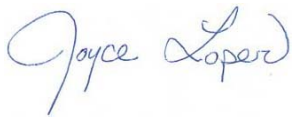
NP 103 Animal Health Panel Report

Christina Woods, Program Analyst
Office of Scientific Quality Review



8/24/12
Joyce Loper, Scientific Quality Review Officer (January 2012-December 2013) — Date

5/23/12
David Marshall, Scientific Quality Review Officer (January 2011-December 2011) — Date

4/19/12
Michael S. Strauss, Peer Review Program Coordinator — Date

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

Introduction

This Panel Report provides the background on the 2011 National Program (NP) 103 Animal Health Panel Review. The project plans reviewed by these panels were applicable to the mission of the National Program to *"conduct innovative cutting-edge research, which delivers effective and practical solutions to agricultural problems of high national priority."*

In collaboration with the Office of Scientific Quality Review (OSQR) and the Animal Health National Program Leaders, Cyril Gay and Eileen Thacker divided 35 projects into 11 panels. After considering several candidates, Dr. David Marshall, Scientific Quality Review Officer (SQRO), appointed a chair for the eleven panels.

Table 1. Animal Health Panels

Panel	Panel Chair	Panel Meeting Date	Number of Panelists	Number of Projects Reviewed
Panel A – Arthropod Borne Disease	Dr. Pat Conrad, Professor, Dept Pathology, Microbiol & Immun, Univ California, Davis, CA	July 29, 2011	3	2
Panel B – Biodefense: Poultry	Dr. Richard Webby, Associate Member, Dept Infectious Diseases, St. Jude's Children Research Hospital, Memphis, TN	July 12, 2011	4	3
Panel C – Biodefense: Cattle and Swine	Dr. James MacLachlan, Professor, Dept Vet Pathology, Univ California, Davis, CA	July 26, 2011	4	3
Panel D – Cattle: Mastitis	Dr. Joseph Hogan, Professor, Dept Animal Sci, The Ohio State University, Wooster, OH	June 6, 2011	4	2
Panel E – Cattle: Respiratory Disease	Dr. Amelia Woolums, Assoc Professor, Dept Large Animal Medicine, Univ of Georgia, Athens, GA	June 30, 2011	3	3
Panel F – Ovine/Bovine Exotic Disease	Dr. Paul Plummer, Asst Professor, Vet Diagnostic Production Animal Medicine, Iowa State Univ, Ames, IA	August 2, 2011	3	2
Panel G – Parasitic Disease	Dr. Bert Stromberg, Professor, Dept Vet Pathobiol, Univ Minnesota, St. Paul, MN	July 13, 2011	6	5
Panel H – Poultry	Dr. Carol Cardona, Professor & Ben Pomeroy Chair, Veterinary Biomedical Sciences, Univ Minnesota, St. Paul, MN	July 27, 2011	7	6
Panel I – Swine	Dr. Xiang-Jin Meng, Professor, Dept Biomed Sci & Pathobiol, Virginia Tech, Blacksburg, VA	July 26, 2011	4	3
Panel J – TSE	Dr. Suzette Priola, Senior Investigator, NIH, NIAID, Lab Persistent Viral Dis, Hamilton, MT	June 17, 2011	3	2
Panel K – Zoonotic Risks	Dr. Mark Ackermann, Professor, Dept Vet Pathology, Iowa State Univ, Ames, IA	July 11, 2011	4	4

Dr. Michael Strauss, Peer Review Program Coordinator, and Dr. Marshall presented an orientation to the Panel Chairs. Dr. Marshall subsequently approved the candidate panelists selected by each Chair. The approvals took into account conflicts of interest and followed guidelines for diversifying panel composition geographically, institutionally, and according to gender and ethnicity. Panelists demonstrated a recognizable level of knowledge of recent research within their respective fields of animal health. The panels received a telephone/web-based orientation. The Office of National Programs (ONP) provided an overview of the NP 103 Animal Health Program. All panels convened online.

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.

If the action class is:

> **No Revision Required.** An excellent plan; no revision is required, but minor changes to the project plan may be suggested.
>
> **Minor Revision Required.** The project plan is feasible as written, and requires only minor clarification or revision to increase quality to a higher level.
>
> **Moderate Revision Required.** 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.** 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 flaws or deficiencies, and cannot be simply revised. Deficiencies exist in approach, experimental design, presentation, or expertise which makes 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 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 103 Program Review Overview

In debriefings following their reviews, panelists in this third review cycle felt that the quality of the plans and the science was good. They found that plans displayed a good balance between practical and scientific. Panelists were pleased to see considerable detail in the plans. While they generally felt that they had a good impression of ARS research, this process reinforced it. They suggested that the review process is important for providing input from those outside of ARS. The general conclusion was that the review, overall, improves ARS research and has potential to open new directions and provide novel ideas.

Table 2 shows the initial and final scores for the third cycle expressed as a percentage of the plans reviewed, as well as the calculated average Action Class Score for each panel and for the program overall. All but three plans received an initial Action Class of Moderate or higher. For the three lower scoring plans all successfully achieved Moderate or Minor Revision on re-review. Overall, the average initial score of 5.39 is within the Minor Revision range. This demonstrates a marked improvement over results for NP103 in the preceding two review cycles (Table 3).

Table 4 shows the initial and final scores for the in-person and online panels convened for all three cycles. The scores for online panels (initial and final) were higher than for the in-person panels. However, the marked overall improvement in initial quality of plans seen in the third cycle (the source of most online review data) makes it difficult to assess what might be the impact of online versus in person review. When panel size is examined without discriminating between online and in person reviews (Figure 1), there does not appear to be an impact of panel size on the review outcome. When a similar examination is done for all ARS panels convened for the third review cycle, to date, there still does not appear to be an impact (Figure 2). Figure 3 shows the score vs. the panel size for all three cycle of Animal Health Panels. While the relationship may suggest that larger panels produce lower scores, the overall marked improvement in the initial quality of plans may (as noted above) be a more significant factor, since all larger panels were in the earlier review cycles.

Figure 4 suggests that there may be a (somewhat weak) relationship between the number of scientists on a plan and the score received. This would suggest a need for particular care in the development of large (and presumably diverse) plans with a large number of scientists. Figures 5 and 6 show the distribution of initial and final scores assigned by the First (2001), Second (2006) and Third (2011) Cycle Animal Health Panels. The third cycle's initial score was markedly higher (5.39; minor) than the first cycle (3.91; moderate) and second cycle (3.75; moderate). All cycles improved their final scores with the third cycle remaining the highest scoring (5.63; minor), then the first (5.18; minor) and second (5.02; minor).

Table 2. Initial and Final Scores for the Third (2011) Cycle Expressed as Percentages for the NP 103 Animal Health Panels

	Initial Review						Final Review					
Third Cycle, 2011	% 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 A - Arthropod Borne Disease (2)	50.0%	50.0%	0.0%	0.0%	0.0%	7.34	50.0%	50.0%	0.0%	0.0%	0.0%	7.34
Panel B - Biodefense: Poultry (3)	0.0%	33.3%	66.7%	0.0%	0.0%	4.67	0.0%	33.3%	66.7%	0.0%	0.0%	4.67
Panel C - Biodefense: Cattle and Swine (3)	0.0%	33.3%	66.7%	0.0%	0.0%	4.5	0.0%	33.3%	66.7%	0.0%	0.0%	4.5
Panel D - Cattle: Mastitis (2)	0.0%	50.0%	50.0%	0.0%	0.0%	4.33	0.0%	50.0%	50.0%	0.0%	0.0%	4.33
Panel E - Cattle: Respiratory Disease (3)	0.0%	66.7%	33.3%	0.0%	0.0%	5.33	0.0%	66.7%	33.3%	0.0%	0.0%	5.33
Panel F - Ovine/Bovine Exotic Disease (2)	0.0%	100.0%	0.0%	0.0%	0.0%	6	0.0%	100.0%	0.0%	0.0%	0.0%	6
Panel G - Parasitic Disease (5)	80.0%	20.0%	0.0%	0.0%	0.0%	7.47	80.0%	20.0%	0.0%	0.0%	0.0%	7.47
Panel H - Poultry (6)	0.0%	50.0%	16.7%	33.3%	0.0%	4.63	0.0%	66.7%	33.3%	0.0%	0.0%	5.7
Panel I - Swine (3)	0.0%	33.3%	66.7%	0.0%	0.0%	5.33	0.0%	33.3%	66.7%	0.0%	0.0%	5.33
Panel J - TSE (2)	50.0%	0.0%	50.0%	0.0%	0.0%	5.67	50.0%	0.0%	50.0%	0.0%	0.0%	5.67
Panel K - Zoonotic Risks (4)	0.0%	50.0%	25.0%	25.0%	0.0%	4.38	0.0%	50.0%	50.0%	0.0%	0.0%	4.88
Total	17.0%	43.0%	31.0%	9.0%	0.0%	5.39	17.0%	46.0%	37.0%	0.0%	0.0%	5.63

Table 3. Initial and Final Scores for All Cycles Expressed as Percentages for the NP 103 Animal Health 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 (35)	3.0%	23.0%	43.0%	26.0%	6.0%	3.91	11.0%	31.0%	54.0%	3.0%	0.0%	5.18
Second Cycle (39)	3.0%	31.0%	21.0%	38.0%	8.0%	3.75	15.0%	38.0%	36.0%	5.0%	5.0%	5.02
Third Cycle (35)	17.0%	43.0%	31.0%	9.0%	0.0%	5.39	17.0%	46.0%	37.0%	0.0%	0.0%	5.63

Table 4. In Person vs Online Scores for the NP 103 Animal Health Panels Over All Three Cycles

	Initial						Final					
	% 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
In Person	1.6%	27.0%	34.9%	30.2%	6.3%	3.90	12.7%	33.3%	49.2%	4.8%	0.0%	5.17
Online	17.4%	41.3%	23.9%	13.0%	4.3%	4.92	17.4%	43.5%	34.8%	0.0%	4.3%	5.41

Figure 1. Panel Size vs. Score for the Third Cycle NP 103 Animal Health Panels

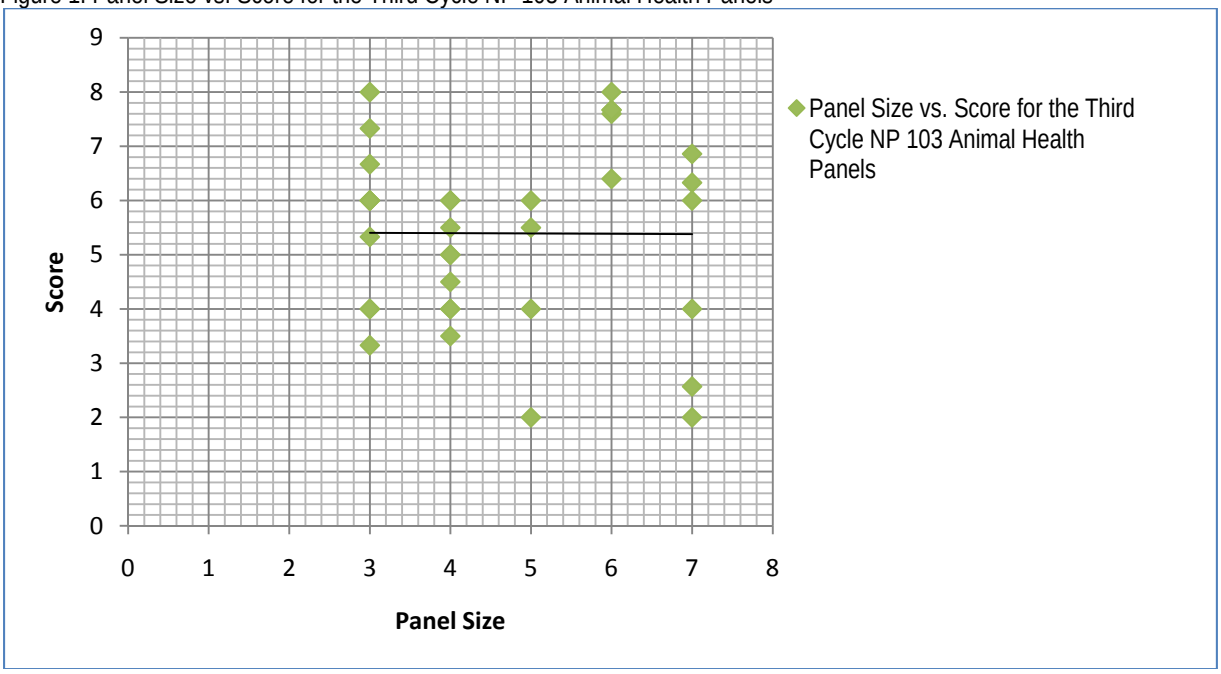


Figure 2. Panel Size vs. Score for All the Third Cycle Panels

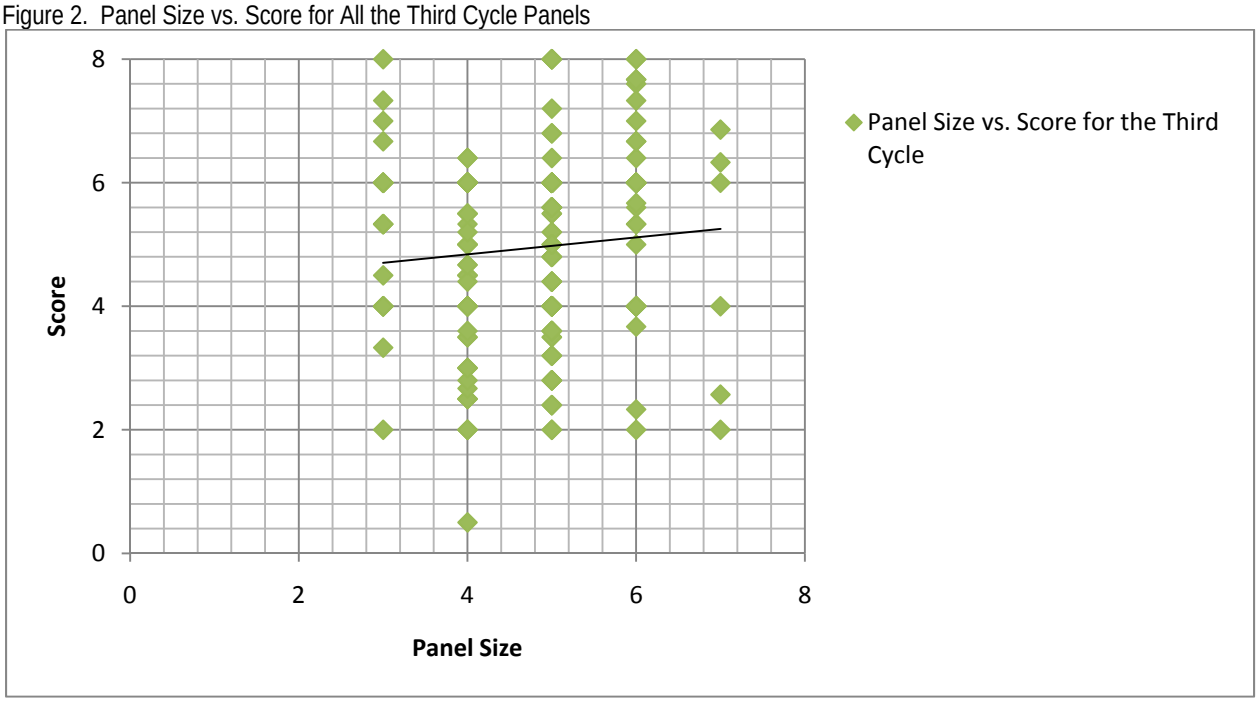


Figure 3. Panel Size vs. Score for All Three Cycles of the NP 103 Animal Health Panels

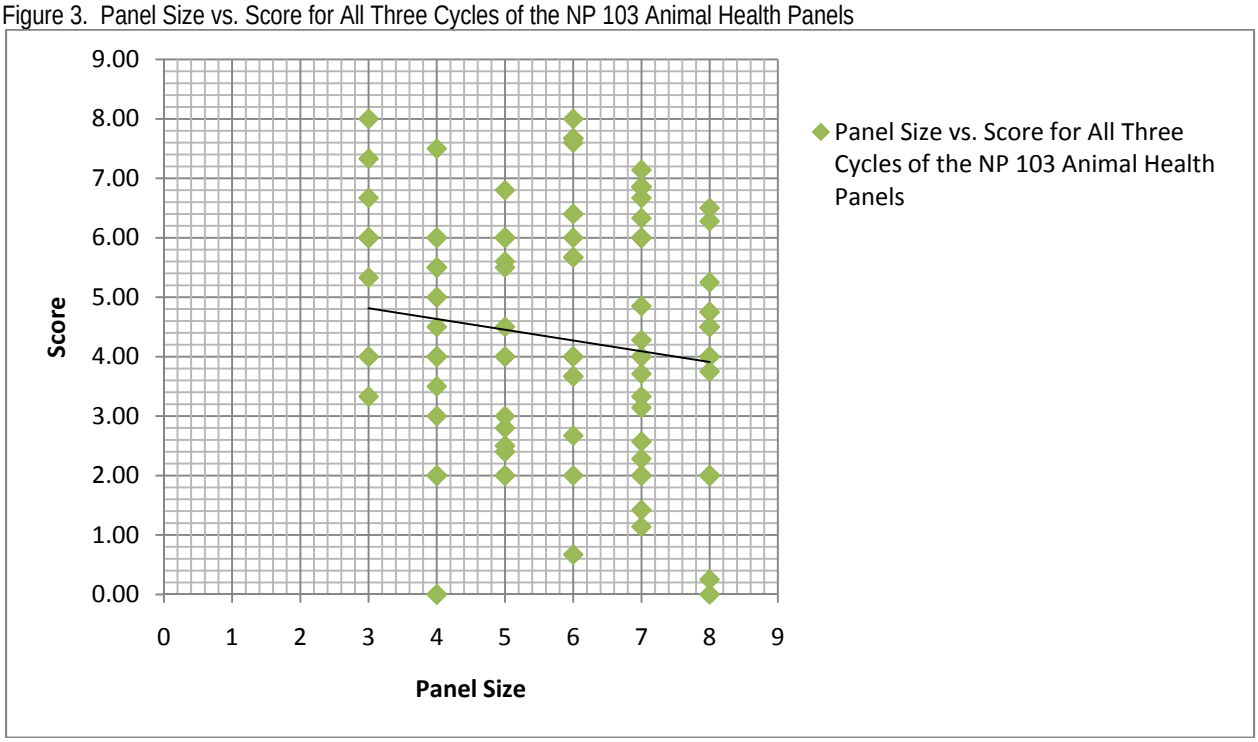


Figure 4. Number of Scientists vs. Score for the Third Cycle of the NP 103 Animal Health Panels

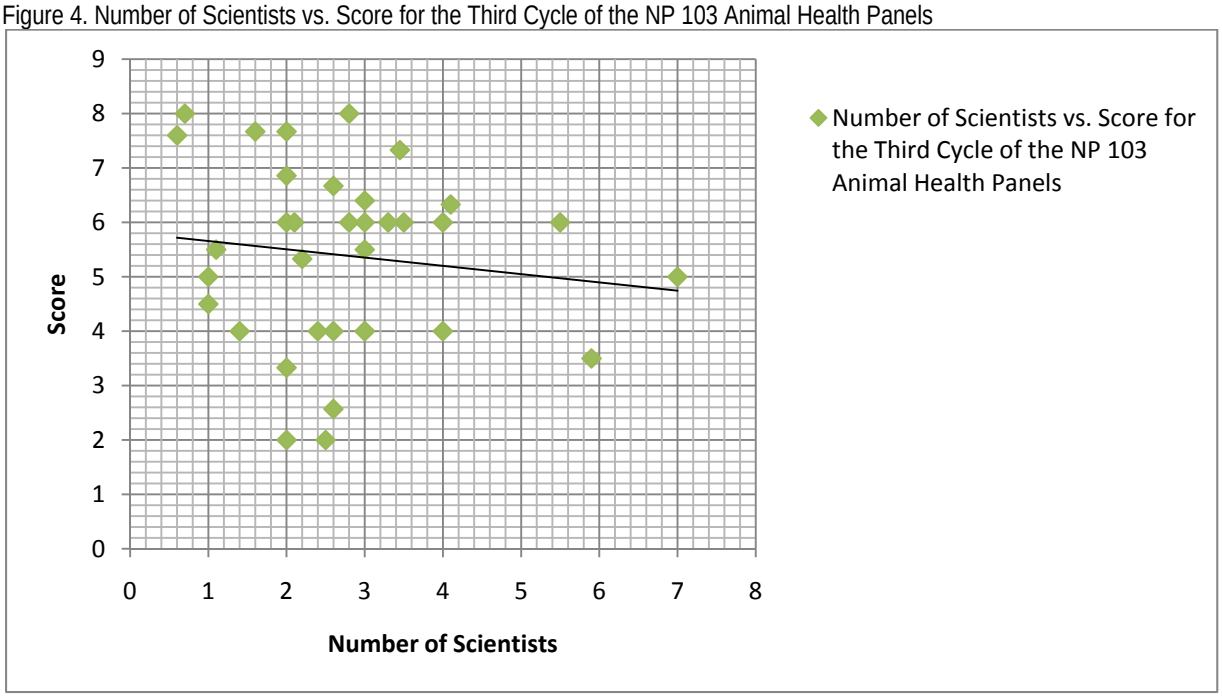


Figure 5. Initial Review Scores for the First (2001), Second (2006) and Third (2011) Cycle Distribution for the NP 103 Animal Health Panels (average score 3.91; 3.75; 5.39 respectively). The number of plans reviewed by each cycle is in parentheses. Numbers over columns are the actual number of plans receiving that score.

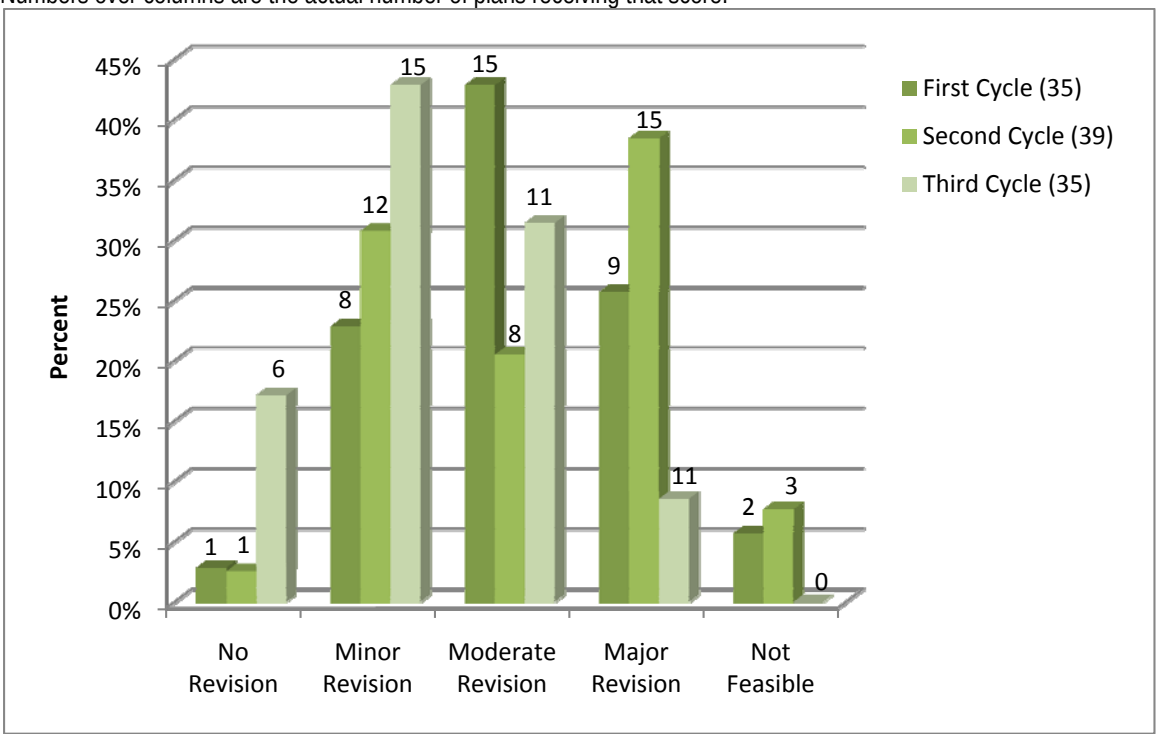
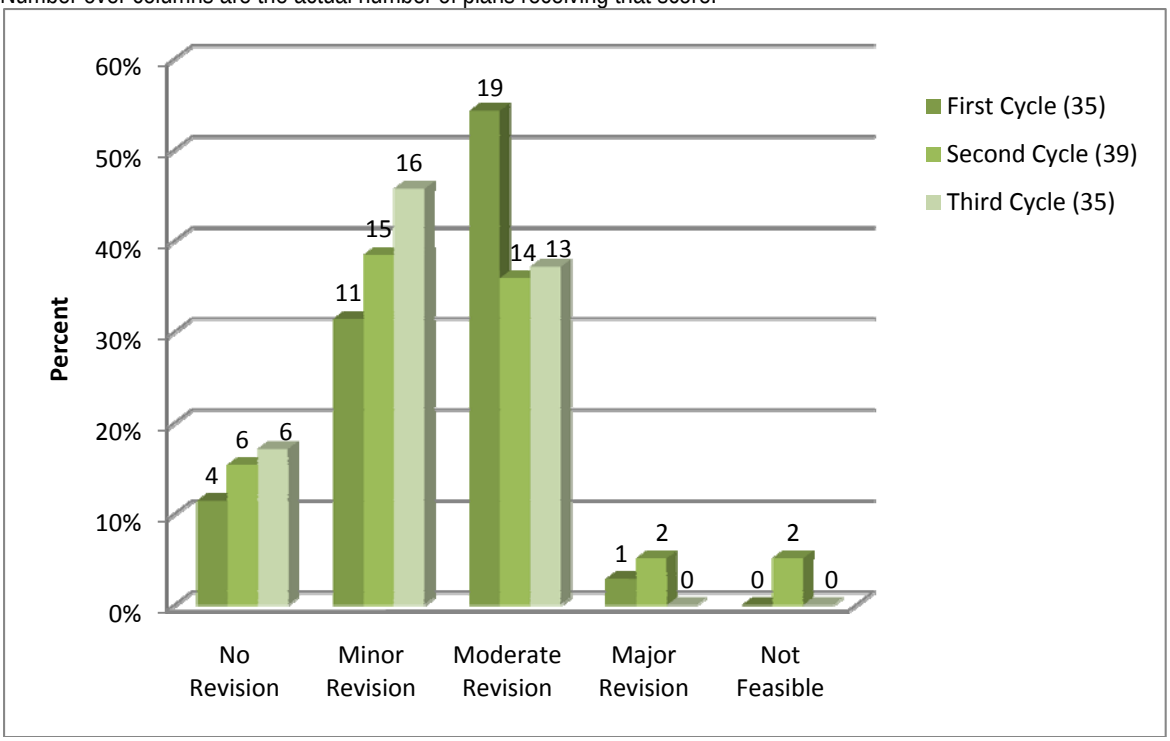


Figure 6. Final Review Scores for the First (2001), Second (2006), and Third (2011) Cycle Distribution for the NP 103 Animal Health Panels (average score 5.18; 5.02; 5.63, respectively). The number of plans reviewed by each cycle is in parentheses. Number over columns are the actual number of plans receiving 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 11 panels were composed of nationally and internationally recognized experts to review 35 projects primarily coded to the Animal Health Program (See Table 1, page 2). The information and charts below provide key characteristics of the Animal Health 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 5 and 6 show the type of institutions with which the Animal Health Panel members were affiliated with at the time of the review.

Table 5. Faculty Rank of Panelists Affiliated with Universities

Panel	Professor	Associate Professor	Assistant Professor
Panel A – Arthropod Borne Disease	3		
Panel B – Biodefense: Poultry	1	2	
Panel C – Biodefense: Cattle and Swine	4		
Panel D – Cattle: Mastitis	2		1
Panel E – Cattle: Respiratory Disease	1	1	
Panel F – Ovine/Bovine Exotic Disease	1		2
Panel G – Parasitic Disease	3		
Panel H – Poultry	4	2	1
Panel I – Swine	3	1	
Panel J – TSE	2		
Panel K – Zoonotic Risks	4	1	

Table 6. Other Affiliations Represented on the Panels

Panel	Government	Industry & Industry Organizations	Other
Panel A – Arthropod Borne Disease			
Panel B – Biodefense: Poultry		1	
Panel C – Biodefense: Cattle and Swine			
Panel D – Cattle: Mastitis			
Panel E – Cattle: Respiratory Disease		1	
Panel F – Ovine/Bovine Exotic Disease			
Panel G – Parasitic Disease	1	1	1
Panel H – Poultry			
Panel I – Swine			
Panel J – TSE	1		
Panel K – Zoonotic Risks			

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 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 7 describes their characteristics in the Animal Health Panels.

Table 7. The Panels' Recent Accomplishments

Panel	Published Articles Recently	Received Recent Professional Awards	Having Review Experience	Currently Performing Research
Panel A – Arthropod Borne Disease	3	3	2	3
Panel B – Biodefense: Poultry	4	4	4	4
Panel C – Biodefense: Cattle and Swine	3		2	3
Panel D – Cattle: Mastitis	4	2	3	4
Panel E – Cattle: Respiratory Disease	3	3	3	3
Panel F – Ovine/Bovine Exotic Disease	2	1	2	3
Panel G – Parasitic Disease*	5	2	6	5
Panel H – Poultry	7	4	7	7
Panel I – Swine	4	4	4	4
Panel J – TSE	1	1	2	1
Panel K – Zoonotic Risks	4	3	5	3

*Data not available.

Current and Previous ARS Employment

The Research Title of the 1998 Farm Bill 105-185, 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 8 shows that ARS does not currently employ any of the Animal Health Reviewers and a few were formerly employed by ARS.

Table 8. Affiliations with ARS

Panel	Currently Employed by ARS	Formerly Employed by ARS
Panel A – Arthropod Borne Disease		
Panel B – Biodefense: Poultry		
Panel C – Biodefense: Cattle and Swine		
Panel D – Cattle: Mastitis		
Panel E – Cattle: Respiratory Disease		
Panel F – Ovine/Bovine Exotic Disease		
Panel G – Parasitic Disease		2
Panel H – Poultry		
Panel I – Swine		
Panel J – TSE		
Panel K – Zoonotic Risks		1

Animal Health Panel Chairs

Dr. Patricia Conrad, Ph.D., ARS Panel Chair

Panel A – Arthropod Borne Disease

Professor, Department of Pathology, Microbiology and Immunology, University of California, Davis, CA

Education: B.S. and DVM Colorado State University; Ph.D. University of Edinburgh

Dr. Conrad's research interests include protozoology, parasitology, infectious disease ecology. Since 2009 she has served as the Co-Director of the One Health Center of Expertise, University of California, Global Health Institute.

Dr. Richard Webby, Ph.D., ARS Panel Chair

Panel B – Biodefense: Poultry

Associate Member, St. Jude's Children Research Hospital, Memphis, TN

Education: B.S. and Ph.D. University of Otago, New Zealand

Dr. Webby's research interests include influenza virus ecology, influenza vaccination, influenza virus pathogenicity, and determinants of host susceptibility to influenza. He is currently an Associate Member in the Infectious Diseases Laboratory, St. Jude's Children Research Hospital and Director of the World Health Organization (WHO) Collaborating Center for Studies on the Ecology of Influenza Viruses in Lower Animals and Birds.

Dr. N. James Maclachlan, Ph.D., ARS Panel Chair

Panel C – Biodefense: Cattle and Swine

Professor, Department of Veterinary Pathology, University of California, Davis, CA

Education: B.S. Massey University, New Zealand; M.S. University of Missouri; Ph.D. University of California

Dr. Maclachlan's research interests include virology, pathology, nidoviruses, and orbiviruses. He is currently Professor of Pathology and Director of the Equine Viral Disease Laboratory in the School of Veterinary Medicine, University of California, Davis.

Dr. Joseph Hogan, Ph.D., ARS Panel Chair

Panel D – Cattle: Mastitis

Professor, Department of Animal Sciences, The Ohio State University, Wooster, OH

Education: B.S. Louisiana State University; M.S. University of Kentucky; Ph.D. University of Vermont

Dr. Hogan’s area of expertise is bacteria count in milk, bovine mastitis, and dairy mastitis. He is currently Professor of Animal Sciences and Veterinary Preventive Medicine at The Ohio State University.

Picture Not Available

Dr. Amelia Woolums, Ph.D., ARS Panel Chair

Panel E – Cattle: Respiratory Disease

Associate Professor, Department of Large Animal Medicine, University of Georgia, Athens, GA

Education: DVM Purdue University; Ph.D. University of California

Dr. Woolums research interests include respiratory diseases of cattle, infectious diseases of horses and cattle; immune response to respiratory diseases, and respiratory vaccination in cattle. She is currently an Associate Professor at the Department of Large Animal Medicine, University of Georgia.

Dr. Paul Plummer, Ph.D., ARS Panel Chair

Panel F – Ovine/Bovine Exotic Disease

Assistant Professor, Veterinary Diagnostic and Production Department, Iowa State University, Ames, IA

Education: B.S. and DVM University of Tennessee; Ph.D. Iowa State University

Dr. Plummer's research interests are infectious disease of ruminants, molecular microbiology, ruminant internal medicine, coxiella, campylobacter, Papillomatous digital dermatitis, bovine, and small ruminant. He is currently Assistant Professor in the Veterinary, Diagnostic and Production Laboratory, Iowa State University.

Dr. Bert Stromberg, Ph.D., ARS Panel Chair

Panel G – Parasitic Disease

Professor, Department of Veterinary and Biomedical Sciences, University of Minnesota, St. Paul, MN

Education: B.A. Lafayette College; M.A. University of Massachusetts; Ph.D. University of Pennsylvania

Dr. Stromberg's research interests are helminth and protozoan parasitism as they relate to animal health. His research includes the epidemiology of ruminant parasitism, particularly the relationship of the life cycle of the parasite that takes place outside of the host. He is currently the Co-Director of International Programs and Professor in the Department of Veterinary and Biomedical Sciences.

Dr. Carol Cardona, Ph.D., ARS Panel Chair

Panel H – Poultry

Ben Pomeroy Chair in Avian Health, College of Veterinary Medicine, University of Minnesota University of Minnesota, St. Paul, MN

Education: B.A. Hanover College; DVM Purdue University; PhD Michigan State University

Dr. Cardona's research interests include poultry diseases, host responses, influenza, Newcastle, and avian infectious diseases. She is currently the Ben Pomeroy Chair in Avian Medicine in the Veterinary Biomedical Sciences Department, University of Minnesota.

Dr. Xiang-Jin Meng, Ph.D, ARS Panel Chair

Panel I – Swine

Professor, Department of Biomedical Sciences and Pathobiology, Virginia Tech, Blacksburg, VA

Education: M.S. Wuhan University College; Ph.D. Iowa State University

Dr. Meng's research interests include porcine circovirus type 2 (PCV2); porcine reproductive and respiratory syndrome virus (PRRSV); swine torque teno virus (TTV); and hepatitis E virus (HGV). He is currently a Professor of Molecular Virology in the Department of Biomedical Sciences and Pathobiology, Virginia Tech University.

PICTURE NOT AVAILABLE

Dr. Suzette Priola, Ph.D., ARS Panel Chair

Panel J – TSE

Senior Investigator, Laboratory of Persistent Viral Diseases, NIH, NIAID, Hamilton, MT

Education: B.S. University of New Mexico; Ph.D. University of California

Dr. Priola's laboratory research focuses on the molecular basis of disease in the transmissible spongiform encephalopathies (TSEs). She is currently a Senior Investigator in the Laboratory of Persistent Viral Diseases and Chief of the TSE/Prion Molecular Biology Section, NIH, NIAID.

Dr. Mark Ackermann, Ph.D. ARS Panel Chair

Panel K - Zoonotic Risks

Professor, Department of Veterinary Pathology, and Interim Associate Dean for Research and Graduate Studies, Iowa State University, Ames, IA

Education: DVM and Ph.D. Iowa State University

Dr. Ackermann's research interests include respiratory disease, pneumonia, newborn, pre-term birth, and respiratory syncytial virus He is currently a Professor in the Veterinary Pathology Department and Interim Dean for Research and Graduate Studies.

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 most important for broad audiences.

IOWA STATE UNIVERSITY
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Department of Veterinary Pathology
Ames, Iowa 50011-1250
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Panel Chair Statement
NP 103 Panel K – Zoonotic Risks (2011)

July 13, 2011

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

Panel Discussion of proposal:

The discussions were a sound and credible scientific peer review that included ideas, creative thinking, and alternative approaches to improve the quality of research that may not have been considered by Agency scientists and staff.

Comments related to strengths: There seemed to be an excellent match of reviewer expertise with the grant content and the USDA personnel. There was a deep depth of understanding by the reviews, specific technical suggestions, and an appreciation for the type of experimentation. The discussions were positive yet inquisitive and comments were professional. The combination of the reviewers into one file prior to the review was an excellent idea and helped immensely in creating a final document.

Reviewers were able to confirm strengths, identify weaknesses and make positive suggestions for improvement. The assistance by Dr. Strauss, Christina Woods, and others with the USDA was fantastic. They are very helpful.

Comments related to weaknesses: The set-up of the reviewing, being done remotely and not face-to-face seemed to go fine; however, it is my feeling that a face-to-face meeting would provide a better dialogue. Most of the reviewers have never met before and meeting together would allow a better level of communication.

The most notable (positive or negative) characteristics of the discussion process included:

There was a good level of preparation for the discussion by all involved. Adequate time spent discussing each project as each grant had roughly 45 minutes or more of attention. Suitable logistical arrangements were used even though it was a remote review. As indicated, the merged file was excellent and the online access and simultaneous phone connection worked well. Conflicts were identified and handled appropriately (those with conflicts did not vote and refrained from the review). There was a good understanding of the review criteria and roles as

peer reviewers. Appropriate scoring and critique writing procedures were followed; in fact scores were similar among reviewers indicating that reviewers reviewed the proposals in detail then explained the strengths and concerns in a logical and reasonable fashion.

Suggestions do you have to improve the peer review process include:

Perhaps holding the meeting in a location where the reviewers could meet in person.

Overall, was this an effective peer review panel?

Yes.

Feel free to contact me anytime.

Dr. Mark R. Ackermann
Professor and Interim Associate Dean for Research and Graduate Student Studies
(address and contact above)

UNIVERSITY OF MINNESOTA

Twin Cities Campus

The Benjamin Pomeroy Chair in Avian Health
Department of Veterinary and Biomedical Sciences
College of Veterinary Medicine

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February 2, 2012

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

The NP103 Panel H-Poultry composed of six primary and secondary reviewers and one panel manager met to review ARS project plans. The discussions that ensued were balanced and scientifically sound. The group of selected reviewers were diverse in expertise and yet were able to discuss the science of specific plans and come to consensus. Negative aspects of the proposals were identified and enumerated in ways that were clear and that could be addressed by ARS scientists.

The online review process went surprisingly well. I anticipated interactions might be impeded by a lack of visuals but that was not the case. The review discussions were open, with all reviewers participating. The only difficulty came with the online connections from one institution. That said, I expect that will improve as experience with the online system increases. The reviewers were well-prepared and well-qualified to address the specific questions of the proposals. Their discussions were focused on feasibility, scientific rationale, study design and proposed analyses. The review criteria were clear and simple to follow.

One difficulty that arose with this panel is that when the ARS responses to reviews were returned, one of the panel members was ill and unable to re-review. It worked out well in this case because the primary and secondary reviewers on his plans were well-equipped to handle them in his absence. I imagine that might not always be the case. A contingency plan for reviewers that cannot complete the process might be helpful to have in place.

Although excellent reviewers were identified and recruited, it was difficult to put the panel together given the extensive conflicts of interest (COI). In truth, the best ARS programs collaborate with everyone who could qualify as a subject matter expert. In addition, the topical area of poultry research is small and ARS scientists have played significant roles as trainers limiting the size of the pool of qualified reviewers significantly. This is likely to get worse as the field shrinks. If there is one weakness in the system, it would be how conflicts are managed. I would suggest looking into other options for managing COI.

The work plans we reviewed in this panel were complex, with many aspects that needed to be considered. There was value in including the perspectives of a multidisciplinary review team. I did think that the projects were not equivalently reviewed based on the qualifications/perspectives of the reviewers. I wonder if reviews might be performed as they are now (with a primary and secondary reviewer) with the addition of one or two reviewers assigned to evaluate a specific aspect of all proposals. Industry relevance and appropriateness of industry partnerships might be one area. Another area might be Challenge study

models. This type of approach would allow for more consistency, particularly in an area where academic reviewers (or a panel) might have weaknesses and/or an area of particular interest to ARS.

This was an effective peer review panel for ARS plans. As a group, they had complimentary expertise that was directed appropriately at addressing the science of the work plans that were presented to them. The online review system is a big timesaver and a great advance in the peer review process. Please feel free to contact me directly if you have any questions that I can answer or need clarification on what I have said.

Sincerely,

Carol J. Cardona

Carol J. Cardona, DVM, PhD, DACPV
Ben Pomeroy Chair in Avian Health

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August 10, 2011

Dr. David Marshall, Scientific Quality Review Officer
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Dear Dr. Marshall

I would like to finalize the work of NP 103 Panel A - Arthropod Borne Disease (2011) with this letter giving you my assessment, as Chairperson of the panel, of our research proposal evaluation process. On July 29th the panel members discussed and synthesized our evaluative comments on the two project plans we were assigned: *Development of Strategies to Control Anaplasmosis*, and P*harmacological and Immunologic Interventions against Vector-Borne Bovine and Equine Babesiosis*. Our combined on-line and teleconference discussion lasted over 1 hour, with the time fairly equally divided between the 2 plans. All of us had thoroughly reviewed the two proposals and, just prior to the meeting, reviewed the compiled reviewers' comments. There was a thorough assessment and discussion of the scientific soundness, creativity, feasibility and potential impact of the proposed research. We made some suggestions for ideas to be considered by the investigators and encouraged them to explore some of the innovative ideas they had proposed where the risks were offset by the potential gains and there was a balance between innovative new approaches and well established methodology. The panel easily came to consensus that these proposals were of the highest quality with a high likelihood of significant impact on the prevention and control of anaplasmosis and babesiosis, tick-borne diseases that impose a serious threat to US agriculture.

After completing the evaluation of the proposals we took time to discuss what we thought of the review process and where improvements could be made. We were unanimous in our agreement that the review had been well organized by the USDA staff with clear communications throughout the process as to the needs of the program, expectations of the reviewers' responsibilities and logistical arrangements for the review. The technology that was employed to facilitate this process worked extremely well. We were all impressed with how effectively the review process had functioned and the tremendous savings in time, resources,

energy and environmental impact this approach had allowed, as compared to meeting in person to discuss the proposals. The panel members did not have any significant suggestions for improvement of the peer review process. Overall, this was a highly effective and thorough review. All of the panel members felt fortunate to have had the opportunity to participate in this review and learn more about the excellent science that is being undertaken by USDA on arthropod-borne disease.

Yours sincerely,

Patricia A. Conrad, DVM, PhD
Professor of Parasitology
Co-Director, One Health Center of Expertise
University of California Global Health Institute

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June 6, 2011

Dr. David Marshall, Scientific Quality Review Officer
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Dr. Marshall,

The NP 103 Panel D- Cattle:Mastitis (2011) met June 6, 2011 via conference call and web-based internet link. The panel discussions were thorough and scientifically sound. All participants had adequate opportunities to contribute and each member added valuable input into the discussions. The recommendations made by the panel addressed a number of inadequacies in both proposals and offered valid alternatives and additions that should strengthen the approaches of scientists at Ames and Beltsville.

The use of conference calls and internet site for viewing documents discussed worked with some technical flaws. One site was unable to see changes made in the document during discussions, but this was a minor inconvenience with hard copies of all documents available to panel before the meeting. Panel reviewers understood their roles and were assisted as needed by attending ARS staff.

The major criticism of the process for this panel was the short turnaround time between panel orientation and deadline for submitting reviews (less than 48 hours). If panel had known they could begin the review before the orientation, this would have reduced the urgency and allowed reviewers additional time to assemble their responses.

Overall, I felt this was an effective peer review panel that should help improve the quality of research by the two ARS labs involved.

Joseph Hogan
Interim Chair

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July 26, 2011

Dr. David Marshall
Office of Scientific Quality Review
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Dear Dr. Marshall

This letter is written in reference to the panel discussions pertaining to NP 103 Panel C – Biodefense: Cattle and Swine (2011). I coordinated the review panel and their discussions. On the basis of these discussions and careful reading of the written reports that were provided by the 3 panelists I can attest, without equivocation, that the panel undertook a detailed review of each proposal that was based on scientific principles of the highest order. Indeed, the panelists undertook their individual tasks with remarkable diligence and fairness and, given the substantial effort invested (both in hours devoted and associated intellectual effort) I would sincerely hope that their recommendations are given the consideration that they deserve. These recommendations offer promise to improve both the impact and the quality of the research proposed in each of the submissions that was reviewed.

In terms of the review process itself, I can state on behalf of the entire panel that this is an onerous responsibility if taken seriously. It involves many hours of review, not just in reading the proposals themselves but in researching the associated literature, relevant data bases etc. Thus, the outcome is reflective of the effort put forward by each panelist and, without bias, I believe this panel was as good as I could envisage. I consider, therefore, that the panel's conclusions deserve the most serious consideration and I would be more than disappointed if they are ignored.

While endorsing the overall strategy, there was consistent panelist frustration at the level of their discussions and, in particular, the process of decision-making that directs each proposal. It was uniformly felt that the very limited human resources of the FADU are being overly leveraged, and with the very broad and sometimes unclear objectives outlined in the projects (from basic science to translational research to platform validation [vaccine titration etc.]) there is a serious potential for loss of scientific rigor. The panel was uniform in their view that research undertaken at FADU must incorporate cutting-edge technologies and knowledge and there is concern that without infusion of additional intellectual capability (by new appointments or through greater strategic collaboration), the broad objectives of individual programs will erode and undermine scientific quality over time.

Thank you for providing me the opportunity of working with such a remarkable group. It was also a privilege to review the priority programs of our national organization, and I trust the panel conclusions will be received in the same constructive, transparent, science-based and fair spirit in which they were developed.

Sincerely,

N. James MacLachlan
Distinguished Professor

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Virginia-Maryland Regional
College of Veterinary Medicine

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July 26, 2011
Dr. David Marshall
Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
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Re: NP 103 Panel I – Swine (2011)

Dear Dr. Marshall:

At 11:00 am on July 26, 2011, the NP 103 Panel I – Swine (2011) panel conducted a web-based online review of three ARS research project plans. The panel meeting lasted for about 1.5 hours. The panel had in-depth discussions on all three research plans. The panel discussions are constructive, sound and credible. During the discussions, the reviewers provided their creative thinking and suggested alternative approaches to improve the research plans.

All reviewers in this panel are well prepared for the panel meeting, and each reviewer provided written evaluations of the ARS research plans at least 4 days in advance of the scheduled online panel meeting. On average, each member spent approximately 5 hours to review and prepare evaluations for each ARS research plan. The staff at the USDA's Office of Scientific Research Quality Review did an outstanding job in assisting with distributing the review materials and arranging the reviewers' orientation and online panel review meetings. All reviewers serving on the panel are pre-screened by OSRQ and confirmed that there is no conflict of interest for all the panel members. Prior to the review, all panel members were briefed by the OSRQ staff on the review criteria, procedure and their roles as a reviewer in a web-based online reviewer orientation meeting. During the panel meeting, for each research plan, the primary reviewer and the secondary reviewer each presented the major strengths and suggestions for improvement, followed by in-depth discussions by the entire panel. The reviewers' combined comments for each plan were modified to incorporate additional comments that were made during panel discussions. All members voted online, and the voting results were tabulated by the OSRQ staff, and all panel members agreed on the final rating of each research plan.

The peer-review process for this panel works very well. The web-based online review process is well suited for such a small panel meeting. I commend USDA-ARS OSRQ for using such a modern technology for the peer review process as it not only saves money but the reviewers' times as well. Overall, the NP103 Panel I – Swine (2011) panel is extremely effective and I am very pleased with how the review process and the panel review were conducted.

Sincerely,

Xiang-Jin Meng, M.D., Ph.D.
Professor of Molecular Virology
Panel Chair, NP 103 Panel I – Swine (2011)

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August 2, 2011

To: Dr. David Marshall, Scientific Quality Review Officer
Office of Scientific Quality Review
Agricultural Research Service, USDA
5601 Sunnyside Avenue, MS 5142
Beltsville, MD 20705

From: Paul J. Plummer, Panel Chair, NP 103 Panel F – Ovine/Bovine Exotic Disease

RE: Outcome of Panel Recommendations

Dear Dr. Marshall,

Earlier today Panel F completed its online review of the two projects assigned to our panel. The two panelists, your staff, and myself were present for the review and both projects were recommended, pending minor revisions. It is my belief that the panel had a very thoughtful and scientifically sound discussion of both projects. Ultimately that discuss led to unanimous votes on both proposals. The reviewers identified of some minor issues that should be considered by your scientist as well as providing some specific "food for thought" regarding the long-term goals of the project teams.

Our panel was composed of two panelists that each provided one primary review and one secondary review. Both panelist were very familiar with the proposals and effectively presented an overview of the project proposals. The combination of the clinical experience with these diseases coupled with the scientific expertise of the panel resulted in good discussion that extended beyond simply science to the "bigger picture" issues of long-term sustainability and safety for both projects.

As a panel we enjoyed the benefits of having an online review process. The work of your staff and your office made this a pleasurable experience and allowed the panel to complete their charge without the added time and energy necessary to travel to Washington D.C. The preparatory meetings for both myself as a chair, and the panel as a whole facilitated what appeared to me to be a relatively efficient and worthwhile panel meeting.

Overall, this experience has been very favorable and the USDA scientists are to be commended for their thoughtful and scientifically sound proposals. I commend the USDA ARS for their effort and desire to have external review of their intramural programs and believe that this review will assist in providing the scientist with credible and useful input on their plans.

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Please let me know if there are additional issues that I need to provide input on as these project proceed through the remainder of the review process and the minor revisions. I believe that the summary statements prepared during our review reflect the discussion and concerns of our panel and will provide a useful document for the scientist involved in these projects.

I appreciate the opportunity to work as a panel chair for this review and would be happy to assist in the future in similar endeavors if you have need.

Sincerely,

Paul J. Plummer, DVM PhD DACVIM(LAIM)
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June 21, 2011

Dr. David Marshall, Scientific Quality Review Officer
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5601 Sunnyside Avenue

Dear Dr. Marshall,

On June 17, 2011 the Agricultural Research Service National Program Panel J-TSE convened for an online review of two Project Plans. The review and discussion was a critical assessment of the scientific merit of both plans where the strengths and weaknesses were discussed at length. During the course of the review, the panelists discussed their different viewpoints at length. This occasionally led to a change in opinion for one or more of the reviewers indicating a robust, credible and critical scientific peer review. The panelists also freely exchanged ideas as to how weaker aspects of the proposed research could be strengthened. When suggestions for experiments were made that had not been considered by Agency scientists and staff, they were careful to keep in mind the expertise and resources available to the project plan lead scientist.

The level of panelist preparation for the discussion was very high leading to an in depth and focused discussion of each project. The scoring was clearly explained and all of the panelists had a good understanding of the review criteria and their role as peer reviewers. Editing the critiques online as the discussion progressed was very useful in that it gave all of the panelists an opportunity to review and agree on a preliminary final

report. The length of time spent reviewing each project correlated with the strength of the plan presentation and scientific approach with one plan taking about 45 minutes to review and the other approximately 75 minutes.

Overall, this was an effective review panel. The quality of the scientific discussion was excellent and the reviews of the project plans both thorough and fair.

Sincerely,

Suzette A. Priola

Suzette A. Priola, PhD
Senior Investigator
Chief, TSE Prion Molecular Biology Section

St. Jude Children's Research Hospital
ALSAC • Danny Thomas, Founder

19th July 22, 2011

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

Dear Dr Marshall

On July 12 2011, a panel of experts was convened to participate in the review panel, NP 103 Panel B – Biodefense: Poultry (2011). The three reviewers were subject experts in the area of the three proposals that they reviewed and they provided sound advice to the principal investigators. Overall the proposals were of a very good standard and the suggestions offered related more to fine tuning the approaches and the proposal as opposed to major changes in the direction of the work. The common criticism was that not enough detail was put into providing an overall experimental approach and a good way to prioritize the work. This type of information is important as it forces the investigators to think in detail about the experiments and potential outcomes in advance of actually doing the work. This in turn leads to a better organized research plan with contingencies for possible problems and a higher quality of research.

The positive aspects of the process included the general agreement of reviewers which was aided by providing a draft recommendation before the teleconference and the quality of the proposals we reviewed. Having the draft review document in advance certainly limited the time needed during the call and allowed the near-final document to be produced (something which I thought was very much a positive of the approach). I very much applaud Mike Strauss for his work during the teleconference, editing a document in real-time is not easy but he did it superbly and he was able to distill the key points form the reviewer's verbal discussions. Overall the reviewers and I were very positive about the web-based review and specifically having the live document available in front of us all was superb (and very much superior to just a conference call without the web-based aspects). In general the preparation of chairs and reviewers for this process was very good and I felt that everyone had a good idea of what the expectations were. We did have one minor slip with a conflict of interest (one reviewer who was approached and had agreed to participate had provided a letter of support for one of the applicants but was not listed as involved) before the reviews had started but this was quickly identified and resolved. Ample help was provided from the administrative team to help identify another reviewer in time.

In summary, this was a very productive, thorough, and efficient review process which I firmly believe will lead to a stronger ARS research program. I know that I personally will be more than happy to participate in this process again should I be asked.

Sincerely,

Richard Webby, PhD
Associate Member

The University of Georgia

College of Veterinary Medicine
Department of Large Animal Medicine

November 18, 2011

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

Dear Dr. Marshall,

This letter provides my Chair Statement regarding the work of NP 103 Panel E (Cattle: Respiratory Diseases) during the review process that took place in the summer of 2011. I am happy to report that the members of our panel were careful and thoughtful in their review of the three projects we were assigned. All members clearly spent time to read and understand the projects, and they were able to draw on their own very relevant scientific expertise to critique the proposals and to make suggestions as appropriate to help the investigators improve any weaknesses identified. The result was a sound and credible peer review that should have helped improve the quality of the work that will be undertaken by ARS scientists and staff.

The review process was effective and efficient. The directions provided by the Office of Scientific Quality Review (OSQR) were clear and helpful. The orientation I received as chair as well as that offered to the other panel members was useful and well organized, and the staff members of the OSQR were quick and concise in responding to our questions. During the review process and prior to our group meeting by conference call with Dr. Strauss, panel members communicated on a few occasions by e-mail to clarify questions about the proposals. The combination of communication by e-mail and telephone worked well for the process. The three members of our panel seemed to have no problem understanding what was required to complete the review, and they generated written reviews that were clear, detailed yet concise, and fair. The conference call with Dr. Strauss was very useful; it helped the panel to discuss the few areas where reviewers disagreed in their individual reviews; this discussion led to a coordinated and fair summary of the panel's evaluation of the proposals. The use of a conference call for the final meeting, rather than requiring travel for a physical meeting, allowed us to engage valuable panel members who might not otherwise have been able to participate.

In summary, I believe our panel completed a review that was scientifically rigorous and fair, and which provided recommendations to the ARS investigators that helped strengthen the proposed work. I can't recommend any specific areas for improvement of this process; it worked very well as carried out in the summer of 2011. Thank you for giving me the opportunity to report on this process, and I apologize for my delay in getting this report to you.

Please let me know if you have any questions about this report or about the activities of our panel.

Sincerely,

Amelia R. Woolums, DVM MVSc PhD DACVIM DACVM
Professor

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Projects Reviewed by the Animal Health Panels

Beltsville Area

Anthony Capuco
Novel Intervention Strategies and Genomics for Controlling Mastitis

Eric Hoberg
Parasitic Biodiversity and the U.S. National Parasite Collection

Mark Jenkins
Development of Control and Intervention Strategies for Avian Coccidiosis

Robert Li
Development of Genomic Tools to Study Ruminant Resistance to Gastrointestinal Nematodes

Hyun Lillehoj
Functional Genomics Approaches for Controlling Diseases of Poultry

Joan Lunney
Functional Genomics Approaches for Controlling Diseases of Swine

Joseph Urban
Immunological Approaches to Controlling Swine Intestinal Parasites and Mucosal Pathogens

Dante Zarlenga
Molecular and Immunological Approaches to Controlling GI Nematode Infections of Ruminants

Mid South Area

Scott Branton
Strategies to Control and Prevent Avian Mycoplasmosis

Midwest Area

Susan Brockmeier
Strategies to Control and Prevent Bacterial Infections in Swine

Aly Fadly
Genetic and Biological Determinants of Avian Tumor Virus Pathogenicity, Transmission, and Evolution

Marcus Kehrli
Intervention Strategies to Control Viral Diseases of Swine

John Lippolis
Identification of Host Immune Factors and Intervention Strategies for Mastitis

Eric Nicholson
Transmission, Differentiation, and Pathobiology of Transmissible Spongiform Encephalopathies

Steven Olsen
Identification of Disease Mechanisms and Development of Improved Diagnostics and Vaccines for Brucellosis in Livestock and Wildlife

Julia Ridpath
Intervention Strategies to Control Viral Diseases of Cattle

Randy Sacco
Identification of Disease Mechanisms and Control Strategies for Bacterial Respiratory Pathogens in Cattle

Judith Stabel
Immunology and Intervention Strategies for Johne's Disease

Wade Waters
Prevention and Control Strategies for Tuberculosis in Cattle and Wildlife Reservoirs

Richard Zuerner
Control, Immunology and Genomics of Spirochete Diseases

North Atlantic Area

Manuel Borca
Countermeasures to Control Foreign Animal Diseases of Swine

Marvin Grubman
Intervention Strategies to Support the Global Control and Eradication of Foot-and-Mouth Disease Virus (FMDV)

Luis Rodriguez
Ecology and Pathogenesis of Re-Emerging Vesicular Stomatitis Virus (VSV) in North America

Northern Plains Area

E. John Pollak
Genetic and Biological Determinants of Respiratory Diseases of Ruminants

Pacific West Area

Hong Li
Immunological Intervention of Malignant Catarrhal Fever Virus-Induced Disease in Ruminants

Susan Noh
Development of Strategies to Control Anaplasmosis

Katherine O'Rourke
Mitigating the Risk of Transmission and Environmental Contamination of Transmissible Spongiform Encephalopathies

Massaro Ueti
Pharmacological and Immunologic Interventions Against Vector-Borne Bovine and Equine Babesiosis

Stephen White
Control of Ovine Respiratory Disease through Genetic and Immunologic Mitigation of Pathogen Transmission and Disease

South Atlantic Area

Claudio Afonso
Intervention Strategies to Control Newcastle Disease

James Michael Day
Intervention Strategies to Control and Prevent Enteric Viral Diseases of Poultry

Darrell Kapczynski
Characterization of Protective Host Responses to Avian Influenza Virus Infections in Avian Species

Erica Spackman
Intervention Strategies to Control and Prevent Disease Outbreaks Caused by Avian Influenza and Other Emerging Poultry Pathogens

Stephen Spatz
Genomic Strategies for Control of Herpesvirus of Poultry

Southern Plains Area

William Huff

Novel Therapeutic, Diagnostic, and Management Strategies to Reduce Antibiotic Use in Poultry Production

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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