

Incidence of Elevation on Chemical Composition and Beverage Quality of Coffee in Central America

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SUMMARY

Chemical and beverage quality of green coffee samples from eight farms with different elevation in Poas region in Costa Rica (Trial 1) and from ten experimental plots with different elevations in El Salvador, Honduras and Costa Rica (Trial 2) were evaluated in 2003-2004 harvest. Coffee arabica trees in Trial 1 were at two different production years in a three-year rotational pruning cycle; while in Trial 2, trees were two and three year old. Bean size, dry matter weight and beverage quality were measured for Trial 1 samples, while biochemical content were estimated for both trials. Bean size and dry weight increased as elevation was higher and as shoot age was younger. Significant differences in chemical composition were observed in function of elevation in both trials and for beverage quality in Trial 1. Caffeine, chlorogenic acid and fat contents increased with elevation while trigonelline and sucrose decreased. Significant negative correlation between sucrose and fat content was observed. For beverage quality, tendency was that at higher elevation, better was classified the coffee with exception of one farm at intermediate elevation that was well classified. This farm was located in a very fertile area with outstanding plant nutrition and durable good cultural management. The study confirm that elevation is a very important factor for produce high quality coffee, but also that quality can be get by adequate cultural management in intermediate elevation.