The relationship between palm oil quality index development and physical properties of fresh fruit bunches in the ripening process.

ABSTRACT

Oil palm (Elaeis guineensis) is the most important tree crop in the rural economy of the humid rainforest of Malaysia. The oil is consumed as household food, used domestically for industrial purposes, and an important foreign exchange earning export. Normally, oil palm will be harvested after four years of planting. The oil palm yield will increase variously until the tenth year of planting. The yield will then remains at a stable stage until the twenty-fifth year. The maturity and palm oil development in the fruit ripening process is a good way to monitor harvest time and recommendation to evaluate the palm oil performance in food industries. This research is done on Tenera oil palm variety (A cross between Dura and Pisifera) on 8-year-old planted in 2003 at the Malaysian Palm Oil Board (MPOB) Research Station. Fresh fruit Bunches were carried and were divided to three regions (Top, Middle and Bottom) then were removed the fruits from outer and inner layers of them randomly, during the ripening process between 8, 12,16 and 20 weeks after anthesis for these aims: The relationship between maturity and oil development in mesocarp and kernel also investigate to fatty acid compositions during the ripening process at each three regions of bunch by Gas Chromatography (GC) and Physical properties of oil palm fresh fruits such as length, width, thickness, weight, apparent volume, true density, bulk density, porosity, sphericity and surface area. Calculation of earned data related to ripening time, oil content and physical properties were done by MSTAT-C, SAS and Microsoft Excel computer programs.