

Data Sheets for Mill Engineer

We propose to include with each issue of our newsletter a data sheet relative to oil mill design which we trust will be of interest and assistance to the mill personnel.

We start with details of palm fruit refuse as boiler fuel.

Table 1. Composition of Palm Fruit Refuse

	Shell	Shell (dried)	Fibre	Fibre (dried)
Volatile Matter	71%	78.05%	75.8%	83.4%
Coke	20%	21.95%	15.1%	16.6%
Ash	0.7%	0.75%	3.0%	3.27%
Fixed Carbon	19.3%	21.2%	12.1%	13.33%
Water	9.0%	—	9.1%	—
Gross Calorific Value (BTU/lb)	8128	8930	7179	7900
Nett Calorific Value (BTU/lb)	7568	—	6627	—

(The above figure from tests carried out by Unilever during 1945)

Table 2. Calorific Values of Palm Fruit Refuse (nett)

Moisture %	Shell		Pure		Fibre		Bunch Stalk	
	Pure	Oily	Pure	Oily	Pure	Oily	Pure	Oily
0	4950(8910)	5000(9000)	4700(8460)	4950(8910)	4200(7560)	4500(8100)		
10	4120(7416)	4500(8100)	—	—	—	—	—	—
40			2575(4635)	2710(4878)	—	—	—	—
50			2000(3600)	2175(3915)	1800(3240)	1950(3510)		
60			—	—	1320(2376)	1440(2592)		

The above figures based on tests carried out in Brussels during 1952 it being assumed there was a 5% oil on dry matter and the Calorific Value of palm oil 10,000 K.cal/kg (18,000 BTU/lb.).

Figures without brackets K.cal/kg and those within brackets BTU/lb