

ANTIOXIDANT CHILLI OIL

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Red palm oil has an exceptionally high level of phytonutrients such as carotenes, tocotrienols and squalene. With the infusion of essential oils from chillies (*Figure 1*) and other herbs, we are able to extend the nutritional benefits of the oil. We have demonstrated in our laboratory the antioxidant, anti-cancer and anti-inflammation properties for some mixed phytonutrients. The infused red palm oil with spices and herbs will allow for more applications of the oil. The oil can be used



Figure 1. Antioxidant chilli oil.

in many culinary applications, *e.g.* as a condiment in the preparation of noodles, to marinate meat, to make *sambal*, curries and salads, and for light frying.

PRODUCT PROPERTIES

The product contains of 8.8% w/v cayenne chilli and 30 000-50 000 ppm capsaicin, and is blended

with spices and herbs. It provides the fiery sensation of chillies. The oil survives both cooking and freezing. Besides, it also triggers the brain to produce endorphins, natural pain killers that promote a sense of well-being. The fatty acid composition and phytonutrient content of the product are shown in *Tables 1* and *2*.

TABLE 1. FATTY ACID COMPOSITION (FAC) OF ANTIOXIDANT CHILLI OIL

FAC	% (wt)
C12:0	0.2
C14:0	0.6
C16:0	29.8
C16:1	0.3
C18:0	3.6
C18:1	51.0
C18:2	13.7
C18:3	0.4
C20:0	0.4
IV	69

TABLE 2. PHYTONUTRIENT CONTENT IN ANTIOXIDANT CHILLI OIL

Phytonutrient	ppm
Total vitamin E	1 302
Carotenoids	916
Phytosterols	1 458
Squalene	1 440
Lecithin	50
Co-enzyme Q10	78
Polyphenols	57

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CONSUMERS ACCEPTABILITY

A 20-member sensory panel tested the palm oil-based chilli oil against olive oil-based chilli oil. Palm oil-based chilli oil was preferred in terms of its aroma and spiciness.

NOVELTY

The invention has enhanced the palm oil product with a single or a mix of herbs, spices, vegetables and/or fruits. It should be noted that the phyto-nutrient content of the antioxidant chilli oil and its active ingredient (capsaicin) make it beneficial to health. The product will be the first infused oil manufactured in Malaysia.

TARGET MARKET

Local and overseas restaurants and supermarkets.

COMMERCIAL VALUE

The expected capital investment of this product is <RM 200 000. A basic production plant is needed (Figure 2). All raw ingredients in the oil formulation can be obtained from local suppliers.

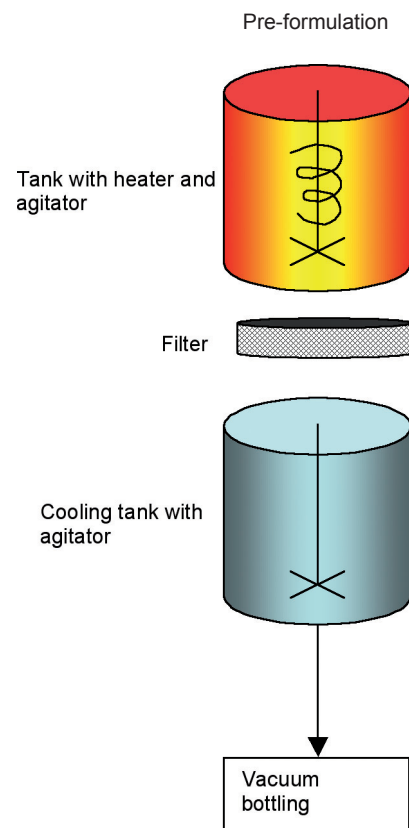


Figure 2. Basic process flow chart for antioxidant chilli oil.

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