

Routine Use of DNA Based Traceability from Field to Factory Gates for Nespresso Coffee Products

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SUMMARY

Coffea arabica represents approximately 62% of worldwide coffee production and this species is considered as the best for cup quality in comparison to *Coffea canephora*. This international commodity is used for specialty coffees for premium products such as Nespresso ®. DNA based traceability has been routinely used to ensure the authenticity of pure Bourbon Amarelo selected for new Nespresso ® limited edition based on a single Arabica variety. The aim of this quality control was to detect any unexpected adulteration of Bourbon Amarelo batches delivered to the factory. Thanks to previous analysis on the genetic diversity of a large collection of Arabica varieties and the establishment of a database of SSR, several specific DNA markers of the Bourbon Amarelo and possible adulterant varieties have been identified. A statistical protocol for bean sampling and analysis has been defined, allowing to evaluate a defined level of adulteration. This DNA system of traceability constitutes one of the first industrial applications to coffee. This technology can also be applied to the identification of the varieties used in roasted coffee products.