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Quality traits prediction of the passion fruit pulp using NIR and MIR spectroscopy

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Abstract: Near (NIR) and Mid (MIR) infrared spectroscopy were investigated as rapid methods for evaluating quality traits of fresh passion fruit pulp. Models to predict soluble solids content (SSC), titratable acidity (TA), glucose (GLC), fructose (FRU), sucrose (SUC) and vitamin C (ascorbic acid) were developed using linear partial least square (PLS) regression analysis. The PLS models in MIR provided better prediction results than in NIR. Prediction models in MIR were better for SSC (R^2_v = 0.95), TA (R^2_v = 0.86), glucose (R^2_v = 0.93), fructose (R^2_v = 0.84) and sucrose (R^2_v = 0,74). However, due to its low level in pulp, ascorbic acid was not satisfactorily predicted either by NIR or MIR.

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