

Quality Determination and Group Discrimination of Shade Grown Coffee Using Solid Phase Microextraction

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SUMMARY

We hypothesized that in order to link chemistry to the organoleptic assessment, the coffee should be analyzed in a form that is routinely used by cuppers to assess quality. In this study, chemical profiles of the volatile organics in the head-space of brewed coffee, brewed in the same manner and ratios used for organoleptic assessment, were obtained. Volatile organic compounds were extracted using a solid phase microextraction fiber. After desorption onto a GC column with FID detector, this resulted in a profile containing over 80 peaks. This method was used to determine the volatile organic profiles of roasted coffee sub-samples obtained from an experiment evaluating the effects of shade on coffee quality and ecophysiology. Peak area data from selected marker peaks in the profiles of different treatments were compared. Marker peaks were used as variables in canonical discriminate analysis to determine the effects of shade treatments and location on the chemical profile.