Pig Genome Update
No. 80 September 1, 2006

The 8th World Congress on Genetics Applied to Livestock Production was held in Belo Horizonte, MG, Brazil. The meeting was an outstanding success with over 1,000 attendees and some excellent plenary, invited and contributed posters. The talks reflected considerable progress in QTL and gene discovery, examination of eQTL and the integration of genes and markers into breeding programs across the world. A large number of pig papers were presented and abstracts and short papers are available from the organizers in the form of a CD of the proceedings.

ISAG 2006, the 30th International Conference on Animal Genetics, was held August 20-25, 2006 in **Porto Seguro, Brazil and** kicked off with plenary talks on Biodiversity from Martin Weitzman, Olivier Hanotte and Fabricio Santos before breaking into sessions from animal forensics to species specific topics. Meetings were well attended and the despite the best efforts of Mother Nature to soak several posters, causing them to be reprinted, the multidisciplinary poster sessions were also well attended and proved to be very educational. Of special interest was the Pig Gene Mapping and Applied Genetics session, chaired by Gary Rohrer. In it Denis Milan gave the status of the current RH map that currently has over 10,000 markers mapped by IMpRH users, with 5,000+ human-pig ortholog data points. Hirohide Uenishi updated us on the progress of the 10,000 porcine full-length cDNA sequences that will be deposited in September/October. From the section on highlights of the posters, Oliver Couture presented his work on improving the annotation of the porcine Affymetrix Gene Chip while other research groups reported on QTL/candidate gene research on topics such as the vitality of newborn pigs, reproduction traits, and disease resistance. No changes were made to the organizing committee for this section. Another highlight was the Swine Genome Sequencing Consortium meeting, chaired by Larry Schook. The group was handed the inaugural issue of "Pig Tales," the newsletter for the Swine Genome Sequencing Consortium (SGSC) (see later note below). It was emphasized that the consortium is willing to push sequencing of important regions (with justification) to the top of the list with the "Adopt a Gene, BAC or QTL" concept. Please forward the successes from using the sequence generated from this project so that it can be used in the *First Fruits* section to highlight the usefulness of the pig sequence. The INRA group announced having 500,000 sequence reads with 200,000 reads from both the Large White and Landrace breeds and 100,000 reads for Meishan. The Korean National Livestock Research Institute reported the sequencing of 300,000 reads from a shotgun library which generated ~200 Mb of sequence. The Japanese research group, lead by Hirohide Uenishi, reported on the 10,000 sequence reads of full length cDNA. The Sino-Danish group commented on the million EST sequences which can be accessed through the resources link on the SGSC webpage. Sean Humphray gave an overview of the current status of the pig sequencing efforts at the Wellcome Trust Sanger Institute. Current status of the sequencing efforts at Sanger can be found at http://pre.ensembl.org/index.html. A total of 6,984 clones have been selected for sequencing to date, which represents ~50% of the swine genome. A total of 1302 accessioned clones have generated 226.6 Mb of sequence. Sanger is using a technique called "Pre finishing" to bridge the contigs of the clones. It was also announced that automated annotation will not be used on a chromosome until the entire chromosome has been sequenced (kindly provided by B. Mote).

Pig Tales, the official newsletter of the Swine Genome Sequencing Consortium (SGSC) is now being published by Larry Schook and colleagues. This quarterly newsletter will provide updates on the pig genome sequencing project and communication of the application of the information to addressing agricultural and animal health issues. It can be found at www.piggenome.org . The website also provides access to all of the newsletters and permits direct communication with the Project Directors. There is also an opportunity for users to share their successes, request specific sequencing to enter the pipeline and to become a SGSC member.

The Roslin Bioinformatics Group is pleased to announce that the new ArkDB web interface is now available for general use. The site can be found at http://www.thearkdb.org/. Underneath the hood, the system has been completely re-designed with a new database schema running in postgres and a modern object-oriented interface written in java. They have focused the initial release of the web interface on a chromosome-centric view which mimics the genome sequence browsers to some extent. One of the major changes has been in the map-drawing code. This is now delivered as a java applet - thus you will need a java-enabled web browser to be able to view the maps. The benefit of this is that they can build more interactivity into the maps. For example, one can now drag maps around within the display and position them where you like. It is hoped that this new version of the system useful. A series of staged additions to the code are planned for the next few months and they will be announced as they become available. Feature requests and bug reports can be sent to the info@thearkdb.org address (provided by Andy Law).

New swine oligo arrays will begin printing October 1. Work continues to get the materials ready for ordering and printing the arrays and despite some setbacks they are nearing reality. Details will be provided about October 1 for ordering and printing. Each investigator can order up to 300 slides for their project and cost will be about 30 dollars per slide. A revised web page at http://www.animalgenome.org/pigs/resources/array_request.html will provide details about October 1.

Upcoming meetings (see: http://www.animalgenome.org/pigs/community/meetings.html)

24th Stadler Genetics Symposium, "Genomics of Disease." October 2-4, 2006. University of Missouri, Columbia, MO. Please see http://muconf.missouri.edu/stadler/

Plant and Animal Genome XV, joint with NC-1008 and NAGRP annual meetings, Jan. 13-17, 2007, Town & Country Convention Center, San Diego, CA. See www.intl-pag.org/.

Chicken Development and Genomics, April 12-15, 2007, Barcelona, Spain. See www.lists.bbsrc.ac.uk/mailman/listinfo/chicken-genome

Items for *Pig Genome Update 81* can be sent to me by no later than October 15 please.

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