2020/2021 NAPB Advocacy Committee Annual Report

Bill Tracy, chair; Robin Groose, incoming chair; Brigid Meints, incoming vice chair, Yvonne Manning, incoming secretary.

The committee met several times in 2021.

At the April 27, 2021, meeting the committee reviewed and revised their advocacy priorities. The minutes of that meeting are appended to the report.

The priorities are:

1. NAPB supports increased funding for cultivar development in the public sector through USDA competitive grants and federally funded programs.
2. NAPB supports increased support for plant breeding education and graduate student training.
3. NAPB supports the NPGS and is concerned about genetic vulnerability, narrowing of the genetic base, and continued genetic gain. We need to sustain and support the utilization of genetic resources
4. NAPB supports the appropriate use of technologies associated with plant improvement.

Public Comments Submitted to the USDA:
In late April 2021, the committee reviewed and responded to the USDA Request for Comments on the Executive Order on Tackling the Climate Crisis at Home and Abroad. In addition to the committee's individual comments, the NAPB also supported comments submitted by the American Seed Trade Association (ASTA). (See attached). The initial draft was written by Robin Groose and edited by Bill Tracy. The document was then edited and finalized by the executive committee.

New officers:
A new slate of officers has been identified
Robin Groose - Chair
Brigid Meints - Vice Chair
Yvonne Manning - Secretary
Bill Tracy - Past Chair

The NAPB Advocacy Committee is scheduled to meet again in August and is excited to build on the momentum of revising the committee priorities and leveraging each committee members role in plant breeding to positively influence decisions of policymakers on the federal level. Although visits to Washington DC were halted due to COVID-19, we look forward to having a physical presence in Hill visits in the future.

Respectfully submitted,
William F. Tracy
wftracy@wisc.edu

NAPB Advocacy Meeting
April 27, 2021

Present
Bill Tracy, Robin Groose, Lais Bastos Martin, Brigid Meints, Guo-Liang Jiang, David Baltensperger, David Bubeck, Julie Dawson, Margaret Young and Shawn Finne
Notetaker: Katie Peterman (UW-Madison) Baltensperger

AGENDA:
1. Discuss changing and/or adding to current priorities.
    - NAPB supports increased funding for cultivar development in the public sector through USDA competitive grants and capacity funds.
    - NAPB supports increased support for plant breeding education and graduate student training
    - NAPB supports the NPGS and is concerned about genetic vulnerability, narrowing of the genetic base, and continued genetic gain. We need to sustain and support the utilization of genetic resources.

2. Discuss potential white papers (what topics should we be discussing/coming up with recommendations for?)
3. Request for Public Comments for Climate Crisis at Home and Abroad (attached)
4. Discuss potential organizations to partner with (NSAC, tri societies, etc.)
5. Discuss ways to build this committee

Request for Public Comments:
How can USDA leverage existing programs? Plant breeders have something to add.
Comments are due in 2 days (April 29th, 2021)
Will executive committee be able to turn this around/approve in such a short time? David Bubeck believes it is possible.
ASA (Elizabeth Stulberg) along with other organizations have already drafted something so we can check out their comments. We want to communicate that plant breeding can be a part of the solution. Repetition (not plagiarism) is a good thing.
Group decides to address each of the questions briefly.
David Bubeck will get some existing comments
David Baltensperger will get ASA's comments
Robin and Bill will work on it tomorrow morning (Wednesday) and get it to David Bubeck.
Anyone is welcome to send Bill their input/comments.

Building committee capacity:
If interested in being secretary – you can directly email Bill or nominate someone. Then Bill will reach out to those whose names have been recommended.
USDA employees can be involved. Their perspective is valuable. If issues come up where there is a conflict of interest, then they can abstain from voting.
Any suggestions to change or add to the current priorities?
David Bubeck – add a statement for advocacy for influencing policies for technologies and science that contribute to plant breeding? How to maintain our broad tent of membership.
DRAFT: "NAPB supports the appropriate use of technologies associated with plant improvement."

- AI: David will draft a statement for group to look over.

Add genetic vulnerability statement – subject matter experts on each crop can develop their statement.
Sean – advocate for larger investments (in addition to USDA competitive grants) DRAFT: NAPB supports increased funding for cultivar development in the public sector through USDA competitive grants and other federally funded programs.
Yes, it's important to "public sector through federal funded programs"
NIFA/AFRI has program specifically for cultivar development.
Need to start preparing white papers for next Farm Bill.
Bullet for plant breeding for public health?
D. Baltensperger - Important to prioritize the priorities. Can't list too many – otherwise won't get anything done.
D. Bubeck – Effort by center for food integrity (CFI). Presentation about a system to put in place that enables use of responsible technology for plant breeding. A webinar will be provided for NAPB members this fall. (Save the date)

Next steps:

- Work on RFI (next 2 days)
- Work on NAPB priority bullet points
- Contact Bill if you're interested in being an officer
- Katie will send out Doodle to reserve a monthly meeting for group.

April 29, 2021

Attention Docket ID No.: USDA-2021-0003
William Hohenstein
Director, Office of Energy and Environmental Policy
U.S. Department of Agriculture
1400 Independence Avenue SW
Washington, DC 20250

Dear Director Hohenstein:

The National Association of Plant Breeders (NAPB) is pleased to respond to the U.S. Department of Agriculture's (USDA) *Request for Comments: Executive Order on Tackling the Climate Crisis at Home and Abroad* (Federal Register :: Notice of Request for Public Comment on the Executive Order on Tackling the Climate Crisis at Home and Abroad) as USDA develops a *Climate Smart Agriculture and Forestry Approach (*USDA Requests Information on USDA's Climate-Smart Agriculture and Forestry Strategy | USDA). In addition to our individual comments, NAPB also supports comments submitted by the American Seed Trade Association (ASTA).

The NAPB is an association with over 450 members of the plant breeding community across the entire spectrum of public and private sector organizations. The primary mission of the NAPB is to strengthen plant breeding and promote food security, quality of life, and a sustainable future. Our vision is to help create a future in which 1) strong public and private sectors work independently and together to deliver varieties and improved germplasm to society, 2) we demonstrate and communicate the importance of plant breeding to food security, quality of life, and a sustainable future, and 3) plant breeding is viewed as dynamic, problem solving, and creative. The NAPB is a recognized and valued advocate for plant breeding research and education, helping to guide and implement a cohesive national plant breeding agenda.

The NAPB membership represents the vast majority of plant species that have plant breeding activities conducted in the United States, including field crops, vegetables, fruits, flowers and trees. The fundamental principles of plant breeding activities are closely aligned with our ability to develop cultivars and plant performance improvements that will be well adapted to the environmental effects of climate change. Plant breeders

across all species have a fundamental, comprehensive and science-based approach in conducting testing of improved genetics in a wide array of environments every year. They have a pipeline of genetics being tested over years that represents genetic diversity of their plant species that can be selected with increased adaptation to changing environmental conditions.

A very logical conclusion would be that significant investments at the federal level should be directed towards plant breeding investment in attempts at addressing climate change issues. **Plant breeding at the federal level needs to be a focused consideration for this Climate-Smart Ag RFI. In particular, the NP301 FY2020 budget at $220.9 million is insufficient to address the needs of the large number of species involved in plant breeding at the USDA and to effectively utilize materials that are in the National Plant Germplasm System (NPGS). In contrast annual resource levels and grants coming from NSF and NIH are illustrative of the under-funded dilemma of NP301. NP301 has the ability to impact human health and nutrition, in addition to meeting some of the climate change demands. To further contrast, the private sector investment in plant breeding field crops, fruits and vegetables is in the multiple billions per year, demonstrating the value that is being placed on the benefits of developing improved cultivars. Increasing the public and private partnerships in this endeavor for "Climate-Smart Ag" will be critical in achieving successful outcomes.**

1. Climate-Smart Agriculture and Forestry Questions

A. How should USDA utilize programs, funding and financing capacities, and other authorities, to encourage the voluntary adoption of climate-smart agricultural and forestry practices on working farms, ranches, and forest lands?

1. How can USDA leverage *existing* policies and programs to encourage voluntary adoption of agricultural practices that sequester carbon, reduce greenhouse gas emissions, and ensure resiliency to climate change?

USDA should continue to leverage existing NP301 Plant Breeding efforts that encourage voluntary adoption of agricultural practices that sequester carbon, reduce greenhouse gas emissions, and ensure resiliency to climate change. They should partner with other efforts in public and private sectors to establish assays that are automated and enable selection models that measure carbon sequestration across the genetic variation within a given species. Agricultural producers must have access to, and a choice among, genetically-improved and diverse plant cultivars adapted to innovative agro-ecosystems in order for them

to voluntarily adopt climate-smart practices. Resulting cultivars would be adapted to climate change that has already occurred and, more importantly, perform well in intensified farming systems that efficiently fix atmospheric carbon and reduce fossil-fuel dependent inputs. Finally, plant breeding efforts identify and deliver cultivars adapted to climate change, but also identify species and varieties within a species which enable diversification of crop rotations, cover cropping systems, direct drilling of crops such as rice and other climate-change oriented practices to be more widely and effectively adopted.

2. What *new* strategies should USDA explore to encourage voluntary adoption of climate-smart agriculture and forestry practices?

Existing USDA policies and programs should be expanded and prioritized to breed plants, including trees and herbaceous perennials, that sequester more atmospheric carbon above and below ground, while further reducing fossil-fuel dependent inputs. USDA should increase efforts in developing crops with maximized efficiency of input use from water to nutrients, while still delivering the carbon sequestration ability. USDA should provide additional focused research on cover cropping systems that enable both a higher amount of annual carbon capture per acre, but also reduce soil erosion and nutrient loss. Finally, developing cross-cutting research projects across crop improvement, microbial additives and livestock diets to recommend improved integrated agricultural systems that in total capture more carbon, while reducing methane emissions.

B. How can partners and stakeholders, including State, local and Tribal governments and the private sector, work with USDA in advancing climate-smart agricultural and forestry practices?

Plant breeders can genetically improve plants for adaptation to climate-smart agroecosystems, but their adoption will require input and participation of producers and other stakeholders. Additionally, support and engagement with NGOs and commodity groups will be critical.

NP301, NP303 and NP305 should organize a series of cross-cutting forums on developing climate smart agricultural production systems that include maximizing plant breeding and cultivar improvements designed for altered production and farm management approaches, while reducing plant disease incidence and severity.

C. How can USDA help support emerging markets for carbon and greenhouse gases where agriculture and forestry can supply carbon benefits?

New plant cultivars should be bred for greater carbon sequestration and lesser dependence on fossil-fuel inputs. Development of accurate measurement assays and metrics will be essential to enable emergence of carbon markets that will benefit producers, consumers, and the global environment.

D. What data, tools, and research are needed for USDA to effectively carry out climate-smart agriculture and forestry strategies?

USDA must support transdisciplinary plant breeding research for the development of diverse, adapted, genetically-improved crop cultivars for producers to carry out climate-smart agriculture strategies.

Plant breeders need improved engineering and digitized enabling tools across species to be able to accurately measure total carbon capture across a range of genetic backgrounds throughout all stages of a breeding pipeline. This would include tools that enable measures of both above ground carbon and below ground total root mass. Cross-cutting collaborations between NP301 and targeted agricultural engineers will be essential skill sets to solve the problem.

E. How can USDA encourage the voluntary adoption of climate-smart agricultural and forestry practices in an efficient way, where the benefits accrue to producers?

USDA can foster the voluntary adoption of climate-smart agricultural practices by supporting the development of crop cultivars that producers can integrate into economically and environmentally sustainable agroecosystems.

The USDA can help drive the carbon sequestration measurement tools utilized by both public and private breeding sectors during cultivar improvement. These same measurement approaches would subsequently be used by the producer to ultimately calculate the carbon credits earned.

The greater challenge will be developing a sustainable system for delivering revenue to the producers.

<u>2. Biofuels, Wood and Other Bioproducts, and Renewable Energy Questions</u>

A. How should USDA utilize programs, funding and financing capacities, and other authorities to encourage greater use of biofuels for transportation, sustainable bioproducts (including wood products), and renewable energy?

Plant breeding is a key tool to increase biomass production, and efficiency and sustainability of production. The USDA must expand investment in breeding biomass crops, including forest crops, low input herbaceous perennial crops such as switchgrass and miscanthus, and annual crops including maize and sorghum.

B. How can incorporating climatesmart agriculture and forestry into biofuel and bioproducts feedstock production systems support rural economies and green jobs?

Plant breeding efforts are underway to develop plants that can be more efficiently converted into biofuel and bioproducts feedstocks with fewer negative environmental impacts. Most of these crops will be grown in rural areas and value added products can be produced there, boosting economies.

The USDA should support plant breeding efforts in the development of such crops.

C. How can USDA support adoption and production of other renewable energy technologies in rural America, such as renewable natural gas from livestock, biomass power, solar, and wind?

Plant breeding is a key tool to increase biomass production and efficiency and sustainability of production. The USDA must expand investment in breeding biomass crops, including forest crops, herbaceous perennial crops such as switchgrass and miscanthus, and annual crops including maize and sorghum.

4. Environmental Justice and Disadvantaged Communities Questions

B. How can USDA provide technical assistance, outreach, and other assistance necessary to ensure that all. producers, landowners, and communities can participate in USDA programs, funding, and other authorities related to climate-smart agriculture and forestry practices?

Sometimes disadvantaged communities have not had access to improved food, feed, fiber and forest crops adapted to their particular environmental conditions,

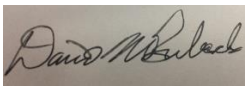
traditional uses, and nutritional needs. Such a condition happens more frequently in developing countries and areas that tend to have smaller landholders as producers. USDA should increase participatory plant breeding efforts to serve such communities. In doing so, the USDA must be sure that these efforts are truly participatory in that community members are involved in determining goals and objectives, and are active participants in the subsequent breeding seed production and dissemination effort. Such efforts could also enable an expansion of the food and feed species grown locally, diversifying the human diets as well as providing improved crop rotation systems.

C. How can USDA ensure that programs, funding, and financing capabilities, and other authorities related to climate-smart agriculture and forestry practices are implemented equitably?

To be able to implement practices equitably, the USDA needs to develop truly participatory research and development programs involving community members from the ground up. Examples from participatory plant breeding programs demonstrate that underserved farmers more readily adopt new varieties and practices if they are involved in the development and selection of the new crops. USDA support for participatory plant breeding can more quickly move new, more nutritious and productive crops into these communities.

On behalf of the NAPB Executive Committee, the NAPB Advocacy Committee and our NAPB members, I appreciate the opportunity to provide a response to this RFI. All of us at NAPB both in the public and private sector look forward to working together with the USDA on this critical initiative, of which plant breeders can hold the key to some of the most beneficial solutions: developing improved cultivars and sustaining ongoing environmental changes.

Sincerely,



David M. Bubeck

NAPB President