



Prakash Chawla
CEO
AAK Kamani Pvt Ltd

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**Healthier Aspects of
Oils and Fats**

Importance of vegetable oil in our diet



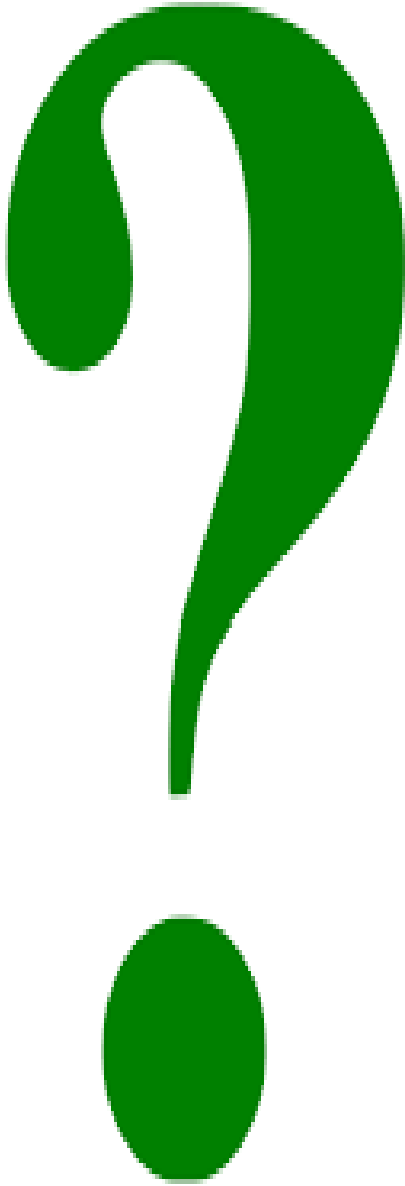
- ◆ **Major source of energy**
- ◆ **Carrier of essential nutrients (Vitamins)**
- ◆ **Source of essential fatty acids**
- ◆ **Protect our brain cells**
- ◆ **Make hormones**
- ◆ **Provide healthier skin**



Taste and Mouth Feel

- ◆ Enhances flavour
- ◆ Adds to the mouth-feel inspite of being bland
- ◆ Making baked products crispier
- ◆ Feeling of satiety

Oil and Fats . Most misunderstood



- ◆ **Excess of fat - culprit for many life style diseases**
- ◆ **Low Fat / No Fat leads to substitution with carbohydrates and high Carb foods.**
- ◆ **These carbs eventually get converted to fat .**
- ◆ **Potentially leading to CVD and other issues**
- ◆ **Right balance of macronutrients (carbs, proteins and fats)**
45 - 55 % from carbs, 20-30% from fats, 20 - 25 % from proteins

Vegetable oilsmore than a cooking medium

- ◆ Current per capita consumption levels –
appx. 17-18 Kg/year
- global average - 25 kg/year
- ◆ Medium for lifestyle correction due to rising health concerns
- ◆ Feel good factor - Consumer is prioritizing health but is not ready to compromise on taste
- ◆ **Food has to deliver - HEALTH & TASTE**





Vegetable Oils add value to the entire food chain

Applications of Vegetable oils and fats

Bakery

Confectionery

Nutrition

Culinary

Ice-cream

Bakery



Fats used in biscuits, cookies, puffs, cakes etc that deliver health benefits

- ◆ **Trans free/Zero trans shortenings & margarines (non hydrogenated)**
- ◆ **Fortified fats – with phytonutrients, omega 3 fats, MCT, vitamins, minerals**
- ◆ **Low saturated / High Mufa fats**

Confectionery

- ◆ Chocolates contain 20-30% fat
- ◆ Cocoa Butter - Limited availability, high price
premium chocolates, not for the masses
- ◆ Development of Cocoa butter Alternatives / specialty
fats – cheaper than Cocoa butter chocolates for the
masses
- ◆ **3 types of Specialty Fats**

CBS : Cocoa butter substitutes

CBR : Cocoa butter replacers

CBE : Cocoa butter equivalents





Nutrition

Nutrition

Infant Nutrition – Human milk fat replacer, MCT, Omega 3 DHA (veg source)

Geriatric Nutrition – Omega 3 (ALA, EPA, DHA), Coconut oil, GLA

Sports Nutrition – MCT, CLA

Animal Nutrition – Rumen protection fat

Culinary

- ◆ **Specialty culinary Oil Blends – providing health benefits / high shelf life**
- ◆ **Butter / Ghee replacement – Trans free & Cholesterol free**





Ice-cream / Frozen desserts

◆ Dairy Fat analogues

- Trans free & Cholesterol free, convenient to store at room temp – Economical & Nutritious

◆ Ice-creams/FD fortified with

- Omega 3
- Vitamins, Minerals (calcium)

Vegetable Oils – Consumption pattern

- ◆ Oils vary across different regions in India.
- ◆ Consumer preferences are influenced by the crops grown in their regions
- ◆ **South and West**
 - Coconut, Sesame and Groundnut oil Sunflower
- ◆ **East and North**
 - Mustard oil
- ◆ **Other popular oils**
 - Soy, Ricebran, Palm



Trans Fats - History

◆ Hydrogenation

- Hydrogenation for functional applications in Foods
- Hardness and shelf life .
- Primarily from Soft Oils

◆ Trans Fats (TFA)

- A by-product of Hydrogenation during manufacture of Vanaspati
- Has some interesting functional applications

◆ 1990s – Research on trans fats and its health implications

◆ Industrially produced TFAs – Increases risk of CVD and other non-communicable diseases

Trans Fats from the Indian context contd....



- ◆ WHO/AHA recommendation-
- ◆ TFA consumption < 1% of total energy intake (< 2.2 gms/day)
- ◆ FSSAI limit current : 5% max
- ◆ India is not at risk as TFA consumption is well below WHO recommendation
- ◆ Low per capita consumption of Vanaspati
- ◆ Industry and FSSAI's aim is to make India trans free .
- ◆ Pledge by Vanaspati Industry : below 2% by 2022

Palm oil ?????

- ◆ Naturally suited for many applications
- ◆ An alternative for HVO / PHVO
- ◆ Balanced oil (50% saturates and 50% unsaturates)
- ◆ Being a reasonably priced oil, it is a boon for India
- ◆ Serves the nutritional needs of all sections of society
- ◆ India is the largest importer of Palm oil.



Ref oils vs Filtered oils – remove the myths

Refined	Filtered
Loss of natural nutrients	Natural nutrients retained
Needs addition of anti-oxidants	No addition of anti-oxidants
Aroma is removed, completely bland – wonders for taste	Aroma is retained
Metal impurities are removed	Metal impurities may be present
Utilized for frying and cooking as low in ffa (high smoke point)	Preferable used only in cooking due to higher ffa (Low smoke point)
Soyabean Oil, Sunflower Oil	Groundnut oil, Mustard oil, Sesame Oil, Coconut oil

Oils / Fats in-take – the key is moderation

- ◆ The optimum intake of fat for an adult- 30% of its total calorie intake

- ◆ For an adult consuming 2000 calories, the upper limit of total fat (visible and in-visible) is 65- 67 gm/day

- ◆ Invisible fat : amount of fat is present in food items like cereals, pulses, milk, eggs, meat etc

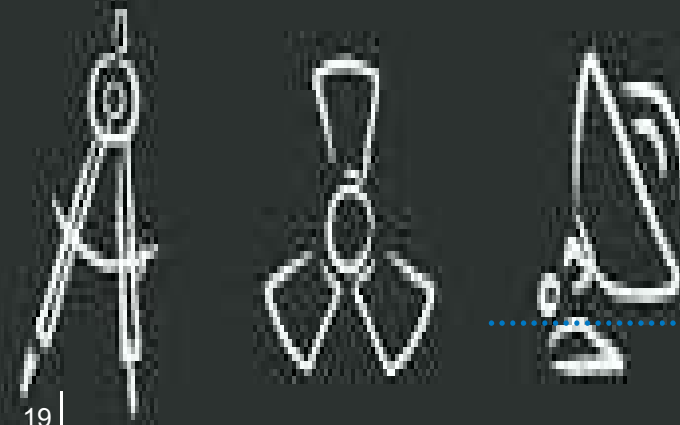
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Choice of cooking oils

Saturated (SAFA)	MUFA	PUFA
(High)	(High)	(High)
Coconut Palmkernel Ghee, Butter Vanaspati	GNO HOSO Canola Olive	Safflower Sunflower Corn Soyabean
	(Moderate)	(Moderate)
	Palmolein Sesame Ricebran	GNO Ricebran Sesame

- **SAFA intake should not exceed 8-10% of total energy**
- **PUFA should be 8-10% of energy intake**
- **linoleic/ a-linolenic (n-6/ n-3) ratio should be 5-10**
- **There is a clear shift to Natural oils (thanks to social media)**



Emerging New Trends

- Plant based foods, Vegan (cheese, meat)
- Nutritional Labelling - young shoppers keen to read labels
 - Clean label / clear label / Label transparency
 - Traceability
- Trans fat free food products
- Minimal processing to retain the minor nutritional constituents – virgin / cold pressed/ wood pressed
- Organic – contaminant free
- Non-GMO, sustainable

BLUE ZONE and IKIGAI – Live with a purpose

- Blue Zone – Areas of well being
 - OKINAWA, a remote island in Japan also part of Blue zone - unusually large population of centenarians, close-knit community
 - Japanese concept – IKIGAI Reason/Purpose for being
 - Good Social interactions – strong community
 - Diet – plant based, light, nutritious, low calorie, fruits and vegetables
 - Access to fresh air, sunshine and exercise – hence healthier with stronger bones
 - Impact on health and longevity
 - Few incidences of cancer, heart disease, diabetes, dementia or depression
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How much to eat – mindful eating

◆ HARA HACHI BUN

- Okinawans practice this
- Eat until you are eight parts (out of ten) full or “belly 80 percent full”
- Consume 1800-1900 cal / day

◆ Zazen Yojinki (12th Century Zen Teaching)

- advises practitioners to eat about two-thirds of their capacity
- Less meat, more vegetables



EAT UNTIL YOU ARE
80% FULL

Learning from Past for a Healthier Future

Never Before have we had such wonderful access to Cuisines and foods Globally .

A Blessing if we enjoy life with moderation

Key is how much ! Rather than what !
Enjoy your Foods with Oils and Fats



THANK YOU



*Helping Spread the Joy
of Taste ^{and}~~or~~ Health*