



NGRAC Meeting – March 15, 2023, Meeting Minutes

National Genetics Resources Advisory Council Members Present: Dr. Jim McFerson (Chair), Dr. John Buchanan, Dr. David Butruille, Dr. Chad Dechow, Dr. Paul Gepts, Mr. Preston Hardison, Dr. Stephen Kresovich, Dr. Sarada Krishnan, Dr. Margaret Smith, Dr. Terrence Tiersch – 10

Members Absent: Dr. Steven Kerns -- 1

Ex-Officio Present: Dr. Peter Bretting, Dr. Harvey Blackburn - 2

NAREEE Board Staff Present: Ms. Kate Lewis, NAREEE Board Executive Director/Designated Federal Officer (DFO) and Ms. Michele Simmons, Program Support Specialist

Guests Present: Dr. Gayle Volk, USDA-ARS

I. Welcome, Roll Call, Quorum Check, and approval of February 2023 meeting minutes.

Kate welcomed everyone, took roll call, and noted that the quorum was met. She asked for a motion to approve the meeting minutes from February. Dr. Krishnan moved to approve the minutes. No opposed. All was in favor. Michele will work with the web team to get the February minutes posted to the website.

The January minutes were approved via email following the February meeting due to some Members having additional edits which were incorporated. Michele will post the January minutes to the website.

Kate provided an update on the FY23 new/reappointed Council Members. The nomination package with the candidate slates for the Board and Committee/Subcommittee (C/S) vacancies are with the Office of the Secretary. They are being reviewed by the Secretary's senior advisors. They do understand that time is of the essence because of the strategic and operational success for the Board and C/S.

Kate stated that five of the FY23 Member's terms will expire the end of September FY2023. The Members are Dr. John Buchanan, Dr. Chad Dechow, Dr. Preston Hardison, Dr. Steven Kerns, and Dr. Margaret Smith.

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If they wish to be reappointed, we are accepting applications from now to May 31, 2023. Further details on how to apply are posted on the NAREEEAB website under the Applications page.

Question from Mr. Blackburn- Kate are you going to send out the renewal process to the Members? Kate stated there is very detailed information on how to submit your application on the website. She will also send out an email to Members with the link to the application website. Kate is also available by phone or email if you have questions and need to reach out to her on the application process.

Dr. McFerson - This is a good way for Members to assist with recruiting and to look for candidates that would make good Council Members.

Kate - Thanks for flagging that Dr. McFerson. Danielle and I have been utilizing and using internal USDA resources for recruiting and outreach. It would be good for Members to help with outreach as well.

II. Remarks from Dr. Jim McFerson, NGRAC Chair

Dr. McFerson asked Dr. Bretting if there were any updates on the Agricultural Research Service's National Plant Germplasm System Plan (NGPS)? Dr. Bretting stated there were no updates.

Dr. McFerson – The American Seed Trade Association (ASTA) has released its set of priorities for the 2023 Farm Bill. He's pleased to say that it included a request for USDA-NPGS to receive additional funding for implementation of its strategic plan, which is required to be made public by the Secretary of Agriculture. There's been an interest and focus on what is called seeds and breeds legislation. It's a renewed effort led by folks from the National Organic Coalition and the National Sustainable Agriculture Coalition. The legislative effort is led by Senator Baldwin of Wisconsin and would shine the spotlight on the need for public programs focused on developing new, regionally-adapted crop cultivars and animal breeds. He views this as bringing positive attention on what we as genetics resources folks are supplying. Dr. McFerson asked if there were any questions or comments.

Dr. Smith - Did you mean to say that ASTA had interest in seeds and breeds?

Dr. McFerson – Yes. These are points of emphasis when they provide their priorities to Congress. I wanted you to be aware that some key stakeholders are aware of the needs of the NPGS programs, both crop plants and animals. We're getting awareness and some momentum.

Dr. Hardison – Who is sponsoring the Seeds and Breeds Programs?

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Dr. McFerson – Two key advocates are the National Organic Coalition and the National Sustainable Agricultural Coalition

Dr. McFerson posted the link to the NGRAC Reports in the agenda for Members to review prior to attending the NGRAC In-person meeting next month in Ft. Collins, CO.

III. Next Steps For Upcoming April Face-to-Face Meeting

Dr. McFerson asked for updates on the meeting. Michele gave an update on the flight arrangements she made for several Members. She is still waiting on a few Members to submit their Invitational Traveler Form in order for her to complete flight arrangements. Michele stated that she and Kate made progress with the Hilton Hotel for Members to reserve their rooms at the government rate. She will send the link for the room block as soon as the Hilton emails it. Michele also gave an update on transportation and meals.

Dr. Blackburn gave other options for transportation to and from the Denver Airport. Dr. Volk stated that folks driving to the ARS meeting location will need a parking pass. Michele will work with Jennifer Kendall to ensure folks have parking passes at the ARS location.

Dr. McFerson informed the Members that there wasn't enough interest to tour the Denver Botanical Gardens on April 13th. He stated if there was an interest, it would be separate from the meeting agenda and to please arrange the tour on your own.

Dates: Tue 4/11 – Wed 4/12 (fly in on evening of Mon 4/10, fly out late afternoon/evening of Wed 4/12). Location: Ft. Collins, CO

Dr. McFerson thanked Dr. Volk and Jennifer Kendall for their assistance in hosting the meeting. He asked if there were any more questions regarding logistics? There were none.

IV. Dr. Sarada Krishnan and Dr. David Butruille - Presentation on Topic Priorities at Ft. Collins Strategic Planning Session.

Dr. Krishnan - Impact Assessments- Quantify Impacts of Use of NPGS Germplasm Collections

- Genebanks and market participation: evidence from groundnut farmers in Malawi
- IITA's genebank, cowpea diversity on farms, and farmers' welfare in Nigeria
- Genebanks and food security in a changing Agriculture
- Other ideas
 - Metanalyses of germplasm use
 - Work done at CGC level?
 - Crop Conservation Strategies and utilizing them in prioritizing germplasm collections

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Dr. McFerson noted that he shared a compiled document of the pitches in order to have a sense of all the topics and how they might relate to each other. He asked if there were any questions for Dr. Krishnan. There were none.

Dr. Butruille – Topic: Deployment: Fastest path for solutions to reach farmers

- From the Corn Yield Curve: Severe dips are seldom caused by emerging diseases. Droughts are the main culprit.
- **When you only conventional breeding tools are used**

Before: Detection, monitoring, characterization, pre-emptive actions
Global disease and pest monitoring
Germplasm characterization (ex-US, quarantine facilities)
Pre-emptive breeding

Impact: Native Trait (QTL) Discovery - (After)>> Backcross breeding and Forward breeding
Rebalancing commercial mix

After: Portfolio rebalance, reactive breeding, deployment
Direct use of non-elite inbreds
Selection in the later stages of breeding pipelines
Altered breeding parent mix added screens for new lines

Dr. McFerson asked if there were any questions or comments.

Dr. Tiersch – We do have a funnel we have to squeeze through which are recommendations that are actionable through USDA. What can we write as a group that will influence USDA’ in-house activities?

Dr. McFerson - He included the 4 NGRAC reports that were completed and hopes to have them on the agenda for discussion at the meeting in; Ft. Collins. Some of the reports are very specific and very actionable items. There are real substantive topics within the topics. One thing he liked about one of the slides is that it applies to genetics resources of most platforms. We need to be looking forward. If we don’t have utilization, we will have a stamp collection.

Mr. Blackburn – The Energy Aquatic Species Committee met in New Orleans a couple of weeks ago. A conversation about genetic resources and climate change was on the agenda. It became clear at the meeting that there’s a lot of work to be done. Actions need to start being taken along the lines that Dr. Butruille spoke about during his presentation today.

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Dr. Hardison – He thanked Dr. Butruille for his presentation. Dr. Hardison thinks with the crop germplasm strategy approach, he’s advocating taking on an anticipatory approach. In order to deal effectively with climate change as a national germplasm system we need to figure out what ideology is of these things. When you think about a 10 year development cycle, you really have to cut that short.

Dr. Gepts – Dr. Butruille’s presentation was very interesting. We’ve been wondering about these dips for many years. Is that the yield on average across the US or mid-west? Or is there fine tuning that should be done? I think it relates to our recommendations and comments on the NPGS. We need to move ahead. Include conservation but also the use of adaptation.

Dr, McFerson – He will send a compiled document with all the pitches and key references to the Members. He noticed it’s been crop heavy. We don’t want to exclude other topics. We have the 4 reports to revisit where we were and where we are. Are there good reasons to go forward or not?

Dr. Tiersch – There’s an annual meeting of the World Aquacultural Society Committee. Each year for the most part, we hold our National Animal Germplasm Program Meeting there. How is climate change going to impact crop species and how should we address that in our collection strategies? We didn’t just hold ourselves to climate species during the meeting. We looked at lessons we learned from livestock. There’s an effort to put our thinking together. One of the outcomes was that we need more interagency cooperation. There’s not enough money, people, or resources to address aquatic species like there is for livestock or crop species.

Kate had a question for Dr. Tiersch – Will you explain to us that don’t know in the group what are the main aquatic species?

Dr. Tiersch – You would have to look at crops to get a tiny idea of the diversity of what’s out there. In aquaculture which is fish farming it ranges from shellfish like shrimp or oysters, freshwater fishes, marine fishing, trout, salmon, and catfish. It also includes algae and large seaweed. It’s massive and there are thousands and thousands of species.

Dr. McFerson – Thanks Dr. Tiersch.

Dr. McFerson appreciated everyone’s contribution. Let’s be mindful of our role and mission and what we can do to effect the change we would like to see as a Council.

Are there any final questions or comments?

Kate asked the Members if they wanted to keep the April Monthly Meeting since everyone would’ve just met in Ft. Collins from April 11-12th. Dr. McFerson suggested to keep the meeting on the calendar for now for a possible download and next steps discussion from the in-person meeting.

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The meeting adjourned at 2:02p.m.

The next meeting is tentatively scheduled for Wednesday, April 19, 2023, 1-2 pm ET.

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