CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE
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COCONUT OIL BLEND WITH OTHER VEGETABLE OILS

1. Introduction:

The process consists of the preparation of coconut oil blend with other vegetable oils such as groundnut, sunflower, safflower, soyabean oils with efficient blending under controlled conditions to get nutrient rich cocnut oil blend. The blend has been made in such a way that the fatty acid composition to contain saturates of medium chain length, monounsaturates and polyunsaturates and contains endogenous tocopherols, or tocotrienols and oryzanol or tocopherols and lignans. It is free of trans fats. The product has shown excellent stability during the storage study and retention of nutraceutical components. The product has good acceptability with respect to colour, appearance and taste and strictly follows the PFA norms.

According to PFA "Blended Edible Vegetable Oil" means an admixture of any two edible vegetable oils where the proportion by weight of any edible vegetable oil used in the admixture is not less than 20 per cent. The blend shall be clear, free from rancidity, suspended or insoluble matter or any other foreign matter, separated water, added colouring matter, flavouring substance, mineral oil, hydrocyanic acid, castor oil and tricresyl phosphate. It shall also conform to the specification as listed under PFA.

2. Use:

The coconut oil blends having medium chain fatty acids, mono and polyunsaturated fatty acids composition, endogenous natural oryzanol, tocopherols, tocotrienols and phytosterols can be used regularly in homes for day-to-day consumption. The oil blends have good stability and can be used for frying also.

3. Nutritional Studies:

Consumption of coconut oil blends lowered plasma total cholesterol and LDL cholesterol in experimental animals.

4. Raw Material:

Coconut oil blended with another vegetable oil of regional choice. For coconut oil consumers also similar blends have been prepared. The vegetable oils such as groundnut, soyabean, sunflower, rice bran, mustard, safflower, palm, can be used to prepare the blends of choice to provide healthier and cheaper blends.

5. Process:

The process consists of blending the oils after pre-processing in the right proportion in specially designed blending units for the required time and at the optimized temperature and stirring conditions. The blend is then cooled to the ambient temperature, flushed with nitrogen and filled into co-extruded multi layered pouches using form-fill-sealing machine.

6. Plant & Machinery:

The plant & machinery list consists of SS jacketed vessels with stirrer, nitrogen gas cylinders, FFS machine, chilling plant, boiler, balance, trolleys, handling vessels, analytical laboratory equipments.

7. Project Cost – Fixed Cost – Working Capital (in Rs.'000) (Estimate for a model project):

a)	Land & Land development (690 m^2)	517.5
b)	Building and civil works (230 m^2)	1150.0
c)	Plant and machinery	4240.0
d)	Auxiliary equipments	50.0
e)	Other fixed assets	20.0
f)	Pre-operative expenses	543.5
	Total fixed capital	6521.2
	Working capital margin	3644.7
	Total Project cost	**10165.9**

Means of finance:

- Promoters contribution	5682.7
- Term loan	4483.3

8. Production Capacity- (estimate):

Suggested economic capacity: 5000 kg of blended oil/day (one shift)
Working: 300 days per annum

9. Technology/Manufacturing Process – Availability:

The technology for blending the oil has been developed at CFTRI, Mysore, using appropriate equipment for optimal product recovery of right quality. The CFTRI has the necessary expertise to provide technical assistance and guidance for setting up the plant. CFTRI can offer further technical assistance for project implementation for scale up - of advisory nature under technical consultancy services.