

MINUTES
NCCC-042 and S-1044 Annual Meeting
Orlando, Florida
January 3rd and 4th, 2013

Thursday, January 3rd

JOINT NCCC-042 AND S-1044 COMMITTEES MEETING

The meeting was called to order at 8:06 am with John Patience serving as Chair.

NCCC-042 Attendees: Dr. John Patience (Iowa State – Chair), Dr. Marcia Shannon (Missouri – Secretary), Dr. Scott Carter (Oklahoma State - Secretary), Dr. Sam Baidoo (Minnesota), Dr. Layi Adeola (Purdue), Dr. Mike Azain (Georgia), Dr. Gary Cromwell (Kentucky), Gretchen Hill (Michigan State), Dr. Jim Nelssen (Kansas State), Dr. Hans Stein (Illinois), , Dr. Brian Kerr (USDA - ARS-NLAE, Ames), Dr. Tom Crenshaw (Wisconsin), Dr. Phil Miller (Nebraska), Dr. Shengfa Liao (Mississippi State)

NCCC-042 absent: Dr. Sung Woo Kim (North Carolina State), Dr. Don Mahan (Ohio State), Dr. Jim Pettigrew (Illinois)

S-1044 Attendees: Dr. Mark Estienne (Virginia Tech – Chair), Dr. Joel Brendemuhl (Florida – Secretary), Dr. Robert Dove (Georgia), Dr. Lee Chiba (Auburn), Dr. Merlin Lindemann (Kentucky), Dr. Charles Maxwell (Arkansas), Dr. Eric van Heutgen (North Carolina State), Dr. Jose Cuaron (Mexico).

S-1044 absent: Dr. Gustavo de Lima (Brazil), Dr. Scott Radcliffe (Purdue), Dr. Miguel Cervantes-Ramirez (Mexico),

Administrative Advisor (NCCC-042): Dr. Neal Merchen (Illinois)

Administrative Advisor (S-1044): Dr. Nancy Cox (Kentucky)

Guests: Dr. Chris Hostetler (National Pork Board), Dr. Craig Wyatt (AFIA) via phone, Charlotte Kirk-Baer (USDA) via phone

The agenda was presented by John Patience (Attachment #1). All attendees introduced themselves.

The joint meeting received comments from the Administrative Advisors: Dr. Neal Merchen, University of Illinois, and Dr. Nancy Cox, University of Kentucky. Dr. Merchen addressed comment to NCCC-042. He commented on the success of both committees and challenged the committees to think creatively due to shrinking ranks. He also noted changes in the committee, specifically that Dr. Don Mahan (Ohio State University) was retiring from the committee and that Dr. Shengfa Liao from Mississippi State University joined the committee. Dr. Merchen noted that he had assumed the position of Associate Dean of Research, Director of the Agriculture Experiment Station at the University of Illinois. Discussion followed concerning the nomination for the NCRA Experiment Station Award for Excellence and he noted that NCCC-042 was in a strong position for consideration with slight changes to the application packet. He strongly

urged the committee to reapply and noted the due date of February 28th. Also, he noted that NCCC-042 project expires on September, 2014 and that a resubmission of the project would be needed by the deadline in Fall 2013. A notification of the resubmission would arrive in March 2013. He also noted that minutes were due within 60 days from completion of the annual meeting.

Dr. Nancy Cox addressed both committees with emphasis on S-1044. She noted that these two committees represent the majority of the academic brain trust for swine nutrition in the United States. She noted the impact of the work performed by both committees and urged us to better tell our story in the submissions for awards. She commented on the need for a rewrite of the S-1044 project which is expiring September 30, 2013.

Charlotte Kirk-Baer addressed both committees via phone and presented a slide show related to events at NIFA. She noted that the current Farm Bill had been extended to 9/30/2013 and that the agency was under severe constraints as far as travel which could impact review panels. The President's Council of Advisor was discussed and the recommendations for increased funding for Agriculture research and to expand the role of competitive grants in Agriculture research. She noted that balancing extramural funding with intramural funding would continue to be a challenge. Next the "One Health" program was discussed and redefining food as a public health issue. Inclusion of "impact on human health" would be critical to secure future funding. The nexus of health, food, and sustainability needs to be addressed in any future grants. The National Animal Nutrition Program (NRSP-9) was discussed next. The program chairs and committees were identified and the tasks for the committee were discussed. Questions followed concerning sustainability and public health. Dr. Mark Estienne (Virginia Tech) thanked Charlotte for joining us by phone.

Next, Dr. Craig Wyatt representing the American Feed Ingredients Association (AFIA) addressed the committee. He noted the main concerns of the committee were the ongoing uncertainty related to the Farm Bill and the continuing issue related to feed costs. As far as the committees are concerned, feed costs represent the greatest challenge to the industry and development of new technologies to reduce feed costs are needed. Questions followed related to ingredient costs versus availability. Dr. Patience thanked Craig for addressing the committee by phone.

Station Reports

Reports from the following universities followed: Auburn, Arkansas, USDA-ARS-NLAE, Florida, Georgia, Illinois, Iowa State, Purdue, Kansas State, Kentucky, Michigan State, Minnesota, Mississippi State, Missouri, Nebraska, North Carolina State, Oklahoma State, Virginia Tech, and Wisconsin and Mexico.

There was a break at 10:06 and the committees separately reconvened at 10:21.

NCCC-042 COMMITTEE MEETING

Chair John Patience called the meeting to order. Patience asked for any additions/changes to the agenda and none were noted. M. Carlson moved to approve agenda, S. Baidoo seconded, and motion passed. The Chair asked for any changes to the 2012 minutes. B. Kerr moved and M. Azain seconded to approve the minutes. Motion passed.

Dr. Neal Merchen discussed the nomination for the Experiment Station Award. He noted that the committee had submitted materials for the award in 2010, 2011, and 2012. The 2012 submission was directed by G. Cromwell (University of Kentucky). Dr. Merchen noted the submission needs more “fluff” and to concentrate on 2-3 important problems that the committee has addressed recently. Submission needs to be less comprehensive with more emphasis on work and outcome. Discussion followed on whether to pursue a submission for 2013. All were in agreement to resubmit. Discussion followed concerning who the authors should be to address the issue brought forth by Dr. Merchen. Dr. Cromwell offered to contact Charlotte Kirk-Baer to assist in the writing and Brian Kerr offered assistance. A committee of Brian Kerr, Gary Cromwell, and possibly Charlotte Kirk-Baer was formed to author the submission. M. Carlson moved, with L. Adeola seconding to resubmit a nomination. Motion passed.

NCCC-042 sub-committee reports were given.

Nutrient Metabolism Subcommittee (Chair, Tom Crenshaw)

Members: Tom Crenshaw (WI), Mike Azain (GA), Hans Stein (IL) Layi Adeola (IN), Brian Kerr (IA, USDA-ARS), Sam Baidoo (MN), J. Nelssen (KSU), Song Woo-Kim (NCSU), John Patience (ISU), Phil Miller (NE), Laio (MSU).

Crenshaw noted that the subcommittee had not met and that the committee could meet following the adjournment of the NCCR-042 meeting this afternoon. He mentioned that the committee should look at the possibility of proposing research studies to standardize methodology to improve digestion studies. Brian Kerr noted that he had been contacted to author a book concerning methodologies used in digestion experiments. He asked the committee if there was interest in writing a book. Discussion followed and the possibility of the committee authoring a book related to digestion experiments would be explored.

Growing-Finishing Subcommittee (Chair, Layi Adeola)

Members: Gary Cromwell (KY), Layi Adeola (Purdue), Gretchen Hill (MI), Marcia Shannon (MO), Jim Pettigrew (IL), John Patience (IA), Scott Carter (OSU), Sam Baidoo (MN), Mike Azain (GA).

Dr. Adeola noted that the committee had met by teleconference on November 16, 2012.

Review of current projects (L. Adeola): Adeola noted that the acids paper with J. Pettigrew as lead author was accepted and published in the Journal of Animal Science (Pettigrew, J. E., O. Adeola, M. J. Azain, S. D. Carter, G. L. Cromwell, G. M. Hill, D. C. Mahan, and P. S. Miller. 2012. Effect of dietary acids on growth performance of weanling pigs—a cooperative study. J. Anim. Sci. 90:4408-4413). He also mentioned that the paper concerning lipid sources for weanling pigs would be submitted to the Journal of Animal Science by the end of January 2013. Dr. Cromwell noted that the DDGS paper has been started and he shared a draft with the committee. Cromwell noted he would continue to work on the manuscript in hopes of submission by the end of the year. Dr. Adeola noted the current selenium paper and was not sure of the status. Dr. Gretchen Hill offered to contact Dr. Mahan to clarify where the paper stood.

New projects: The first possible project discussed was a Paylean x zinc experiment coordinated by Hill/Carlson. Previous research performed in this area was discussed along with the

differing results obtained. No conclusions were reached; thus, M. Carlson agreed to summarize the current data and report back to the subcommittee. Following reviews by the subcommittee, a decision regarding the possibility of moving forward would be entertained. The second possible project would address the digestible P requirements for growing pigs with L. Adeola leading the discussion. Adeola passed out protocol and discussion followed concerning the diets and participation. Adeola agreed to take the comments and revise the protocol for review on the morning of January 4.

The chair noted that the committee will move along in developing the protocol for the digestible P experiment, explore the potential for the Paylean x zinc experiment, and noted further discussions of digestion studies and development of a book for digestion techniques would continue to be discussed.

The meeting was adjourned at 12:03.

JOINT NCCC-042 AND S-1044 COMMITTEES MEETING **Thursday, January 3rd**

The joint committee meeting reconvened at 1:20 PM.

Update: National Pork Board: Chris Hostetler, Director of Animal Science

The NPB is funded based on \$0.40/\$100 value of swine marketed. The NPB oversees 43 state pork associations and returns 20% of checkoff funds back to the states. While the checkoff program is supported by 85% of producers, only 41% of the producers recalled hearing or receiving information about NPB research projects. Of the approximately \$74 M budget about 10% is invested in research. The funding for science and technology is broken into: swine health (\$2.7M), animal science (\$2.35M), animal welfare (\$1M), public health (\$0.83M), pork safety (\$0.8M), and environment (\$0.66M). In the animal science area, the funding is broken into areas for mitigation of high feed cost, sow lifetime productivity, on-farm management practices, mitigation of seasonality, program management, human capital development, and NPB scholarships. The specific animal science research monies in 2013 are \$2.35M and are targeted at reducing feed cost, sow lifetime productivity, seasonality, and on-farm management practices. Dr. Hostetler further discussed the results of the Nutritional Efficiency Consortium (conducted from 2007-2011), reviewing the calls for proposals, the proposals funded, and their key results.

National Animal Nutrition Program – NRSP – 9: Dr. Cromwell, Project Leader

Dr. Cromwell narrated the history of the decision to develop the NRSP proposal, handed out a brief summary. The National Animal Nutrition Program was established as a National Research Support Project, NRSP-9. This program is focused on addressing challenges facing researchers and educators in animal agriculture and filling current voids in the research and academic community and the animal agriculture industry. Resources will be devoted to establish direct linkages from three NRSP committees (Coordinating Animal Nutrition, Feed Composition, Modeling) to the National Research Council (NRC). The NRSP committees will collaborate with NRC representatives with the goal of improving the timeliness, utility, and continuity of information provided to the animal agriculture industries, academic community, and others

that are dependent on establishment of nutrient requirement standards. The membership and current activities and accomplishments of the three committees were presented. More information is available at the NANP/NRSP-9 Web Site: www.ca.uky.edu/nrsp-9

Key changes or innovations in the NRC (2012) compared to NRC (1998): Dr. H. Stein

Dr. Stein offered very brief comments about each of the following chapters:

- Chapter 1 Energy
- Chapter 2
Proteins and Amino Acids
- Chapter 3 Lipids – a new chapter
- Chapter 4 Carbohydrates – a new chapter
- Chapter 5 Water
- Chapter 6 Minerals
- Chapter 7 Vitamins
- Chapter 8 Models for Estimating Nutrient Requirements of Swine
- Chapter 9 Coproducts from the Corn and Soybean Industries - a new chapter
- Chapter 10 Nonnutritive Feed Additives
- Chapter 11 Feed Contaminants – a new chapter
- Chapter 12 Feed Processing – a new chapter
- Chapter 13 Digestibility of Nutrients and Energy – a new chapter
- Chapter 14 Influence of Nutrition on Nutrient Excretion and the Environment
- Chapter 15 Research Needs – a new chapter
- Chapter 16 Nutrient Requirement Tables
- Chapter 17 Feed Ingredient Composition Tables

The NCCC-042 and the S-1044 committees collectively expressed thanks to the entire NRC revision committee for their work on the new NRC.

A hands-on modeling session for the new NRC (2012) models: Dr. P. Miller

Dr. Miller noted that a user manual and user guide are available for download along with the NRC model. He then went over the Main Menu home page and gave a guided tour of each of the 4 production areas. He also showed how to get an output that shows the environmental impact of the diets that are being fed.

Future research needs; Chapter 15 of the NRC (2012): Dr. B. Kerr

Dr. Kerr handed out copies of Chapter 15 and then made comments on each section and entertained discussion and questions. There were many comments and questions about amino acid requirement studies and proper study conduct. Many questions/comments about efficiencies above and below requirement for minerals like P and how the model accounted for that.

Dr. Brendemuhl proposed dates the first partial week of January or during the second week of January for next year's meeting. It was agreed that the first week was not acceptable to the group. It will be sometime during the second week.

The committees adjourned for the day at 5:08 PM.

Friday January 4th

NCCC-042 COMMITTEE MEETING

The NCCC-042 Committee Meeting was reconvened by Chair John Patience at 8:00 am.

New Research Project Ideas: Discussion continued related to potential new projects. Adeola lead discussion related to the digestible P requirement of growing pigs. Potential issues brought forth were Ca:P ratio, Ca content of soybean meal, number of replications, and number of pigs per pen. Mixing diets at one location was discussed but was not considered feasible for the current experiment. Thus, a common source of monocalcium phosphate and limestone would be used. Adeola asked for possible participants who included Baidoo (MN), Azain (GA), Crenshaw (WI), Carter (OSU), Carlson (MO), Nelssen (KSU), Miller (NE), Cuaron (Mexico) and possibly KY. Adeola agreed to finalize protocol and send to potential participants in January. Experiment would be completed in 2013.

Next, Crenshaw lead discussion related to metabolism subcommittee. He noted the subcommittee would have a conference call in February to discuss potential experiments. One possible experiment would be to evaluate serum Vitamin D levels across stations. Stations would collect blood sample and send to lab for Vitamin D analysis. Potential participants included MSU, MI, MN, OSU, Purdue, NE, KSU, WI, GA, and Mexico. Crenshaw noted he would have a protocol back to the committee by the 1st of March. Discussion related to authoring a book related to digestion techniques followed. Crenshaw suggested the committee review the previous book and report back to Crenshaw their thoughts.

Discussion followed concerning the paper that was submitted to the Journal of Animal Science regarding vitamin/trace mineral premixes. Crenshaw noted that the paper had been rejected but offered to submit it to another journal. Adeola moved, Carlson seconded, to submit paper to another journal. Motion passed.

Business Meeting:

The chair noted that M. Carlson (MO) would move to chair for next year's meeting and Carter (OSU) would move to Vice-Chair. Patience entertained nominations for Secretary. Baidoo nominated J. Nelssen for secretary. Adeola moved to close nominations and vote Nelssen as secretary. Carlson seconded motion, motion passed. Next year's officers would be: Carlson – Chair, Carter – Vice Chair, Nelssen – Secretary.

Patience asked for suggestions for next year's meeting. Crenshaw suggested a discussion surrounding DEXA for determining body composition and NRI for analysis of feed ingredients.

Meeting was adjourned at 9:39.

JOINT NCCC-042 AND S-1044 COMMITTEES MEETING

The joint meeting of the NCCC-042 and S-1044 committees reconvened at 10:13 am with Dr. John Patience serving as Chair.

Date of 2014 Meeting

It was agreed that the date of the 2014 meeting would be January 9th and 10th, with travel on the 8th and the meeting would be held in Orlando, FL at the Rosen Plaza Hotel.

General Discussion

Cromwell noted the passing of Dr. Darrell Knabe (Texas AM) and offered to collect funds from committee members to send to the Knabe family on behalf of the committee.

Cromwell also noted this would be his last year to attend the meetings. Committee recognized the long list of contributions to the committees.

Discussion of future projects from both committees followed. Adeola discussed the digestible P experiment and asked for participants from S-1044. Crenshaw discussed the potential for the Vitamin D experiment and asked S-1044 for participation. Also, the potential to publish a book concerning digestion techniques was discussed.

Introduction of officers for both committees followed:

NCCC-042 2013/2014 Officers

Marcia Carlson (MO) – Chair
Scott Carter (OSU) – Vice Chair
Jim Nelssen (KSU) – Secretary

S-1044 2012/2014 Officers

Joel Brendemuhl (FL) – Chair
Merlin Lindemann (KY) – Vice Chair
Charles Maxwell (AR) - Secretary

Next year's agenda was discussed. Potential ideas should be directed to chairs.

Adeola moved, Brendemuhl seconded, to have a line item on the agenda each year for representatives from the National Pork Board (NPB) and American Feed Ingredient Association (AFIA) attend the meetings and interact with the committees. Motion passed.

Joel Brendemuhl was thanked by both committees for making the hotel arrangements.

Chris Hostetler was recognized for paying the registration fee.

Sam Baidoo moved to adjourn the meeting with G. Hill seconding. Motion passed. The meeting was adjourned at 10:30 am.