**Additional file 3:** **Flanking 50-bp sequences for the top associated SNPs in LG12\_QTL\_2**

* **LG12:8746917-8746967** with LG12\_8746942 SNP close to ZDHHC14 gene:

CCAAAGCTTAACTAGGAGAGGGGCC**[C/T]**GTGAGGCCTCGGGATCGGGGTGCTG

* **LG12:8797911-8797961**with the LG12\_8797936 SNP close to IFI6/IFI27-like gene:

CTTTACACACAGTTTCTTGGTGTTG**[G/T]**GCTGCTGACAATATATAACTTTCAC