

Brief Summary of Minutes:

Annual Meeting Agenda

NCCC-042 and S-1061

January 6 - 7, 2016

Rosen Plaza Hotel – 9700 International Drive, Orlando, FL 32819

Morning Session: Wednesday, January 6, 2016

Joint Session

NCCC-042 members present: Tayo Adedokun (University of Kentucky), Layi Adeola (Purdue University), Michael Azain (University of Georgia), Samuel Baidoo (University of Minnesota), Thomas Crenshaw (University of Wisconsin), Ryan Dilger (University of Illinois), Gretchen Hill (Michigan State University), Rajesh Jha (University of Hawaii at Manoa- Secretary), Brian Kerr (USDA-ARS, Ames – Vice-Chair), Sung Woo Kim (North Carolina State University), Shengfa Liao (Mississippi State University), Phillip Miller (University of Nebraska), Jim L. Nelssen (Kansas State University – Chair), Chad Pault (Texas A&M University), Marcia Shannon (University of Missouri), Hans H Stein (University of Illinois)

S-1061 Attendees:

Merlin Lindemann (Kentucky), Tsing Cheng Tsai (for Charles Maxwell) (Arkansas), Crystal Levesque (SDSU), Mark Estienne (Virginia Tech), Lee Chiba (Alabama), Eric van Heugten (NCSU), Robert Dove (UGA), Joel Brendemuhl (University of Florida)

Administrative Advisor: Neal Merchen

Guests: Charlotte Kirk Baer, USDA-NIFA (Skype); Chris Hostetler (National Pork Board), Kevin Touchette (AFIA and Ajinomoto)

The meeting was called to order at 8:03 am by Jim Nelssen. Jim Nelssen informed the members that Charles Maxwell could not join the meeting due to personal reasons. So, Crystal Levesque served as Chair for S-1061 in Dr. Maxwell's absence.

Introductions of both committees followed.

Introduction of officers, committee members, and guests:

S-1061: Charles Maxwell - Chair; Crystal Levesque Vice-Chair; Eric van Heugten - Secretary

NCCC-042: Jim Nelssen – Chair; Brian Kerr – Vice-Chair; Rajesh Jha – Secretary

Comments from Administrative Advisors:

NCCC-042: Neal Merchen: Neal provided a brief update. He mentioned that it was a project development year. The NCCC-042 project was reviewed and approved in October, 2014, which was a big accomplishment of the year. The current project is approved until 2019. Next year is the mid-term review of the project by multi-state review committee. He acknowledged some members of the NCCC-042 for their efforts, especially Marcia Shannon. Dr. Tayo Adedokun (University of Kentucky) is a new member to the NCCC-42 committee and Dr. Chad Paulk (Texas A&M) attended for the first time (became member last year). The project was favorably received and the links to the swine industry were acknowledged during the project review. All members have been added as participants to the committee with the new committee project. However, an issue with the new website, after an initial launch on the new NIMSS website last month still needs to be fixed. He also indicated that the annual report of the accomplishments must be filed within 60 days after the meeting.

S-1061: Crystal Levesque reported for Phillip Elzer, who is the new administrative advisor for S-1061. He was not able to attend the meeting and because he is new to the committee, there was nothing specific to report.

Next Year's meeting: Jan 5-6, 2017 at the Rosen Plaza Hotel Orlando.

Rajesh Jha proposed Hawaii as an option for next year's meeting venue and he indicated his willingness to contribute in organizing the event there. Several participants liked the proposal but asked if the logistic issues, especially flight cost might be too expensive. After discussion, it was proposed to have next year's meeting in Orlando.

Motion: Tom Crenshaw

Second: Marcia Shannon

Jim Nelssen declared that the motion passed unanimously. Jim also informed the committees that this year's registration fee was paid by the National Pork Board. Both committees expressed sincere thanks to the National Pork Board for their continued generous support.

A brief discussion followed regarding past members of the committee. Dr. Don Mahan sent his greetings to the committees. Dr. Pettigrew is retired, Dr. Allee is doing well, and Dr. Harper is retired and teaches high school.

Program Update - NIFA: Charlotte Kirk Baer

Charlotte Kirk Baer joined at 9:00 am (via Skype). Charlotte shared that Congress passed the budget of NIFA as a bipartisan bill, so sustainability of the program is assured for now. Good news is that funding for the agency resulted in a 7.7% increase for the Agri-food Initiative and NIFA receives a total of \$1.3 billion. Dr. Sonny Ramaswamy (Director of NIFA, USDA) has been very instrumental in convincing Congress in achieving this increased funding and continuing the program.

The National Animal Nutrition Program (NANP) was funded for another 5 years with funding of \$1.1M/5yr. For that program, 4 administrative advisors will be serving along with a USDA Program Chair.

For all three groups in the NANP, new membership for a few positions is requested. The decision of selected members will be made by late January or early February.

The webpage for all the National Programs is on a common platform (NIMSS website) now. However, there are some website issues to yet be resolved.

Kirk Baer discussed research programs of NIFA in general. In addition to the regular Foundation program, she highlighted the Exploratory, Critical Agricultural Research and Extension Program (CARE) and Engineering product process program. The Exploratory research program is meant for testing a novel idea with maximum funding of \$100K for one year. Funding success was about 12% of invited proposals. The CARE program is designed for finding immediate solution to critical issues at the farm level. There were not enough applicants that met the criteria last year for the CARE program, thus she encouraged participants to apply for that program, as appropriate. The Engineering product process program is meant for developing applied solutions through innovative engineering covering a wide range of problems, including environment and animal welfare. Very few proposals were submitted from the animal science sector for this program last year.

Another interesting program being launched this year is "Collaborative funding between Commodity group/boards and NIFA". This dual funding program with funding ranging from \$150K to \$1M can be a

joint project starting this year. The first RFP of this program will be out in 2016, after some technical / administrative issues are resolved with commodity groups/boards.

Dr. Chris Hostetler of NPB commented about the Antibiotic Research program, which will be launched this year. A research program on “Alternatives to antibiotics in swine diets” will be matched (\$150K) by NIFA under the “Collaborative funding program”. The program has set five priority areas for 2016. The RFP will be out soon. There is an issue with the funding cycle of NPB and NIFA which will be sorted out to make the program run smoothly. For this program, Dr. Peter Davies is working as a full-time subject matter expert in 2016 and will evaluate models and metrics to assess antibiotic stewardship and use in the U.S. swine industry.

Program Update- National Animal Nutrition Program (NANP): Phillip Miller

Dr. Miller (chair of the Feed Ingredient Composition Committee) reported briefly about the current status and activities of the NANP in past years. The NANP was funded for another 5 years at \$1.1M/5yr. For that program, 4 administrative advisors will be serving along with a Program Chair. For all three groups in the NANP, new membership positions are available.

Dr. Miller said that NANP contributed in developing the feed composition tables used in NRC publications. Thus, the ingredient composition database is being strengthened. Two funded postdoctoral fellows are currently working on the feed composition table to update the beef NRC and dairy NRC. Also the group is writing a manuscript relative to large database and cluster analysis. In addition, work is continuing to strengthen the swine feed database. The feed ingredient committee is also collaborating with the modeling committee.

Dr. Ryan Dilger (member of the Feed Ingredient Composition Committee) added that this database will be updated on a regular basis with new information gathered from different sources.

Several station reports were given starting at 9:15 am

Written reports were distributed to all participants.

10:15 Break-out Sessions

S-1061

NCCC-042

Review and approval of the 2015 minutes: Minutes were approved unanimously.

Research Discussion - Update, review, planning, execution, publication

Dr. Thomas Crenshaw started the discussion on the “NCCC-042 phytase superdosing trial” by providing the background of the study.

Marcia Shannon provided details on the research activities conducted and distributed the results of the trial with specific information. It was noted that not all listed on the project participated in the study. There was a lengthy discussion on the statistical analysis process for studies of such nature. It was agreed that all treatments (control (0) 500, 1500, and 3000 FTU) be included in the model for analysis as linear and quadratic responses after adjustments for unequal treatment intervals, rather than the current analysis presented as an orthogonal contrast based on a comparison of the control vs. 500, 1500 and 3000. Dr. Shannon will complete the statistical analysis.

Dr. Shannon will work on the manuscript and share with all coauthors, with a target to complete the first draft by the Midwestern Section Animal Science meeting so that it can be discussed during the meeting as necessary.

Reprints of the committee’s collaborative project on standardized total phosphorus requirements of pigs published in Journal of Animal Science - Adeola, O., M. J. Azain, S. D. Carter, T. D. Crenshaw, M. J. Estienne, B. J. Kerr, M. D. Lindemann, C. V. Maxwell, P. S. Miller, M. C. Shannon, and E. van Heugten. 2015. A cooperative study on the standardized total-tract digestible phosphorus requirement of twenty-kilogram pigs. J. Anim. Sci. 93: 5743-5753. – were distributed by Dr. Adeola.

Dr. Gretchen Hill, informed that IACUC committee of MSU prohibited participating in this study which led to discussion on how to deal with IACUC and make future research possible. Dr. Adeola also gave information about the process at Purdue. Dr. Sam Baidoo shared that an Ag Sub-committee under the IACUC might be helpful as such a sub-committee has helped with communication at the University of Minnesota. This helps with approval for projects involving farm animals and is found to be useful in reviews and educating and convincing other IACUC members. Animal scientists also need to push back to the committee on appropriate issues that exist.

Afternoon Session: Wednesday, January 6, 2016

Joint Session

Program Update- National Pork Board: Dr. Chris Hostetler, Director of Animal Science

Investment in Research: Chris Hostetler reviewed the general organization of the NPB, funding, and how NPB interacts with the state organizations. The CEO of NPB stepped down recently, and the COO is acting CEO for now. The NPB currently oversees 43 state pork associations and manages multiple program committees (Environment, Animal Welfare, Pork Safety, Swine Health, etc.). Research within the NPB is managed within the Science and Technology Department, which oversees Animal Welfare, Animal Science, Swine Health, Swine Health Information and Research, Pork Quality and Safety, Environment, and Producer and Public Health. The Animal Science Committee of the NPB is interested in all areas, but focuses on genetics, nutrition, reproduction and production. The budget for NPB 2016 will be \$77.3 million (~7.5% less than the year 2015). Only about 10% of the annual budget (~\$7.5 M) is invested in Science and Technology; Animal Science received 17% (~1.27 million) of the Science and Technology budget. Swine Lifetime Productivity received the largest budget (41% of the Animal Science budget) in year 2016.

Under the Foreign Animal Diseases (FAD), a joint call with CEEZAD for 2016 was released. This collaboration has provided an opportunity to leverage \$500,000 under the FAD. The priorities are: FAD diagnostics, African Swine Fever, gap analysis, bio-security / C&D, novel technology development, risk analysis and modeling.

Animal Science Funding 2016:

Feed Efficiency Research (name change from High Feed Cost Mitigation): \$300,000 is allocated. Chris Hostetler solicited help with a literature review documenting the research done in this area since 2011. The RFP closed November 18, 2015. Sixteen proposals were submitted and are currently in scientific review. Funding decision will be made by the end of February 2016. Five projects were funded in the year 2015, and the same number is expected this year.

Reducing the Impact of Seasonality on Productivity: About \$250,000 will be used to fund three or four projects. This was developed because producers have relatively few tools to effectively combat seasonality.

Areas of greatest impact were Animal Performance, Reproduction, and Pork quality. Eighteen proposals were submitted and are currently out for producer review. Funding decision will be made by the end of January 2016. Two projects were funded in the year 2015, same number is expected to be funded this year.

Improving Sow Lifetime Productivity: Approximately \$525,000 is allotted. Originally, there was to be \$1 million/year project, but it appears that funding is going down each year. A research consortium was developed. After a preliminary study, a primary study will be initiated in May and run through end of 2017 at the Main Holden Farms add location.

The 2015 Animal Science Committee Annual Report is available at www.pork.org/animalscience.

Dr. Hoestler informed the members that submitting quality proposals, and preliminary and final reports on time helps to disseminate the research findings so that knowledge generated can be applied. Also, NPB prefers “no cost extension” of funded projects so that additional related research can be done.

AFIA – Non-Ruminant Committee Update: Kevin Touchette, Swine Nutrition Manager, Ajinomoto.

Dr. Kevin Touchette provided an overview of AFIA that represents over 600 members and 75% of the commercial feed industry and 70% of the non-grain ingredient industry.

The AFIA top legislative and regulatory priorities include:

- Modernization of the Food Safety act
- Ingredient approval (AAFCO vs. FDA)
- Veterinary feed directives
- Labeling genetically engineered products
- Trade agreements such as Trans-Pacific partnership (TPP)
- Distinguishing animal food and human food

The iFeeder program of AFIA that is relatively new (existed for about 4-5 years) and it will fund \$25K/yr over 3 years. Three project were funded in 2015-16.

Since AFIA does not fund research, there is a separate foundation (iFEEDER) through which companies can support research.

The AFIA research needs reported by Dr. Touchette include:

- Feed safety (origin of disease, transport of disease)
- Ingredient evaluation (energy and AA)
- Environment / Sustainability
- NRC education/promotion
- Feeding sick pigs (general understanding, new FDA guidance policy regarding antibiotic use, etc).

In general, the poultry industry is not feeding animal by-products, and the swine industry is moving in the same direction.

Net Energy System for Swine Research Update: Dr. Hans Stein, University of Illinois

Dr. Stein provided the background on the Net Energy research facility that is currently being constructed, and its need in the U.S. He provided a detailed history of the European NE system, and how it has evolved over this century to its current form. He also provided a virtual tour of the world NE system labs that he visited to develop his laboratory, and the current status of the NE facility at the University of Illinois and future plans. The NE laboratory will complete its utility hook-up, purchase the feed system, three more HVAC systems, and gas analyzers by 2016. Moreover, a 5-year research plan using the facility is as follows:

- Determine NE in a large number of different diets (50 to 100).
- All diets accurately characterized in terms of nutrient composition, nutrient digestibility and feed technology used
- Development of prediction equations
- Verification of prediction equations

The speakers of the afternoon session were thanked for their contributions.

The meeting was adjourned at 5:05 p.m.

Morning Session: Thursday, January 7, 2016

Breakout sessions

NCCC-042

The business meeting was called to order at 8:05 am by Jim Nelssen

Dr. Ryan Dilger was nominated for Secretary by Dr. Marcia Shannon. The nomination was unanimously supported by the committee.

Dr. Brian Kerr will move up to chair, and Dr. Rajesh Jha will be Vice-Chair for the 2017 meeting.

The web site needs to be updated and made user friendly. Dr. Dilger will follow-up with Dr. Cromwell at the University of Kentucky and others to get historic documents to upload on the new website.

Multi station Research Plan focus for the coming year:

Tom Crenshaw- Osteochondrosis...

Merlin Lindemann- Essential Oils....

Jim Nelssen - Heavy weight market pig's nutritional needs

Members interested in participating in any of the proposed projects were asked to indicate their interests when details are provided.

S-1061

Joint Session

Dates for next year's meetings: Thursday January 5 and Friday January 6. Lodging for the 4th and 5th.

Update on S-1061: Dr. Merlin Lindemann is the new secretary

NCCC-042: Dr. Ryan Dilger is the new secretary

Each committee updated the other committee on their proposed projects and polled the group for interest in participation. No specific decisions on any new projects were made.

A special thank you to the National Pork Board for covering registration costs. Also, Joel Brendemuhl was recognized for his efforts to arrange the hotel and organize the logistics for lodging and the meeting.

Station reports were completed.

Reminder of next year's meeting: Jan 5-6, 2017 at Rosen Plaza Hotel Orlando.

The meeting was adjourned at 11:35 a.m.