



HAL
open science

Fine mapping of QTLs of meat quality in three French beef breeds using the Bovine SNP50® chip

Sophie Allais, Jean-François J.-F. Hocquette, Hubert H. Levéziel, Jacques Lepetit, Sylvie Rousset, Christophe Denoyelle, Carine Bernard-Capel, Marie-Noelle Rossignol, Laurent Journaux, Gilles Renand

► **To cite this version:**

Sophie Allais, Jean-François J.-F. Hocquette, Hubert H. Levéziel, Jacques Lepetit, Sylvie Rousset, et al.. Fine mapping of QTLs of meat quality in three French beef breeds using the Bovine SNP50® chip. 21. Plant and Animal Genome (PAG), Jan 2013, San Diego, United States. , 2013, Plant and Animal Genome XXI. hal-01189939

HAL Id: hal-01189939

<https://hal.science/hal-01189939>

Submitted on 3 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Home/Search
Browse by Day
Browse by Type
Author Index
Poster Categories

Meeting Information

When:
January 11 - 16, 2013
Where:
San Diego, CA

P0571

Fine Mapping of QTLs of Meat Quality in Three French Beef Breeds using the Bovine SNP50® Chip

Date: Monday, January 14, 2013

Room: Grand Exhibit Hall

Sophie Allais , Agrocampus Ouest, Rennes, France
Jean-François Hocquette , INRA UMR 1213, France
Hubert Leveziel , INRA/Université de Limoges UMR 1061, France
Jacques Lepetit , INRA UR 370, France
Sylvie Rousset , INRA UMR 1019, France
Christophe Denoyelle , Institut de l'Elevage, France
Carine Bernard-Capel , Institut de l'Elevage, France
Marie-Noëlle Rossignol , Labogena, France
Laurent Journaux , UNCEIA, France
Gilles Renand , INRA UMR 1313, France

To study the beef meat quality traits at the molecular level and find genetic markers associated to these traits, the project "Qualvigène" was set in. A total of 1,059 Charolais, 1,219 Limousin and 947 Blond d'Aquitaine purebred young bulls from respectively 48, 36 and 30 sire families were genotyped with the Illumina Bovine SNP50® Beadchip. We measured ten traits related to quality of the longissimus thoracis muscle: shear force, tenderness, juiciness and flavour scores, intramuscular fat content, insoluble collagen content, collagen solubility, number and size of fibres, and lightness. QTLs were detected with a methodology combining linkage disequilibrium and linkage analysis on haplotypes. After quality control and with a minor allele frequency of 5%, about 37K SNP were used in each of the three breeds. If we consider the significant positions at the 1% threshold on the chromosome (without Bonferroni correction) and separated by a minimum distance of 4 cM, we found about 170 QTLs in each of the three breeds, more precisely between 7 and 35 QTLs per trait. Compared to a previous QTL detection with microsatellites, we detected many more QTL per trait. Some QTL were common of two or three breeds as a QTL of shear force in the three breeds on the chromosome 3 between 16 and 21cM. Most of the other QTLs were breed-specific. The results were generally consistent with previous studies of candidate genes (Myostatin, Calpastatin and Calpain genes).

Back to: [Genome Mapping, Tagging & Characterization: Cattle](#)

[<< Previous Abstract](#) | [Next Abstract >>](#)