

IDENTITY CHARACTERISTICS OF PALM OIL

Siew Wai Lin and Tan Yew Ai

A survey on the identity characteristics of crude palm oil (cPO) and refined palm oil (rPO) was carried out between June 1986 — June 1987 and June 1987 — December 1987, respectively.

The primary aim of the survey was to update existing data for both cPO and rPO. *Table 1* shows the results collected from analyses of 120 samples of cPO and 65 rPO samples.

A comparison of the present cPO data with that of the Malaysian Standards (MS 814:1983), compiled from a MARDI survey in 1978, shows the following changes:

- i) a drop in mean Iodine Value (I.V.) from 52.9 to 51.6
- ii) The I.V. drop was accounted for by an increase in palmitic acid accompanied by a reduction in oleic and linoleic acids
- iii) increase in mean slip melting point from 34.2 °C to 35.6°C, and
- iv) a decrease in mean refractive index at 50°C from 1.4553 to 1.4548

The survey data for both rPO and cPO are comparable, as can be seen in *Table 1*.

TABLE 1. IDENTITY CHARACTERISTICS OF PALM OIL

Fatty Acid Composition	Crude Palm Oil				Refined palm oil/present survey	
	MS 814:1983		Present Survey		Range	Mean
	Range	Mean	Range	Mean		
C12	0 — 0.4	0.1	0.1 — 0.4	0.2	0.1 — 0.4	0.2
C14	0.6 — 1.7	1.0	1.0 — 1.4	1.2	1.0 — 1.3	1.1
C16	41.1 — 47.0	43.7	43.1 — 47.1	44.3	42.2 — 45.3	44.0
C18	3.7 — 5.6	4.4	3.8 — 4.8	4.3	3.6 — 4.8	4.2
C18 — 1	38.2 — 43.5	39.9	37.7 — 41.2	39.3	38.4 — 41.4	40.0
C18 — 2	6.6 — 11.9	10.3	8.8 — 11.10	10.0	8.9 — 11.0	9.8
C18 — 3	0 — 0.5	0.3	0 — 0.6	0.4	0.0 — 0.6	0.1
C20	0 — 0.8	0.3	0 — 0.4	0.3	0.0 — 0.6	0.3
Iodine Value	50.6 — 55.1	52.9	49.7 — 54.5	51.6	50.0 — 55.8	51.4
Slip Melting Point °C	30.8 — 37.6	34.2	32.3 — 38.0	35.6	33.3 — 38.1	36.3
Refractive Index n_D^{50} C	1.4546 —	1.4553	1.4541 —	1.4548	1.4545 —	1.4548
	1.4560		1.4551		1.4551	

CERTIFICATE OF COMPETENCY SCHEME FOR REFINERS

The scheme is presently supported by 29 refiners. A total of 26 refiners were assessed for the 1988 certificates and all 26 were awarded the certificates. The remainder three refiners had requested for deferment to later dates.

The average score for the 1988 assessment was 82.7 percent. This is a marginal improvement over 1987's score of 82.6. The distribution of score is shown in *Table 1* and *Figure 1*.

TABLE 1. CERTIFICATE OF COMPETENCY: DISTRIBUTION OF SCORES

Range of Percentage scores	1986	1987	1988
65.0 — 69.0	3	1	2
69.1 — 73.0	1	2	1
73.1 — 77.0	7	5	2
77.1 — 81.0	4	4	4
81.1 — 85.0	2	3	6
85.1 — 89.0	2	2	5
89.1 — 93.0	4	6	2
93.1 — 97.0	2	2	3
Total Refiners	25	25	25*
Average Percentage Score (Mean)	80.39	82.38	82.68

* One new entry (refiner) was assessed late in the year and was therefore awarded certificate valid for 1987 and 1988 and its score is included in 1987 column.

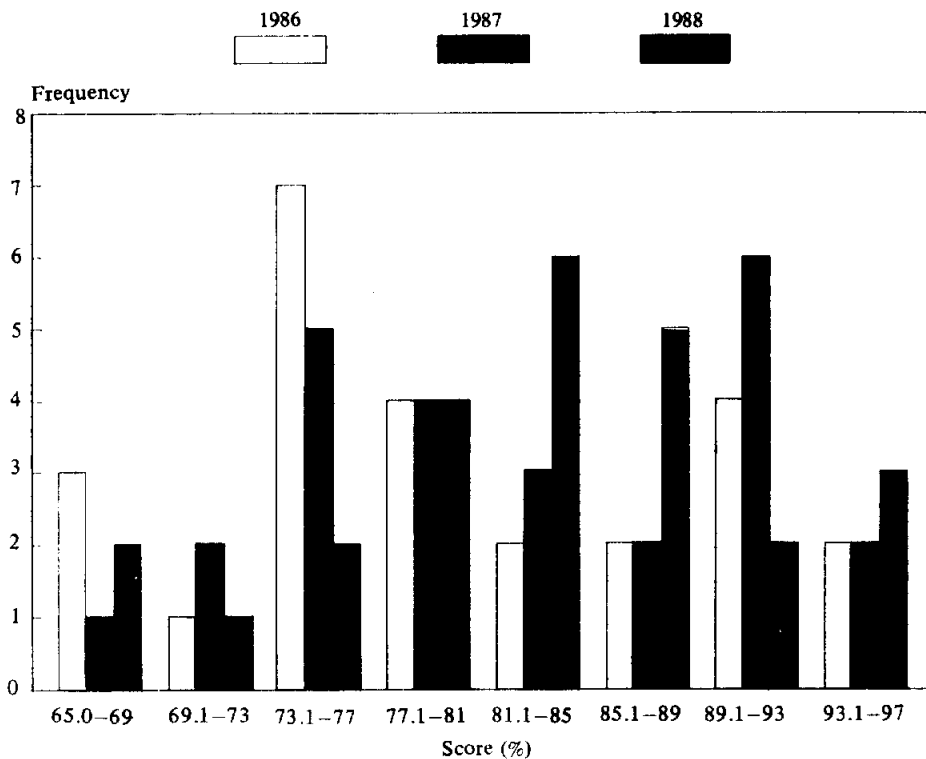


Figure 1. Refiners' Certificate of Competency Distribution