

Report on the XI QTLMAS 2007 Meeting

QTLMAS meetings have been in place since 1995, initially with the help of a specific European Union action. Afterwards, researchers kept the tradition and meetings happened every year. These meetings are aimed at the exchange among scientists working in QTL detection and Marker Assisted Selection in the animal and plant breeding communities.

The eleventh meeting was held in Toulouse, 2007 March 22 and 23, organised by the Station d'Amélioration Génétique des Animaux unit, INRA. The workshop was cofinanced by SABRE. In spite of our initial predictions of 50 visitors, there were about 80 people in the meeting, including several countries mostly from Europe but also Australia, Brazil or the Ivory Coast. The good point was that the meeting was very exciting, with a lot of information and exchange; the (not so) bad point was that it was extremely charged, to the point that there were more than 30 oral communications. Fortunately speakers stuck to their times and everything went through smoothly. Unfortunately, most assistants came from animal research; we, organizers, could not attract "plant" people as we would like.

About the scientific content, it was indeed varied and refreshing. Meeting was organised in four main sections: Advances in QTL Detection Theory, Plant Marker Assisted Selection, QTL detection in practice, and Genome Wide Selection. The invited speakers (Miguel Pérez-Enciso, Dirk-Jan de Koning, and Frédéric Hospital) made the points on software for QTL detection, genetic networks uncovering, and Marker Assisted Selection in plants.

Free communications showed new insights into several subjects. Major points included epistasis, with a remarkable set of works, from theory to application, by Örjan Carlborg's group in Uppsala, leading to the strong belief that epistasis phenomena are far more common than previously thought; and genomic selection, with insights in its application to crossbreeding and real data analysis and perspectives from outbred mice (from INRA) and dairy cattle (by a group from Australia lead by Herman Raadsma). It seems that the methods for genomic selection need still development but are highly promising.

Several other points in QTL and MAS theory were studied, like rejection thresholds, practical issues in marker assisted genetic evaluation, haplotype probabilities, and many more. Practical applications included QTL detection for epistasis or in very complex breeding schemes, or in-depth study of candidate genes such as FABP4 in swine. Two complementary speeches on plants enlightened the (mostly animal-focused) audience with the state of the art Marker Assisted Selection methods in research (by Frédéric Hospital) and industry (Sébastien Crepieux)

Next meeting is to be held in 2008 in Uppsala, organised by Örjan Carlborg and colleagues. The final discussion was led by Jean Michel Elsen, who pointed out the difficulty of exchanges without a common baseground. It was proposed that next meeting organisers would distribute a data set that would be analysed by participants and a joint discussion would be made upon the results.

The book distributed to the participants, putting together papers, abstracts, and presentations can be found in PDF format at <http://germinal.toulouse.inra.fr/qtlmas>.

