International Association of Rice Bran Oil

Overview on Oils quality in Vietnamese Market and Health value of Rice Bran Oil

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Content



I. Introduction (1)

Oils and Fats Market in Vietnam

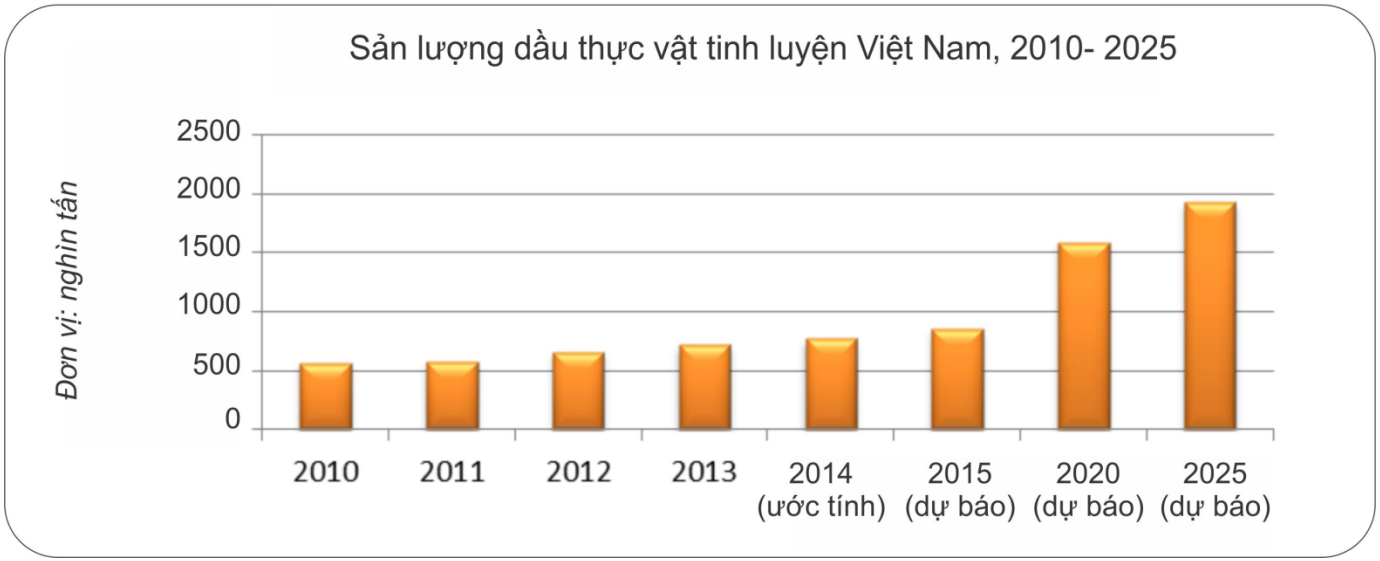


Fig 1. Vegetable oil yields in Vietnam from 2010 to 2025 (expected)

Most popular: **palm, soy bean, olive, sesame, peanut, sunflower and canola oils**

The consumption rate (predicted): 16kg/person (2020) and 18kg/person (2025)

I. Introduction (2)

Oils and Fats Market in Vietnam

Recently:

Economy and social circumstance:

- Incomes increasing
- Development of urbanization
- Industrial food processing

makes demand rising vegetable oil.

People knowledge:

- Awareness of consumers about the vegetable oil (beneficial for improving the health, replace the use of animal fat to vegetable oil)
- In large cities: expensive refined oils such as olive oil or other types of imported oil has increased significantly over the past five years
- Vegetable oils have become priority in food choice for a healthy regime.

II. Objective of study

Investigate vegetable oils in North market of Vietnam and

to evaluate quality of rice oil and all available oils

III. Material and method

Material

28 oils samples from Vietnamese market:

Sample	Code
rice bran oil, 1	RBO
sesame oils, 2	SO
soybean oil, 9	SBO
sunflower oil, 5	SFO
canola oil, 5	RSO
palm oil, 2	CO
peanut oil, 2	PO
Maize oil, 1	MZA
Palm olein, 1	CO

VEGETABLE OIL	CODE	VOLUME	PRICE (VND)/L
RICE OIL	RBO		
Rice oil. NC Cai Lan oil	RBO_CL1	1L	50,000
SESAME OIL	SO		
Sesame oil. Tuong An	SO-TA	250ml	48,500
Sesame oil. Meizan (Cai Lan)	SO_CL	250ml	23,900
SOYBEAN OIL	SBO		
Soybean oil. Enleen	SBO-EN	1L	45,000
Soybean oil. Happi Soya (An Long)	SBO_AL	1L	44,600
Soybean oil. Gia Vien	SBO_GV	1L	43,500
Soybean oil. Simply (Cai Lan)	SBO_CL1	1L	46,000
Soybean oil. Meizan (Cai Lan)	SBO_CL2	1L	41,000
Soybean oil. Tuong An	SBO_TA	1L	39,200
Soybean oil. Otran (Vinacommodities)	SBO_OT	1L	50,000
Soybean oil. Marvenla	SBO_MAR	1L	44,700
Soybean oil. Rich Vita (CTCP Thap Nhat Thien)	SBO_RVT	1L	42,000

VEGETABLE OIL	CODE	VOLUME	PRICE (VND)/L
SUNFLOWER OIL	SFO		
Ozendy sunflower oil (Ucraina)	SFO-UC	1L	59,000
Sunflower oil. Sloboda	SFO_SLBD	1L	65,000
Sunflower oil. Bravita (VietFoods)	SFO_BRA	1L	60,000
Sunflower oil KiCo	SFO_KC	1L	61,800
Sunflower oil. Oilio (VictoriaOil)	SFO_OL	1L	80,000
RAPESEED OIL	RSO		
rapeseed oil	RSO_BL	1L	72,000
Rapeseed oil. Cai lan	RSO_CL	1L	59,400
Rapeseed oil. Oilio	RSO_OL	1L	56,000
Ajinomoto rapeseed oil	RSO_AJI	1L	100,000
Canola rapeseed oil (Tuong an)	RSO_TA	1L	52,000
PALM OIL	CO		
Marvela palm oil	CO-MA	1L	48,000
Tuong An palm oil	CO_TA	400ml	13,400
Palm OLEIN	CO-CL	x	x
PEANUT OIl OGR	PO		
Peanut oil ORG	PO-OG	1L	90,000
Peanut oil Tuong An	PO_TA	1L	86,400
Corn oil MAZOLA	NO-MAZ	1.18L	195,000

III. Material and method

Methods

Determination of physicochemical value

- Determination of Saponification Value (AOCS Cd3-65(93))
- Determination of Iodine Value (AOCS Cd1-25(93))
- Determination of Acid Value (AOCS Cd3d-63(93))
- Determination of Peroxide Value (AOCS Cd8-53(93))

Determination of Tocopherols: HPLC

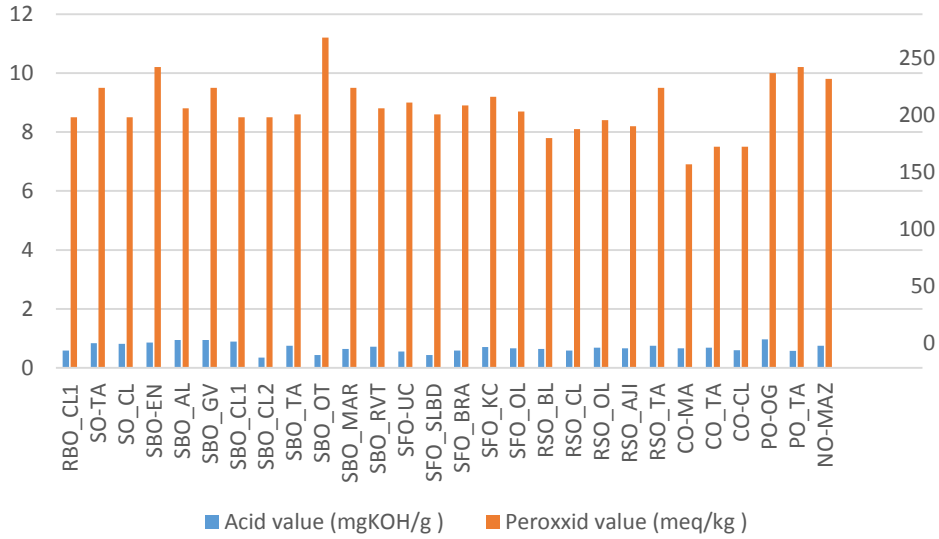
The chromatographic separation of the tocopherols was achieved by HPLC method

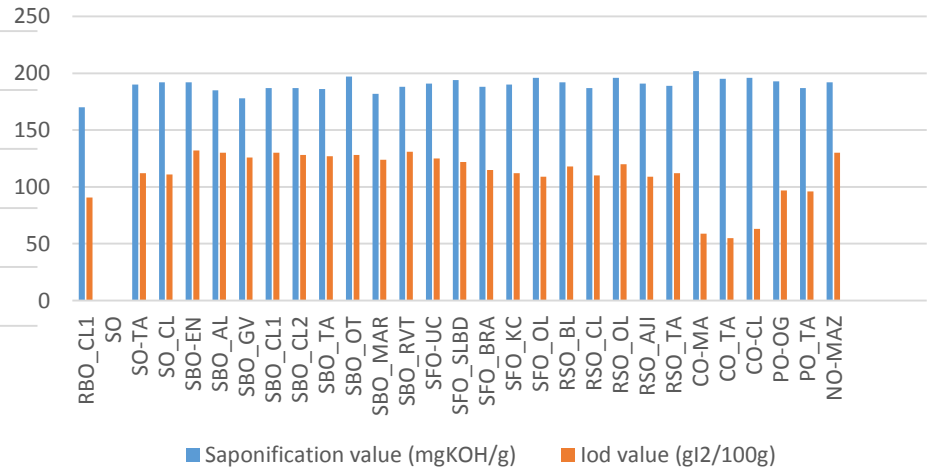
Fatty Acid Analysis: GC/MS

IV. Result and discussion

4.2 Investigation of Physico Chemical Properties of Oils in the Market

Acid value, Peroxide value, Saponification value and Iod value

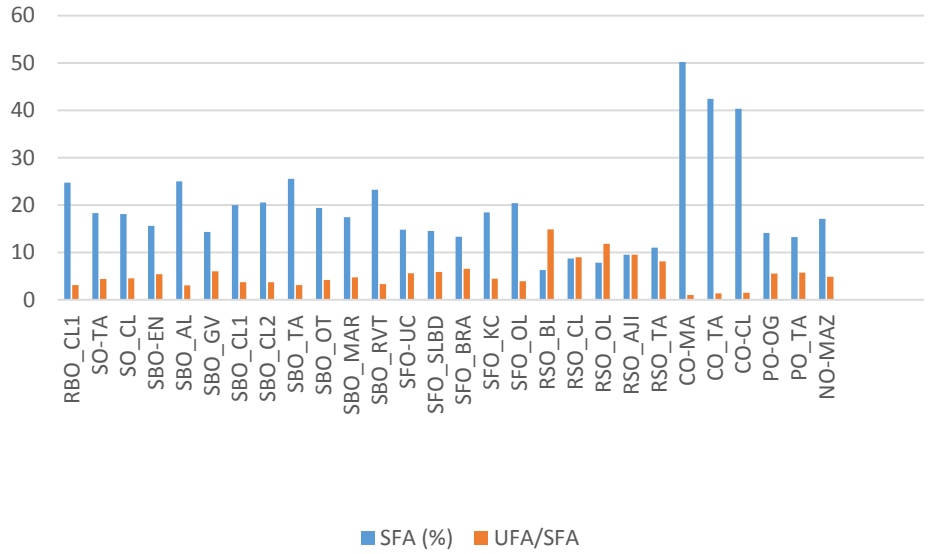


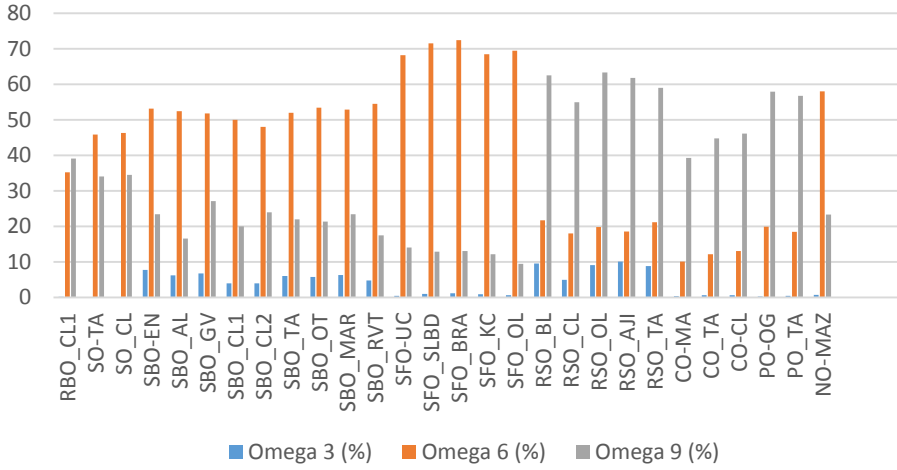


IV. Result and discussion

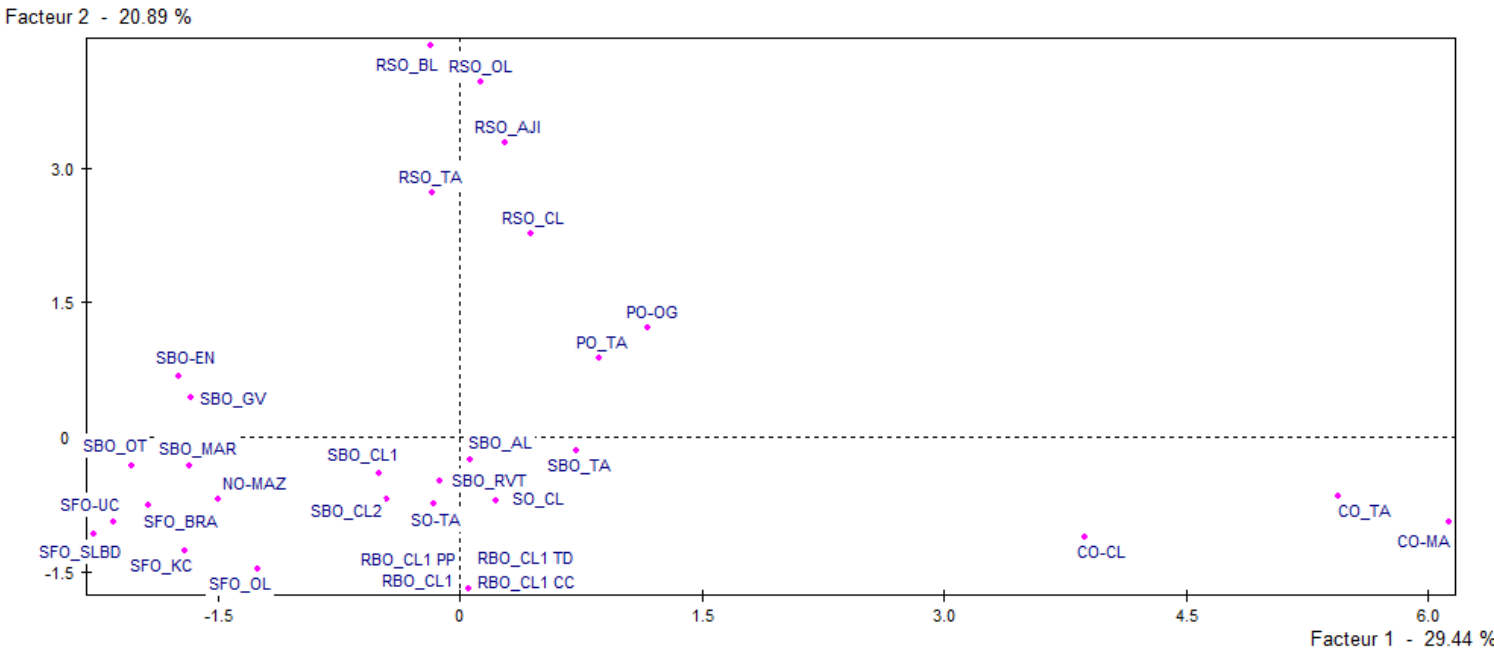
4.3 Investigation of Chemical Composition of Oils in the Market

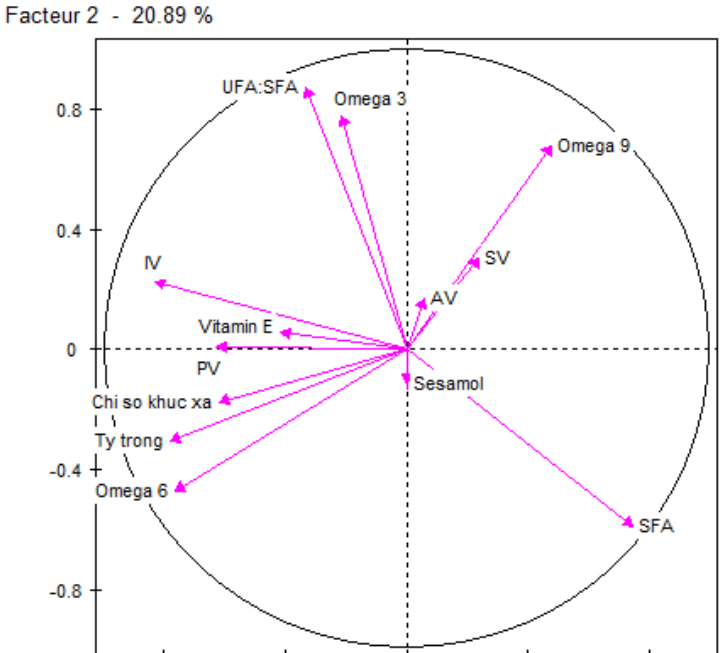
Fatty acids





PC Analysis

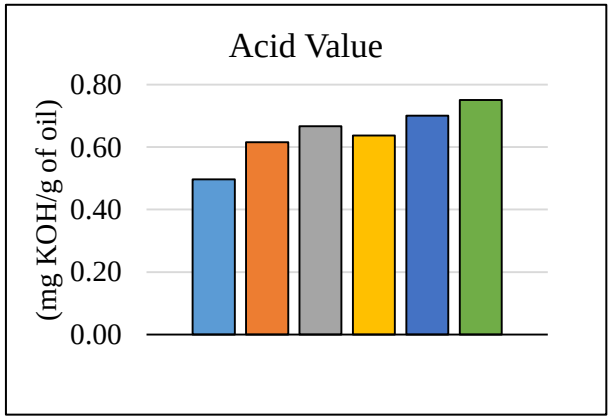


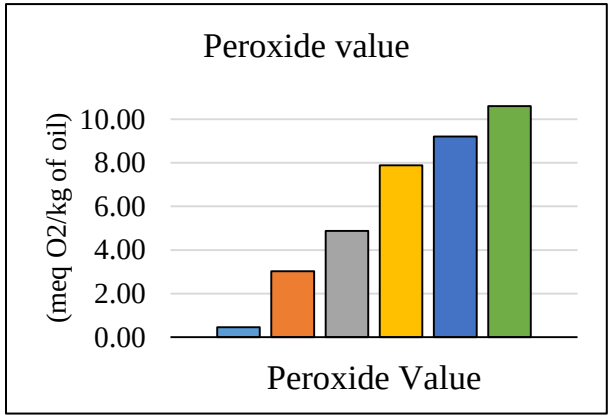


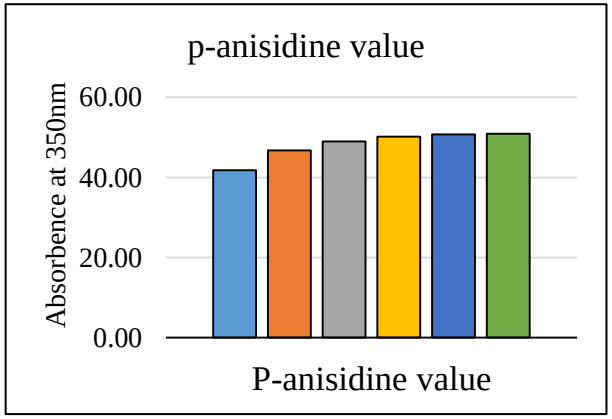
ω6: ω9: SFA ~1:1:1
gamma oryzanol: 0,24%

IV. Result and discussion

4.4 Stability of Rice oil during storage







IV. Result and discussion

4.4 Vegetable oil and health value

Antioxidant capacity:

gamma oryzanol: 0,24%

vit E: 5.2 mg/100g

Fatty acid balance:

ω6: ω9: SFA ~1:1:1

Tocotrienols.

Just one tablespoon contains 11% of the recommended daily intake of vitamin E

Mã	SFA (%)	UFA/SFA	Omega 3 (%)	Omega 6 (%)	Omega 9 (%)	g- Oryzanol (g/100g)	Sesamol (%)	Vitamin E (mg/100g)
RBO_CL1	24.7	3.1	0.2	35.2	39.1	0,24	nd	5.2
CO-CL	40.3	1.5	0.6	13.1	46.1	nd	nd	5.1
PO-OG	14.1	5.5	0.3	19.9	57.9	nd	nd	5.2

For recommend use: 20ml-30ml/day RO

V. Conclusion

- 28 oil samples have been investigated
- Rice oil is relatively stable during storage
- Rice bran oil is distinguished by Antioxidant capacity, Fatty acid balance

THANK YOU!

Thank You for Your Attention!