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Case study - *Avocado Fruit*

Food

Quantitative Genetic Analysis of Three Important Nutritive Traits in the Fruit of Avocado.

Carlos Calderon-Vasquez, Mary L. Durbin, Vanessa E.T.M Ashworth, Livia Tommasini Kapua K.T Meyer, and Michael T. Clegg

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Overview

- **Keywords:** *Persea Americana*, molecular markers, vitamins, tocopherol, sitosterol, breeding.
- **Aim of the study:** Heritability estimation of carotenoids, β-sitosterol and α-tocopherol content in ripe avocado fruits.
- **Application:** Spectrophotometric assay
- **Sample type:** Avocado mesocarp tissue
- **Material:** FastPrep-24™ instrument, 2 ml Lysing Matrix D tubes
- **Buffer:** 1 ml of absolute ethanol, 6% pyrogallol and 5 ml HCl

Protocol and Parameters

1. 0.5 g of avocado mesocarp tissue were transferred to a 2 ml lysing matrix D tubes
2. 1 ml of absolute ethanol, 6% pyrogallol and 5 ml HCl have been added to the tubes
3. The tubes were set up in the FastPrep-24™ instrument
4. The homogenate was incubated for 15 min at 70°C and then left to cool down to room temperature with addition of 20 µL of a 0.4% NaCl solution
5. Extraction of the homogenate was done with 4 ml hexane/petroleum ether (1:1)

Conclusion

- The compounds were successfully extracted from the avocado samples allowing their identification and quantification
- The FastPrep® extraction method in combination with Lysing Matrix D tubes could also be used or adapted to extract DNA from other species.

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