FY 2023

Panel Outcome Report
Plant Genetic Resources, Genomics & Genetic Improvement
(NP 301)

Weidong Chen
_____ ___3/5/24_____

Weidong Chen, Ph.D. Scientific Quality Review Officer
(January 2022-February 2024)

Date

MARQUEA KING Digitally signed by MARQUEA KING
Date: 2024.03.06 09:27:14 -05'00'
_____ _____

Marquea D. King, Ph.D. Director/Program Coordinator

Date

Panel Outcome Report FY 2023 Plant Genetic Resources, Genomics and Genetic Improvement (NP 301)

This Panel Outcome Report is a summary of the Plant Genetic Resources, Genomics and Genetic Improvement (NP 301) Office of Scientific Quality Review (OSQR) Project Plan Peer Review (PPPR) Process held from August 2022 – July 2023.

The mission of this National Program is to safeguard and utilize plant genetic resources (genetic raw material), associated genetic and genomic databases, and bioinformatic tools to ensure an abundant, safe, and inexpensive supply of food, feed, fiber, ornamentals, and industrial products for the United States and other nations.

This panel outcome report is intended to inform the Office of National Programs (ONP) and each Area of research (research scientist or SY) progress as it relates to the NP 301. Data tables display outcome of scoring by Areas, Panels and overall program.

Selected chairs (Table 1) were in part, recommended by National Program Leaders (NPLs) from NP 301 and/or previous OSQR service; others were sought out based on their nationally recognized expertise by the OSQR Director. They were examined for suitability to lead a panel review, screened for conflicts of interest (COI) and finally concurred upon by the appropriate Scientific Quality Review Officer (SQRO).

Table 1. Panels reviewed for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	Panel Chair	Panel Meeting (Re-Review)	Number of Panelists	Number of Projects
301A NPGS Super Panel-Genebanks 1a. Genetic Resource Management Technology and Microbes	Dr. Axel Diederichsen	1/31/23	7	5
301A NPGS Super Panel-Genebanks 1b. Seed, Multiple Crops	Dr. Axel Diederichsen	2/2/23	7	6
301A NPGS Super Panel-Genebanks 1c. Seed, Focus on Specific Crops	Dr. Axel Diederichsen	3/7/23	6	5
301A NPGS Super Panel-Genebanks 1d. Clonal, Tropical/Subtropical	Dr. Axel Diederichsen	3/2/23 (9/12/23)	7	6
301A NPGS Super Panel-Genebanks 1e. Clonal, Temperature	Dr. Axel Diederichsen	1/24/23	5	4
301A Panel 2. Plants, Environment, and Genetic Assessment	Dr. Jonathan Lynch	11/15/22	5	4
301B Panel 3a. Molecular Physiology and Development	Dr. Peggy Ozias-Akins	1/26/23	6	5
301B Panel 5a. Fruits and Nuts	Dr. Fernando Alferez	2/7/23	5	4
301B Panel 5b. Berries	Dr. Zhanao Deng	3/3/23	5	4
301B Panel 6. Sugarbeets	Dr. Shaobin Zhong	4/3/23 (7/13/23)	6	5
301B Panel 7. Potatoes	Dr. Gregg Pettis	2/6/23 (6/21/23)	5	4
301B Panel 12b. Oilseeds: Physiology/Biochemistry	Dr. Madan Bhattacharyya	3/28/23	5	4

Table 1. Panels reviewed for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	Panel Chair	Panel Meeting (Re-Review)	Number of Panelists	Number of Projects
301C Panel 3b. Plant Metabolism and Pathways	Dr. M.A. Saghai Maroof	5/24/23	4	3
301C Super Panel 4a. Grains, Maize Sorghum Breeding	Dr. Li Tian	6/7/23	6	5
301C Super Panel 4b1. Small Grains Breeding	Dr. Li Tian	5/30/23	4	3
301C Super Panel 4b2. Small Grains Breeding	Dr. Li Tian	6/14/23	5	4
301C Super Panel 4c. Maize and Sorghum Genomics	Dr. Li Tian	5/2/23	6	5
301C Super Panel 4d. Small Grains, Genomics	Dr. Li Tian	6/29/23	5	4
301C Panel 8. Beans	Dr. Thomas Michaels	7/12/23	5	5
301C Panel 9. Vegetables (Various)	Dr. Dilip Panthee	2/6/23	4	3
301C Panel 10a. Grapes and Hops	Dr. Bhaskar Bondada	7/11/23	4	3
301C Panel 10b. Tropical Fruit	Dr. Fernando Miguel	6/30/23	4	3
301C Panel 11. Cotton	Dr. Jinesh D.Patel	5/23/23	6	5
301C Panel 12a. Oilseeds, Genetic Improvement	Dr. Jianxin Ma	7/24/23 (11/28/23)	8	7
301C Panel 13. Ornamentals and Sugarcane	Dr. Heqiang Huo	6/13/23	6	5
301C Panel 14. Genome Databases	Dr. Erich Grotewold	3/10/23 (6/28/23)	6	5
301C Panel 15. Biotechnology	Dr. Bing Yang	4/25/23 (9/25/23)	7	6

Review Process

Following panel review for each plan, OSQR with SQRO concurrence, sends each Area Director a panel consensus recommendation document. This may include recommendations for revision of the plan to which researchers are required to respond in writing and, as appropriate, revise their written plans in accordance with guidelines as detailed in the OSQR Handbook (see www.ars.usda.gov/osqr).

In addition, as part of the panel deliberation, a scoring of the overall quality of the plan is judged based on the degree of revision the panel deems is required. This scoring is termed an "Action Class." Each reviewer is asked to anonymously provide an Action Class rating for each plan. OSQR assigns a *numerical equivalent* to each Action Class rating and then averages these to arrive at an overall Action Class Score for the plan.

The Action Class is defined as follows:

> **No Revision Required.** An excellent plan; no revision is required, but minor changes to the project plan may be suggested.[1]
>
> **Minor revision required.** The project plan is feasible as written, requires only minor clarification or revision to increase quality to a higher level.

[1]While a No Revision action class would imply that change to the plan is not required, where the panel requests specific additions to the plan, if accepted, these should be incorporated into the updated plan.

Moderate revision required. The project plan is basically feasible but requires changes or revision to work on one or more objectives, perhaps involving alterations of the experimental approaches in order to increase quality to a higher level and may need some rewriting for greater clarity.

Passed Reviews:

For project plans receiving one of the above three action class scores (no revision, minor revision or moderate revision), scientists are required to respond, in writing, to address all panel comments in the consensus recommendation document; revise their project plan as appropriate; and submit the revised plan and responses to the OSQR through their Area Office. Both the updated plan and the recommendations' form are reviewed by the SQRO and, once they are satisfied that all review concerns have been satisfactorily addressed, the project plan is certified, the area office is notified, and the project plan may be implemented.

Certification:

Certification is contingent upon making a good faith effort to satisfactorily address panel comments and recommendations. A plan has not "passed" the OSQR PPPR process until the SQRO's certification is delivered to the Area Office.

Major revision required. There are significant flaws in the experimental design and/or approach or lack of clarity which hampers understanding. Significant revision is needed.

Not Feasible. The project plan, as presented, has major scientific or technical flaws. Deficiencies exist in experimental design, methods, presentation, or expertise which make it unlikely to succeed.

Failed Review:

For plans receiving an Action Class score of Major Revision or Not Feasible, scientists are required to address, in writing, all panel comments in the consensus recommendation document; revise their project plan as appropriate; and submit the revised plan and responses to the OSQR through their Area Office. This plan *MUST* undergo a Re-Review by the initial deliberating panel, at which time a second set of consensus recommendations and second Action Class score are obtained.

Per the Re-Review, if the plan receives an Action Class score of a No Revision, Minor Revision, or Moderate Revision, the project plan may be implemented after following the **Passed Review** section above. Plans receiving a second Major Revision, or Not Feasible score are considered failed reviews. The Action Class and Consensus Recommendations from the Re-Review are provided to the Area with NO further option for revision or review on that particular project plan as it has been submitted.

Such plans may be terminated, reassigned, or restructured at the discretion of the Area Office and ONP. For plans receiving Major Revision, it may be elected not to further revise them and to end review with the plan not receiving certification (plan fails review). For those receiving a score of Not Feasible, Area and NPL approval are needed in order for the plan to be revised for re-review. Otherwise the plan will be considered to have failed review. Subsequent action with regard to the research and researchers is left to Area and ONP-NPL leadership.

Review Outcomes

Reviews can vary, but ultimately, depend on a combination of the panelists selected and the scientific writing capabilities of the team which wrote the project plan. The OSQR is responsible for assuring that each panel contains subject matter experts who provide knowledgeable, clear, rigorous, and fair assessments. Therefore, PPPR panels vary in their overall outcomes.

Uniquely, the ability of an ARS research team to respond to panel recommendations/comments in order to *revise and improve project plans is, perhaps, the greatest strength of the ARS PPPR process.*

At the conclusion of each PPPR deliberation, the chair and panel reviewers are asked to provide general statements or recommendations on the overall process as well as the general quality of the plans which underwent review. The Chair is specifically sought to provide a Panel Chair Statement which they feel focuses on the overall conduct of the review or any broad areas with regard to the research that they feel would benefit future researchers or the Agency as a whole. Copies of such statements for NP 301 can be found following this report.

ARS uses the National Program Panel Outcomes Report as a measure of scientific progress and as a demonstration of overall program quality, how well researchers understand and address the needs of the expert panel reviewers. Initial review scores that are moderate or higher are recorded as such and will not be certified as having completed the PPPR until the SQRO has deemed that all reviewer concerns have been satisfactorily addressed. For failed reviews, the panel provides a re-review score, which is reported along with the initial review score.

Table 2. Initial and Re-review Scores for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	No revision	Minor	Moderate	Major	Not feasible	Re-review
301A NPGS Super Panel-Genebanks 1a. Genetic Resource Management Technology and Microbes		2	3			
301A NPGS Super Panel-Genebanks 1b. Seed, Multiple Crops	1	3	2			
301A NPGS Super Panel-Genebanks 1c. Seed, Focus on Specific Crops		5				
301A NPGS Super Panel-Genebanks 1d. Clonal, Tropical/Subtropical	1	3	1	1		Minor
301A NPGS Super Panel-Genebanks 1e. Clonal, Temperature		4				
301A Panel 2. Plants, Environment, and Genetic Assessment		2	2			
301B Panel 3a. Molecular Physiology and Development	1	3	1			
301B Panel 5a. Fruits and Nuts	1	3				
301B Panel 5b. Berries		3	1			
301B Panel 6. Sugarbeets		1	2	2		No Revision (2)
301B Panel 7. Potatoes	1	1	1	1		Moderate
301B Panel 12b. Oilseeds: Physiology/Biochemistry		2	2			
301B Panel 3b. Plant Metabolism and Pathways	2	1				
301C Super Panel 4a. Grains, Maize Sorghum Breeding		5				
301C Super Panel 4b1. Small Grains Breeding		2	1			
301C Super Panel 4b2. Small Grains Breeding		3	1			
301C Super Panel 4c. Maize and Sorghum Genomics		4	1			
301C Super Panel 4d. Small Grains, Genomics	1	3				
301C Panel 8. Beans		3	2			

Table 2. Initial and Re-review Scores for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	No Revision	Minor	Moderate	Major	Not Feasible	Re-Review
301C Panel 9. Vegetables (Various)	2	1				
301C Panel 10a. Grapes and Hops		2	1			
301C Panel 10b. Tropical Fruit	2		1			
301C Panel 11. Cotton	1	3	1			
301C Panel 12a. Oilseeds, Genetic Improvement		2	4	1		Double Failure
301C Panel 13. Ornamentals and Sugarcane	1	2	2			
301C Panel 14. Genome Databases	2	2		1		No Revision
301C Panel 15. Biotechnology	1	3	1	1		No Revision

Table 3. Area Scores for the Plant Genetic Resources, Genomics and Genetic Improvement

Area	No Revision	Minor	Moderate	Major	Not Feasible
MWA	4	13	6	2	0
NEA	4	15	4	3	0
PA	0	9	6	0	0
PWA	4	16	5	1	0
SEA	5	15	9	1	0

Table 4. Overall Scores for the Plant Genetic Resources, Genomics and Genetic Improvement

No Revision	Minor	Moderate	Major	Not Feasible
17	68	30	7	0

Overall Panel Characteristics:

Panel Characteristics

The OSQR PPPR relies heavily on expert panel member selection by the OSQR Director and SQRO selected Panel Chairs. ARS scientists, research leaders and ONP are encouraged to recommend panelists they understand to be free of any COIs. While the selected/seated Panel Chair is under no obligation to use Agency recommended panelists, the SQRO must review and approve the Chair's panelist selections and may ask for substitutions or provide additional experts for consideration.

Factors and qualifications considered in PPPR panel selection (chair and panelist) such as being a qualified expert in the field being reviewed, research tenure, publication record, award history, geographic location, overall diversity and availability to participate fully in the process, all play an integral role in who is invited to serve an ARS/OSQR PPPR panel. Many of the reviews are composed with a balance of nationally and internationally recognized experts. Tables 5-6 display various characteristics of the panel composition; all affiliations were accurate at the time of the panel review.

Affiliations

Peer reviewers are affiliated with several types of institutions, primarily those in academia, but also special interest groups and industry. In some cases, peer reviewers have recently retired but are active as consultants, scientific editorial board members, and are members of professional societies.

Table 5. Panelist Faculty Rank and Affiliations for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	Professor	Associate Professor	Assistant Professor	Other	Industry & Organization
301A NPGS Super Panel-Genebanks 1a. Genetic Resource Management Technology and Microbes	2	1			4
301A NPGS Super Panel-Genebanks 1b. Seed, Multiple Crops	1	1	1		4
301A NPGS Super Panel-Genebanks 1c. Seed, Focus on Specific Crops	2	2			2
301A NPGS Super Panel-Genebanks 1d. Clonal, Tropical/Subtropical	5	1			1
301A NPGS Super Panel-Genebanks 1e. Clonal, Temperature	1	1			3
301A Panel 2. Plants, Environment, and Genetic Assessment	4		1		
301B Panel 3a. Molecular Physiology and Development	3	1	1		1
301B Panel 5a. Fruits and Nuts	1	3	1		
301B Panel 5b. Berries	2		3		
301B Panel 6. Sugarbeets	4	1	1		
301B Panel 7. Potatoes	3	1			1
301B Panel 12b. Oilseeds: Physiology/Biochemistry	3	1			1
301B Panel 3b. Plant Metabolism and Pathways	3				1
301C Super Panel 4a. Grains, Maize Sorghum Breeding	5	1			
301C Super Panel 4b1. Small Grains Breeding	1		3		
301C Super Panel 4b2. Small Grains Breeding	1	1	2	1	
301C Super Panel 4c. Maize and Sorghum Genomics	4	1			1
301C Super Panel 4d. Small Grains, Genomics	3		1		1
301C Panel 8. Beans	5				
301C Panel 9. Vegetables (Various)		3	1		
301C Panel 10a. Grapes and Hops		3	1		
301C Panel 10b. Tropical Fruit	2	1	1		
301C Panel 11. Cotton	1	1	3		1
301C Panel 12a. Oilseeds, Genetic Improvement	4	2	2		

Table 5. Panelist Faculty Rank and Affiliations for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	Professor	Associate Professor	Assistant Professor	Other	Industry & Organization
301C Panel 13. Ornamentals and Sugarcane	3	1	1		1
301C Panel 14. Genome Databases	5		1		
301C Panel 15. Biotechnology	6				1

Research Impact and Ethnicity/Gender

The OSQR PPPR process is lauded as a rigorous and objective ARS function striving for the highest possible scientific credibility. In general, panelists shall hold a doctoral degree unless the discipline in question is one which does not subscribe to a doctorate level education to achieve the highest recognition and qualification (e.g., engineers and modeling specialists). Panelists are also selected by their most recent professional accomplishments (e.g. awards and publications completed in the last five years). Finally, the panelists who are currently performing or leading research to address a problem similar to those being researched in the National Program under review are preferred.

Table 6. Panel Accomplishments and Ethnic/Gender for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	H-Index Average	Gender	Geographic Location
301A NPGS Super Panel-Genebanks 1a. Genetic Resource Management Technology and Microbes	27	2 female, 5 male	1 Canada, 1 Denmark, 1 China, 2 PWA, 2 Germany
301A NPGS Super Panel-Genebanks 1b. Seed, Multiple Crops	16	2 female, 5 male	1 Canada, 1 NEA, 1 Belgium, 1 SEA 2 MWA, 1 Mauritius
301A NPGS Super Panel-Genebanks 1c. Seed, Focus on Specific Crops	20	2 female, 4 male	1 Canada, 2 NEA, 2 PA
301A NPGS Super Panel-Genebanks 1d. Clonal, Tropical/Subtropical	23	1 female, 6 male	1 Canada, 3 PWA, 1 MWA, 1 SEA
301A NPGS Super Panel-Genebanks 1e. Clonal, Temperature	16	2 female, 3 male	1 Canada, 1 Germany, 2 SEA
301A Panel 2. Plants, Environment, and Genetic Assessment	49	1 female, 4 male	1 NEA, 1 Netherlands, 1 Australia, 1 MWA, 1 Israel
301B Panel 3a. Molecular Physiology and Development	26	3 female, 3 male	3 SEA, 1 Canada, 2 MWA
301B Panel 5a. Fruits and Nuts	14	5 male	4 SEA, 1 NEA
301B Panel 5b. Berries	14	5 male	5 SEA
301B Panel 6. Sugarbeets	20	5 male, 1 female	2 PA, 3 SEA, 1 MWA
301B Panel 7. Potatoes	24	5 male	1 SEA, 1 Canada, 1 MWA, 2 PA
301B Panel 12b. Oilseeds: Physiology/Biochemistry	44	5 male	3 MWA, 1 Canada, 1 PA
301C Panel 3b. Plant Metabolism and Pathways	31	2 female, 2 male	1 NEA, 1 MWA, 1 SEA, 1 PWA
301C Super Panel 4a. Grains, Maize Sorghum Breeding	31	3 female, 3 male	2 PWA, 1 PA, 2 MWA, 1 NEA
301C Super Panel 4b1. Small Grains Breeding	16	2 female, 2 male	1 PWA, 3 PA

Table 6. Panel Accomplishments and Ethnic/Gender for the Plant Genetic Resources, Genomics and Genetic Improvement

Panel	H-Index Average	Gender	Geographic Location
301C Super Panel 4b2. Small Grains Breeding	19	3 female, 2 male	2 PWA, 1 NEA, 2 PA
301C Super Panel 4c. Maize and Sorghum Genomics	29	2 female, 4 male	2 PWA, 1 MWA, 3 SEA, 1 PA
301C Super Panel 4d. Small Grains, Genomics	29	2 female, 3 male	1 PWA, 4 MWA
301C Panel 8. Beans	26	5 male	1 MWA, 2 Canada, 1 NEA, 1 PA
301C Panel 9. Vegetables (Various)	17	4 male	3 SEA, 1 PA
301C Panel 10a. Grapes and Hops	23	4 male	2 PWA, 1 SEA, 1 MWA
301C Panel 10b. Tropical Fruit	22	1 female, 3 male	1 SEA, 1 Puerto Rico, 2 PWA
301C Panel 11. Cotton	6	1 female, 5 male	4 SEA, 1 MWA, 1 PA
301C Panel 12a. Oilseeds, Genetic Improvement	29	1 female, 7 male	5 MWA, 1 SEA, 2 PA
301C Panel 13. Ornamentals and Sugarcane	14	1 female, 5 male	1 SEA, 3 PA, 1 PWA, 1 MWA
301C Panel 14. Genome Databases	41	1 female, 5 male	6 MWA
301C Panel 15. Biotechnology	41	1 female, 6 male	5 MWA, 1 PA, 1 SEA

List of Panel Chairs

Schedule A
Panels 1a. – 1d.
Axel Diederichsen, Research Scientist, Government of Canada, Saskatoon Research and Development Centre
Education: Georg-August-University, Göttingen, Germany

Panel 2.
Jonathan Lynch, Penn State University
Education: University of California, Davis

Schedule B
Panel 3a.
Peggy Ozias-Akins, University of Georgia
Education: University of Florida

Panel 5a.
Fernando Miguel Alferez, University of Florida
Education: University of Valencia, Spain

Panel 5b.
Zhanoa Deng, University of Florida
Education: Huazhong Agriculture University, China

Panel 6.
Shaobin Zhong, North Dakota State University
Education: North Dakota State University

Panel 7.
Gregg Pettis, Louisiana State University
Education: University of Missouri

Panel 12b.
Madan Bhattacharyya, Iowa State University
Education: University of Western Ontario, Canada

Schedule C
Panel 3b.
M.A. Saghai Maroof, Virginia Tech
Education: University of California, Davis

Panel 4a. – 4d.
Li Tian, University of California, Davis
Education: Michigan State University

Panel 8.
Thomas Michaels, University of Minnesota
Education: University of Minnesota

Panel 9.
Dilip Panthee, North Carolina State University
Education: University of Tennessee

Panel 10a.
Bhaskar Bondada, Washington State University
Education: University of Arkansas

Panel 10b.
Fernando Miguel Alferez, University of Florida
Education: University of Valencia, Spain

Panel 11.
Jinesh Dahyabhai Patel, Auburn University
Education: University of Georgia

Panel 12a.
Jianxin Ma, Purdue University
Education: Chinese Academy of Agricultural Sciences

Panel 13.
Heqiang (Alfred) Huo, University of Florida
Education: University of Georgia

Panel 14.
Erich Grotewold, Michigan State University
Education: University of Buenos Aires, Argentina

Panel 15.
Bing Yang, Missouri University
Education: Kansas State University

*Statements from these chairs were not received.

NP 301 Plant Genetic Resources, Genomics and Genetic Improvement Panel Chair Statements

Panel Chair responsibilities include providing the OSQR with a statement that describes their overall panel experience, how the panel was conducted, and general quality of the plans reviewed. It does not lend itself to discussing details of a specific research project plan review nor attribution to individual panelists. Panel Chairs are given a format to follow for writing their statements, however, are free to discuss what they believe is important for broader audiences. The statements below are listed chronologically by schedule.

Chair's Report for USDA NP 301 Panels 1a, b, c, d and e – NPGS Super Panel – Gene banks, 2023

Axel Diederichsen, Curator, Research Scientist, Agriculture and Agri-Food Canada, Plant Gene Resources of Canada, 107 Science Place, Saskatoon, SK, S7N 0X2, Canada, e-mail: axel.diederichsen@agr.gc.ca

Task accomplished.

A total of 26 proposals for genebank operation projects or associated projects of the USDA-ARS National Program 301 Plant Genetic Resources, Genomic, and Genetic Improvement were reviewed during five virtual panel session held on January 24, January 31, February 2, March 2 and March 7, 2023. All projects cover the five year period from 2022 to 2027. Accordingly, the USDA ARS Office of Scientific Quality Review had invited a total of 26 reviewers mostly from the U.S. but including also reviewers from Europe, Asia and Africa. The panelists had been selected in coordination with the Chair to ensure their expertise matched the projects to be reviewed. Each of them had to do one review as a primary and one as a secondary reviewer. Each of the five panel sessions emphasized on a specific thematic crop germplasm group with biological similarities to ensure all panelists could contribute to the open discussions with adequate expertise. The project proposals followed a standardized format which facilitated comparison of the quality across all proposals.

The written reviewer comments that were collected ahead of the panel sessions were collated into a single document for each project proposal. The reviewer comments were orally presented and then discussed during the panel sessions following the same structured approach for each project resulting in a revised commenting document and a final rating for each project.

The invitation of panelists, their preparation during a preceding virtual information session and the collecting of the panelists' input, as well as the technical guidance during each panel meetings were handled with great professionalism by the USDA-ARS Office of Scientific Quality Review.

As Chair, I read all proposals and provided occasionally guidance during the panel sessions sometimes asking questions to the main reviewers to clarify technical or scientific issues of the proposal at hand. The panelists were without exception very well prepared and engaged during the sessions and had submitted their detailed comments in nearly all cases in due time prior to the panel sessions. Each project was discussed for 30-45 min., resulting in panel sessions lasting three to five hours.

Outcomes

The projects were generally of great quality. A total of two were passed as not needing any revision and 17 were deemed to need only minor revisions. Five projects were requested to undergo a moderate revision. One project was rated as needing a major revision and the review panel will need to re- convene to assess it again. One project will need an additional *ad hoc* review because one panel member who was a primary reviewer had a conflict of interest. An *ad hoc* review based on written input by three referees will be completed.

Comments

All project proposals followed a similar pattern and all had at least two objectives: (1) to conduct research to enhance the standard genebank operations of maintenance, evaluation, and characterization; and (2) to conduct these standard genebank operations and adding acquisition, distribution and documentation. Some proposals had a third or even a fourth objective which addressed research or pre-breeding objectives. In some instances the reviewers felt that the allocated resources, and in particular the human resources, might not be sufficient to meet the outlined objectives. Some projects had elaborated ambitious subobjectives or additional objectives going beyond the basic genebank or service functions. It was noted that there are a number of vacant positions at several project locations that need to be filled.

Some projects elaborated clearly that Standard Operational Procedures or Best Management Practices are in place or in the process of being elaborated during the course of the projects. For genebank operations it is very relevant and useful to have such procedures elaborated and well documented to ensure a smooth and consistent operation during a time of changes in staff. Accordingly, some locations elaborated on a data management plan, while others were vague on this aspect and made only general references the GRIN-Global genebank database management system. A data management plan might perhaps be a requirement to be elaborated for projects that have not done so.

The NPGS is a large network and involves some locations that have a centralized role regarding activities such as back-up storage of seed samples, documentation of data, documentation of herbarium specimens for reference purposes,

taxonomy, and organization of collecting missions. While some projects elaborated on the connection with these centralized functions, several project proposals did not or only vaguely referred to such coordination within the NPGS. In addition, an integrative approach in conservation of genetic resources with botanical gardens could perhaps in some cases be elaborated so as to achieve synergistic effects. Also, for some crop groups and crop wild relatives, a coordinated approach with *in situ* conservation may be a suggestion to elaborate on. This also relates to coordination with Indigenous Peoples or local farming communities that need the *ex situ* complement provided by the NPGS genebanks. In some instances, coordination internationally may be useful. A strategic approach for expansion of the collections will need to respect all these factors. It was not in all cases clear what the strategy for new germplasm acquisitions would be. Crop vulnerability statements were referenced in some project proposals and may be a useful tool for being strategic.

Some collection sites have in the past obtained enormous amounts of germplasm from other countries. Some are still in need of such germplasm to achieve the outlined objectives of maintaining the global gene pool. The approaches for addressing the changing dynamics for international germplasm exchange such as material transfer agreements are rarely elaborated on in the project proposals. How much germplasm is shipped nationally and internationally in the various groups and who the genebank clients are only sometimes explained. The project narratives could elaborate on this so the reviewers better understand the major impact the USDA NPGS has national and globally on food security. Some of the projects and also the GRIN-Global projects may be impacted by the recent developments around Digital Sequence Information (DSI) and possibly future projects need to address how the challenges around information associated with the germplasm will be handled.

All in all it is very evident that the NPGS locations are operating very efficiently. The right balance between centralized standardization which could result in suppressing locally required creativity or an atomized system that lacks coherency has been found by the NPGS. The contributions to conservation of global genetic diversity of cultivated plants by the NPGS is enormous and the positive impact on research, breeding and education, as well as on global food security, are tremendous. It is encouraging to see that ambitious and structured proposals were presented to ensure the envisioned and often ambitious objectives can be achieved. For me as Chair it was a great learning opportunity and very stimulating to have taken part in this review process.

Prepared by: Axel Diederichsen, Saskatoon, March 21, 2023.

PENNSTATE

Jonathan Lynch
Dept of Plant Science
College of Agricultural Sciences
The Pennsylvania State University
103 Tyson Building
University Park, PA 16802-4200

Phone: (814) 863-2256
Fax: (814) 863-6139
Email: JPL4@psu.edu
http://plantscience.psu.edu/research/labs/roots

11/28/22

Dr. Weidong Chen
Scientific Quality Review Officer
Office of Scientific Quality Review

Dear Dr. Chen,

I recently chaired a panel that reviewed four proposed project plans in the Crop Production & Protection (301) National Program, Panel 2 – Plants, Environment, and Genetic Assessment.

I offer the following perspectives of this process:

1) ARS staff were very helpful and supportive during the process.
2) Panelists enlisted in this process had considerable expertise and offered useful insights and critiques for the proposals.
3) The proposals were of varying quality and clarity. Partly this is due to the broad scope of some ARS projects, partly this is due to poor organization and writing. Only one of the 4 proposals equaled the clarity and rigor that is standard for competitive research proposals at federal agencies, in my experience as a reviewer/proposer for USDA, NSF, DOE, FFAR, etc. In one case insufficient methodological detail was provided and the panel relied upon the strong track record of the proposers. In another it was not entirely clear what was being proposed, why, and with what integration. This process would be facilitated if greater attention was devoted to clear, organized, and comprehensive exposition.
4) The panel identified specific improvements in the research approaches being proposed that we hope are useful to the researcher teams.
5) In two cases research was proposed that was rigorous and relevant but not novel. This is unfortunate as ARS projects have the potential for high-risk, novel, long-term research that is generally no longer possible in land-grant universities or through competitive funding mechanisms. We were specifically admonished not to comment on the pre-approved research priorities in the review process but in this overall summary I am taking the liberty of suggesting that the novelty of these projects could be improved, possibly through extramural review at an earlier stage in this process.

It was an honor to serve ARS in this way. If I can be of any further assistance, please do not hesitate to contact me.

Kind Regards,

Jonathan Lynch
Distinguished Professor, The Pennsylvania State University

UNIVERSITY OF GEORGIA

Institute of Plant Breeding, Genetics & Genomics
College of Agricultural and Environmental Sciences

Department of Horticulture and NESPAL
2360 Rainwater Rd
Tifton, Georgia 31793
TEL 229-386-7274 | FAX 229-386-7371
pozias@uga.edu
plantbreeding.uga.edu
hort.caes.uga.edu

February 14, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

RE: Panel Chair Statement, NP301 Review

Dear Dr. Chen:

A panel of five experts was convened on Jan 26, 2023 to review five NP301 project plans. The plans were diverse across crops (soybean, cotton, wheat, fruits and vegetables), traits (seed, climate resilience, disease, nutrition), and disciplines (breeding and genetics, agronomy, pathology, entomology, physiology, computational biology, systems biology) thus requiring a diverse group of panelists with some expertise in each of these areas. The panel also was diverse in terms of gender, ethnicity, and career level in order to bring perspective on varied experiences in science.

Since all reviewers were from academic or government research organizations, other time demands impacted the timeliness of some reviews; however, this is inevitable for scientists in such positions. All did accomplish their assignments and participate in the panel Zoom meeting. Each reviewer was assigned as primary or secondary reviewer for one proposal each. Some reviewers were more thorough than others; therefore, I support the assignment of both primary and secondary reviewers to each proposal and suggest that the number of reviewers on a panel equal the number of project plans to be reviewed in order to lighten the load. Most of the discussion was limited to the opinions of these two reviewers for each project plan except for questions asked or points made by the panel chair, another panelist who might have direct expertise in an area, or discussion related to a controversial topic. As panel chair, I am confident that the panel discussion of technical and scientific quality provided a solid assessment of each project objective and provided useful input to investigators. Since none of the projects received a failing score, the panel entrusts you to determine that the investigators have responded thoughtfully to each of the panel recommendations for improvement, particularly in cases where insufficient detail was provided on methods for experimental design and analysis.

The panel review process was superbly organized and professionally conducted by Michele Shaw, Program Analyst, Office of Scientific Quality Review. The guidance was clear and

sufficient, and any questions were rapidly and clearly answered. This level of professionalism was greatly appreciated. Some of the reviewers, particularly those in more junior positions, expressed their gratitude for inclusion in such a process which became a useful learning experience for them in terms of the scientific quality of USDA-ARS research as well as the process of vetting the research. Overall the review process was efficient and resulted in a worthwhile experience.

Sincerely,

Peggy Ozias-Akins
D.W. Brooks Distinguished Professor
UGA Distinguished Research Professor

UF UNIVERSITY of FLORIDA
IFAS
Southwest Florida Research and Education Center

2685 State Road 29 North
Immokalee, FL 34142-9515
239-658-3400
239-658-3469 Fax
http://swfrec.ifas.ufl.edu

February 17, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

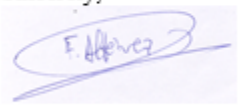
I was pleased to serve as Panel Chair for NP 301 Panel 5a. Fruits and Nuts (2022) of the USDA, ARS 301 Plant Genetic Resources, Genomics and Genetic Improvement National Program. The Panel met on Tuesday, February 7, 2023, to review four ARS proposals. In my opinion, this was an extremely well-organized high-quality review. The whole review process, from training, reviewer identification and assignment, scheduling the dates of review, to the review itself, was very well organized with clear instruction and assistance. A very informative powerpoint presentation was provided to all of us and every effort was made to accommodate the busy schedules of the panelists. In my view, this must be attributed to the efficient management provided by Dr. Marquea D. King and Ms. Linda DalyLucas.

Four reviewers were invited, and each one served as primary reviewer for one proposal and secondary reviewer for another. I believe the quality of the review was high, given the strong professionalism and qualifications of the reviewers. All four reviewers were highly prepared for each of the discussions, as evidenced by their knowledge of the projects during our conversations and their written reviews, that were submitted one week in advance, as required. I believe the review panel carefully considered the research proposed in each project.

Panel discussion was very active, stimulating, and professional, leading to the consensus of the key questions, concerns, and suggestions provided to the PI of each proposal. All proposals were highly ranked and passed, according to the criteria of the Panel. I truly believe that all the reviewers have done an excellent job in producing a rigorous and non-biased assessment of each proposal, and in providing valuable and constructive feedback for the PIs.

Thank you for the opportunity to serve as a Chair for this panel. I learned a great amount about the excellent and cutting-edge research that is being done at ARS.

Sincerely,



Fernando Alferez, PhD
Assistant Professor/Citrus Horticulturist
Southwest Florida Research and Education Center
IFAS, University of Florida
2685 State Road 29 North
Immokalee Fl, 34142

UF UNIVERSITY of FLORIDA

Gulf Coast Research and Education Center

14625 County Road 672
Wimauma, FL 33598
(813) 419-6670
Fax (813) 419-6641
http://gcrec.ifas.ufl.edu

12 March 2023

Dr. Weidong Chen
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

RE: NP 301 Panel 5b. Berries (2022) - Panel chair statement

Dear Dr. Chen,

Greetings! It is my pleasure to have served as the panel chair for the Project Plans in the NP 301 Panel 5b. Berries (2022) program. I would like to provide the following statement for your review and consideration.

I was invited to serve on this panel on September 14, 2022. To have a valid and quality review of the project plans, I proposed a total of 15 candidate panel members and provided your office with their contact information, specialties, and institution webpages on these candidate members. Your office screened all candidate panel members for potential conflict of interest and approved those that could serve as panel members. These researchers were invited. Through this process, a panel of four professors from three universities were assembled in mid October 2022. As a group, this panel has expertise and many years of research experiences in fruit breeding, genetics, and genomics, horticulture, crop production, plant physiology, and biotechnology. Each panel member was assigned as the primary reviewer of one project plan and as the secondary reviewer of another project plan. Your office provided thorough trainings and detailed guidance to me and subsequently to all panel members on how to review USDA project plans. All panel members returned their reviews by the deadline, February 24, 2023. As the panel chair, I reviewed all panel members' reviews and highlighted comments/reviews that needed additional group discussion. In my opinion, all reviews closely followed the guidelines, and they carefully

examined the adequacy of research approaches and produces for each objective, assessed the probability of successfully accomplishing the proposed objectives, and discerned the merits and significance of the proposed research for the U.S. berry industry and scientific disciplines. Panel members also made recommendations to the project teams for improving experiment design, research methodology, and/or broadening their impacts. On March 2, 2023, the panel held its group discussion in Zoom in the presence of your office team members. Panel members had unanimous ratings for two of the four project plans and reached a unanimous majority rating for the rest two project plans.

During the entire project plan review process, from the assembling of the panel to the conclusion of the panel review, your office team members provided great support and showed excellent professionalism. On behalf of the panel, I would like to express our gratitude to your office team members including Michele Shaw, Dr. Marquea King, et al. for their guidance and assistance.

As university faculty with strong interests in advancing berry crop production, management, breeding, genetics, and genomics across the United States, we are highly pleased with the high quality of these project plans and the breadth and depth of research proposed in these plans. We wish your researchers great success in implementing these plans. In the meanwhile, we wish more and closer collaborations among USDA/ARS researchers and university researchers during the implementation of these plans, as has been shown in some of the reviews that were submitted by our panel members.

Please do not hesitate to contact me should you have any questions or need additional information.

Sincerely,

Zhanao Deng, PhD
Professor of Environmental Horticulture, plant breeder

LSU
LOUISIANA STATE UNIVERSITY

College of Science
Department of Biological Sciences

February 22, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

The NP301 Panel 7. Potatoes review panel met on February 6, 2023 via Zoom for approximately 3.5 hrs. Dr. Marquea King coordinated our efforts and you also provided support. All projects under review were thoroughly discussed. For a given project, the primary reviewer and then the secondary reviewer provided comments on the project overview and then on each objective. However, all panel members offered comments, sometimes extensive, on every project. There were a few overall impressions by the panel. One was that there was often a lack of specific experimental details in all of the projects. The committee speculated that this may be because funding has already been allocated and so project leaders feel less compelled to provide more extensive details. It also appeared for some projects that research teams were more or less "turning the crank" and simply continuing work that they had already been doing and applying it to the current objectives. In some cases, this was not necessarily a bad thing overall, for example, for projects that had a strong track record of breeding and releasing new commercially viable potato varieties. But for some it also meant that they were not taking advantage of new technologies and/or alternative approaches that could facilitate progress towards meeting one or more of the objectives. The committee applauded those projects that effectively incorporated new technologies and/or alternative strategies into their projects in order to overcome traditional bottlenecks (e.g., phenotyping). The committee also favored projects that were more tightly focused rather than those where the objectives and sub-objectives appeared to be more diffuse, and the proposed work was not as well integrated.

Sincerely,

Gregg Pettis

Gregg Pettis
Professor and Panel Chair

Department of Biological Sciences • 202 Life Sciences Building • Baton Rouge, Louisiana • 70803
P (225) 578-2601 • F (225) 578-2597 • www.biology.lsu.edu

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Department of Agronomy
Crop, Soil, and Environmental Sciences
G303 Agronomy Hall
Ames, IA 50011-1010, USA
Office: 515-294-2505
Fax: 515-294-2299

April 3, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

I was pleased to serve as Panel Chair for the NP 301B Panel 12b - Oilseeds: Physiology/Biochemistry (2022) Program. The Panel met on Tuesday, March 28, 2023, to review four ARS proposals. I am impressed by the steps included during the review process starting from selection of reviewers to completing the panel meeting in a very orderly manner. As a result, all steps of the review process went on very smoothly without compromising quality in any of the steps of the process. The entire review process, from training panel chair, reviewer identification and assignment, training the reviewers, scheduling the dates of training and the panel meeting, was very well organized with clear instruction and assistance. A very informative powerpoint presentation was provided to all of us and every effort was made to accommodate the busy schedules of the panelists. In my view, this must be attributed to the efficient management provided by Dr. Marquea D. King, Ms. Michele Shaw and Ms. Linda DalyLucas.

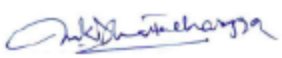
Reviewers were nominated based on their expertise. Each of the nominated reviewers were carefully checked by the USDA-ARS review team and the ones with no-conflict with the investigators of the proposal were selected and invited to serve the panel. I thought that this was an important step for keeping the standard of review process high. We had four proposals and therefore four reviewers were invited. Each of the reviewers served as a primary reviewer for the proposal that is closest to his expertise and secondary to a proposal that was slightly less close to his expertise. I believe the quality of the review process was high, given the strong professionalism and qualifications of the reviewers. All four reviewers were highly prepared for each of the discussions, as evidenced by their knowledge of the projects during our conversations and their written reviews.

Panel discussion was very active, stimulating, and professional, leading to the consensus of the key questions, concerns, and suggestions provided to the investigators of each proposal. All proposals were highly ranked and passed, according to the criteria of the Panel. I truly believe that all four reviewers have done an excellent job in producing a rigorous and non-biased assessment of each proposal, and in providing investigators with valuable and constructive

feedbacks. I am impressed by the high quality and cutting-edge research proposed by each of the four groups of investigators.

I thank the USDA-ARS for providing me with the opportunity of serving the panel as a chair. I hope the investigators will find our comments useful in proceeding with their research projects.

Sincerely,



Madan K. Bhattacharyya, Ph.D.
Professor,
Department of Agronomy

COLLEGE OF AGRICULTURE AND LIFE SCIENCES
SCHOOL OF PLANT AND ENVIRONMENTAL SCIENCES
VIRGINIA TECH.

School of Plant and Environmental Sciences
501 Latham Hall
220 Ag Quad Ln
Blacksburg, Virginia 24061
P: (540) 231-9791
smaroof@vt.edu

June 5, 2023

Dr. Weidong Chen
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

Thank you for the opportunity to serve as chair of a review panel for three project plans in the USDA/ARS 5-year Review Cycle. Three experienced investigators including diverse members from different institutions across the United States were selected to serve as reviewers. After approval by the Office of the Scientific Quality Review (OSQR), the project plans were mailed to the panel members. Each panel member was assigned as a primary reviewer for one project plan and as a secondary for another plan.

After establishing the review panel, the OSQR staff provided the panel members with the National Program Action Plan and Peer Review Guidelines. These documents and the orientation sessions set up for the panel members and the chair were very informative and made the goal of review and the expectations from reviewers clear. Prior to the panel meeting the reviewers provided detailed written reviews of project plans commenting on each objective. The OSQR staff did an excellent job merging them into the panel recommendation forms and sending it to the panel members a week before the panel meeting. On May 24, a virtual panel meeting was opened by the USDA/ARS and the chair moderated the review of the plans. Each project was discussed objective-by-objective with the participation of all panel members. Approximately 30 minutes were spent on each project plan during the review. It was clear that the panel members had thoroughly reviewed the plans, especially the experimental procedures and scientific merit sections. Suggestions were made in regards to plan improvement and additional potential collaborators with relevant expertise. After discussion of each project, all panelists anonymously provided independent scores to rank the specific plan being discussed. USDA staff determined a Consensus Class Score for each plan. All three plans received passing scores.

Panel members appreciated the opportunity to serve on the panel. They were very much engaged in the review process and were impressed with the timeliness and quality of the research being proposed and the latest experimental tools being employed. While some research objectives had immediate benefits to producers, some were high risk but with high rewards. In my opinion, the selection of the primary reviewers is very critical for a successful review.

Overall, the review was conducted in a fair, effective and constructive manner discussing strengths and weaknesses of each project plan and providing suggestions for improvement if needed. The process was facilitated with input from the well-trained personnel from the Office of Scientific Quality Review, which resulted in timely review of all project plans.

Sincerely,

M. A. Saghai Maroof
Professor
SPES
Virginia Tech

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO • SANTA BARBARA • SANTA CRUZ

DEPARTMENT OF PLANT SCIENCES
MAIL STOP 3
UNIVERSITY OF CALIFORNIA
ONE SHIELDS AVE
DAVIS, CALIFORNIA 95616-8780
TELEPHONE: 530-752-1703
FAX: 530-752-9659

COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATION
COOPERATIVE EXTENSION

July 10, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

I am truly honored to have been invited to serve as the Chair of the NP 301 Grains Super Panel. The Super Panel consisted of 21 research plans, which were organized into 5 subpanels: 4a (5 plans), 4b1 (3 plans), 4b2 (4 plans), 4c (5 plans), and 4d (4 plans). The Chair orientation meeting, the video overview of the National Program, and the accompanying documents provided were incredibly helpful in preparing me to carry out my duties effectively. Identifying qualified reviewers who did not have a conflict of interest with the plans was a rigorous process, but with the invaluable assistance of OSQR staff, particularly Ms. Michele Shaw, we were able to confirm all 21 reviewers by April 18, 2023. I am very pleased with the composition of the panel, as it boasts a diverse group of colleagues from various institutions, genders, and career stages.

Each plan was reviewed by two panel members who possessed expertise in disciplines and/or crops relevant to the plan's theme. Prior to the virtual meetings, every panelist shared their review outcomes with the OSQR program analyst, the panel chair, and other reviewers, which allowed us to review the comments in advance. All panel meetings were conducted virtually over Zoom and took place on the following dates: 7/10/2023 (panel 4a), 5/30/2023 (panel 4b1), 6/14/2023 (panel 4b2), 5/2/2023 (panel 4c), and 6/29/2023 (panel 4d). During the panel review meetings, we carefully discussed each plan focusing on the Adequacy of Approach, Probability of Success, and Merit and Significance. An anonymous Consensus Class Score system was then used to rate the overall quality of the research plan, with passing scores categorized as no revision, minor revision, and moderate revision. All 21 research plans evaluated by the panels received passing scores.

I would like to extend my sincere gratitude to all the panel members for their invaluable time, effort, and expertise in reviewing the research plans. Working with such a friendly and professional group of colleagues has been a truly rewarding experience. I would also like to acknowledge the outstanding guidance and support of OSQR staff, Dr. Weidong Chen, Dr.

Marquea King, Ms. Michele Shaw, and Ms. Linda DalyLucas, whose contributions have been invaluable to the success of the panel reviews.

Thank you again for the opportunity of serving as the Chair of the NP 301 Grains Super Panel.

Sincerely,

Li Tian
Professor
Department of Plant Sciences
University of California, Davis
(530) 752-0940
ltian@ucdavis.edu

UNIVERSITY OF MINNESOTA

Crookston • Duluth • Morris • Rochester • Twin Cities

Department of Horticultural Science
College of Food, Agricultural and Natural Resource Sciences

305 Alderman Hall
1970 Folwell Avenue
St. Paul, MN 55108

612-624-7711
michaels@umn.edu

31 July 2023

Todd Ward
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Re: NP 301 Panel 8 Panel Chair Statement

Dear Dr. Ward:

NP 301 Panel 8 met via a Zoom online conference to conduct its review on 12 July 2022.

All reviewers had prepared for the review by submitting primary and secondary review forms for the plans they were assigned, and by submitting optional written comments on the plans for which they were neither primary nor secondary reviewer. The written comments provided by panelists were constructive, insightful and consistent with the focus of the review as described during the panel orientation meetings and in subsequent documents.

The panel received a copy of combined panel comments two days prior to the review. This allowed adequate time for panelists to review the comments for errors in transcription and also to review comments provided by other panelists.

The general agenda for the review meeting was shared with panelists by email when the combined comments were distributed and again on the morning of the review meeting. The agenda and proposed time allowances for each agenda item were very helpful to me as panel chair in allowing sufficient time for discussion while also keeping the process moving forward. The order in which the programs were to be reviewed was shared with the panel at the start of the online review meeting. I recommend that the order of review be sent to the chair a day or two in advance of the meeting so that the chair can organize his or her documents in advance.

Based on the breadth and depth of comments by the primary and secondary reviewers it was clear to me that they had invested substantial time reading and preparing comments about the programs. The reviewers were knowledgeable about the fundamental and applied aspects of the programs they were assigned and made informed, insightful and helpful comments and recommendations. During the discussion a healthy amount of interaction developed among panelists. For instance, when a primary

reviewer felt that another panelist may have additional insight about a particular aspect of a plan, he/she asked a panel colleague to provide an opinion or explain a fine point of the underlying science.

Panelists brought different, yet complementary approaches to the review. Some panelists were excellent at identifying ambiguities and missing information, other panelists provided great recommendations for alternative approaches and additional ideas for the investigators to consider, while still others were skilled at translating these concerns and recommendations into constructive comments that the plan investigators will hopefully find useful.

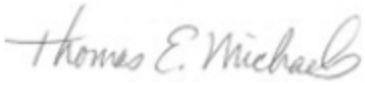
The panel spent an average of 38 minutes (range 32-46 minutes) discussing and evaluating each plan. This provided all panelists an opportunity to provide input. No panelist dominated the discussions, and no panelist was disengaged. The panel quickly gelled into a team and maintained a positive attitude throughout the meeting.

The panel attempted to be consistent from program to program in the degree of detail it requested in descriptions of breeding programs, food quality assessments, disease screening and molecular techniques and other experimental protocols. Overall, I was impressed by the ability of the panel to formulate constructive questions and comments for the investigators. This was aided by the high quality of the proposals. Proposals had a high probability of success and significant merit. Most of our questions and recommendations regarded details of approach and methodology. The panel was pleased to see the investigators proposing contemporary, cutting-edge approaches, and pursuing projects ranging from applied to fundamental.

The panel members highly appreciated the support and communication they received by USDA staff prior to and during the review meeting. I appreciated the patience exhibited by USDA staff when scheduling this meeting.

Overall, in my opinion this was a successful review.

Sincerely,



T. E. Michaels
Professor and NP 301 Panel 8 Chair

NC STATE UNIVERSITY

Mountain Horticultural Crops
Research and Extension Center
455 Research Drive
Mills River, NC 28759
828.654.8590 (phone)
828.684.8715 (fax)
dilip_panthee@ncsu.edu

Mar 11, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Re: Panel Chair Statement

Dear Dr. Chen,

I am pleased to share my experience as a chair serving on one of the review panels.

The USDA contacted me sometime in the last week of November to chair the review panel. The assignment was to chair the Plant Genetic Resources, Genomics, and Genetic Improvement review panel. There were only three proposals to review. This was the first time I took this type of responsibility. Initially, I was still determining how the process would move forward. The USDA gave an orientation in the first week of December, which was very informative and it provided much guidance. It helped me to plan the review process in detail and its timeline.

I contacted several potential panel members considering the guidelines provided by the USDA, including diversity and minorities in the panel. Some suggested members could not serve on the panel because of their conflicts of interest. Finally, three-panel members were identified: the experts in plant breeding, genetics, and genomics. The USDA gave them orientation on the review process at their convenience.

Two review panel members reviewed each proposal: one as a primary and one as a secondary reviewer. The review meeting date was identified based on convenience to each panel member and the USDA officials. A review panel meeting was held on Mar 6, 2023. At the beginning of the meeting, the USDA high-level officials expressed their views about the review process and its significance in agriculture research. Clear and detailed guidelines were also highlighted, including differences between ARS research and competitive grant proposals. This was very helpful. Then, as a panel chair, I handled the meeting, and we started deliberation on each proposal, including research objectives, approach, probability of success, and scientific merit. Primary reviewers led the presentation, followed by secondary reviewers. Some time was also spent on the overall discussion of each proposal by all panel members to ensure a fair evaluation. We spent about 40 to 45 minutes on each proposal. The discussion was very smooth. At the end of the discussion, each member, including the panel chair, voted on each proposal. Panel members with conflicts of interest were not allowed in the vote. The process was very fair and transparent.

This was my first experience serving as chair of the review panel. Initially, I needed to figure out how to handle the process. However, in the end, it went well. Detailed orientation and timely information from the USDA were very helpful in keeping me up and running the process well.

Overall, this was a wonderful experience. I enjoyed serving as a Panel chair. I thank the USDA for allowing me to chair the review panel. Thank you.

Sincerely,

Dilip R. Panthee, Ph.D
Associate Professor and Tomato Breeder

Viticulture & Enology Program
WASHINGTON STATE UNIVERSITY

July 11th, 2023

Dr. Weidong Chen
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

RE: NP 301C Panel 10a. Grapes and Hops (2022)

Dear Dr. Chen,

I chaired the review of USDA-ARS NP 301C Panel 10a applications on grapes and hops. Previously I served as a panel member; this is my first time serving as a chair, and I thank you for this opportunity. Of the six potential researchers (from the list approved by the Scientific and Quality Review Officer), we chose three diverse experts based on their national/international recognition, expertise in their field, and willingness to serve as reviewers. This panel chair statement summarizes the review process.

Dr. Marquea King and Linda DalyLucas guided us through the whole review process entailing the panelist selection process and avoiding a potential conflict of interest. They were very flexible in working with our busy schedules. They kept us on track by providing the necessary forms, answering our questions, and compiling the written reviews before the panel review meeting. The panel review meeting went smoothly because of Dr. King's superior editing and updating of the written reviews during the meeting, rendering the review process very effective and productive. She ensured that sufficient time was allotted for each project to be thoroughly discussed, and all panelists had the opportunity to provide feedback. I liked the final voting process on each proposal, where we all saw rapidly the final tallies of votes from all panelists. Furthermore, the pre-review online training and video presentations about the review process, particularly how USDA-ARS finalizes the objectives were very beneficial for the panel chair and the review panelists. It clearly explained the USDA-ARS system, the purpose of the OSQR review, and the panelists' roles in this process. Thanks to Dr. King and Linda, especially Linda, who was very dedicated, helpful, and quickly responded professionally to answer any questions before and during the review process.

Each reviewer (a primary reviewer on one proposal and a secondary reviewer on another and could comment on the other projects as well) provided a thoughtful analysis of the research projects before the meeting and came well-prepared for the panel discussion concerning the feasibility and scientific merit of the proposed research on the review panel discussion day. Panelists engaged well with each other weighing in with suggestions or asking questions for clarification during the meeting. The discussions were open, fair, and thoughtful, providing good feedback to the principal investigators. They provided constructive critique and recommendations for improving the plans. Also, Panelists agreed that a recognized leader led each proposal with a network of collaborators and access to the state of art facilities/equipment and expressed appreciation for the value, quality, and productivity of work done at the USDA-

Viticulture & Enology Program
WASHINGTON STATE UNIVERSITY

ARS Grape and Hop Laboratories. Overall, the plans were well presented and written, providing adequate information about their programs, stakeholders, plans, methods, available resources, and research needs. Although all projects were recommended to move forward, the panel felt that the proposed research proposals needed additional details, especially one needing more details on approaches.

In summary, the panel members were happy with the review process. They provided a fair assessment and valuable input to all researchers in improving their research projects. Of the three proposals, the panel recommended moderate revisions for one proposal and minor revisions for the other two proposals.

Sincerely,

Bhaskar Bondada

Dr. Bhaskar Bondada
Associate Professor of Viticulture
Wine Science Center
Washington State University Tri-Cities
Richland
WA 99354

UF UNIVERSITY of FLORIDA
IFAS
Southwest Florida Research and Education Center

2685 State Road 29 North
Immokalee, FL 34142-9515
239-658-3400
239-658-3469 Fax
http://swfrec.ifas.ufl.edu

August 17, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

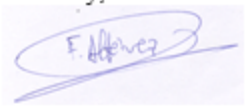
I was pleased to serve as Panel Chair for NP 301C Panel 10b. Tropical Fruit (2022) of the USDA, ARS 301 Plant Genetic Resources, Genomics and Genetic Improvement National Program. The Panel met on Friday, June 30, 2023, to review three ARS proposals. In my opinion, this was an extremely well-organized high-quality review. The whole review process, from training, reviewer identification and assignment, scheduling the dates of review, to the review itself, was very well organized with clear instruction and assistance. A very informative powerpoint presentation was provided to all of us at different dates. The powerpoint video was veryhelpful to understand the mission of ARS. Every effort was made to accommodate the busy schedules of the panelists. In my view, this must be attributed to the efficient management provided by Dr. Marquea D. King and Ms. Linda DalyLucas.

Three reviewers were invited, and each one served as primary reviewer for one proposal and secondary reviewer for another. I believe the quality of the review was high, given the strong professionalism and qualifications of the reviewers. All three reviewers were highly prepared for each of the discussions, as evidenced by their knowledge of the projects during our conversations and their written reviews, that were submitted one week in advance, as required. I believe the review panel carefully considered the research proposed in each project. Two proposals were highly ranked

and the panel considered that no revision is required; the third proposal was also very well ranked, although the panel considered that some moderate revision will be required.
Panel discussion was very active, stimulating, and professional, leading to the consensus of the key questions, concerns, and suggestions provided to the PI of each proposal. I truly believe that all the reviewers have done an excellent job in producing a rigorous and non-biased assessment of each proposal, and in providing valuable and constructive feedback for the PIs.

Thank you for the opportunity to serve as a Chair for this panel. I learned a great amount about the excellent and cutting-edge research that is being done at ARS.

Sincerely,



Fernando Alferez, PhD
Assistant Professor/Citrus Horticulturist
Southwest Florida Research and Education Center
IFAS, University of Florida
2685 State Road 29 North
Immokalee Fl, 34142

AUBURN
UNIVERSITY

Date: June 21, 2023

From: Jinesh Patel, Ph.D.
Research Associate IV
Department of Crop, Soil and Environmental Sciences
559 Devall drive,
Auburn AL -36830

To: Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

As the chair of the review panel for "USDA NP 301C Panel 11: Cotton (2022)", I am pleased to share some highlights from our work. Office of Scientific Quality Review (USDA) carefully evaluated the skills of the suggested reviewers from my list and with their help, I formed a panel of five experts. We assessed five proposals related to breeding, genetics, and genomics, generally focusing on cotton. According to the guidelines, each reviewer was assigned two proposals - one as the primary reviewer and the other as the secondary reviewer.

All reviewers submitted a thorough written evaluation of the proposals before the deadline. They also actively participated in determining a suitable meeting time to discuss the five proposals. On May 23, 2023, the review panel thoroughly discussed the proposed research. They assessed its feasibility and scientific merit by reviewing each objective of the proposal. In general, the committee determined that the proposed research would aid in addressing the gaps that scientists are currently searching for, and achieving the objective of this proposal will be crucial for the scientific community. Moreover, the reviewers acknowledged that the proposal was lead by a recognized leader in the field and had excellent collaborations that could complement any unexplored areas of expertise that the leader lacked. The reviewers provided constructive and supportive feedback to the author, highlighting potential improvements to the experiment design. Incorporating these suggestions will enhance the effectiveness of the research project.

Linda DalyLucas played an important role in helping me select the panel, organizing orientation for panelists, setting dates for panel discussions, and reminding us about upcoming deadlines. The orientation workshop provided helpful guidance for both the reviewers and me in understanding the review process and our responsibilities. Dr. Marquea King was a valuable resource during the panel discussion, explaining the discussion format and addressing any questions, making the process seamless. During the review process, I encountered no issues or concerns that needed attention to improve it. The reviewed proposals have received satisfactory scores, and there is no need for further panel meetings to discuss them.

Thank you for the opportunity to serve as panel chair.

Best Regards,

Jinesh D Patel

PURDUE UNIVERSITY | Agronomy

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

December 12, 2023

RE: Panel chair statement USDA NP 301C Panel 12a. Oilseeds Genetic Improvement

I am writing to express my appreciation for the opportunity to serve as the Panel Chair for the program review of USDA NP 301C Panel 12a: Oilseeds Genetic Improvement, which took place on Monday, July 24, 2023.

During the review, seven research plans were thoroughly evaluated by our team of experts. The process was exceptionally well-organized, efficient, and conducted with the utmost professionalism. Prior to the meeting, all reviewers submitted their comments, allowing for a comprehensive review of the scientific quality of the research plans. This thoughtful preparation greatly contributed to the success of the virtual meeting. The clear agenda provided a solid framework for in-depth discussions on the strengths and weaknesses of the research plans.

I would like to extend my gratitude to the entire USDA team involved in the review process, particularly Dr. Marquea D. King, Ms. Michele Shaw, and Ms. Linda Daly-Lucas, for their outstanding preparation and organization of the documents and materials, which played a pivotal role in the smooth conduct of the meeting.

Following the review, six of the seven research plans received a favorable opinion from the panel. However, one plan required further discussion, leading to a subsequent meeting on November 28, 2023. Regrettably, even after the revision, the plan did not meet the necessary scientific standards.

I am truly grateful for being part of this important process and would be honored to be considered for future reviews.

Sincerely,

Jianxin Ma

Professor and ISA Chair in Soybean Improvement
maj@purdue.edu; (765) 496-3662

UF/IFAS
Mid-Florida Research & Education Center

2725 S. Binion Rd
Apopka, FL 32703
(407) 410-6954
(407) 814-6186 Fax
www.mrec.ifas.ufl.edu

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

RE: USDA NP 301C Panel 13. Ornamentals and Sugarcane (2023)

Dear Dr. Chen,

I would like to express my sincere gratitude to you, Dr. Marquea King, Linda DalyLucas, and Michele Shaw from the Office of Scientific Quality Review for providing me with the invaluable opportunity to serve as the Panel Chair for USDA NP 301C Panel 13: Ornamentals and Sugarcane in 2023.

The review process was exceptionally well-organized, from training and reviewer selection to scheduling and conducting evaluations. I am particularly appreciative of the efficient management and guidance by Dr. Marquea D. King and Ms. Linda Daly Lucas, whose clear instructions and assistance were pivotal.

Through a comprehensive search, I identified five experts from academia and industry with signficant expertise and research experience in the field of ornamentals and sugarcane, contributing to a diverse and comprehensive panel. With the detailed guidance provided by Dr. King and Linda, our panel held a productive discussion on each proposal on June 13, 2023.

Each reviewer diligently submitted detailed written evaluations of their assigned proposals and actively participated in the discussions during the panel meeting. The primary reviewer led the discussion on their respective proposal, while secondary reviewers contributed additional insights. Dr. King provided invaluable assistance in orchestrating the review process, ensuring that all documents were thoroughly reviewed and discussed.

I firmly believe that all the reviewers delivered rigorous and unbiased assessments of each proposal, offering valuable and constructive feedback to the PIs. Our discussions were marked by openness, fairness, and constructive criticism, covering various aspects such as scientific merit, research significance, feasibility of experimental plans, and potential impacts of the proposed research. This resulted in highly engaging, intellectually stimulating, and professional panel discussions, leading to a consensus on key questions, concerns, and suggestions that were conveyed to the Principal Investigators. Importantly, all reviewers' comments and suggestions were supportive and aimed at enhancing the quality of the evaluated research projects. The PIs can benefit significantly from considering these recommendations.

In conclusion, the overall quality of the review process was exceptionally high, largely attributable to the caliber of reviewers selected for this panel. I am deeply appreciative of the opportunity to chair this important panel and contribute to the assessment of these vital research proposals.

If you have any questions or require further clarification, please do not hesitate to contact me at hhuo@ufl.edu or (407) 410-6954.

Best regards

Dr. Alfred Huo
Assistant Professor
University of Florida

MICHIGAN STATE
UNIVERSITY

March 13, 2023

Weidong Chen, Ph.D.
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

Dear Dr. Chen,

It was a pleasure to serve as Panel Chair for NP 301C Panel 14 Genome Databases for the USDA, ARS 301 Crop Production & Protection National Program. The panel met to evaluate five proposals on March 10, 2023. The way in which the meeting was structured made it very easy to achieve the meeting's goals and objectives, and this was to a large extent thanks to the organization of the documents and materials provided by the USDA-ARS Team including, but not limited to, Dr. Marquea King and Ms. Linda Daly-Lucas.

The panel consisted of five subject-specific experts, each responsible for handling one proposal as primary and another as secondary. All the reviewers provided the written reviews ahead of the panel meeting, and they were nicely compiled by the USDA-ARS Team before the panel meeting. I found the written reviews to be fair and well-balanced from the perspective of highlighting strengths and identifying areas for improvement. During the panel, everybody participated actively in the discussions. I felt that the discussions were thoughtful, open and resulted in constructive comments being provided to the scientists to improve the research plans.

I want to express my appreciation for having been selected to chair this panel, and for the support I received from the USDA-ARS Team.

Sincerely yours,

Erich Grotewold, Professor

Erich Grotewold
Professor

Department of
Biochemistry and Molecular Biology

College of Natural Science

Michigan State University
603 Wilson Rd, Rm. 201
East Lansing, MI
48824-6473
USA

Admin. Ofc. (517) 353-1425

email: grotewol@msu.edu
Web:http://www.bmb.msu.edu