Abstract

This work was aimed to investigate the effect of drying methods on bioactive compounds and antioxidant activity of Arabica coffee pulp. The coffee pulp (CP) was obtained from DoiChaang Original Co. Ltd. Chaing Rai, Thailand.The CP was dried at 60 ^{o}C using tray dryer or sun dry until moisture content was less than 13 %. The bioactive compounds (total phenolic content (TPC), total flavonoid content (TFC), chlorogenic acid, caffeine and anthocyanin) and antioxidant activity (1,1-diphenyl-2-picrylhydrazyl (DPPH) and Ferric reducing antioxidant power (FRAP) assays) of the dried CP were determined and compared to those of the fresh CP. The results revealed that the total soluble solid (TSS), the titratable acidity (TA) and insoluble and soluble dietary fibre of the fresh CP were 60 % Brix, 85 % (w/w), 7.80 and 1.03 % (w/w), respectively. All bioactive compounds and antioxidant activity of the CP were significantly reduced after drying. TPC, TFC and anthocyanin of the sun dried CP were lower, whereas the chloroginic acid was higher compared to those of the tray dried CP. However, there was no significant different in caffeine content of the CP obtained from both methods. The antioxdant activity of the sun dried CP was observed to be higher than those of the tray dried one. These results indicate that the sun drying method is potentially applicable for CP drying that could retain the bioactive compounds which contributed to the higher antioxidant activity in the pulp after drying.

Keywords: by-product, chrologenic acid, anthocyanin, sun drying, tray drying