

## Minutes

2004 Meeting of NC-1004

December 11, 2004  
Iowa State University Campus  
Ames, IA

At 7:58 AM the meeting was called to order. Jack Dekkers (ISU) introduced the origin of the meeting room we were in (Ensminger Memorial Room in Kildee Hall) and welcomed the group.

Vice Chair Joe Cassady (NCSU) presided over the meeting, as Cathy Ernst (MSU) current NC-1004 Chair, was unable to attend.

Self-introductions for all in attendance were made; 21 persons attended at least some portion of the meeting. A list of attendees and contact information is provided at the end of the minutes.

Revised agenda of meeting:

Oral Station reports for attending Stations:

Iowa State  
Michigan State  
Nebraska  
North Carolina State  
Ohio State

Break

Business Meeting

Station reports available by email from Cathy Ernst to Chris Tuggle, Secretary, before the meeting: Iowa, Michigan, Nebraska, North Carolina, USDA-BARC

USDA-BARC: Chris passed out 10 hard copies of Joan Lunney's report for BARC as Joan was unable to attend.

Oral Station reports

**Iowa;** Three faculty presented their updates. Jack Dekkers discussed the Iowa-Illinois Joint QTL analysis project (IFAFS #00-52100-9610), and his RFI project. He also announced his USDA-funded project with Chris Tuggle and others at ISU as well as Rick Barb and Gary Hausman at USDA-ARS-RARC and Romdhane Rekaya (U. Georgia) , to look at transcriptional responses at different feed intake states (NRICGP proposal #2004-05330). Chris Tuggle described his completion of the RH mapping project funded by the USDA (NRICGP #99-35205-8370). He then discussed several projects using transcriptional profiling, including a project with Rod Geisert at OSU, Joan Lunney, and others at ISU in maternal-fetal interactions at the gene expression level, which was funded by the USDA to start January 2004 (NRICGP #2004-35205-14202). Max Rothschild discussed his on-going Berkshire-Yorkshire QTL family, showing genome scan and candidate gene results for several traits. He also discussed several other candidate gene projects,

including Meat Quality, sow productivity (with Dr. Ken Stalder at ISU), and a new project on polydactyly. He also introduced a microarray project on phosphorus metabolism (with Dr. Chad Stahl at ISU), and a project looking at SNP correlation between human and pig and a new QTL database.

**Michigan:** Ron Bates discussed the MSU resource population (Duroc x Pietrain), indicating the genome scan was underway; genotypes being done by GeneSeek, Lincoln, NE. He also indicated they are working on transcriptional profiling of muscle and fat from this population, moving toward using transcript profiles as a Quantitative trait. The fat transcriptional profiling efforts will be done collaboratively with the Oklahoma station (U. DeSilva, Oklahoma State University). Funding for this project is provided in part by the USDA-NRICGP Award # 2004-35604-14508. He advertised that the MSU group is looking for two postdocs to work on QTLs and microarrays with Cathy Ernst, and 1 postdoc to work on quantitative genetic analysis with G. Rosa..

**Nebraska:** Rodger Johnson announced that Daniel Pomp would soon be moving to U North Carolina, and that Daniel would be missed at Nebraska. Rodger then described further work with his reproduction lines, which are in their 22nd generation of selection, currently showing a difference of 3-4 pigs born and ~3 born alive between selection and control. A QTL scan showed several chromosomes with litter size QTL, and that these QTL have been confirmed and that they are trying to increase the accuracy of location estimates now. He also discussed a PRRS project where they are looking at the RNA expression for a number of candidate immune response genes in collaboration with Joan Lunney. Joan is running quantitative RT-PCR assays on selected day 14 post-infection lung tissue from a population of 100 challenged animals versus lung from 100 unchallenged pigs (littermates used across treatment). Many phenotypes are also being collected on this population, (including viremia, lesion size, ELISA, etc.) which permits the testing of the phenotypic "tails" from this population for RNA work.

**Ohio:** Steve Moeller discussed his resource populations, made up of Landrace and Berkshire pigs. He discussed the Landrace Selection project, which is using L\* color as a main trait. Two replications of selection were produced during 2004, in January 2005 they will farrow the first generation under selection; plans are to continue selection for at least 6-7 generations. In the Landrace population, Steve indicated they also see extreme excitability, but have not observed the HAL 1843 allele in the population. In the Berkshire project, they are in the multiplication phase through 2005. They plan to use this population as models for obesity, diabetes, especially gestational diabetes as the sow gets large but the piglets stay small.

**North Carolina:** Joe Cassady discussed the long-term lines selected for increased testosterone of O.W. Robison. Joe indicated he has seen up to 4% intramuscular fat in these animals, but was unsure who would be interested in these lines in the future. He also looked at follistatin (with 5 different RFLPs) and has showed an association with litter size traits (fully formed pigs). Joe also discussed new experiments in piglet behavior; using a "righting" test. He is also looking at competition experiments with pen mates and developing a competition BV with a modified REML (modified by Dr. D. van Vleck) to evaluate the effect on estimation of the pen effect if competition effects are ignored. He also discussed functional genomics projects in collaboration with Dr. J. Piedrahita and MARC staff on imprinted genes in cloned embryos.

## Business Meeting

Bert Stromberg, NC-1004 Administrative Advisor (Minnesota) discussed the decrease in attendance at the NC-1004 meeting in Ames, and thought the group should address this problem, as our mid-term review will be coming in January 2005. He handed out copies of the SAES-422 Multi-State Accountability report form, and indicated that accountability is important in the review process. He indicated that we should identify and emphasize our collaboration in our reports, and consider how we can do a better job combining the old NC-210 and NC-220 groups. In this discussion Rodger suggested we could emphasize collaboration by reporting on the ISU-III, NEB-BARC, ISU-OK-BARC, NCSU-MARC collaborations, and to indicate our future collaborations as well. Along those lines, Jack indicated that Rick Barb (USDA-RARC-Athens, GA) would like to join NC-1004; in fact he was planning to attend but could not make it due to family reasons. Deb Hamernik indicated that the joining of the two projects was good on paper, but how can we make it work better?

Deb Hamernik, USDA-CSREES representative, gave her report, handing out a packet of information, and reminded the group that President Bush has nominated Mike Johanns (Governor of Nebraska) to serve as Secretary of Agriculture during the next administration. CSREES has a new Administrator for Competitive Programs, Anna Palmisano. Electronic application is delayed and will not be implemented for the next round of application, in all likelihood. She reminded us that the National Needs applications RFP was out, and that the Swine Genome sequencing RFA may be announced at the Plant and Animal Genome meetings in January 2005.

Max Rothschild USDA-NRSP-8 Pig Genome Coordinator made comments. He thanked Deb Hamernik for her strong support in the raising of funds for pig genome sequencing. He indicated perhaps \$1-1.2 Million would be raised from universities and commodity groups. He asked for suggestions for spending Coordinator funds would be welcome.

There was no report from the Bioinformatics sub-committee as Committee Chair Scott Fahrenkrug was not attending; this report was deferred until PAG 2005 in San Diego.

Steve Moeller indicated there was no report from the Outreach Committee. However, plans will be made to invite a range of industries to attend the NC-1004 meeting in 2005; potentially this could involve companies affiliated with NSIF. Of note, the NSIF group has agreed to meet in Ottawa, Canada on Dec 1 and 2, 2005. This meeting will be in conjunction with Provincial and National Canadian Swine Breeding Organizations. The Chair was urged to ask the Outreach committee to organize more structured communication -- possibly at regularly scheduled meeting such as Midwest Animal Science meetings

### New Business:

The Chair indicated he will be asking for details on collaboration among Stations for the Mid-term report.

Nomination were opened for a new Secretary for NC-1004 for 2005. Odaya De Silva of Oklahoma State University was nominated by Max Rothschild and no other nominations were forwarded. The

vote for Dr. DeSilva was unanimous. Vice-Chair Joe Cassady becomes Chair and Secretary Chris Tuggle becomes Vice-Chair.

A discussion followed regarding the location for the next meeting. One option was presented to hold at PAG in 2006. There was some support for this idea, but also significant discussion, including the possibility of holding the meeting on the Monday of the Midwest Sectional American Society of Animal Science Meeting in Des Moines. It was realized that only 4 Stations were present, and that selection of a location would not be appropriate without input from more Station members. Joe Cassady indicated he will canvass the other Members to find opportunities for Stations to host the meeting and ask for a vote by email for the next meeting's location.

The meeting was adjourned.

Respectfully submitted.

Chris Tuggle  
NC-1004 Secretary

**ATTENDANCE**  
**NC-1004, December 2004**  
**Iowa State University**

<u>NAME</u>	<u>EXPERIMENT STATION</u>	<u>EMAIL</u>
Ron Bates	MI	batesr@msu.edu
Joe Cassady	NC	Joe-cassady@ncsu.edu
Jack Dekkers	IA	jdekke@iastate.edu
Laura Grapes	IA	lgrapes@iastate.edu
Deb Hamernik	USDA-CSREES	dhamernik@csrees.usda.gov
Keith Irvin	OH	Irvin.3@osu.edu
Roger Johnson	NE	Rjohnsons@unl.edu
Jae Woo Kim	IA	jaewoo@iastate.edu
Tim Leeds	OH	Leeds.10@osu.edu
John Mabry	IA	jmabry@iastate.edu
Joe McElroy	IA	jmclry@iastate.edu
Steve Moeller	OH	Moeller.29@osu.edu
Benny Mote	IA	bmote@iastate.edu
Napapan Piyasatian	IA	napapan@iastate.edu
Marcos Ramos	IA	mramos@iastate.edu
Max Rothschild	IA	mfrothsc@iastate.edu
Bert Stromberg	MN	b-stro@umn.edu
Chris Tuggle	IA	cktuggle@iastate.edu
Mei Yu	IA	meiyu@iastate.edu
Shuhong Zhao	IA	shzhao@iastate.edu
Honghua Zhao	IA	hhzh@iastate.edu