



# **ICRBO Conference 2016**

## **Country Presentations on RBO**

### **Indian Rice Bran Oil .....**

### **A Growth Story**

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## **Presentation Sequence**

- **SEA Profile**
- **Indian General Economy**
- **Agricultural Economy**
- **Global Rice Production**
- **Rice Bran Oil – Growth Story**
- **Way Forward**



## SEA Profile

- Formed in **1963** to foster the development & growth of the Solvent Extraction Industry in India
- Largest and Premier Association in the Vegetable Oil Sector in India
- First Association in Vegetable Oil & Oilseed sector to receive **ISO 9001** Certification in India (2004)
- Recognised as **NGO** and **TPO** by Government of India



# India Shining

Growth Bumped Up ( Projected % Annual Growth )

	2015	2016	2017
<b>World Output</b>	<b>3.2</b>	<b>3.1</b>	<b>3.4</b>
<b>Adv. Economics</b>	<b>2.1</b>	<b>1.6</b>	<b>1.8</b>
<b>United States</b>	<b>2.6</b>	<b>1.6</b>	<b>2.2</b>
<b>Euro Area</b>	<b>2.0</b>	<b>1.7</b>	<b>1.5</b>
<b>China</b>	<b>6.9</b>	<b>6.6</b>	<b>6.2</b>
<b>India</b>	<b>7.3</b>	<b>7.6</b>	<b>7.6</b>



# Indian General Economy





# Indian Macro-economic Overview

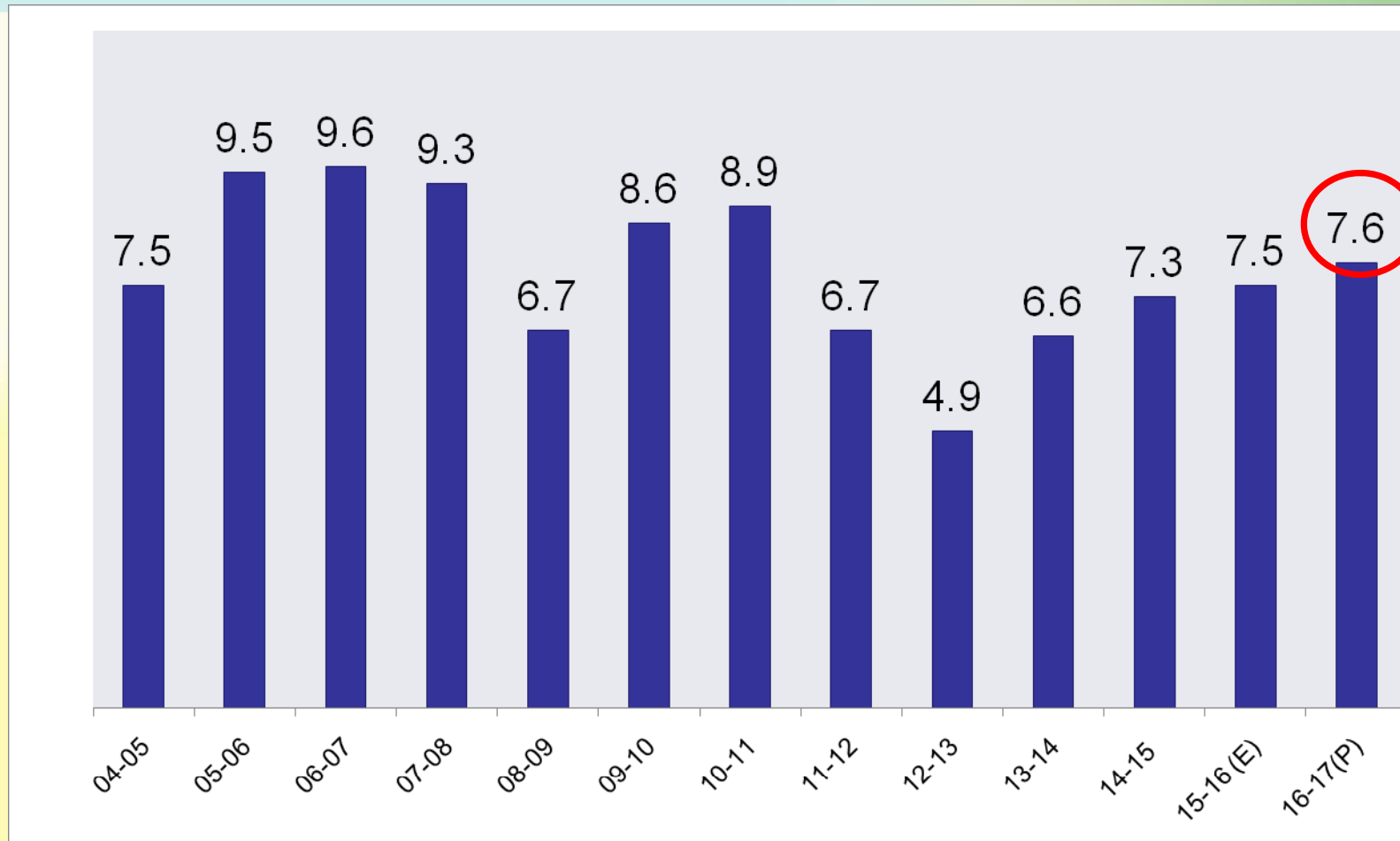
- India – a fast growing significant economy in spite of global slowdown
- Strong Macro-economic fundamentals
- GDP Value: Over US\$ 2.0 Trillion (Tn)
- Purchasing Power Parity (PPP): US\$ 5.6 Tn
- Forex Reserve: US\$ 372 Bn and growing
- FDI Flow US\$ 37.7 Bn (2014-15)
- Household Savings Rate 30.6% (2013-14)  
(world's highest)





# India's Overall GDP Growth

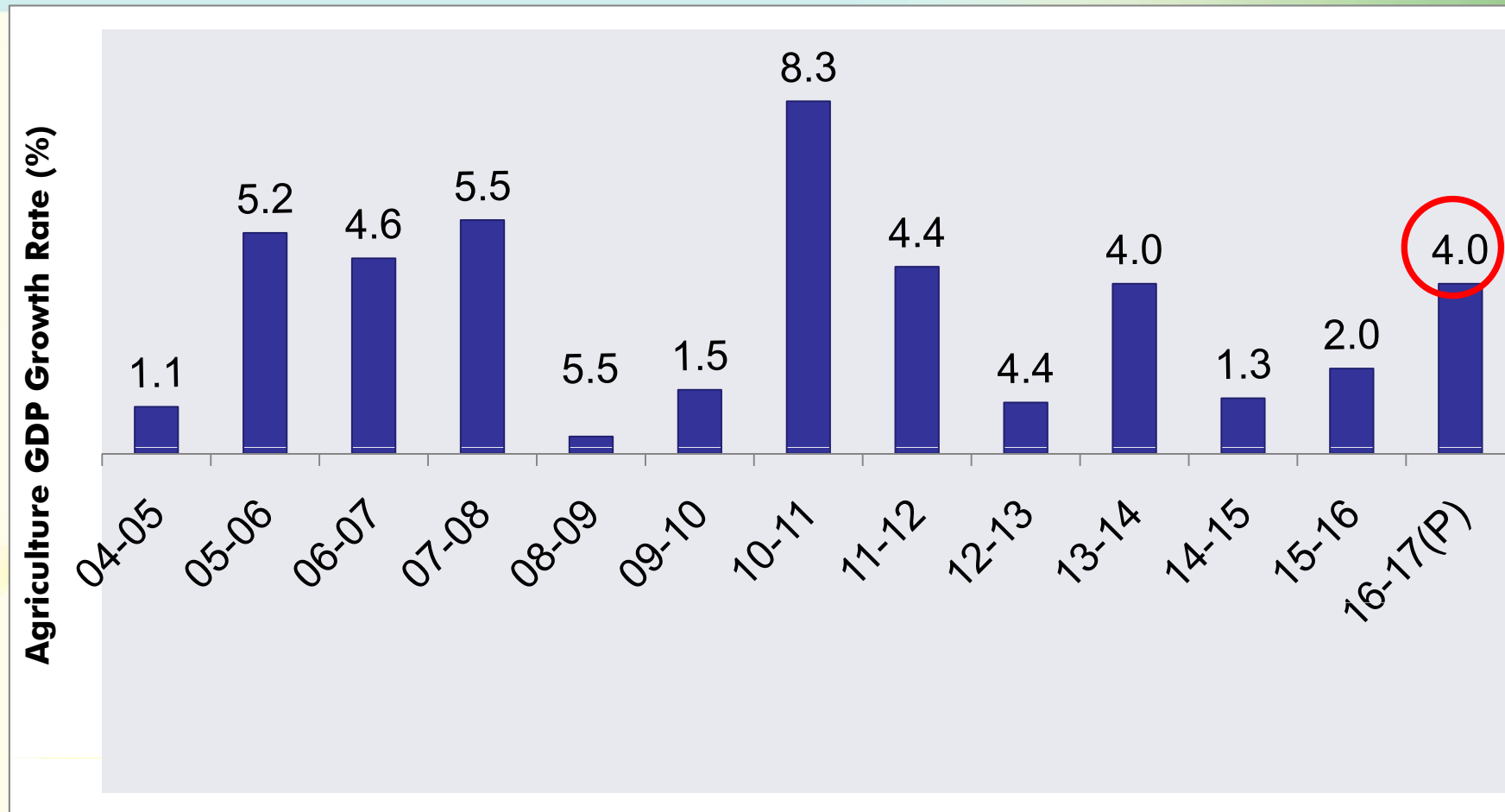
GDP Growth Rate (%)



- The average GDP growth in last four years is registered at 6.8%
- For FY 16-17, GOI projecting GDP growth 7.6%



## Agriculture Sector GDP Growth



- **Agriculture Sector Growth depends heavily on monsoon performance.**
- **For the year 2015-16 RBI has forecasted growth at 2.0 %**
- **Current year Agriculture growth will be higher, thanks to good monsoon.**





# India's Oilseeds Production Scenario

**SUPPLY**



**Demand - Supply**

**and**

**Import of Vegetable Oils**



## Oilseed Sector 2015-16

• Area Under Oilseed Cultivation	26.9	Mn. Ha.
• Average yield *	757	kg
• Output of 9 cultivated Oilseeds *	20.3	MnT
• Output of Cottonseed & Copra *	11.5	MnT
<b>Total</b>	<b>31.8</b>	<b>MnT</b>
• Production of Oilcake/meal	23.6	MnT
• Production Edible & Non-edible Veg. Oils	7.2	MnT
• Demand of Veg. Oils (Edible)	20.0	MnT
• Import of Veg. Oil 2015-16(F)(Nov-Oct) (Edible)	15.8	MnT
• Per Capita consumption (2015)	15.8	kg
• Per capita consumption is rising by 5 to 5.5% per annum		



# Consumption





## Per Capita (kg) Disappearance of Oils and Fats in Selected Countries and World

Country	2015-16	2014-15	2013-14	2012-13	2011-12	2010-11
EU-28	63.6	63.9	63.9	60.1	59.5	60.1
U.S.A.	64.2	62.8	62.4	61.1	59.7	56.0
Argentina	72.4	73.8	80.3	67.3	88.6	76.8
China	26.6	26.4	26.2	25.7	25.1	24.3
India	17.4	16.7	15.8	15.4	14.9	14.4
Pakistan	23.9	23.3	22.4	22.0	22.0	22.0
Indonesia	40.1	36.1	41.3	37.2	33.0	29.6
Japan	21.9	21.9	21.5	21.6	21.5	21.2
Turkey	33.8	33.7	33.2	33.3	31.3	29.6
Thailand	34.3	32.3	32.4	30.8	29.9	27.4
World	28.0	27.6	27.4	26.4	25.9	25.2

➤ Number shown includes consumption of oils and fats for Bio-energy / Non-edible purpose

Source : Oil World 2016



## Change in Edible Oil Consumption in India

Qty : '000 T

Particulars	2001-02		2007-08		2014-15	
	Qty	%	Qty	%	Qty	%
Palm Oil	2944	29.08	4437	35.81	9060	45.12
Soy Oil	2258	22.30	2170	17.51	4073	20.28
Mustard Oil	1721	17.00	1814	14.64	2035	10.13
Sunflower Oil	309	3.05	539	4.35	1732	8.63
Cotton Oil	443	4.38	1070	8.64	1319	6.57
Groundnut Oil	1216	12.01	689	5.56	240	1.20
RBO & Other Oils	1234	12.18	1671	13.49	1621	8.07
<b>Total</b>	<b>10125</b>	<b>100%</b>	<b>12390</b>	<b>100%</b>	<b>20080</b>	<b>100%</b>

- Consumption of Palm oil in India is now nearly 45% of the total oil consumption followed by Soybean oil and Rapeseed oil



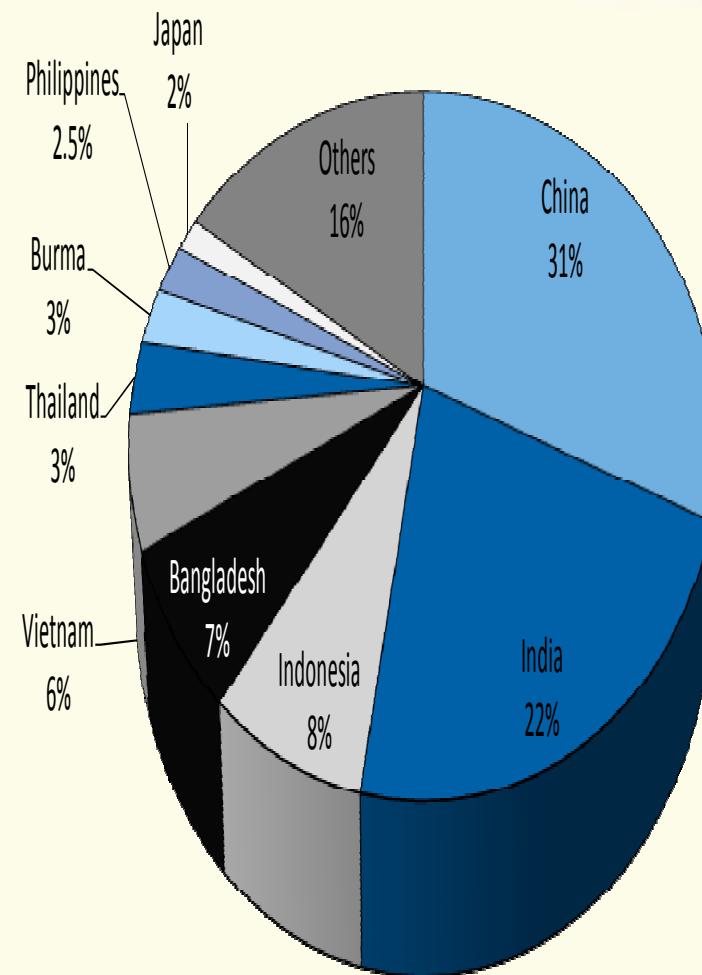
# **Indian Rice Bran Oil....**

## **A Growth Story**



# Global Rice Production and Country wise Share

Country	2014-15		2015-16	
	Qty '000 Mnt	Percentage	Qty '000 Mnt	Percentage
China	1,44,560	30.2	1,45,770	31.0
India	1,05,480	22.0	1,04,300	22.1
Indonesia	35,560	7.4	35,300	7.5
Bangladesh	34,500	7.2	34,500	7.3
Vietnam	28,166	5.9	28,100	6.0
Thailand	18,750	3.9	15,800	3.4
Burma	12,600	2.6	12,200	2.6
Philippines	11,915	2.5	11,350	2.4
Japan	7,849	1.6	7,653	1.6
Brazil	8,465	1.8	7,600	1.6
Pakistan	6,900	1.4	6,700	1.4
United States	7,106	1.5	6,107	1.3
Cambodia	4,700	1.0	4,350	0.9
Korea, South	4,241	0.9	4,327	0.9
Egypt	4,530	0.9	4,000	0.9
Sri Lanka	2,850	0.6	3,300	0.7
Others	40,549	8.5	40,429	8.6
World Total	4,78,721	100.0	4,70,486	100.0





## Production of Food Grains & Rice in India

Qty Mnt

Year	Food Grains Mnt	Rice Mnt	Percentage %
2015-2016(4 <sup>th</sup> Est.)	252.2	104.3	41.3
2014-15	252.0	105.5	41.9
2013-14	265.0	106.6	40.2
2012-13	257.1	105.2	40.9
2011-12	259.3	105.3	40.6
2010-11	244.5	96.0	39.3
2009-10	218.1	89.1	40.8
2008-09	234.6	99.2	42.3
2007-08	230.8	96.7	41.9
2006-07	217.3	93.4	43.0
2005-06	208.6	91.8	44.0
2004-05	198.4	81.1	40.9

Source : GOI





## India's Rice Production in Global Context

Year	World Production in million MT	Indian Production in million MT	India's Share (In %)
2014-15	476	105.5	22.16
2013-14	478	106.6	22.30
2012-13	473	105.2	22.24
2011-12	468	105.3	22.50
2010-11	449	96.0	21.38
2009-10	457	89.1	19.50
2008-09	459	99.2	21.61
2007-08	438	96.7	22.08
2006-07	427	93.3	21.86
2005-06	423	91.8	21.70
2004-05	405	83.1	20.53
2003-04	390	88.5	22.70
2002-03	380	71.8	18.90
2001-02	399	93.3	23.39

Source : USDA/GOI



# Top Ten Rice Producing States in India



1. West Bengal
2. Uttar Pradesh
3. Andhra Pradesh & Telangana
4. Punjab
5. Bihar
6. Orissa
7. Chhattisgarh
8. Assam
9. Tamil Nadu
10. Haryana

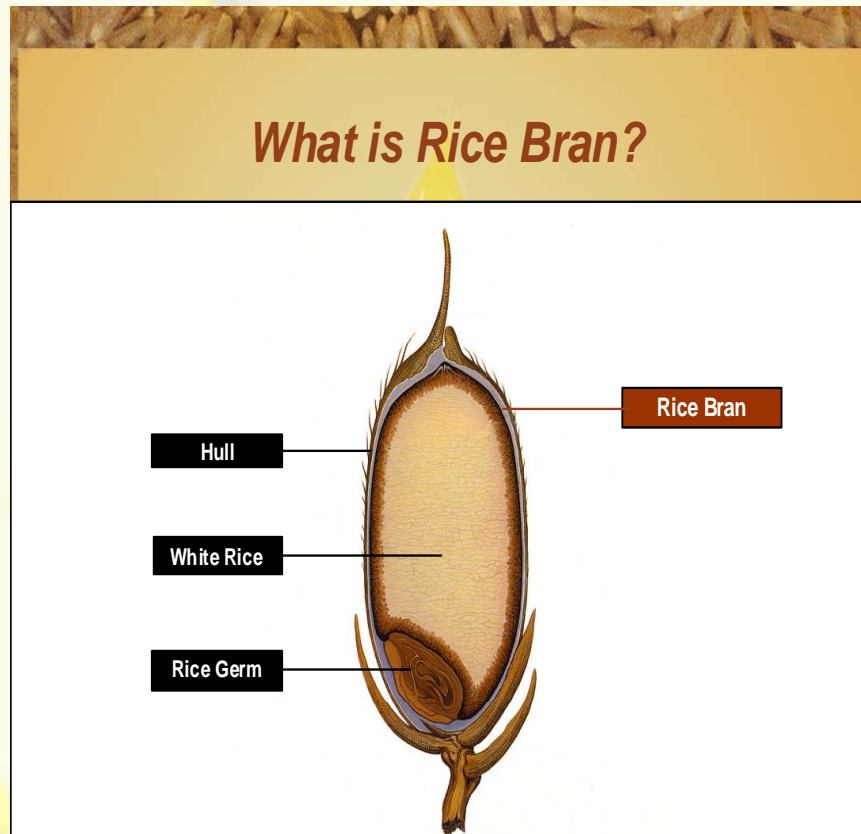


## What Is Rice Bran Oil?

**..a unique cooking oil  
produced  
From Rice Bran**



## What Is Rice Bran ?

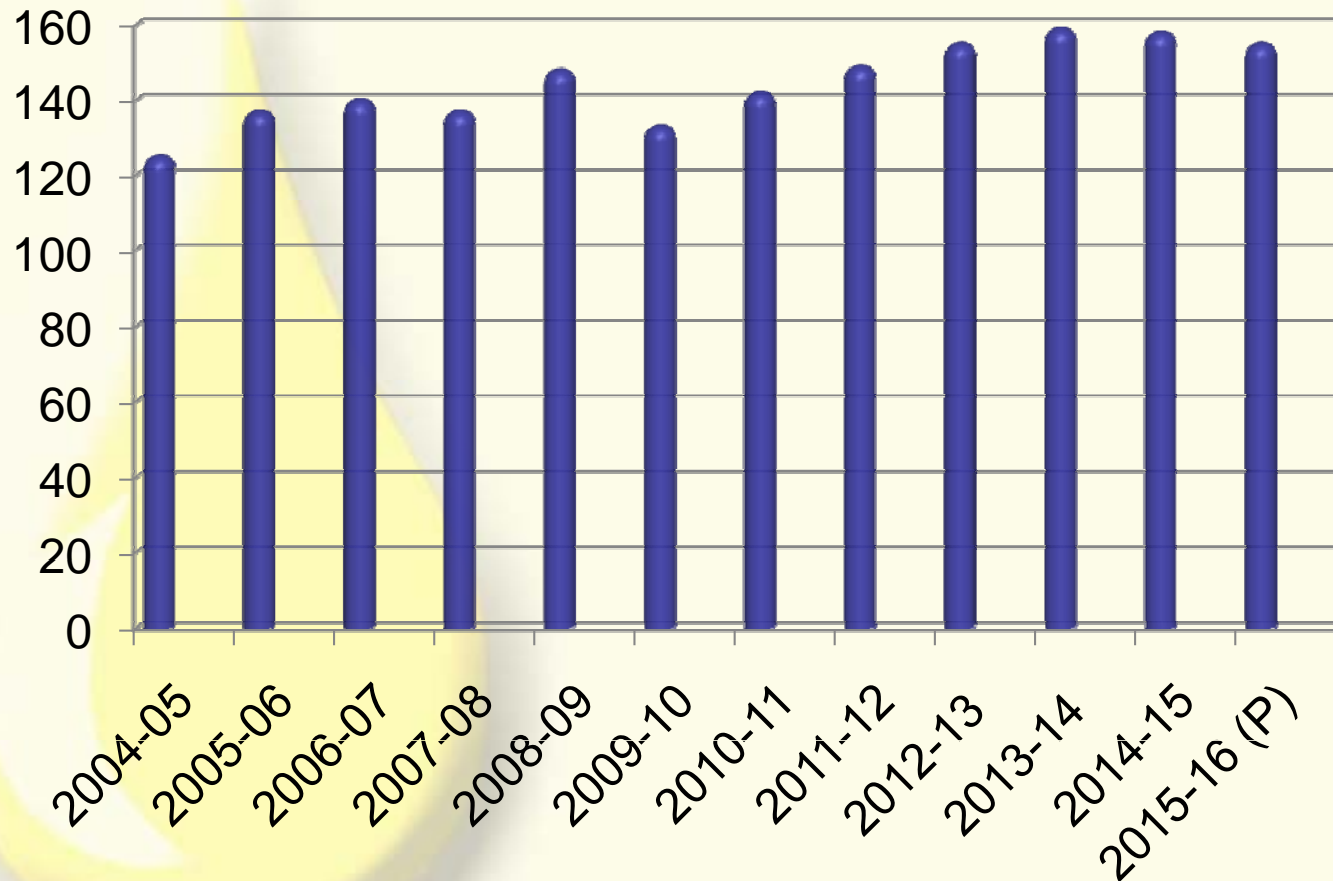


**Rice Bran is an oily layer in between the paddy husk and the white rice.**



# India's Paddy Production

Qty in MnT



Year	Qty in MnT
2004-05	125
2005-06	137
2006-07	140
2007-08	137
2008-09	148
2009-10	133
2010-11	142
2011-12	149
2012-13	155
2013-14	159
2014-15	158
2015-16(P)	155

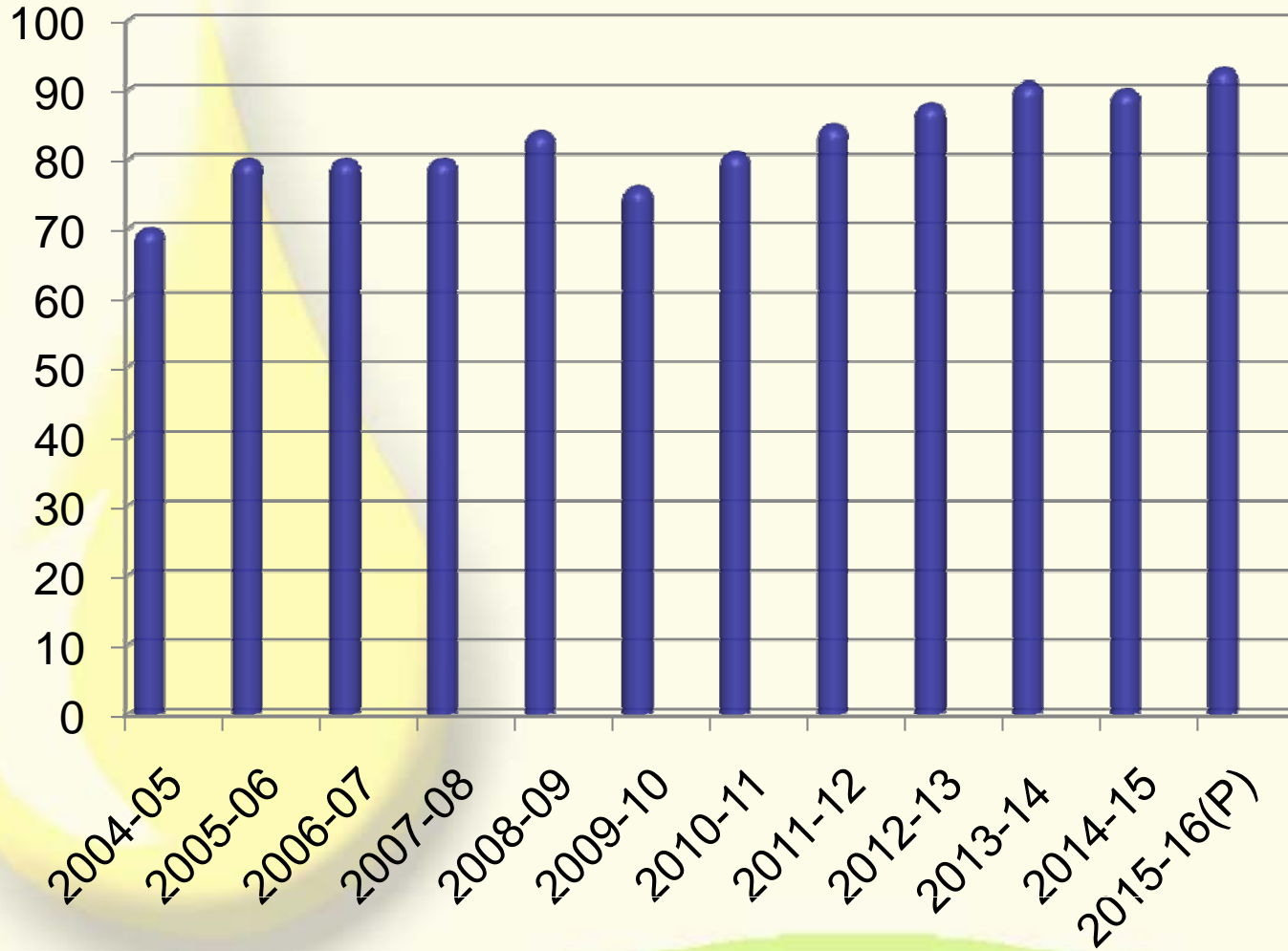
**Paddy Production increased by 125 MnT to 155 MnT in 12 years**





# Rice Bran Potential

Qty in MnT



Year	Qty MnT
2004-05	7.0
2005-06	7.7
2006-07	7.9
2007-08	8.0
2008-09	8.4
2009-10	7.6
2010-11	8.1
2011-12	8.5
2012-13	8.9
2013-14	9.1
2014-15	9.0
2015-16	9.3

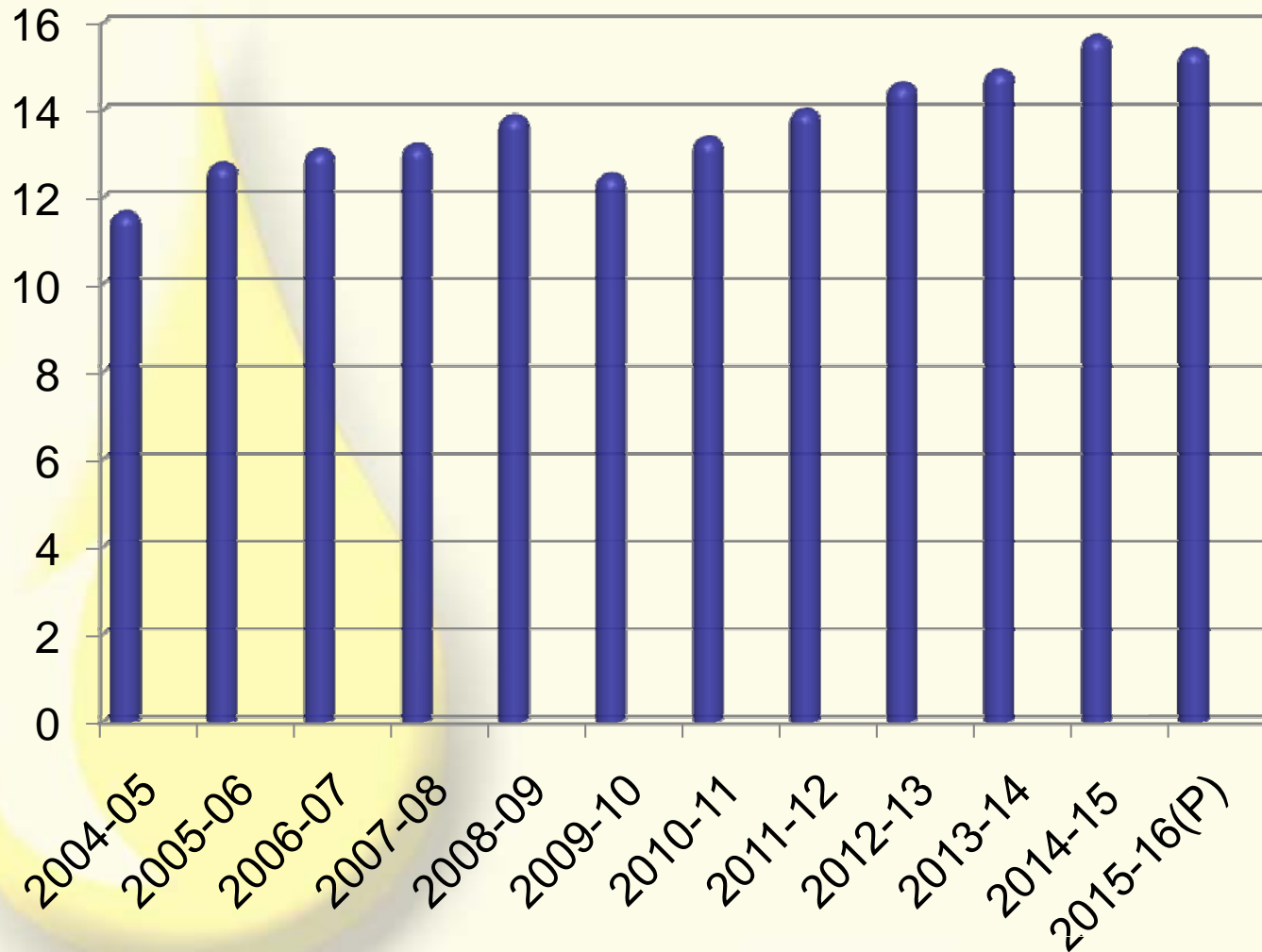


➤ **Average Recovery 6% from Paddy. Rice Bran Potential in India is about 9.3 MnT**



# Rice Bran Oil Potential

Qty in MnT



Year	Qty in Mnt
2004-05	1.235
2005-06	1.354
2006-07	1.388
2007-08	1.400
2008-09	1.470
2009-10	1.328
2010-11	1.418
2011-12	1.484
2012-13	1.551
2013-14	1.586
2014-15	1.569
2015-16	1.538

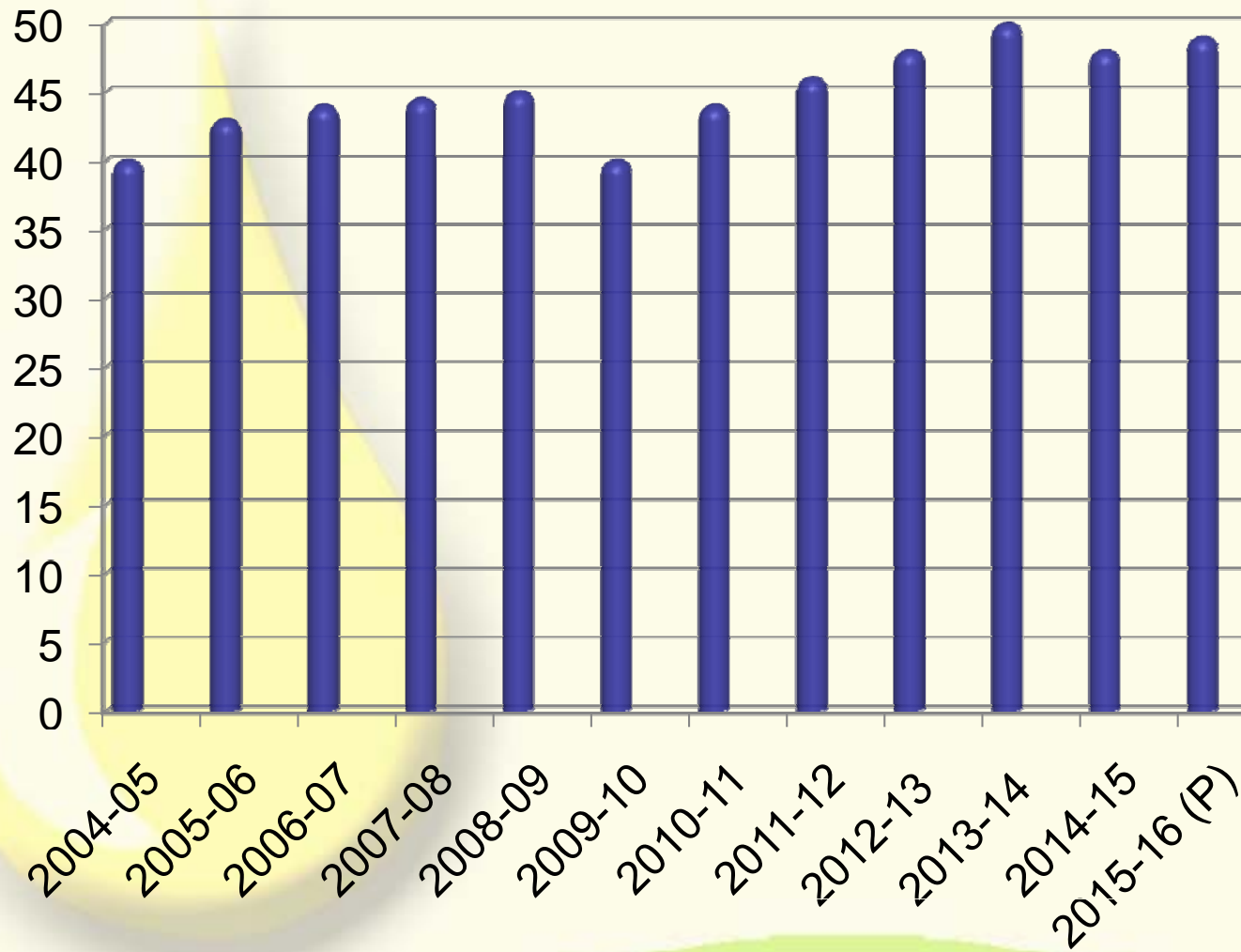


➤ **Average RBO Recovery 17% to 18% from Rice Bran.**  
**Current potential of RBO is about 1.55 Mn Tonnes**



# Rice Bran Processing

Qty in MnT



Year	Qty Mnt
2004-05	4.0
2005-06	4.3
2006-07	4.4
2007-08	4.4
2008-09	4.5
2009-10	4.0
2010-11	4.4
2011-12	4.6
2012-13	4.8
2013-14	5.0
2014-15	4.8
2015-16 (P)	4.9



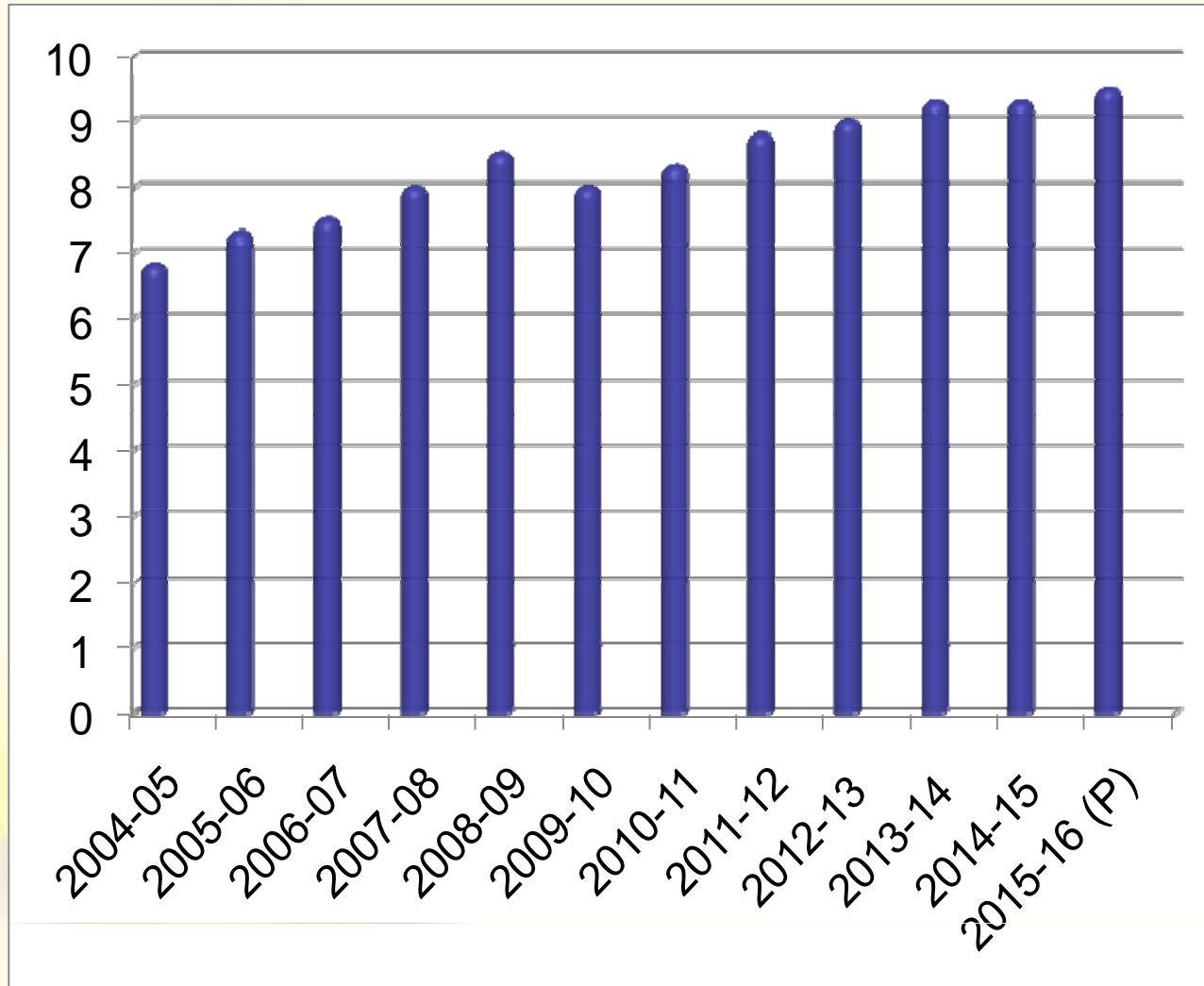
➤ **Currently India is processing about 5.0 mnl Tonnes of Rice Bran**





# Rice Bran Oil Production

Qty in MnT



Year	Qty Mnt
2004-05	0.68
2005-06	0.73
2006-07	0.75
2007-08	0.80
2008-09	0.85
2009-10	0.80
2010-11	0.83
2011-12	0.88
2012-13	0.90
2013-14	0.93
2014-15	0.93
2015-16 (P)	0.95

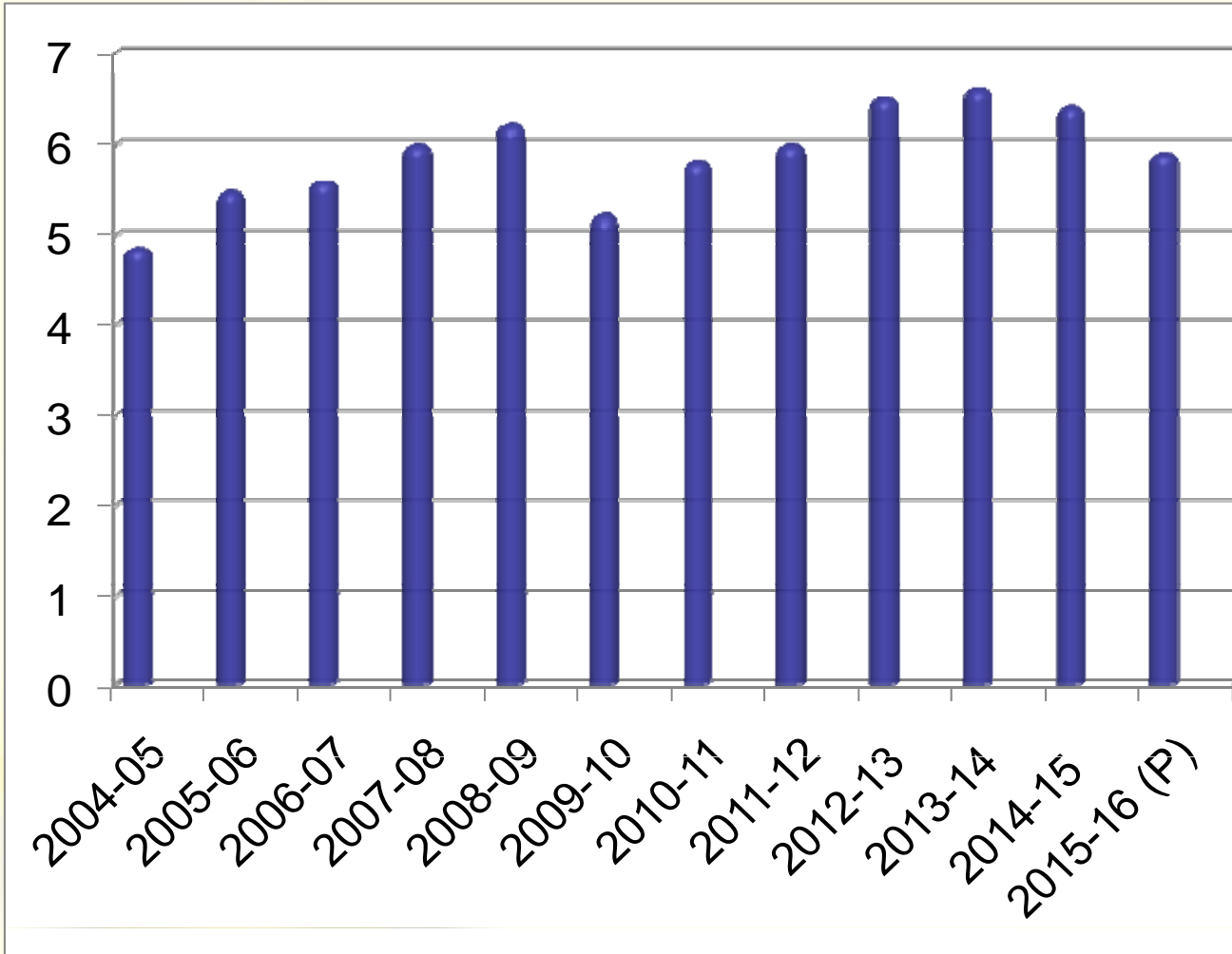


➤ India is producing about 950,000 Tonnes of Rice Bran Oil



# Untapped Potential Rice Bran Oil

Qty in MnT



Year	Qty Mnt
2004-05	0.55
2005-06	0.62
2006-07	0.64
2007-08	0.60
2008-09	0.62
2009-10	0.53
2010-11	0.59
2011-12	0.60
2012-13	0.65
2013-14	0.66
2014-15	0.64
2015-16 (P)	0.59





## India – Rice Bran Oil Potential & Production

**2015-16  
Summary**

<b>Paddy Production</b>	<b>155 Mn Tonne</b>
<b>Rice Production</b>	<b>104 Mn Tonne</b>
<b>Rice Bran Potential (6% of Paddy)</b>	<b>9.30 Mn Tonne</b>
<b>Rice Bran Oil Potential</b>	<b>1.62 Mn Tonne</b>
<b>Rice Bran Processing</b>	<b>4.85 Mn Tonne</b>
<b>Rice Bran Oil Production</b>	<b>0.95 Mn Tonne</b>
<b>Untapped Potential for RBO</b>	<b>0.59 Mn Tonne</b>



## World – Rice Bran Oil Potential & Production

2016-17 (P)

<b>World Production of Rice</b>	<b>480.71 Mn Tonne</b>
<b>Rice Bran Potential (8% of Rice Production)</b>	<b>38.50 Mn Tonne</b>
<b>Rice Bran Oil Potential ( 17.5% Recovery )</b>	<b>6.73 Mn Tonne</b>
<b>Current Production of Rice Bran Oil</b>	<b>1.50 Mn Tonne</b>
<b>World Untapped Potential</b>	<b>5.23 Mn Tonne</b>
<b>Percentage of Untapped Potential</b>	<b>78%</b>



## Country-wise Production of Rice Bran Oil

**2015-16 (Estimate)**

<b>India</b>	<b>950,000 Tonne</b>
<b>China</b>	<b>200,000 Tonne</b>
<b>Japan</b>	<b>80,000 Tonne</b>
<b>Thailand</b>	<b>50,000 Tonne</b>
<b>Others</b>	<b>220,000 Tonne</b>
<b>Total</b>	<b>1,500,000 Tonne</b>



## Rice Bran Oil - Indian Scenario

- During 1985-95 SEA with the help of Ministry of Civil Supplies (now Food Ministry) started more meal to convert huller to rice mills.
- Until 1995, RBO produced in India was mainly used in soap manufacturing and product mix of vanaspati manufacturing.
- Since 1998 SEA, jointly with TMOP & CSIR launched campaign to encourage production and use of RBO as a Healthy Cooking Medium.
- SEA in its crusade to encourage the production and use of Rice Bran Oil as 'Health Oil', has organised 13 National Seminars and a number of regional workshops since 2000.
- It also took a six-member delegation to Japan to study the latest technology in RBO processing (2001).



## Rice Bran Oil - Indian Scenario (Contd..)

- 2000 onwards RBO started to be used in Edible purpose in Vanaspati & Blended Oil
- In the year 2001, the Government of India sponsored Research and Development for developing cost-effective pre-treatment technologies for Physical Refining of Rice Bran Oil.
- Regional Research Laboratory, Trivendrum developed a pre-treatment process of simultaneous degumming and dewaxing
- Indian Institute of Chemical Technology, Hyderabad developed enzymatic degumming process
- Grant-in-aid assistance was given by the Government of India to set up Physical Refining Units based upon newly developed technologies
- Over 40 Units were set up in the recent past throughout India with the grant-in-aid assistance from the Government



## Rice Bran Oil - Indian Scenario (Contd..)

- 2005 onwards with the awareness campaign it was accepted as a very good healthy cooking oil
- In 2008, Health Ministry amended Food Standards of Refined Rice Bran Oil – Unsap Matter raised from 3% to 4.5 % to maintain oryzanol
- By 2010 – Many RBO & Blended RBO Brands entered into the market
- SEA has organized number of seminars, workshops and Doctors and Dietitians meet I last 15 years to create awareness.
- SEA undertook a big programme of “consumer awareness” since April 2013 which has created great awareness regarding virtues of Rice Bran Oil.
- These efforts have gone a long way in encouraging the production of good quality refined Rice Bran Oil & progressively increasing its consumption as a ‘cooking oil for the Health of Entire Family’.
- I can now proudly say that, India produces the best quality of Rice Bran Oil and has emerged as the largest producer of this oil in the world.
- With continuous efforts by SEA, supported by Ministry of Consumer & Food, GOI, in Aug’15 allowed export of Rice Bran Oil in bulk. This has opened a new avenue to tap World Market by India.
- RBO Export during April 15 to March 16 – 7,000 tons & for 2016-17 (Apr.- July) – 2,700 tons



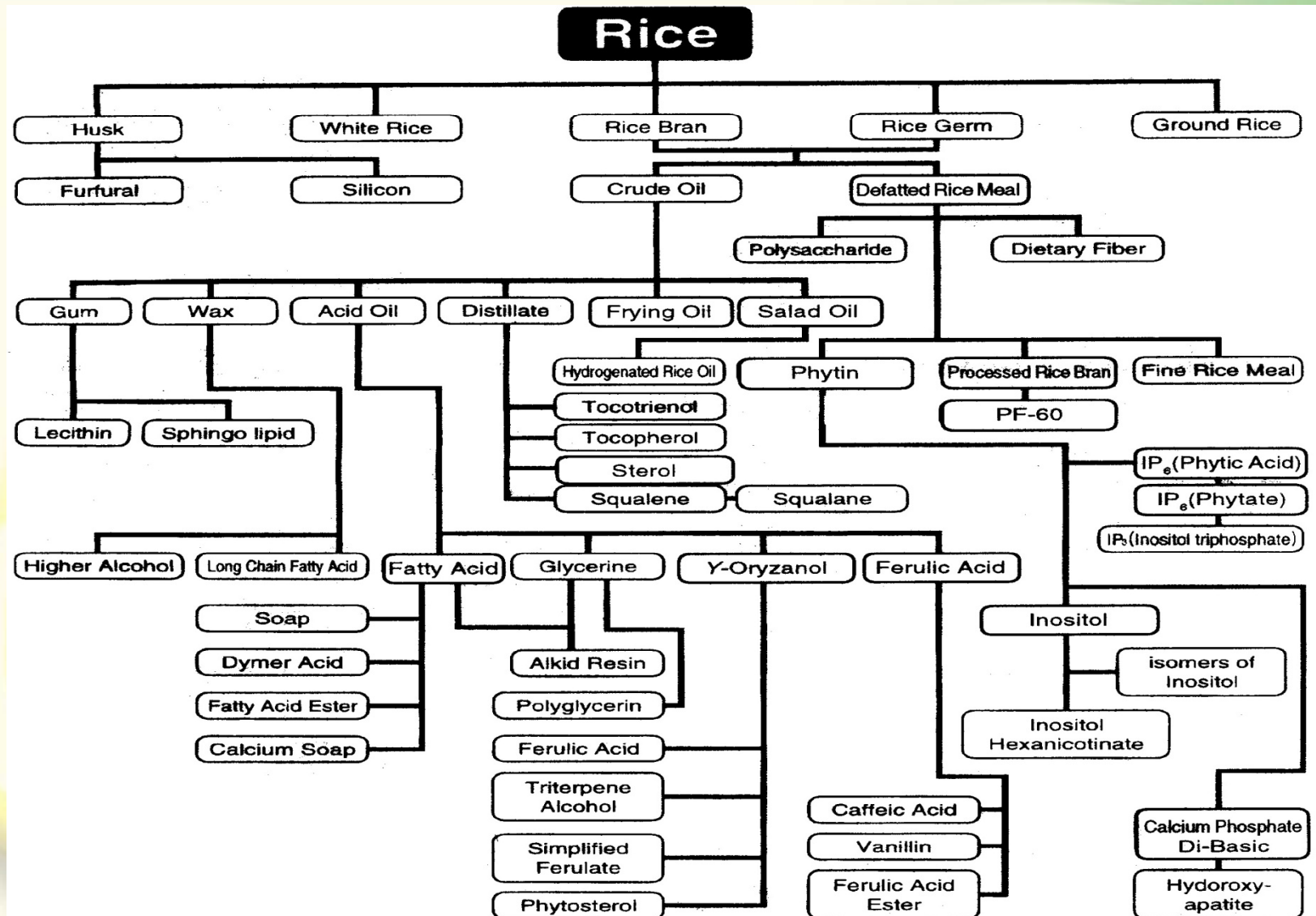


## Benefits to the Nation in Promoting Rice Bran Oil

- It can help in protecting the health of our people from diseases. According to Cardiologists' Society of India, 30% of India's population is prone to cardiac problems. Since every 1% reduction in Cholesterol, reduces the risk of heart attack by 2%, Rice Bran Oil can become a boon for our people
- It can help bridge the shortage of edible oils in India when its full potential of 1.55 Mnt is exploited.
- Rice Bran Oil Promotion will give better realisation for Paddy to the farmers.
- Higher capacity utilisation of rice milling and solvent extraction thereby leading to larger employment opportunities.



# By Products of Rice, Ricebran & RBO





## Rice Bran – Rice Bran Oil – Other Applications

A wide variety of Value-added products are also derived from Rice Bran and Rice Bran Oil

<b>Value-added Product</b>	<b>Uses</b>
<b>Gamma Oryzanol</b>	<b>Cholesterol Reducing Agent, Growth Preserver, Health Rejuvenator</b>
<b>Inositol(Vitamin B)</b>	<b>Good for General Growth &amp; Nutrition</b>
<b>Tocopherol(Vitamin E) &amp; Tocotrienol</b>	<b>Antioxidants, Cholesterol Reducing Agent, Anticancer</b>
<b>Squalene</b>	<b>Good for Nutrition and Integrity of Skin</b>
<b>Calcium Phosphate (Dibasic)</b>	<b>Organic Fertilizer</b>
<b>Microchemicals</b>	<b>Industrial and Medicinal</b>
<b>Gum</b>	<b>Lecithin</b>
<b>Phytin</b>	<b>Food Processing Industry</b>
<b>Wax</b>	<b>Polish, Cosmetic, Carbon Paper, Fruit Coatings, Pharmaceuticals</b>
<b>Fatty Acids</b>	<b>Soaps and Paint Industry</b>
<b>Soap</b>	<b>Industrial</b>
<b>IP-6</b>	<b>Medicinal, Antioxidant, Chelating Agent</b>
<b>Phytosterol</b>	<b>Cholesterol Reducing Agent</b>



## SEA WEBSITE ON RBO

# SEA has just launched an dedicated Website On Rice Bran Oil



**Visit Website : [www.ricebranoil.co.in](http://www.ricebranoil.co.in)  
To know more about Indian Rice Bran Oil**



## Way Forward

- **Identify the ways and means to explore full potential of RBO.**
- **Create awareness and educate people the Health benefits of Rice Bran Oil.**
- **Focus on value added products from Rice & its by-products.**
- **Finalisation of the Codex Standards for RBO.**
- **Bring all Rice producing countries under umbrella of IARBO.**
- **Share information and statistical data on Rice Bran Oil.**
- **Create a dedicated website for RBO under IARBO.**



*And so to conclude....*

**Nature's gift to mankind**

## **Rice Bran Oil**

**A nutritionally superior edible oil**

**Providing immense benefits for the heart and  
for general health**

**A healthier alternative to your existing cooking  
Medium for a "Healthy, Happy Family"!**



Thank  
You



**Dr. B. V. Mehta**  
**Executive Director**

**The Solvent Extractors' Association of India**  
**A Premier Association of Vegetable Oil Industry & Trade in India**  
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