

NUTRI OIL BLENDS

1. Introduction:

The process consists of the preparation of two nutri oil blends based on rice bran oil (RBO) and ground nut oil (GNO) with efficient blending with other nutrient rich oils. These blends have been made with such a way that the fatty acid composition has been balanced with respect to saturates, monounsaturates and polyunsaturates and contains endogenous β -carotene, tocopherols, tocotrienols and oryzanol & tocopherols and tocotrienols respectively. The products have shown excellent stability during the storage study and retention of nutraceutical components. The products have good acceptability with respect to colour, appearance and taste.

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 individual oils in the blend shall conform to the respective standards prescribed by these rules. 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 nutri oil blends having balanced fatty acid composition, natural oryzanol, tocopherols, tocotrienols and phytosterols in RBO based blend and tocopherols and tocotrienols in GNO based blend 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. Raw Material:

Blend 1: Rice bran oil blended with another vegetable oil

Blend 2: Groundnut oil blended with another vegetable oil

4. Process:

The process consists of blending the oils in the right proportion in specially designed blending units for the required time and at the optimized temperature 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.

5. Plant & Machinery:

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

**6. Project Cost – Fixed Cost – Working Capital (in Rs.‘000)
(Estimate for a model project):**

a) Land & Land development (750 m ²)	172.5
b) Building and civil works (250 m ²) including ponds	920.0
c) Plant and machinery	3966.2
d) Auxiliary equipments	50.0
e) Other fixed assets	20.0
f) Pre-operative expenses	484.1
Total fixed capital	5612.8
Working capital margin	3552.7
Total Project cost	9165.5

Means of finance:

- Promoters contribution	5318.9
- Term loan	3846.6

7. Production Capacity- (estimate):

Suggested economic capacity: 5000 kg of blended oil

Working: 300 days per annum

Production per day: 5000 kg of blended oil

8. 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 project. CFTRI can offer further technical assistance for project implementation for scale up - of advisory nature under technical consultancy services.