

Use of Red Palm Olein as both a Natural Colourant and Anti-Oxidant

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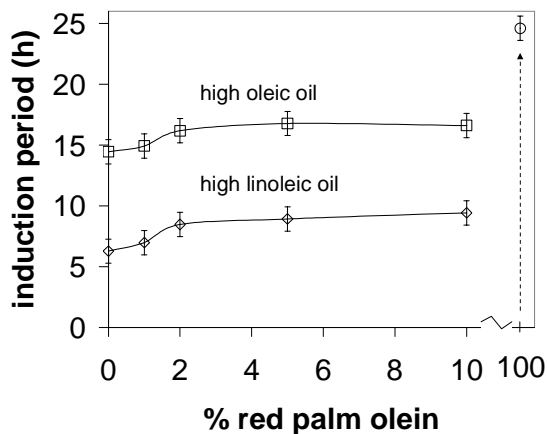
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Manufacturers of fat-based products such as margarines and frying oils are under increasing pressure from consumers to deliver products with so-called 'clean labels'. As a result, they try to limit the amount of additives that have to be declared.

An interesting alternative is the use of a mildly refined red palm olein with increased levels of naturally occurring anti-oxidants and colourants.

Figure 1: Effect of red palm olein addition on rancimat induction period (100 °C) Table 1: Typical composition of red palm olein



| | |
|------------------------------|----------|
| SAFA | ~40% |
| MUFA | ~46% |
| PUFA | ~14% |
| carotenoids | >600 ppm |
| tocopherols/ tocotrienols | >800 ppm |

The fatty acid composition of Red Palm Olein is comparable to those of commonly used margarine fat blends (Table 1), and as such it can be blended in with little change to the overall composition of a product. The addition of just 2% is enough to significantly increase the oxidative stability (Figure 1) while at the same time giving a natural red hue to the blend.

The stability of the carotenoids in Red Palm Olein and thus the colour is strongly dependent on storage temperature. Measurements resulted in a predictive model, that can be used to calculate the carotene content as a function of time at a given temperature.