

**EFFECT OF MOISTURE CONTENT OF
DESICCATED COCONUT ON THE QUALITY OF
VIRGIN COCONUT OIL**

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ABSTRACT

Virgin Coconut Oil (VCO) is one of the leading high value coconut products in the world. Present study aimed to evaluate the quality of VCO extracted from four different moisture contents (MC) ranges of desiccated coconut (DC): 1-1.5% (T0), 1.5-2% (T1), 2-2.5% (T2) and 2.5-3% (w/w) (T3), considering the, MC range (1-3% (w/w)) of DC used to extract VCO. Freshly cut coconut kernels were dried in an oven at 60° C for 1 hour and 25 minutes (T0), 1 hour and 30 minutes (T1), 1 hour and 45 minutes (T2) and 1 hour and 55 minutes (T3). MC of DC was determined after drying. DC samples were fed into expeller machines to expel VCO. Four VCOs were kept for 10 days to sediment and tested for MC, free fatty acid (FFA) and peroxide value (PV). Oil samples were kept in an oven at 65° C for one month period. A sensory analysis and FTIR analysis were conducted. Experimental design used was complete randomized design (CRD) and data were analysed using Minitab 16 statistical software. The highest (55.25%) and the lowest fat content of DC (15.39%) ($p < 0.05$) were shown by T0 and T3, respectively. The highest (0.063%) and the lowest (0.053%) ($p < 0.05$) moisture content of VCO were shown by the T1 and T2 and T3, respectively. The highest (6.28%) and the lowest (4.17%) ($p < 0.05$) moisture content of oil cake were shown by the T0 and T3, respectively. The highest (32.23%) and the lowest (19.42%) ($p < 0.05$) lauric acid % of VCO were shown by T1 and T3, respectively. The highest (12) and the lowest (0) ($p < 0.05$) total plate count of VCO were shown by T0 and T3, respectively. There was no any significance difference of FTIR analysis of day 0 and day 30 in T0, T1 and T2 ($p > 0.05$). There is a significance difference of FTIR analysis of day 0 and day 30 in T3 ($p < 0.05$). PV, FFA, microbial growth, TBAR, taste and odor were not affected ($p > 0.05$) by four treatments. According to results, there is no any influence of moisture content of desiccated coconut on initial quality parameters of virgin coconut oil at selected MC ranges. Based on the results of oven storage, it can be concluded that moisture content of desiccated coconut 1.5-2% can be effectively use for store for a longer time with compared to other three moisture content ranges selected.