IMPORTANCE OF VETIVER OIL IN PERFUMERY

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VETIVERIA

IS ONE OF THE RARE FAMILIES OF AROMA PLANTS WHICH IS IMPORTANT FROM MULTI POINTS OF VIEW i.e.

ECONOMICALLY

ECOLOGICALLY

Many species of *vetiveria zizaniodes* .L. produce odorous roots which are being used for extraction of essential oil.

ECOLOGICAL IMPORTANCE

IS DUE TO THE ABILITY OF THE PLANT TO ACT AS A BARRIER AGAINST EROSION OF SOIL.

HISTORY OF VETIVER

- **Known by the name of *KHAS* in North India since ancient time.**

During the reign of king

HARSHWARDHAN

(606 -647 AD) –

***KHAS* was taxed being considered as highly prized possession.**

EXTRACTION OF ROOTS

Roots are extracted by steam distillation or water-stream distillation in traditional DEGH system or by

solvent extraction

In south India and many other countries, roots are extracted by steam and oil is known as

VETIVER OIL

In North India, roots are extracted by water-steam distillation system or DESI DEGH system and oil is known as

ROOH KHAS

Roots are also extracted by solvent extraction system and the product is known as VETIVER EXTRACT or VETIVER ABSOLUTE

All these oils or extracts possess different olfactive values and can not replace each other is PERFUMERY

Rooh Khas **is considered much superior oil because of its great strength with sweet and diffusive character.**

Merely a touch of this oil – impart a valuable natural character to a fragrance.

ROOH KHAS **is also an indispensable ingredient of ATTARS in India.**

Producing countries of Vetiver oil –

- HAITI
- INDODESIA
- REUNION
- BRAZIL
- CHINA
- INDIA

1980's Production of oil was estimated at 220-250 M. Tonnes.

Current production is estimated at 80-100 M. Tonnes.

Production of *Vetiver* Oil worldwide 1984-2004

Country	1984	1988	2004
Brazil	10	20	15
China	40	50	20-25
Dominican Republic	-	5	12
Haiti	100	20-30	100
India	10	10-15	20
Indonesia	80	45-50	80
Reunion	10	12-15	<1

Import of Vetiver oil (1984) in M. Tonnes

USA	76.300
UK	6.000
France	107.000
Germany	7.000
Holland	5.000
Japan	9.000
Total	210.000

1960 – 2000

SHARP DECLINE IN THE USE OF *NATURALS* IN PERFUMERY

GOOD NEWS !

RECENTLY – THIS DECLINING TREND HAS BEEN ARRESTED

IT IS VISIBLE BY LOOKING AT THE CURRENT DEMAND OF NATURAL OILS.

Beginning of this millennium hopes have revived as people have realized ill effects of

synthetic chemicals

being used in personal care / cosmetics – (Besides) food & medicine

During a recent survey in Europe, it was found that woman in Europe absorbs 1.5 kilos of SYNTHETIC molecules in a year through her skin only.

Pthalates /

Synthetic Musks – Galaxolide, Tonalid, nitromusks and many more

Non – biodegradable

molecules are main culprits.

SMOKING IS CANCEROUS

Because some TAR is deposited inside body which initiates formation of Cancerous cells.

WHY the same theory can not be applied to hundreds of synthetic molecules which are non-biodegradable and are being taken with food or inhaled through nose or absorbed through skin.

All these synthetic molecules promotes cancerous cells inside human body at one point of time or other.

SUSTAINABILITY

-another important issue.

which is being talked by many Governments and large corporations

but seldom PRACTICED.

Example -

BASF being licensed by GERMAN GOVERNMENT TO PRODUCE 10,000 M.Tonnes of SYNTHETIC MENTHOL.

NATURE
is producing
30000 M. Tonnes of
M. arvensis oil.

engaging 2.5 millions of farmers and workers for five months in a year

In this process of growing-
3.0 Million Tonnes of
GREEN HERB is
generated every season

which is not only
important for ecological
balance of the planet but-

after extraction of oil,
the residual herb is utilised as a FUEL or MANURE.

WHO SHOULD BE HELD RESPONSIBLE FOR DESTROYING THE LIVELIHOOD OF 2.5 MILLIONS WORKERS/ FARMERS

and also ecological balance of the planet ?

STILL GERMANY LAUDS OF SUSTAINABILITY.

SAME IS TRUE FOR HUNDREDS OF LARGE COMPANIES WHOSE PRIORITY IS TO **ELIMINATE NATURALS** from **THEIR FORMULATIONS.**

GLOBAL WARMING HAS NO IMPACT ON THE WORKING OF

MOST OF THE MULTINATIONAL COMPANIES.

EXAMPLE OF
ITC. LTD.

- SPEECH DELIVERED

BY

Sh Y.C. DEVESHWAR
on July 29, 2011

HEADING WAS-

“MAKING MARKETS WORK

for GREEN GDP AND SUSTAINABLE LIVELIHOODS”

‘MANGAL DEEP’
Agarbatties
by ITC contain
20% PTHALATES
by weight of BATTIES.
-A TOXIC PETROLEUM
PRODUCT.

USE OF PTHALATES can be avoided by a simple technology which is available in India.

WHEN LARGE COMPANIES LIKE ITC MAKE A POLICY TO REDUCE THEIR DEPENDENCE ON PETROLIUM BASED INGREDIENTS-

INDIA WILL INITIATE ANOTHER REVOLUTION IN AGRICULTURE ie

GREEN HERBAL REVOLUTION

AND CROPS LIKE *VETIVERIA* will be given top importance.

VETIVER OIL in PERFUMERY

VETIVER OIL POSSESSES UNIQUE FIXATIVE QUALITY – EXTREMELY PERSISTENCE with

LOW THRESHOLD VALUE.

AROMA OF VETIVER OIL or *ROOH KHAS* is WOODY EARTHY, GREEN-HERBAL. with long-lasting sweetness.

Besides,

aroma of *ROOH KHAS* is also quite diffusive which places this oil under the category of

AROMA JEWELS

One of the well known perfumers Arcadi Boix Camps, says-

“I have not smelled an aroma ingredient like Indian vetiveryl acetate in my life’’.

ROOH KHAS **has a radiating power which is felt in a fragrance right from the beginning till the fragrance fades away**

One of the famous ATTARS created in 1940 or so, known by the name of MAJMUA is based on ***ROOH KHAS***.

CHANEL Nº 5 introduced in 1921

VETIVER OIL was one of the important ingredients.

-the perfume is still the best selling.

CHANEL Nº 5
INGREDIENTS

Neroli

Ylong Ylong

Jasmin

May Rose

IRIS

Lily of the Valley

Sandalwood

Musk

VETIVER

Vanilla

Civet

Oak moss

+Aldehydes

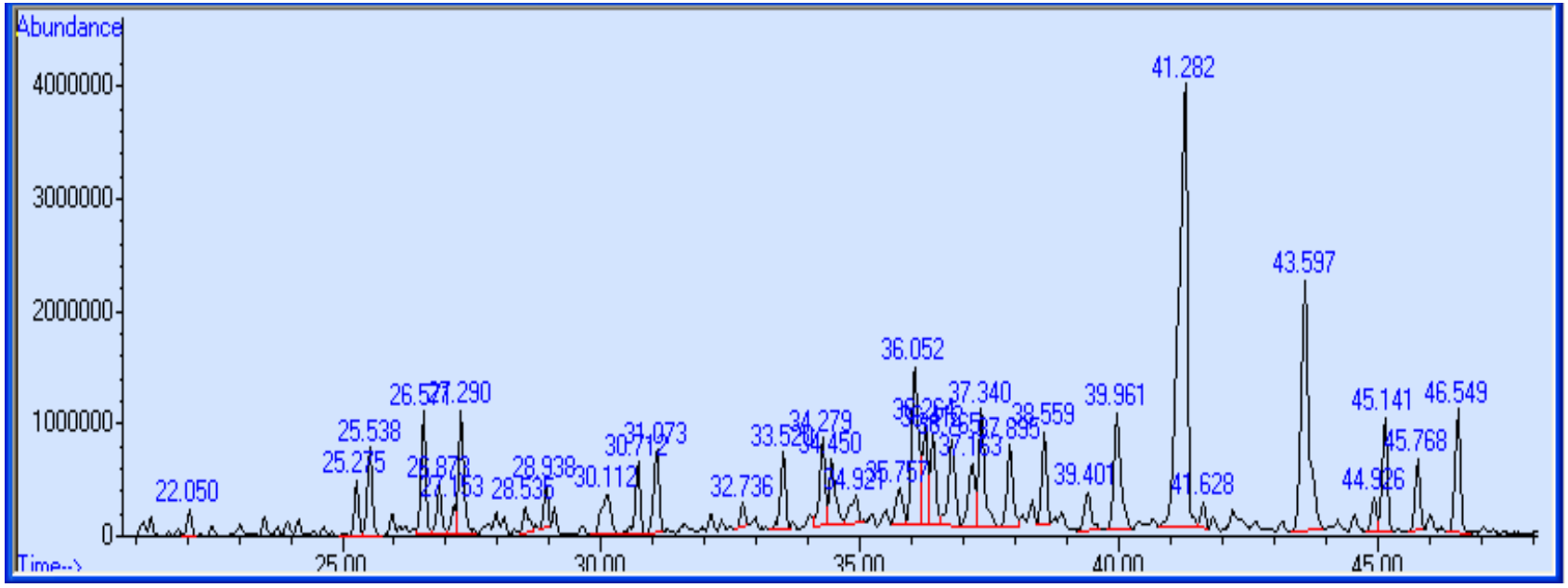
Demonstration of *Rooh Khas* in a fragrance

ELYSSEY 612 is without **Rooh Khas**

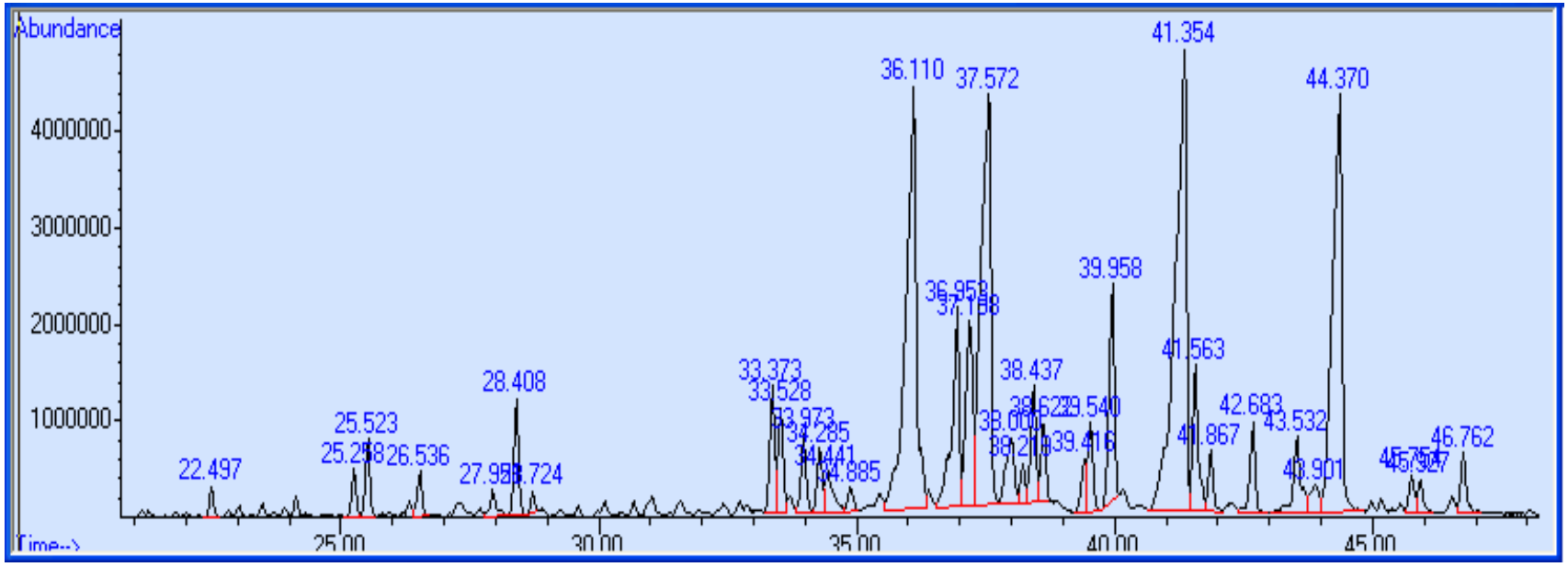
ELYSSEY 612+ is with 0.2% ***Rooh Khas***

CHEMICAL CONSTITUIENTS OF VETIVER OIL and *Rooh Khas*

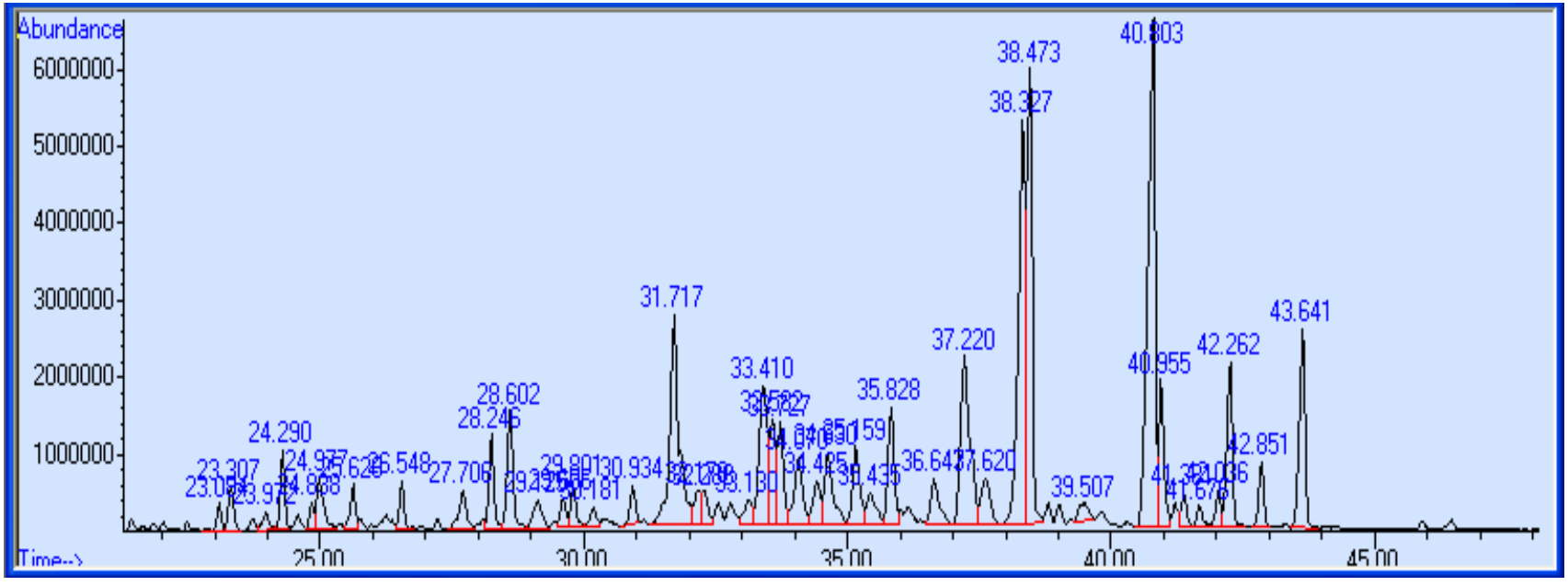
Vetiver Oil (South India)



Ruh khas Oil (North India)



Vetiver Oil (Haitti)



BY LOOKING AT THESE ANALYSIS-

The FOLLOWING DEDUCTIONS CAN BE MADE-

1. **First half of these graphs contain sesquiterpenes, like, amorphene, khusimene, alloaromadandrene, cadinenes, valencene etc. along with low boiling ketones like, khusimone.**

These sesquiterpenes are quite common to all vetiver oils from different locations including ***Rooh Khas.***

However, the second part of these chromatographs depict many variations with some similarities as well.

VETIVER OIL from HAITI contains more **Alpha & Beta VETIVONES** in comparison to Indian oil

-Vetivones are important olfactorily

Vetiver oils from HAITI and INDIA- both contain

khusimol.

Important Data

Constituents	HAITHI	(INDIA)	
		Vetive	Rooh Khas
KHUSIMOL	20-25%	22-28	15-20
KHUSINOL	-	-	15-20
KHUSILAL	-	-	11-15
Iso valencenol	15-20%	8-11	-
Vetivones (Alpha+ Beta)	7-10%	5-8	5-8
Total Alcohols	50-60	40-50	60-70

Chemical composition of the major comparative oxygenated components in various commercially available vetiver oils

Compound	H	C	J
Khusimol	13.4	20.0	13.6
β-vetivone	5.2	4.1	2.8
α-vetivone	3.2	5.2	4.0
Unkn. Ketone	5.3	7.3	7.1
Elemol	2.3	0.8	0.7
10-epi-γ-eudesmol	2.2	1.5-1.6	1.8
β-eudesmol	5.5	6.5	7.0
Vetiverenol+ cyclocopacamphenol	6.6	6.2-6.8	6.1
Vetiselinenol	11.2	13.9-19.5	10.3
Unknown alcohol	4.2	2.0-3.0	3.5

THERE APPEARS MANY SIMILARITIES in Composition of Haiti & Indian oils

But the composition of Indian *Rooh Khas* is different.

The presence of 'khusilal' (11-15%) makes this oil more diffusive & penetrating.

OTHER THAN VETIVER ALCOHOLS, KETONES AND ALDEHYDES AS IMPORTANT CONSTITUIENTS OF VETIVER OILS-

THERE ARE MANY. NITROGEN COMPOUNDS-

which are important olfactorily.

FOLLOWING PRESENCE HAVE BEEN REPORTED-

2-Ethyl 5 Methyl pyrazine

2-Ethyl 6 Methyl pyrazine

2,5 Dimethyl pyrazine

2- pentyl pyridiene

MANY UNKNOWN CONSTITUIENTS ARE STILL THERE AND REQUIRE FURTHER RESEARCH

USE OF VETIVER OIL IN AROMATHERAPY

VETIVER OIL is a natural skin rejuvenator.

Effective in combating-

Skin BLEMISES

ACNE

STRCTCH MARKS

SAGGING SKIN.

VETIVER OIL is known for strengthening – Central Nervous System.

Effective in overcoming

DEPRESSION

ANXIETY

TENSION

STRESS/ INSOMNIA

VETIVER BLENDS with

LAVENDER

ROSE

SANDALWOOD

ARE MUCH EFFECTIVE.

USE OF VETIVER OIL in NATURAL PERFUMERY

-high quality ATTARS or natural fragrances cannot be imagined without use of VETIVER OIL

THANK YOU