

# Intrinsic properties of red palm oil reduce atherosclerosis



The commercially available red palm oil

Despite containing about 42% of palmitic acid, many studies in human and animal models reported that palm oil does not behave like a saturated fat; the cholesterol-raising potential of palm oil is often much weaker than predicted by either the Keys or Hegsted equations. We now have evidence that the structure of the palm fat molecule, and the intrinsic distribution of the tocotrienols and carotenoids present in the oil, can reduce atherosclerosis.

In the present study, Kritchevsky and associates from The Wistar Institute in Philadelphia compared the atherogenic properties of red palm oil (RPO), refined palm oil (PO), and randomised PO. The test fats were incorporated at 32% kcal into atherogenic semipurified diets containing 0.2% cholesterol and fed to

rabbits for 65 days, at the end of which atherosclerotic lesions at the aortic arch and thoracic aorta were measured.

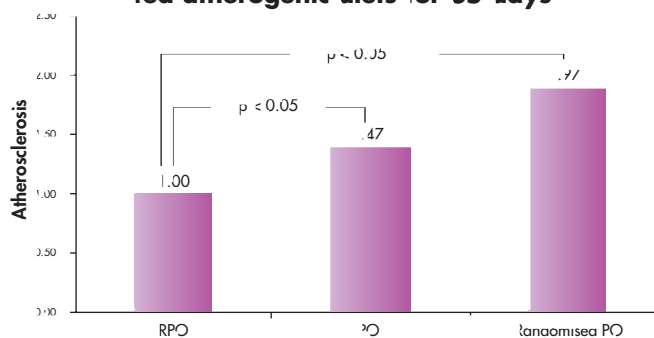
The ability of RPO to curb atherogenesis at the arterial sites measured was most impressive, with atherogenesis in rabbits fed RPO being 97% lower, and PO-fed 47% lower, than in randomised PO-fed animals! No such difference was seen for serum lipids amongst the groups.

Not satisfied with the above, the investigators matched rice bran oil (RBO) and reconstituted RPO against the previous 3 groups in another experiment.

RBO, with its much higher content of phytosterols compared to the other test fats, came up tops with the least atherogenesis. Reconstituted RPO was a disappointment and did not perform to expectations, producing an atherogenic effect that was approximately double that of the native RPO. It is apparent that you cannot duplicate nature's packaging by simply reconstituting i.e. adding back tocotrienols, tocopherols and carotenoids back to refined, bleached and deodorised palm oil!

*Adapted from Kritchevsky et al. (2002). Asia Pacific J Clinical Nutr. 11:S433-S437.*

Comparative atherogenic effects of RPO, PO and randomised PO in rabbits fed atherogenic diets for 65 days



## In search of the optimal diet to combat heart disease

During the last 5 decades, thousands of epidemiologic and clinical studies have been conducted worldwide to try and complete the jigsaw puzzle on the diet-heart hypothesis. Today, the last piece of the puzzle is still not in place and so the search for the optimal diet to prevent heart disease continues.

Two investigators from the Harvard School of Public Health decided to go back in time via MEDLINE and selected 147 impressive epidemiological studies, clinical trials and large-scale interventions in an attempt to identify the dietary changes that most effectively prevent heart disease. The major dietary

factors analysed included fat, cholesterol, omega-3 fatty acids, trans fatty acids (TFA), carbohydrates, glycemic index, fibre, folate, specific foods (vegetables, fruits, red meat, chicken, fish, etc.) and dietary patterns.

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