



QTL mapping for phenolic compounds in apple fruit and apple juice from a cider apple progeny

Submitted by David Guilet on Thu, 05/21/2015 - 09:59

Titre	QTL mapping for phenolic compounds in apple fruit and apple juice from a cider apple progeny
Type de publication	Communication
Type	Communication par affiche dans un congrès
Année	2012
Langue	Anglais
Date du colloque	30/09-04/10/2012
Titre du colloque	6th Rosaceous Genomics Conference (RGC6)
Auteur	Verdu, Cindy F [1], Guyot, Sylvain [2], Childebrand, Nicolas [3], Lasserre-Zuber, Pauline [4], Boucourt, M [5], Le Pautremat, E [6], Celton, Jean-Marc [7], Gaillard, Sylvain [8], Gatto, Julia [9], Troggio, Michela [10], Dupuis, Fabrice [11], Guilet, David [12], Laurens, François [13]
Pays	Italie
Ville	Mezzocorona
Résumé en anglais	<p>Polyphenols have favorable antioxidant potential on human health suggesting that their high content in apple is responsible for the beneficial effects of apple consumption. they are also related to the quality of ciders as they predominantly account for astringency, bitterness, color and aroma. Five groups of phenolic compounds are described in the apple fruit: flavanols, hydroxynamic acids, dihydrochalcones, flavonols and anthocyanins. So far, only two studies have been published on the genetic basis of the phenolic content of dessert apples. As cider apples are commonly described to be much more concentrated in phenolic compounds than dessert varieties, the present study focuses on a cider apple progeny. 32 compounds belonging to the five groups were identified and quantified by HPLC-UV and UHPLC-UV-MS/MS in fruit extracts and juices. 53 QTL controlling phenolic compounds concentration were detected on nine linkage groups (LG) on the integrated linkage map, for all phenolic groups except anthocyanins. QTL clusters located on LG1, 12, 14, 15 and 17 were stable across the year or the studied material. QTL detected on LG1, 14 and 17 for quercitrin, p-coumaroylquinic acid, rutin and chlorogenic acid confirmed results of previous studies. However, no significant QTL was obtained on the LG16 where a major locus for flavanols was previously located. With the two previous studies, this study shows the diversity of genomic regions traits of interest in apple.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua11685 [14]

Liens

[1] [http://okina.univ-angers.fr/publications?f\[author\]=12862](http://okina.univ-angers.fr/publications?f[author]=12862)

[2] [http://okina.univ-angers.fr/publications?f\[author\]=11925](http://okina.univ-angers.fr/publications?f[author]=11925)

- [3] [http://okina.univ-angers.fr/publications?f\[author\]=12863](http://okina.univ-angers.fr/publications?f[author]=12863)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=12075](http://okina.univ-angers.fr/publications?f[author]=12075)
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=20646](http://okina.univ-angers.fr/publications?f[author]=20646)
- [6] [http://okina.univ-angers.fr/publications?f\[author\]=20647](http://okina.univ-angers.fr/publications?f[author]=20647)
- [7] [http://okina.univ-angers.fr/publications?f\[author\]=12355](http://okina.univ-angers.fr/publications?f[author]=12355)
- [8] [http://okina.univ-angers.fr/publications?f\[author\]=12295](http://okina.univ-angers.fr/publications?f[author]=12295)
- [9] [http://okina.univ-angers.fr/publications?f\[author\]=18858](http://okina.univ-angers.fr/publications?f[author]=18858)
- [10] [http://okina.univ-angers.fr/publications?f\[author\]=12417](http://okina.univ-angers.fr/publications?f[author]=12417)
- [11] [http://okina.univ-angers.fr/publications?f\[author\]=11898](http://okina.univ-angers.fr/publications?f[author]=11898)
- [12] <http://okina.univ-angers.fr/david.guilet/publications>
- [13] [http://okina.univ-angers.fr/publications?f\[author\]=91](http://okina.univ-angers.fr/publications?f[author]=91)
- [14] <http://okina.univ-angers.fr/publications/ua11685>

Publié sur *Okina* (<http://okina.univ-angers.fr>)