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### ► To cite this version:

Christel Marie Etancelin, Yoannah François, Caroline Molette, Alain Vignal, Stephane Davail. Identification of QTL of transcripts (eQTL) and of proteins (pQTL) on foie gras of mule ducks. 8. European Symposium on Poultry Genetic, Sep 2013, Venise, Italy. 2013. hal-02746170

**HAL Id: hal-02746170**

**<https://hal.inrae.fr/hal-02746170v1>**

Submitted on 3 Jun 2020

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## Identification of QTL of transcripts (eQTL) and of proteins (pQTL) on foie gras of mule ducks

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In France, 97% of the foie gras production comes from mule ducks, an inter-specific hybrid obtained by crossing a female common duck (*Anas Platyrhynchos*) and a Muscovy drake (*Cairina Moschata*). As mule ducks are infertile, the genetic improvement of the fatty liver quality has to be done through the genetic selection of parental lines. Thus, knowing the impact of genes on the quality traits could be useful for selection purposes. The project is based on a QTL (Quantitative Trait Loci) experimental design with more than 1,500 phenotyped mule ducks. In 2013, Kileh-Wais *et al.* found 11 significant QTL related to liver quality traits, with QTL clusters on chromosomes 2 and 9. Focusing on these QTL, proteomic and transcriptomic analyzes were performed on fatty livers of a subset of 300 mule ducks. Proteins were quantified using the bi-dimensional gel electrophoresis method and transcripts were quantified by quantitative PCR (Fluidigm<sup>®</sup> technology). The regulatory networks implicated in the fatty liver quality are presently under investigation at both levels through the identification of pQTL and of eQTL, ie QTL controlling protein and transcript levels, respectively.

**Proceedings of the**  
**8<sup>th</sup> European Symposium on Poultry Genetics**  
**World's Poultry Science Association (WPSA)**  
**Working Group 3 “Breeding and Genetics”**



25-27 September 2013  
San Servolo Conference Centre  
Venice, ITALY

[www.epgs2013.com](http://www.epgs2013.com)