diverse perspectives and problem-solving skills in STEM. Finally, diversity has been shown to correlate with a variety of metrics related to a group's efficacy. Diversity is a driver of creativity and innovation through the cohesion of different ideologies and experiences. Diverse groups are more creative, more productive, and make better decisions (Roberge & van Dick, 2010). In academia, multiple studies have shown a link between ethnic diversity and impact (AlShebli et al., 2018; Freeman & Huang, 2014). According to a Deloitte report, cognitively and demographically diverse teams can enhance innovation by 20% (BCG, 2018) and identify or reduce risks by up to 30% (Bourke & Dillon, n.d). Moreover, a community that fosters diversity will be better able to attract an increasingly diverse cohort of scientists to maintain the benefits emerging from diverse cohorts.

As the professional workforce increases in diversity, more welcoming and inclusive societies and networks will benefit by being able to attract from a larger pool of talent. If we want to attract and retain top talent in our scientific communities, we must learn about their needs now to be able to anticipate their future needs.

## 1.3 | HBCUs

Like many of the nation's best known agricultural and engineering schools, many HBCUs are land-grant universities with agricultural missions. The first Morrill act of 1862 established land-grant universities in each state and the Morrill act of 1890 created a second cohort of land-grant colleges for Black students. Despite similar missions, these institutions have vastly different rates of participation at scientific conferences.

Organizers of the NAPPN 2022 conference wanted to identify barriers to participants from HBCUs and provide funding to increase participation. A majority of NAPPN members, leaders, and conference participants either work at or were trained in 1862 land-grant universities. Prior to 2022, there

had been no NAPPN attendees from the 1890s land-grant institutions.

At the same time, HBCUs are responsible for training a disproportionate number of the nation's Black engineers. For example, North Carolina A&T State University (NCAT) graduates more Black engineers than any other university in the United States (USDA-NIFA, 2022). Furthermore, almost three quarters of Black PhDs received either a graduate or undergraduate degree from HBCU (Wilson, 2007). It was clear that the phenotyping community was missing an enormous opportunity to engage top talent while diversifying both the technical and racial composition of the NAPPN. Our goal was to increase the number of Black participants at NAPPN.

We obtained support for HBCU students through the Agricultural Genome to Phenome Initiative (AG2PI, AG2PI, 2020; Tuggle et al., 2022). AG2PI is an ongoing effort by USDA NIFA that aims to "assemble and prepare a transdisciplinary community" for significant investment in research focused on elucidating the connections between the genome and expressed traits (the phenome) in agriculturally relevant species. AG2PI has been providing seed grants for various projects and community building efforts since 2020. In 2021, they announced a new funding mechanism aimed at increasing representation at AG2PI related events. NAPPN organizers requested funding specifically to support attendance by researchers from HBCUs as this would contribute to the AG2PI goal of increasing efforts to train students and workers (Tuggle et al., 2022). Support from AG2PI enabled the conference to provide travel awards to attendees from HBCUs, lowering their barrier to attendance, and broadening the diversity of the attendee population.

#### 1.4 | Travel awards for North American Plant Phenotyping Network 2022

The announcements of travel awards were circulated to deans, chairs, and faculty at HBCUs, focusing on 1890 institutions. Funding from AG2PI supported seven researchers from HBCUs to attend the 2022 NAPPN Conference in Athens, GA. Travel support was preferentially allocated to encourage participation by pairs of faculty and students. A key role of advisors at conferences is to introduce their students to the people and processes of conferences. We also expected that bringing researchers in pairs would increase the chance of future participation. This also helped to distribute the funding to researchers at different career stages.

Two of the awardees attended in person, and five attended virtually. All awardees were minorities: two were African Americans and most or all others were non-Black foreign born. Five were graduate students and two were faculty members. Two institutions were represented: Tennessee State Uni-

versity and Alabama State University. Both are 1890 HBCU institutions and TSU is a land-grant university. Together, these participants contributed one paper and three abstracts, all archived along with NAPPN 2022 conference proceedings on Earth and Space Science Open Archive (ESSOAr) (Jain, 2022; Roy et al., 2021; Saleem et al., 2021; Taheri et al., 2021). The paper by Roy et al. (2021) was led by faculty and included a graduate student mentee as a co-author, has been peer reviewed and published in *Frontiers in Plant Science* (Roy et al., 2021), and was presented at the conference as a plenary talk.

## 2 | LESSONS LEARNED AND RECOMMENDATIONS

During and after the conference, organizers discussed the award with participants to learn about their experiences at the conference and how we could improve our engagement with scientists from HBCUs.

### 2.1 | Defining the target audience

One participant asked, "Is the goal to target HBCUs, underrepresented groups, or Black students in particular?" The participant pointed out that most of the graduate students in their department were neither Black nor American, and indeed most were foreign born. The observation reflects a larger pattern—according to the *Digest of Education Statistics*, while Black students represented 79% of total undergraduate degrees at HBCUs, they accounted for only 59% of doctorates (table 313.30 in de Brey et al., 2021). This disparity is even more skewed in STEM fields related to NAPPN. Relative to the population, Black students are less likely to be awarded degrees in the disciplines that comprise the field of plant phenotyping. Agriculture and natural resources, biological/biomedical sciences, engineering, computer science, mathematics/statistics, physical science, and science technologies together account for only 5% of the degrees awarded to Black students, which compares to about 18% of the degrees awarded in the total student population (NCES, 2021). This discrepancy points to a need to look deeper into the reasons behind these disparities. In particular, how can the discipline of plant phenotyping address these disparities? Of particular concern is whether we are consciously or unconsciously excluding minorities with our organization's practices for conferences (Graves et al., 2022).

If the objective is to increase participation of students from underrepresented groups, and by African American students at HBCUs in particular, the award could more directly target this audience. The original rationale was that it was students from HBCUs who are underrepresented and that by targeting

HBCUs we would increase the pool of candidates from underrepresented groups. It was not clear if restricting awards by race would be legal or fair. Another reason to target HBCUs is that non-HBCU research institutions have more funding to support meeting attendance than their HBCU counterparts. In addition, HBCUs contribute meaningfully to the number of doctorates granted to Black students in the natural sciences and engineering (Henderson & Hrabowski, 2021).

NAPPN should broaden advertisement towards recruiting underrepresented students from all universities. It may also be worthwhile to exhibit at and attend HBCU-specific conferences such as the 1890 biennial Association of Research Directors conference for awareness building, though not at the expense of fewer conference travel awards.

## 2.2 | Barriers to meeting attendance

One barrier we underestimated is that phenotyping is a young discipline often not represented at HBCUs, nor at primarily undergraduate institutions (PUIs) and minority serving institutions (MSIs). As such, the attendance pool was small to begin with. However, as a young field, plant phenotyping can also provide excellent niches in which HBCU research can strive and develop without facing the competition of financially stronger institutions. Another future avenue is to put more effort into raising awareness of the conference across HBCUs/PUIs/MSIs together in the hopes of reaching a larger pool of potential attendees.

We identified several barriers to meeting attendance, some of which can be overcome with financial resources and others that are more systemic may require cultural change. Many of these barriers are not specific to HBCUs but are common at these and many non-Research 1 (R1) institutions. Arif et al. (2021) identify barriers to participation faced by students from historically underrepresented groups and provide 10 simple rules for supporting these students. Their suggestions include increasing the diversity of perspectives, connecting students with opportunities, reducing financial barriers, and building community. The NAPPN travel award program addresses these. While our primary focus was on reducing financial barriers, we also aimed to expand the NAPPN community. To support this objective and to sustainably build the community, we provided grants to mentor/mentee pairs. Our overall aim was to increase the diversity of the conference to make it a more welcoming space.

Connecting students with opportunities includes raising awareness of the opportunity to attend a conference and how doing so can help advance a scientific career. In many HBCU graduate programs—like in all graduate programs—conference attendance by students and postdocs is highly valued but difficult to support financially.

Another barrier was familiarity with the logistical processes—of travel, attending a conference, and getting reimbursed for expenses. Even for the practiced, the coordination associated with travel and meeting attendance can be daunting. A checklist of steps required such as what to bring, what to expect, what expenses are reimbursable and required documentation, and who to contact for assistance would help. At this conference, participants found having a single point of contact for coordination to be helpful.

We also focused on building a community by prioritizing attendance by mentor/mentee pairs. This focus was intended to help introduce students to conferences and this pairing made the conference experience easier for mentees. In addition, each participant was asked to identify a conference committee member with whom to meet and award organizers arranged these meetings. In the future, there could be a more formal role of "host" for a member of the committee who could facilitate such meetings.

One participant brought family members in part for safety concerns. The associated hotel cost was covered, however, there was no allowance for additional expenses related to family travel. This is a potential sponsorship opportunity that the NAPPN plans to include in the sponsor prospectus for the 2024 conference.

One aspect of the financial burden was the logistics of reimbursement. Some students are not able to pay expenses out of pocket in advance, and ambiguity in the timeline for reimbursement exacerbates this issue. It is common even at R1 universities for students and faculty to struggle and have to pay interest on upfront costs as a result of reimbursement processes that can take months. The grant funding to support participation by faculty and students from HBCUs was available only as a reimbursement of costs and required a conference report to be submitted before the release of funds. NAPPN provided up front support for hotel and registration costs, but per-diem expenses add up and members of the conference organizing committee stepped in and provided personal cash to defray these costs. In the future, it would be better if a travel grant or the awarded institution could cover these charges in advance. Providing payment in advance would reduce real barriers, and the award announcement should make it clear what expenses will be covered so attendees could limit any out-of-pocket expenses.

Although unrelated to minority status, the timeline of the conference attendance award presented a challenge. Although the conference was announced a year in advance—February 2021—the award was not funded until 1 month before the conference in January 2022. Organizers began circulating an announcement to HBCU participants that travel awards would be available only a few weeks before the abstract and paper deadlines. As of 2022, the NAPPN put a 2-year planning



phase for their conference in place. This will allow for timely dissemination of awards because the federal funding agencies need between 6 and 8 months to make conference grants available.

### 2.3 | What worked for North American Plant Phenotyping Network 2022

We hosted a group dinner with conference organizers, awardees, and hosts. This was appreciated as a way of introducing people to each other, and to people well known in and familiar with the NAPPN community who could help new participants identify other meeting participants with shared interests. An NAPPN community member served as a coordination contact, and this was particularly viewed as helpful by the HBCU participants. Being able to provide financial support for conference attendance by securing external grant funding positively impacted attendance. HBCU participants appreciated the opportunity to request a meeting with a member of the conference scientific committee. In the future, the conference and attendees would benefit from the formal designation of a conference “host”; this designation would increase participation by members of underrepresented groups.

### 2.4 | Future improvement

There are additional ideas for how NAPPN could better achieve our core aim of building a more inclusive research community within NAPPN. We could improve awareness of the award and awardees in several ways. For example, we could more widely advertise the opportunity, coordinate the announcement of the availability of awards alongside the call for papers, and announce awardees at the time of paper acceptance. Furthermore, a press release shared with institutions would simultaneously promote the award, the awardees, NAPPN, and the conference.

More importantly, we could better support relationships that are built within the community by providing networking events to encourage and create mentorship that provides guidance and support to student researchers. Keynote speakers representing a diverse range of minority groups could be integrated in advertisements, including professors from HBCUs. This award is just a first step to getting conversations started. It could also encourage PIs from R1 land-grant universities to contact faculty awardees from HBCUs with opportunities to collaborate on proposals. Doing so, they can engage their students in projects that are conducted by major schools and establish a path for the students to get into those schools.

## 3 | CONCLUSIONS

We hope for future NAPPN meetings that the availability of conference support for attendees is announced with the call for abstract and paper submission. In that way, applications for travel awards would be made at the time of abstract or paper submission, and travel awards could be announced at the same time as abstract and paper acceptances, which adds several magnitudes of planning security for new attendees. However, we also believe that we made important steps as a professional network to increase participation of minorities in STEM at our conferences and found a solid basis to develop the envisioned—inclusive and diverse community around plant phenotyping. In the first year of this initiative, our efforts focused on increasing diversity in the NAPPN conference’s attendance. However, we believe that inclusion and equity build slowly on top of increased representation. At least one personal report from an HBCU faculty member stated that they followed up with their requested interaction partner at NAPPN 2022 during NAPPN 2023 and that they introduced a new HBCU student to the community. The authors of this paper were happy about this personal report and look forward to full feedback on diversity, equity, and inclusion efforts at NAPPN 2023.

### AUTHOR CONTRIBUTIONS

**David LeBauer:** Conceptualization; Funding acquisition; Investigation; Project administration; Writing—original draft; Writing—review and editing. **Alexander Bucksch:** Conceptualization; Funding acquisition; Project administration; Writing—original draft; Writing—review and editing. **Jennifer Clarke:** Conceptualization; Funding acquisition; Project administration; Writing—original draft; Writing—review and editing. **Jesse Potts:** Writing—review and editing. **Sonali Roy:** Writing—original draft; Writing—review and editing.

### ACKNOWLEDGMENTS


The authors would like to thank Irina Makarevitch, Hamline University, for her feedback and discussion on our inclusion efforts. The NAPPN conference travel award was supported by a seed grant from the Agricultural Genomes to Phenomes Initiative (AG2PI).

### CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

### ORCID

David LeBauer  <https://orcid.org/0000-0001-7228-053X>

Alexander Bucksch  <https://orcid.org/0000-0002-1071-5355>

Jennifer Clarke  <https://orcid.org/0000-0002-2723-7249>

Jesse Potts  <https://orcid.org/0000-0001-8981-151X>

Sonali Roy  <https://orcid.org/0000-0002-8114-8300>

## REFERENCES

- AG2PI. (2020). Home page. <https://www.ag2pi.org>
- AlShebli, B. K., Rahwan, T., & Woon, W. L. (2018). The preeminence of ethnic diversity in scientific collaboration. *Nature Communications*, 9(1), Article 5163. <https://doi.org/10.1038/s41467-018-07634-8>
- Arif, S., Massey, M. D. B., Klinard, N., Charbonneau, J., Jabre, L., Martins, A. B., Gaitor, D., Kirton, R., Albury, C., & Nanglu, K. (2021). Ten simple rules for supporting historically underrepresented students in science. *PLoS Computational Biology*, 17(9), e1009313. <https://doi.org/10.1371/journal.pcbi.1009313>
- BCG. (2018). *How diverse leadership teams boost innovation*. <https://www.bcg.com/en-us/publications/2018/how-diverse-leadership-teams-boost-innovation>
- Bourke, J., & Dillon, B. (n.d.). The diversity and inclusion revolution: Eight powerful truths. *Deloitte Insights*. <https://www2.deloitte.com/us/en/insights/deloitte-review/issue-22/diversity-and-inclusion-at-work-eight-powerful-truths.html>
- Carroll, A. A., Clarke, J., Fahlgren, N., Gehan, M. A., Lawrence-Dill, C. J., & Lorence, A. (2019). NAPPN: Who we are, where we are going, and why you should join us! *The Plant Phenome Journal*, 2(1), 1–4. <https://doi.org/10.2135/tppj2018.08.0006>
- de Brey, C., Snyder, T. D., Zhang, A., & Dillow, S. A. (2021). *Digest of education statistics 2019* (55th ed.). NCES 2021-009. National Center for Education Statistics. <https://files.eric.ed.gov/fulltext/ED611019.pdf>
- Freeman, R. B., & Huang, W. (2014). Collaboration: Strength in diversity. *Nature*, 513(7518), 305. <https://doi.org/10.1038/513305a>
- Graves, J. L., Jr., Kearney, M., Barabino, G., & Malcom, S. (2022). Inequality in science and the case for a new agenda. *Proceedings of the National Academy of Sciences of the United States of America*, 119(10), e2117831119. <https://doi.org/10.1073/pnas.2117831119>
- Henderson, P. H., & Hrabowski, F. A., III. (2021). Nothing succeeds like success. *Issues in Science and Technology*. <https://issues.org/nothing-succeeds-like-success-underrepresented-minorities-stem/>
- Herman, J. (2021). Achieving financial equity and justice for HBCUs. *The Century Foundation*. <https://tcf.org/content/report/achieving-financial-equity-justice-hbcus>
- Jain, D. (2022). Transcriptomics to unravel regulation of nutrient uptake rates upon synthetic CEP1 peptide application in plant roots. *Earth and Space Science Open Archive*. <https://doi.org/10.1002/essoar.10508856.1>
- NCES. (2021). Digest of education statistics, 2021 Table 324.25 [Data set]. National Center for Education Statistics. [https://nces.ed.gov/programs/digest/d21/tables/dt21\\_324.25.asp](https://nces.ed.gov/programs/digest/d21/tables/dt21_324.25.asp)
- Roberge, M.-É., & van Dick, R. (2010). Recognizing the benefits of diversity: When and how does diversity increase group performance? *Human Resource Management Review*, 20(4), 295–308. <https://doi.org/10.1016/j.hrmr.2009.09.002>
- Roy, S., Griffiths, M., Torres-Jerez, I., Sanchez, B., Antonelli, E., Jain, D., Krom, N., Zhang, S., York, L., Scheible, W.-R., & Udvardi, M. (2021). Application of synthetic peptide CEP1 increases nutrient uptake rates along plant roots. *Earth and Space Science Open Archive*. <https://doi.org/10.1002/essoar.10508830.2>
- Saleem, M., Topps, D., Khahir, M. I. u., Brown, J., Newman, A., & Pervaiz, Z. H. (2021). Soil-plant properties differentially impact microbiome networks in a cover crop biodiversity experiment. *Earth and Space Science Open Archive*. <https://doi.org/10.1002/essoar.10508817.1>
- Sav, G. T. (2010). Funding historically Black colleges and universities: Progress toward equality? *Journal of Education Finance*, 35(3), 295–307. <http://www.jstor.org/stable/40704415>
- Skiles, M., Yang, E., Reshef, O., Muñoz, D. R., Cintron, D., Lind, M. L., Rush, A., Calleja, P. P., Nerenberg, R., Armani, A., Faust, K. M., & Kumar, M. (2021). Conference demographics and footprint changed by virtual platforms. *Nature Sustainability*, 5(2), 149–156. <https://doi.org/10.1038/s41893-021-00823-2>
- Taheri, A., Duményo, K., Valliyodan, B., Libault, M., & Song, Q. (2021). Genome wide analysis of root nodulation and root system architecture in soybean accessions. *Earth and Space Science Open Archive*. <https://doi.org/10.1002/essoar.10508704.1>
- Tuggle, C. K., Clarke, J., Dekkers, J. C. M., Ertl, D., Lawrence-Dill, C. J., Lyons, E., Murdoch, B. M., Scott, N. M., & Schnable, P. S. (2022). The agricultural genome to phenome initiative (AG2PI): Creating a shared vision across crop and livestock research communities. *Genome Biology*, 23(1), Article 3. <https://doi.org/10.1186/s13059-021-02570-1>
- USDA-NIFA. (2022). 1890 Land-grant institutions programs. *National Institute of Food and Agriculture*. <https://www.nifa.usda.gov/grants/about-programs/program-operational-areas/1890-land-grant-institutions-programs>
- Wilson, V. R. (2007). The effect of attending an HBCU on persistence and graduation outcomes of African-American college students. *The Review of Black Political Economy*, 34(1–2), 11–52. <https://doi.org/10.1007/s12114-007-9006-7>
- Zajdela, E. R., Huynh, K., Wen, A. T., Feig, A. L., Wiener, R. J., & Abrams, D. M. (2021). Catalyzing collaborations: Prescribed interactions at conferences determine team formation. arXiv [math.DS]. <https://arxiv.org/abs/2112.08468>

**How to cite this article:** LeBauer, D., Bucksch, A., Clarke, J., Potts, J., & Roy, S. (2023). Increasing racial diversity in the North American Plant Phenotyping Network through conference participation support. *The Plant Phenome Journal*, 6, e20075. <https://doi.org/10.1002/ppj2.20075>