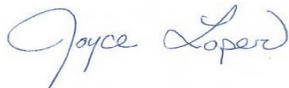


# NP 215 Pasture, Forage and Rangeland Systems Panel Report

Christina Woods  
Program Analyst



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Joyce Loper, Scientific Quality Reviewer Officer

June 6, 2013  
Date



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Michael S. Strauss, Peer Review Program Coordinator

June 16, 2013  
Date



**Office of Scientific Quality Review**  
Agricultural Research Service  
United States Department of Agriculture

## Introduction

This Panel Report provides the background of the 2013 National Program (NP) 215 Pasture, Forage and Rangeland Systems Panel Review. The project plans reviewed by these panels were applicable to the mission of the National Program to “*develop and integrate improved management practices, germplasm, and land-use strategies to optimize economic viability and environmental enhancement in managing vegetation, livestock and natural resources on private and public lands.*”

In collaboration with the Office of Scientific Quality Review (OSQR), and the National Program Leader, Dr. Jeffrey Steiner, divided 25 plans into eight panels. After considering several candidates, Dr. Joyce Loper, Scientific Quality Review Officer (OSQR), appointed a Chair for the eight panels (Table 1).

Table 1. Pasture, Forage and Rangeland Systems Panels

Panel	Panel Chair	Panel Meeting Date	Number of Panelists	Number of Projects Reviewed
Panel 1: Genetics & Breeding: Alfalfa	Dr. Larry Teuber, Prof-Ext Specialist, Dept Plant Sci, Univ California, Davis, CA	October 30, 2013	3	3
Panel 2: Managed Forage Systems	Dr. Craig Sheaffer, Prof, Dept Agron & Plant Genetics, Univ Minnesota, St. Paul, MN	October 12, 2012	3	3
Panel 3: Genetics & Breeding: Grasses	Dr. Lloyd Nelson, Prof Emeritus, Dept Soil & Crop Sci, Texas A&M Univ, College Station, TX	November 6, 2012	5	5
Panel 4: Great Plains Grazinglands	Dr. Joel Brown, Rangeland Ecologist, Jornada Exp Range, New Mexico State Univ, Las Cruces, NM	October 16, 2012	4	4
Panel 5: Pasture Management Systems	Dr. Jerry Nelson, Prof, Dept Plant Sci, Univ Missouri, Columbia, MO	October 31, 2012	3	3
Panel 6: Western Rangeland Conservation & Management	Dr. David Barker, Assoc Prof, Dept Hort & Crop Sci, Ohio State Univ, Columbus, OH	November 5, 2012	3	3
Panel 7: Western Rangeland Restoration & Sustainability	Dr. Derek Bailey, Assoc Prof & Director, Chihuahuan Desert Rangeland Res Ctr, New Mexico State Univ, Las Cruces, NM	October 18, 2012	3	3
Panel 8: Poisonous Plants	Dr. Joyce Loper, SQRO	N/A	3	1

## Panel Review Results

Along with the Panel’s written recommendations, OSQR sends each Area Director a worksheet that shows each reviewer’s judgment of the degree of revision their project plan requires. This judgment is referred to as an “action class”. The action classes of the panelists are also converted to a numerical equivalent, averaged, and a final action class rating is assigned.

Scientists are required to revise their project plans as appropriate and submit a formal statement to OSQR through their Area Director demonstrating their response to the Panel’s recommendations. The project plans are implemented following approval and certification from the SQRO.

Action classes are defined below.

**No Revision Required (score: 8).** An excellent plan; no revision is required, but minor changes to the project plan may be suggested.

**Minor Revision Required (score: 6).** The project plan is feasible as written, requires only minor clarification or revision to increase quality to a higher level.

**Moderate Revision Required (score: 4).** The project plan is basically feasible, but requires changes or revision to the work on one or more objectives, perhaps involving alteration of the experimental approaches in order to increase quality to a higher level and may need some rewriting for greater clarity.

**Major Revision Required (score: 2).** There are significant flaws in the experimental design and/or approach or lack of clarity which hampers understanding. Significant revision is needed.

**Not Feasible (score: 0).** The project plan, as presented, has major scientific or technical flaws. Deficiencies exist in experimental design, methods, presentation, or expertises which make it unlikely to succeed.

For plans receiving one of the first three Action Classes (No Revision, Minor Revision, and Moderate Revision) scientists respond in writing to panel comments, revise their project plan as appropriate, and submit the revised plan and responses to OSQR through their Area Office. These are reviewed by the SQR Officer at OSQR and, once they are satisfied that all review concerns have been satisfactorily addressed, the project plan is certified and may be implemented.

When the Action Class is Major Revision or Not Feasible, responses and revised plans are provided as above, but must then be re-reviewed by the original review panel that provide a second set of narrative comments and Action Class based on the revised plan. If the re-review action class is no revision, minor or moderate revision the project plan may be implemented after receipt of a satisfactory response and SQRO certification, as described above. Plans receiving major revision or not feasible scores on re-review are deemed to have failed. The action class and consensus comments are provided to the Area but there is no further option for revision of such plans. Low scoring or failed plans may be terminated, reassigned, or restructured, at the discretion of the Area and Office of National Programs.

## NP 215 Program Overview

The following is a summary of the comments made at the panel debriefings in the third cycle. The panelists gained respect for ARS and felt that it was good to see high technical level of USDA work. They were impressed that ARS can and do build on long-term data. They recognize that it can be a challenge when researchers are moved into a new area where they may not have experience. They therefore urged ARS to connect such individuals to public researchers to get grounded and assure that the work is properly focused.

Table 2 shows the initial and final scores for the third cycle expressed as percentages for the NP 215 Pasture, Forage and Rangeland Systems Panel. Four out of the 25 plans that were reviewed received a major revision score. One of those plans was terminated without further revision. The remaining three plans completed re-review and were certified. The average initial score for the third cycle was 5.23 (Minor Revision) which is higher than the previous cycles (first: 4.15, Moderate Revision; second: 5.04, Minor Revision; Table 3). The average final Action Class for all three review cycles was Minor Revision (6.38, 5.24, and 5.26, respectively).

Most panels had four members for the third cycle of the NP 215 Pasture, Forage and Rangeland Systems Panels (Figure 1). When comparing panel size versus initial review score for all three cycles of the NP 215 Pasture, Forage and Rangeland Systems Panels, there does not appear to be any effect on score and panel size (Figure 2).

Figure 3 shows the results of the panel size versus review score for all third cycle panels thus far. Here, too, panel size does not seem to influence the initial review score. Interestingly, it does appear that plans with very large numbers of scientists (more than six) might have a marginal tendency to score higher on initial review, but the data are insufficient to be conclusive (Figure 4).

When comparing the initial review scores for the first, second and third cycle for the Pasture, Forage and Rangeland panels, the first cycle had the higher number of plans receiving major revision scores (10) than the second (2) and third (4) cycles (Figure 5). All but one plan did not pass review in all three cycles (Figure 6).

Table 2. Initial and Final Scores for the Third (2013) Cycle Expressed as Percentages for the NP 215 Pasture, Forage and Rangeland Systems Panels

Third Cycle, 2013	Initial Review						Final Review					
	% No Rev	% Min Rev	% Mod Rev	% Maj Rev	% Not Feas	Avg Initial Score	% No Rev	% Min Rev	% Mod Rev	% Maj Rev	% Not Feas	Avg Final Score
Panel 1 - Genetics & Breeding: Alfalfa (3)	0.0%	33.3%	66.7%	0.0%	0.0%	5	0.0%	33.3%	66.7%	0.0%	0.0%	5
Panel 2 - Managed Forage Systems (3)	0.0%	100.0%	0.0%	0.0%	0.0%	5.5	0.0%	100.0%	0.0%	0.0%	0.0%	5.5
Panel 3 - Genetics & Breeding: Grasses (5)	0.0%	100.0%	0.0%	0.0%	0.0%	5.77	0.0%	100.0%	0.0%	0.0%	0.0%	5.77
Panel 4 - Great Plains Grazinglands (4)	0.0%	50.0%	50.0%	0.0%	0.0%	5.6	0.0%	50.0%	50.0%	0.0%	0.0%	5.6
Panel 5 - Pasture Management Systems (3)	0.0%	66.7%	0.0%	33.3%	0.0%	5.56	0.0%	66.7%	33.3%	0.0%	0.0%	5.56
Panel 6 - Western Rangeland and Conservation (3)	0.0%	66.7%	0.0%	33.3%	0.0%	5	0.0%	66.7%	0.0%	33.3%	0.0%	5
Panel 7 - Western Rangeland Restoration (3)	0.0%	33.3%	0.0%	66.7%	0.0%	4	0.0%	33.3%	66.7%	0.0%	0.0%	5
Panel 8 - Poisonous Plants (1)	100.0%	0.0%	0.0%	0.0%	0.0%	7	100.0%	0.0%	0.0%	0.0%	0.0%	7
<b>Totals</b>	12.5%	56.3%	14.6%	16.7%	0.0%	5.23	12.5%	56.3%	27.1%	4.2%	0.0%	5.46

Table 3. Initial and Final Scores for All Cycles Expressed as Percentages for the NP 215 Pasture, Forage and Rangeland Systems Panels

	Initial Review						Final Review					
	% No Rev	% Min Rev	% Mod Rev	% Maj Rev	% Not Feas	Avg Initial Score	% No Rev	% Min Rev	% Mod Rev	% Maj Rev	% Not Feas	Avg Final Score
First Cycle (n=26)	7.7%	34.6%	15.4%	38.5%	3.8%	4.15	42.3%	42.3%	15.4%	0.0%	0.0%	6.38
Second Cycle (n=33)	6.1%	51.5%	36.4%	6.1%	0.0%	5.04	6.1%	54.5%	39.4%	0.0%	0.0%	5.24
Third Cycle (n=25)	4.0%	64.0%	16.0%	16.0%	0.0%	5.23	4.0%	64.0%	28.0%	4.0%	0.0%	5.46

Figure 1. Panel Size vs. Initial Review Score for the Third Cycle of the NP 215 Pasture, Forage and Rangeland Systems Panels

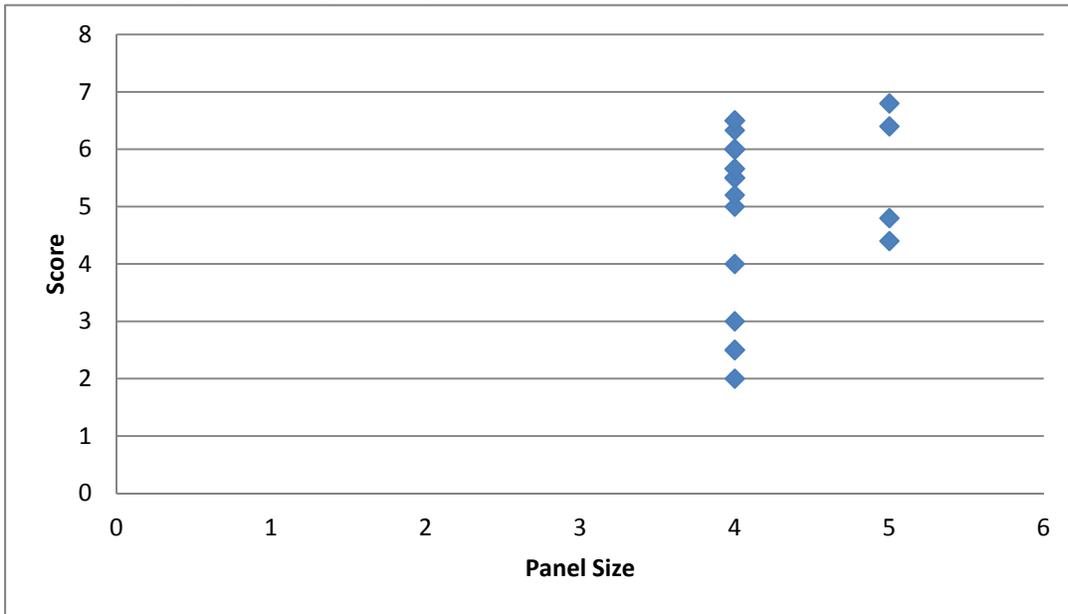


Figure 2. Panel Size vs. Initial Review Score for All Three Cycles of the NP 215 Pasture, Forage and Rangeland Systems Panels

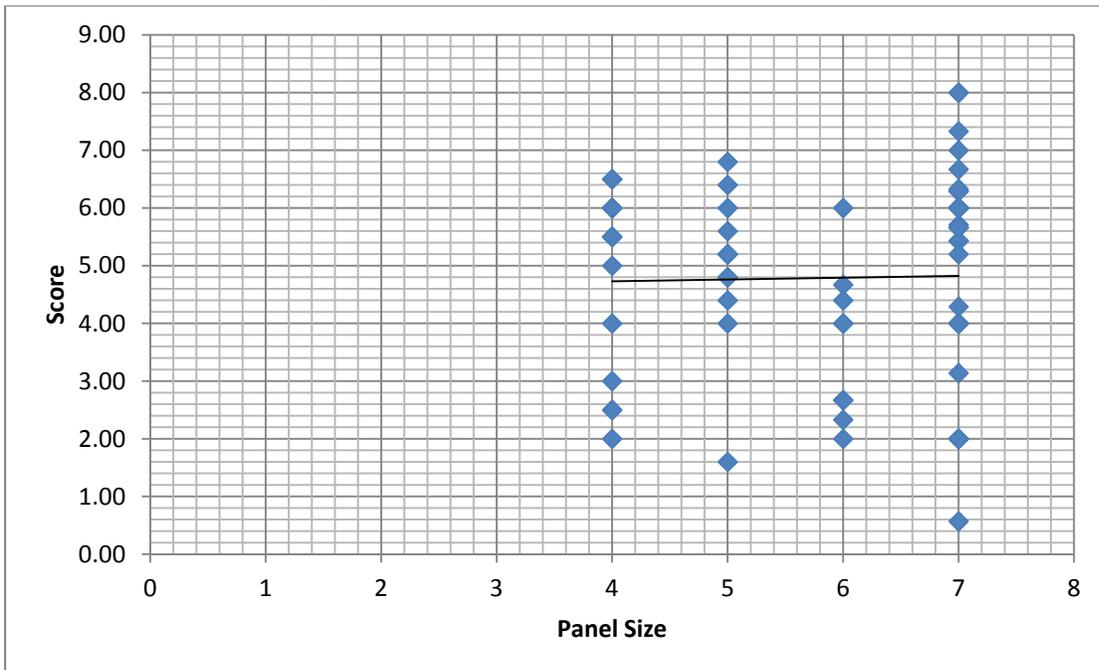


Figure 3. Panel Size vs. Initial Review Score for All Third Cycle Panels

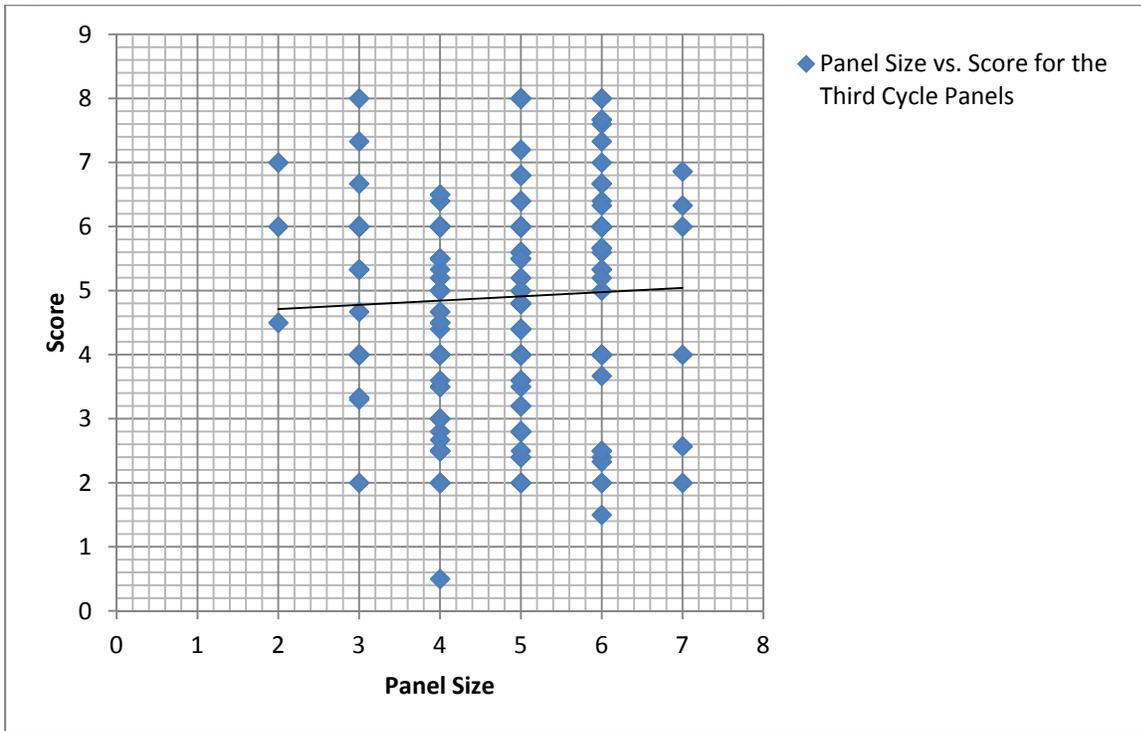


Figure 4. Number of Scientists vs. Initial Review Score for the Third Cycle of the NP 215 Pasture, Forage and Rangeland Systems Panels

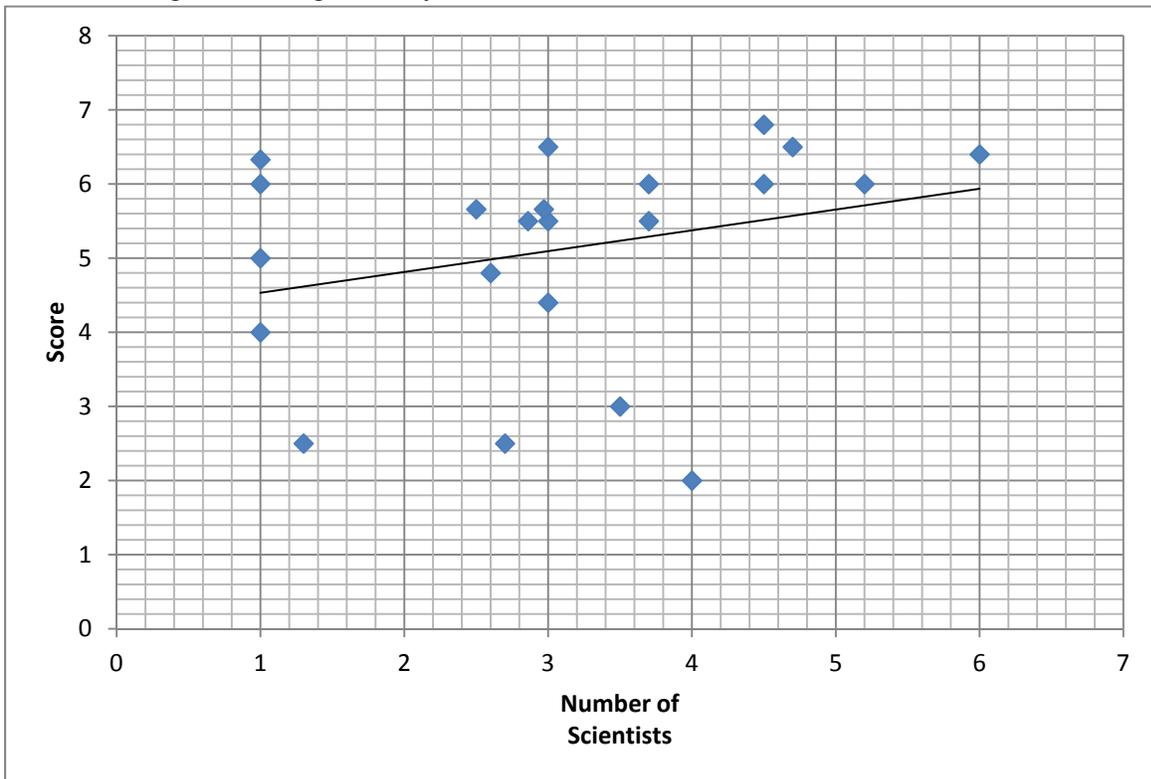


Figure 5. Initial Review Scores for the First (2002), Second (2008) and Third (2013) Cycle Distribution for the NP 215 Pasture, Forage and Rangeland Systems Panels (average score 4.15; 5.04; 5.23, respectively). The number of plans reviewed by each cycle is in parentheses. Numbers over columns are the actual number of plans receiving that score.

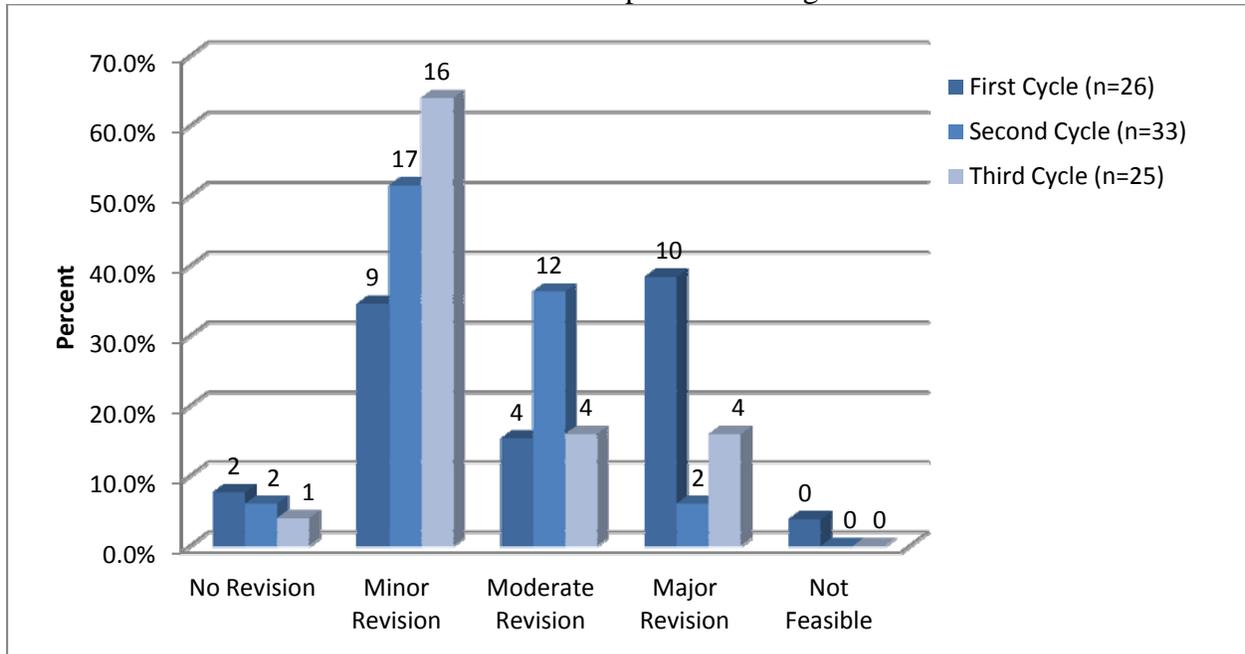
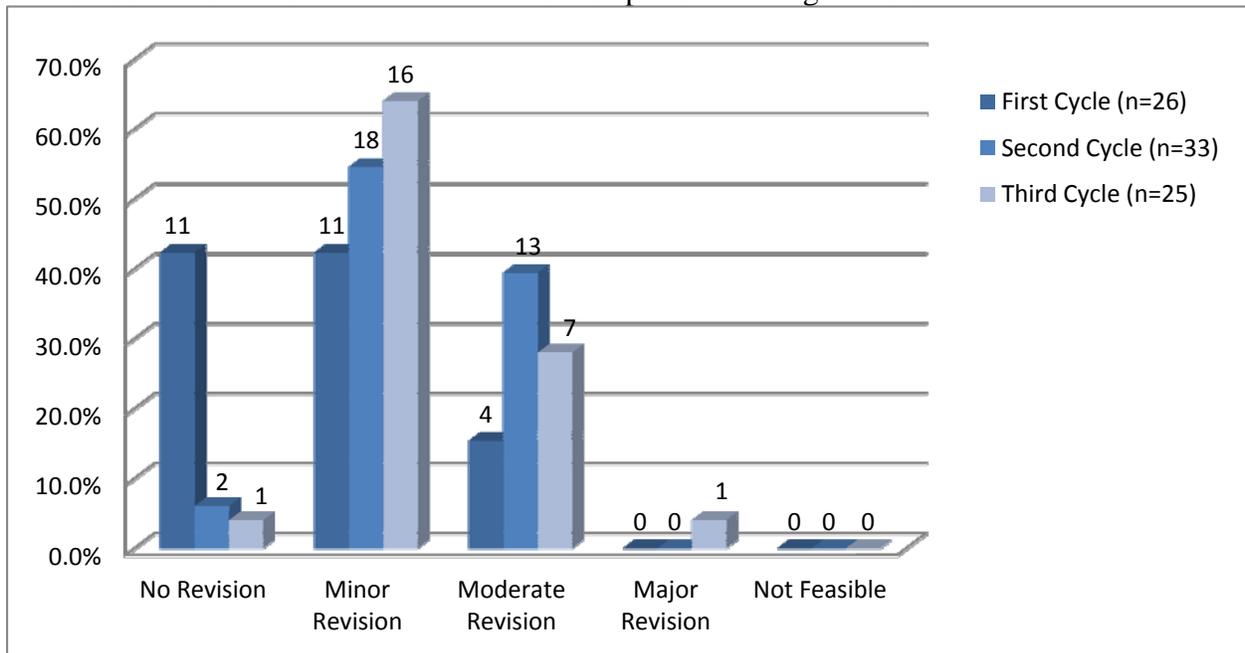


Figure 6. Final Review Scores for the First (2002), Second (2008), and Third (2013) Cycle Distribution for the NP 215 Pasture, Forage and Rangeland Systems Panels (average score 6.38; 5.24; 5.46, respectively). The number of plans reviewed by each cycle is in parentheses. Numbers over columns are the actual number of plans receiving that score.



### Panel Characteristics

ARS places responsibility for panel member selection primarily on external and independent Panel Chairs. ARS scientists, managers and the Office of National Programs may recommend panelists but the Panel Chair is under no obligation to use these recommendations. Several factors such as qualification, diversity, and availability play a role in who is selected for an ARS peer review panel. The eight panels were composed of nationally and internationally recognized experts to review 25 projects primarily coded to the Pasture, Forage and Rangeland Management Program (see Table 1, page 2). The information and charts below provide key characteristics of the Pasture, Forage and Rangeland Management Panels. This information should be read in conjunction with the Panel Chair Statements.

### Affiliations

Peer reviewers are affiliated with several types of institutions, especially universities, government, 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. Also, several government-employed panelists are recognized for both their government affiliation and faculty ranking. Tables 4 and 5 shows the type of institutions with which the Pasture, Forage and Rangeland Management Panel members were affiliated with at the time of the review.

Table 4. Faculty Rank of Panelists Affiliated with Universities

Panel	Professor	Associate Professor	Assistant Professor
Panel 1: Genetics & Breeding: Alfalfa (4)	2	1	
Panel 2: Managed Forage Systems (4)	3	1	
Panel 3: Genetics & Breeding: Grasses (6)	3	1	1
Panel 4: Great Plains Grazinglands (5)	2	1	1
Panel 5: Pasture Management Systems (4)	3	1	
Panel 6: Western Rangeland Conservation & Management (4)		3	
Panel 7: Western Rangeland Restoration & Sustainability (4)	2	2	
Panel 8: Poisonous Plants (2)		1	

Table 5. Other Affiliations Represented on the Panels

Panel	Government	Industry & Industry Organizations	Other
Panel 1: Genetics & Breeding: Alfalfa (4)		1	
Panel 2: Managed Forage Systems (4)			
Panel 3: Genetics & Breeding: Grasses (6)		1	
Panel 4: Great Plains Grazinglands (5)	1		
Panel 5: Pasture Management Systems (4)			
Panel 6: Western Rangeland Conservation & Management (4)		1	
Panel 7: Western Rangeland Restoration & Sustainability (4)			
Panel 8: Poisonous Plants (2)		1	

## Accomplishments

The peer review process is intended to be rigorous and objective, striving for the highest possible scientific credibility. In general, panelists are expected to hold a PhD unless the norm for their discipline tends to not require a doctorate level education to achieve the highest recognition and qualification (e.g., engineers and modeling specialists). Panelists are also judged 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 addressed in the National Program are preferred. Table 6 describes their characteristics in the Pasture, Forage and Rangeland Management Panels.

Table 6. The Panels' Recent Accomplishments

Panel	Published Articles Recently	Received Recent Professional Awards	Having Review Experience	Currently Performing Research
Panel 1: Genetics & Breeding: Alfalfa (4)*	2	2	2	3
Panel 2: Managed Forage Systems (4)	4	3	4	4
Panel 3: Genetics & Breeding: Grasses (6)*	6	4	5	6
Panel 4: Great Plains Grazinglands (5)	5	4	5	5
Panel 5: Pasture Management Systems (4)	4	4	4	3
Panel 6: Western Rangeland Conservation & Management (4)	4	4	4	4
Panel 7: Western Rangeland Restoration & Sustainability (4)	4	2	3	4
Panel 8: Poisonous Plants (2)	2	2	2	2

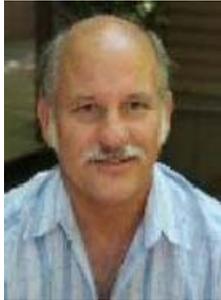
## Current and Previous ARS Employment

The Research Title of the 1995 Farm Bill 105-585, mandated ARS's requirements for the peer review of ARS research projects: 1) panel peer reviews of each research project were mandated at least every five years and 2) the majority of peer reviewers must be external (non-ARS scientists). Table 7 shows how many panelists were formerly employed by ARS.

Table 7. Affiliations with ARS

Panel	Currently Employed by ARS	Formerly Employed by ARS
Panel 1: Genetics & Breeding: Alfalfa (4)		
Panel 2: Managed Forage Systems (4)		
Panel 3: Genetics & Breeding: Grasses (6)		1
Panel 4: Great Plains Grazinglands (5)		2
Panel 5: Pasture Management Systems (4)		
Panel 6: Western Rangeland Conservation & Management (4)		
Panel 7: Western Rangeland Restoration & Sustainability (4)		2
Panel 8: Poisonous Plants (2)		

## Pasture, Forage and Rangeland Systems Panel Chairs



**Larry Teuber, Ph.D., ARS Panel Chair**

***Panel 1: Alfalfa Genetics and Breeding***

Professor, Department of Plant Sciences, University of California, Davis, CA

Dr. Teuber's research interests include alfalfa, genetics, plant breeding, pollination, gene flow, seed certification.



**Craig Sheaffer, Ph.D., ARS Panel Chair**

***Panel 2: Managed Forage Systems***

Professor, Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN

Education: B.S. Delaware Valley College; M.S. & Ph.D. University of Maryland

Dr. Sheaffer's primary responsibilities are alfalfa and forage management and, sustainable cropping systems.



**Lloyd Nelson, Ph.D., ARS Panel Chair**

***Panel 3: Grass Genetics and Breeding***

Professor Emeritus and Ryegrass Breeder, Department of Soil and Crop Sciences, Texas A&M University, College Station, TX

Education: B.S. Wisconsin State University; M.S. North Dakota State University; Ph.D. Mississippi State University

Dr. Nelson's research interests are plant breeding, forage, ryegrass, wheat and turfgrass.



**Joel Brown, Ph.D., ARS Panel Chair**

***Panel 4: Great Plains Grazinglands***

Rangeland Ecologist, USDA, NRCS, Jornada Experimental Range  
Las Cruces, NM

Education: B.S. Fort Hays State University; M.S. & Ph.D. Texas  
A&M University

Dr. Brown's research interests are rangeland ecology and grazing  
management.



**C. Jerome Nelson, Ph.D., ARS Panel Chair**

***Panel 5: Pasture Management Systems***

Curators' Professor Emeritus, Department of Plant Sciences,  
University of Missouri, Columbia, MO

Education: B.S. & M.S. University of Minnesota; Ph.D.  
University of Wisconsin

Dr. Nelson's research interests are forages, physiology, growth and  
development, quality environment.



**David Barker, Ph.D., ARS Panel Chair**

***Panel 6: Western Rangeland Conservation and Management***

Associate Professor, Department of Horticulture and Crop Science,  
Ohio State University, Columbus, OH

Education: B.S. & M.S. Massey University; Ph.D. University of  
Nebraska

Dr. Barker's research interests include grassland ecology, grazing,  
water stress, drought, modeling, and forage growth.



**Derek Bailey, Ph.D., ARS Panel Chair**

***Panel 7: Western Rangeland Restoration and Sustainability***

Professor, Animal and Range Science Department, New Mexico State University, Las Cruces, NM

Education: B.S., M.S. & Ph.D. Colorado State University

Dr. Bailey's research interests are rangeland, grazing management, livestock, riparian areas, and sustainable agriculture.

### **Panel Chair Statements**

All Panel Chairs are required to turn in a statement that describes how their Panel was conducted and possibly provide comments on the review process that might not otherwise be found in the individual research project plan peer reviews. Panel Chairs are given some guidelines for writing their statements, but are nevertheless free to discuss what they believe is important for broad audiences.

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October 20, 2012

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

Dr. Loper:

The following comments are related to the NP 215 Panel 2: Managed Forage Systems panel that I chaired on October 12, 2012. The panel members possessed a range of expertise ranging from plant breeding and genetics to applied agronomy. The panel provided an objective and credible review of the science of the three projects. While the panel provided some suggestions for minor revision on all projects, we felt that the probability of success was high for all projects, and the merit of the projects of significance.

The discussion process that ultimately provided the action class recommendation was efficient and positive. The entire process was efficient because the USDA staff provided information via hardcopy and through the orientation teleconference. The peer review guidelines are well done. Consequently, the panel was well prepared, understood the review process, and the time was efficiently used. I have no suggestions for improvement of the process. Overall, this was an effective peer review panel whose activities were facilitated by the USDA OSQR staff.

Sincerely,



Craig C. Sheaffer  
Professor

November 26, 2012

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

1. As Chair of NP 215 Panel 3: **Grass Genetics and Breeding Panel**, I enjoyed the outcome of basically approving the five quality research projects. The five member panel worked extremely well together and each panel member had good questions and comments about their primary project assignment. I believe our panel was well balanced in their research background in areas such as plant breeding, statistics, biotechnology, etc, which resulted in a quality review. With most of the projects, numerous creative ideas, questions, and in some cases suggestions were expressed by the panel. These suggestions will be returned to the scientists so that they can be studied and hopefully will improve the science, or will result in the implementation of alternative procedures that will improve the outcomes of the overall project(s).
2. The review process required considerable preparation by the panel members. Three of the projects had multiple scientists and many and varied research studies. In at least two of the projects there were more than 100 pages to read and digest by the primary and secondary reviewers. This required a lot of work by the panel and was a very time consuming process. The logistics of the review process worked out very well and Dr. Mike Strauss and Linda DalyLucas were very organized and helpful during the process. There was no problem with exclusion of peer reviewers who had a conflict of interest. There were a few reviewers who could not serve as reviewers; however, other reviewers were contacted and they were equally as knowledgeably and served very well. There was no problem with the scoring and critique writing procedures.
3. Our panel did not discuss the milestones and outcomes (forms) which were part of the projects. As chair, I reviewed these forms and they appeared to be in order. I would suggest that USDA-ARS consider eliminating them from this review process and only use them internally within USDA-ARS.
4. Overall I believe this was an effective review panel. The five projects reviewed are outstanding and will serve the agricultural community well over the next 10 or 20 years. The panel worked together very well, and had a number of constructive suggestions that improved the project plans and completed the process for all five projects in less than 3 hours.

Lloyd R. Nelson



Panel Chair  
Regents Professor and Professor Emeritus and Ryegrass Breeder

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October 16, 2012

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

Dr. Loper;

This letter summarizes the deliberations of *NP 215 Panel 4: Great Plains Grazinglands*. The five member panel brought a wealth of experience and a broad range of skills to our discussions. All of our panelists have enviable records in research, development and extension, including experience as referees and editors for peer-reviewed publications. That experience resulted in a very thorough review of the proposed research projects and, I think, some novel and creative suggestions for the research leaders to improve both the mechanics of the experiments and the communication of the research results.

Thanks in large part to the excellent administrative support from the ARS Office of Scientific Quality Review, we were able to spend the time necessary with the initial reviews and comments on the projects and our teleconference was focused and productive. The ~3 hour session allowed us to discuss the four projects in depth and have plenty of time for interactive discussions and responses. I was very impressed with the detail in the initial reviewer comments, which allowed us to engage in a wide-ranging discussion encompassing both experimental mechanics and relevance of the research. While the OSQR went to great lengths to exclude reviewers with conflicts, the peer review role of the panel (and the general desire to be helpful to ARS and the individual scientists), there is little incentive for a potential reviewer to be either overly supportive or negative. Less strict criteria for evaluating conflicts would result in a larger pool of potential reviewers.

Because our stated objective was to provide a constructive critique and detailed comments and suggestions to improve the research, there is really no need to have a numerical rating system or a competitive ranking system. The 5 categories (No Revision, Minor Revision, Moderate Revision, Major Revision and Unacceptable) are completely adequate for a qualitative rating.

My only suggestion to improve the process would be to allow a longer time period between the due dates for the written comments and the teleconference to allow OSQR staff an adequate period to compile comments and circulate them. Our panel's comments came in over a 5 day interval. The first comments (4 days before due) were much easier to read, consider and

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synthesize than the final set of comments, which came in a day late. I found the comments compiled by the staff to be very helpful in leading the discussion and a greater familiarity with them would improve the quality of the panel interactions.

In summary, I believe this is a critically important process to improve the quality and the relevance of ARS. This approach helps insure that the limited public funds available for agricultural and natural research related research are spent wisely and that ARS research staff can contribute their substantial skills and energy to solving important problems. I was honored to be asked to lead the panel discussions and thoroughly enjoyed the interactions with other scientists and ARS OSQR staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel R. Brown". The signature is written in a cursive style and is positioned to the right of a vertical line that starts from the top of the signature and extends downwards.

Joel R. Brown, PhD  
USDA NRCS  
National Soil Survey Center



College of Agriculture,  
Food and Natural Resources

University of Missouri-Columbia

Division of Plant Sciences

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October 31, 2012

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

Dear Dr. Loper:

The NP 215 Panel 5: Pasture was formed by selecting quality scientists who then received the proposals about a month later. Each panelist and the chair submitted written reviews of the proposals according to the proposed format. The reviews were both constructive and succinct, thereby providing a good assessment. Reviews were combined and distributed to the panel and chair a few days before the panel meeting (web based). Discussions during the web meeting followed the prescribed manner of presentations by the primary and secondary reviewer with added comments by the third panelist and the chair. Each panelist had a distinct perspective based partly on their area of expertise, which was by design due to the broad and comprehensive nature of the proposals. But there was good agreement on the overall assessment. Collectively, the panel provided a sound and credible scientific review.

Panelists did a good job of adding ideas and procedural points to improve the quality of science and its contributions toward the National Program Action Plan. Considering the proposals involved rather comprehensive plans for addressing the key issues at various scientific levels, it was often difficult to determine if the proposed ideas would be adequately tested to get the correct data for reliable conclusions. Thus, the creative thinking from the proposal was evaluated in a scientific way to insure quality of research that would support important advancements in the science and its application. Thus, the panel reviews complemented the earlier Agency reviews on overall goals and objectives, by giving a detailed scientific evaluation of the methods and data to be acquired and used. In some cases the brevity of the experiment descriptions overlooked details needed to convince the review panel there would be a quality outcome. These suggestions were pointed out in the written review.

The logistical arrangements were very good and the panel review went smoothly. No panelist had a conflict and each had a good understanding of their role including the review criteria and scoring method. When necessary the ARS representative stepped in effectively to remind the panel of its goal of assessment and not of redirection of the proposal. Panelists knew they would have a specific writing assignment for the final panel recommendation. Some of the final recommendation report was reviewed and edited on screen by the panel during the meeting, and the mechanisms for having additional inputs of scientists for the final reports were worked out.

The discussion process was efficient because the reviewers were experienced in proposal evaluations. They had thoroughly reviewed the proposals and submitted written evaluations, usually on a sub-



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objective basis which helped the panel in focusing its discussion. The primary reviewers were able to quickly summarize the goals and evaluate the quality of the planned research. Comments from the secondary reviewer and eventually from the entire panel added quality to the discussion and assessment of the key issues. The panel spent about 40 minutes on each proposal that allowed a genuine collective input beyond the collated written reports. The panel reviewed the draft assessments and made minor adjustments to reflect the points from the discussion. Overall, it was a team effort; all comments were considered before the vote on final placement.

The most notable (positive or negative) characteristics of the discussion process were nearly always focused on the experimental design and methods used. This was an effort to ensure the science was sound and the methods and data acquired would answer the questions raised in the objective. This was somewhat expected in assessing broad ecological studies compared with focused single-component studies that will determine cause: effect relationships. When questioned, the issue usually was on the appropriate sampling procedure and the detail of the data. In each review summary these specific points were emphasized in anticipation that the scientists would consider them as they revised the proposal and initiated the experiments.

Throughout, it was an effective peer review panel. The high level of preparation allowed decisions to be made in an orderly and credible manner. Overall, the Review Panel brought a comprehensive expertise to the table for discussion on these topics. And I am sure I represent the collective feeling of the panel that ARS science is improved by the review process. Further, the panelists have a much better understanding of ARS research, how it fits into the national priorities and how it relates to his or her own research. Thus, overall, the process was and is truly a win-win situation.

Sincerely,

C. Jerry Nelson, Professor Emeritus



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November 26, 2012

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

Dear Dr. Loper

I offer the following thoughts and observations following our OSQR meeting of NP 215 Panel 6: Western Rangeland Conservation and Management on November 5, 2012.

We had a diverse and experienced panel that comprised gender diversity (2 males, 1 female), diversity of institutions (2 University, 1 Research Foundation), and geographic diversity (reviewers from Oklahoma, Utah, and California). Perhaps lacking among our group was the same diversity of research backgrounds – all of us were field-based forage & rangeland ecologists, and we could have used a broader expertise to include an animal scientist, and possibly a more theoretical ecologist/modeler. However, our panel did include some knowledge of these areas, we are satisfied we were able to fairly evaluate the strengths and weakness of the three research proposals.

Two of the panelists had not previously conducted an OSQR meeting – so it was a new experience for them. One panelist later emailed in appreciation of the experience and would be willing to conduct future reviews. The second panelist had the opposite experience, and after spending many hours on his review had emailed he would probably be unlikely to participate in another review. On reflection, that panelist had been the primary reviewer of the largest of our three proposals, and had done a difficult task.

Our panel met in a web conference on Monday November 5, at 11:30am, and lasted for approximately 2.5 hrs. Approximately equal time was allocated to discussion of each proposal. Two of the panelists had previously circulated their evaluation comments of each of their primary and secondary reviews. The third panelist submitted preliminary comments the morning of the review; in discussion however, it was obvious all panelists had a thorough and detailed understand of the proposals under review.

At the conclusion of our panel we had a brief discussion of the review process. Without exception, all panelists appreciated the benefits of the web conference. While missing the personal contact from a face-to-face meeting, all panelists were busy in their respective schedules, and appreciated the time savings of the web conference. A face-to-face meeting would have been unlikely to have resulted in any difference in outcome from the review.

Our panel also discussed the amount of time taken for the review of proposals. While no panelist gave specific details of the number of hours taken, one panelist did think it took too much time. I might add, that I know that panelist very well, and he is exceptionally conscientious in such matters and may have spent too much time (he did have the longest report and it was his first OSQR review). The number of reviews (three) was perfect for the number of panelists and the time we had available.

None of the panelists had any conflict of interest with the research proposals, and all three panelists contributed to the discussion of the three proposals. I am not aware of any suggestions, improvements or revisions necessary to the review process.

Yours sincerely

A handwritten signature in black ink, appearing to read 'D Barker', written in a cursive style.

Dr David Barker  
Professor



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April 10, 2013

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

Re: NP 215 Panel 7: Rangeland Restoration and Sustainability (2012)

Dear Dr. Loper:

During the fall of 2012 and early winter 2013, the NP 215 Panel 7: Rangeland Restoration and Sustainability (2012) reviewed three projects. The members of the review Panel and I carefully examined the three projects proposals for scientific merit. All of the panel members spent more time on this review than we would evaluating a scientific journal manuscript. I was impressed and grateful for the effort that everyone put into the review. Consequently, I think we conducted a sound and scientifically credible review. The Panel identified numerous issues that the investigators did not consider and provided meaningful and creative approaches to improve the projects. These, suggestions and critiques resulted in insightful, interesting and lively discussions during our two teleconference meetings.

I think one of the most positive consequences of this Panel review was the level of preparation and effort spent on the review by the committee. Everyone took the review very seriously and worked hard to provide constructive suggestions to improve the research rather than simply criticize the approach and experimental protocols. The software used for the "virtual meetings" worked great, and the Panel and I appreciated the help of Dr. Mike Strauss in summarizing our discussions and entering our comments directly into the written Panel response during our teleconference. Dr. Strauss made the virtual meeting go very smoothly.

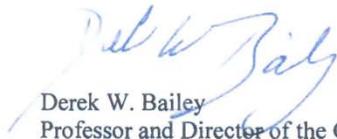
My only criticism of this process is the apparent lack of response to our suggestions from the investigators. For the most part, they did not take our suggestions and criticisms seriously. I got the impression that the investigators considered this Panel Review as an annoyance that they had to endure instead of an opportunity to improve their research. However, this is not an unusual response among scientists. In the words of John Kenneth Galbraith: "Faced with the choice between changing one's mind and proving that there is no need to do so, almost everyone gets busy on the proof."

It may be as important to provide the investigators with an orientation on the value and need for a Panel Review as providing an orientation to the Panel Reviewers.

Overall, I think this was a very effective panel review. The virtual meeting format worked well and saved everyone a great deal of travel time and avoided costly travel expenses.

Please contact me if you have any questions or need more information.

Sincerely,

A handwritten signature in blue ink that reads "Derek W. Bailey". The signature is written in a cursive style with a large, sweeping initial "D".

Derek W. Bailey  
Professor and Director of the Chihuahuan Desert Rangeland Research Center

## Projects Reviewed by the Pasture, Forage and Rangeland Systems Panels

### Beltsville Area

**Lem Nemchinov**

Regulation of Gene Expression in Alfalfa Development and Stress Tolerance

**Andrea Skantar**

Enhanced Alfalfa and Forage Productivity through Molecular Detection and Characterization of Plant Nematodes

**Scott Warnke**

Enhancement of Turfgrass Germplasm for Reduced Input Sustainability

### Mid South Area

**Randy Dinkins**

Sustainable Forage-Based Production for the Mid-South Transition Zone

### Midwest Area

**Michael Casler**

Redesigning Forage Genetics, Management, and Harvesting for Efficiency, Profit, and Sustainability in Dairy and Bioenergy Production Systems

**Ronald Hatfield**

Removing Limitations to the Efficient Utilization of Alfalfa and Other Forages in Dairy Production, New Bio-Products, and Bioenergy to Enhance Sustainable Farming Systems and Food Security

**Deborah Samac**

Enhanced Alfalfa Germplasm and Genomic Resources for Yield, Quality, and Environmental Protection

### North Atlantic Area

**R. Howard Skinner**

Multifunctional Farms and Landscapes to Enhance Ecosystem Services

## Northern Plains Area

### **David Augustine and Justin Derner**

Improved Management to Balance Production and Conservation in Great Plains Rangelands

### **Scott Kronberg**

New Technologies to Enhance Sustainability of Northern Great Plains Grasslands

### **Kip Panter**

Understanding and Mitigating the Adverse Effects of Poisonous Plants on Livestock Production Systems

### **Jack Staub**

Develop Improved Plant Genetic Resources to Enhance Pasture and Rangeland Productivity in the Semiarid Regions of the Western U.S.

### **Lance Vermeire**

Adaptive Rangeland Management of Livestock Grazing, Disturbance, and Climatic Variation

### **Kenneth Vogel**

Improving Bioenergy and Forage Plants and Production Systems for the Central U.S.

### **Kenneth Vogel**

Improving Forage and Alternative Use Grasses for the Southern U.S.

## Pacific West Area

### **Robert Blank**

Invasive Species Assessment and Control to Enhance Sustainability of Great Basin Rangelands

### **Chad Boyd**

Restoring and Managing Great Basin Ecosystems

### **James Dombrowski**

Improvement of Biotic and Abiotic Stress Tolerance in Cool Season Grasses

**Gregory Lewis**

Science-Based Grazing Systems that Protect Ecosystem Services and Sustain Efficient Livestock Production

**Frederick Pierson**

Assessment, Conservation, and Management of Rangelands in Transition

**South Atlantic Area**

**William Anderson**

Genetic Enhancement and Management of Warm-Season Species for Forage, Turf, and Renewable Energy

**Southern Plains Area**

**Paul Bartholomew**

Integrated Forage Systems for Food and Energy Production in the Southern Great Plains

**Joan Burke**

Sustainable Small Farm and Organic Production Systems for Livestock and Agroforestry

**Byron Burson**

Improved Forage and Alternative Use Grasses for the Southern U.S.

**Richard Estell**

Management Technologies for Conservation of Western Rangelands

**Stacy Gunter**

Sustaining Southern Plains Landscapes through Plant Genetics and Sound Forage-Livestock Production Systems

## **Office of Scientific Quality Review**

The Office of Scientific Quality Review (OSQR) manages and implements the ARS peer review system for research projects, including peer review policies, processes and procedures. OSQR centrally coordinates and conducts panel peer reviews for project plans within ARS' National Program every five years.

OSQR sets the schedule of National Program Review sessions. The OSQR Team is responsible for:

- Panel organization and composition (number of panels and the scientific disciplines needed).
- Distribution of project plans
- Reviewer instruction and panel orientation
- The distribution of review results in ARS
- Notification to panelists of the Agency response to review recommendations
- *Ad hoc* or re-review of project plans

## **Contact**

Send all questions or comments about this Report to:

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