



# Chinese castor industry

Hengshui Jinghua Chemical Co., Ltd.  
Feb. 18, 2017

# CONTENTS

1

The situation of castor planting in China

2

The situation of China imports castor oil

3

The application of castor oil in China

4

Hengshui Jinghua Chem in 2016





# The situation of castor planting in China



## (1) 、 2012-2016 Chinese castor seed crop size and castor seed production

Years	Crop Size (KHA)	Seed Production (KT)
2012	93.5	227
2013	30	75
2014	31	80
2015	19	52
2016	14	36
2017	39(estimate)	100(estimate)

Chinese castor seed size is a little small in 2016, castor seed production is only 36KT, which is the lowest among recent years. However, the development of castor era is coming in 2017 in China. The reasons are as following: Firstly Chinese government reduced the financial subsidies to the food crops, then the economic benefit of planting castor is gradually embodied. Secondly, China's capital, such as capital from government, large enterprises, wealthy merchants, etc. has entered into castor planting to accelerate the large-scale cultivation of castor. Thirdly, mechanization of castor planting and harvesting is under test.



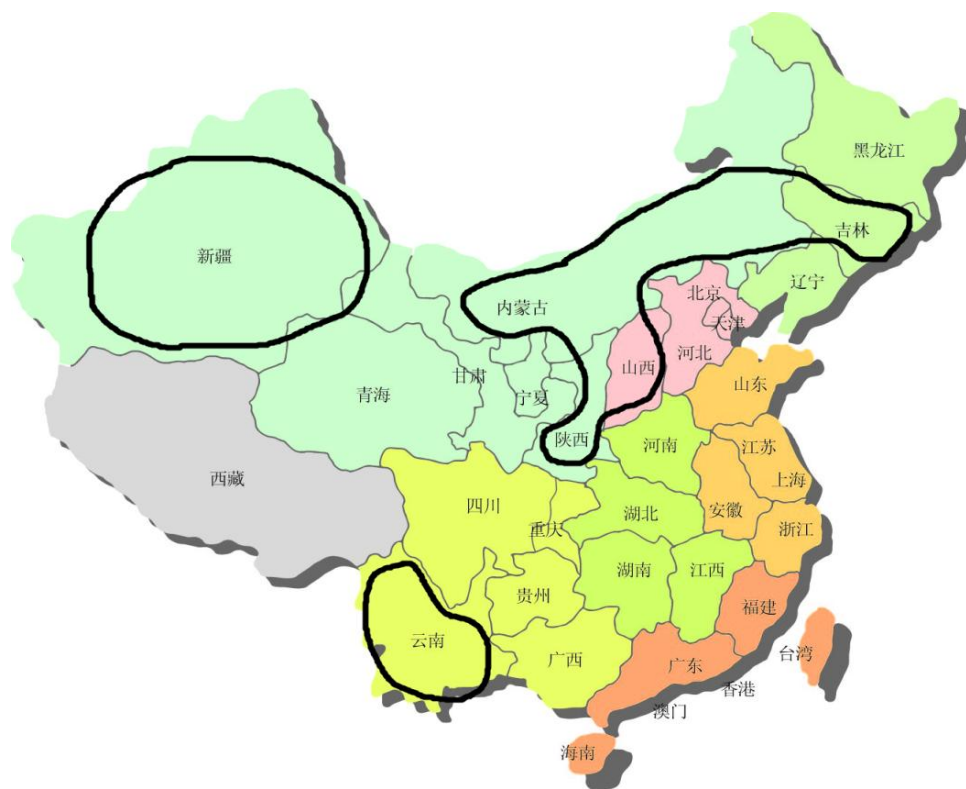
## (2) 、 Comparison of castor seed and other crops in 2016

ITEM	YIELD (KG/HA)	PRICE (RMB/KG)	BENEFIT (RMB/HA)
Castor Seed	2550	4.2	10710
Cotton	2625	7.1	18638
Corn	7500	1.32	9900

Since 2015, with the price of world's major food crops falling constantly, the price of corn, cotton and other crops in China had been declined also. Meantime, Chinese government reduced the financial subsidies to some food crops. It caused the crop size decreased in corn and cotton in 2016. From the above chart, we can see the benefit of castor seed is lower than cotton, while higher than corn. However, cotton planting cost is much higher than castor, because planting cotton needs more water, more pesticides and more labors. Planting castor has the advantage to other crops and the benefits is gradually embodied.



### (3) 、 The situation of castor planting in China in 2017 ---estimate



In China, the main planting area of castor is in Northeast of China, Xinjiang and Yunnan.

We estimate the castor seed planting area will be 39KHA, and total seed production will be about 100KT in 2017.



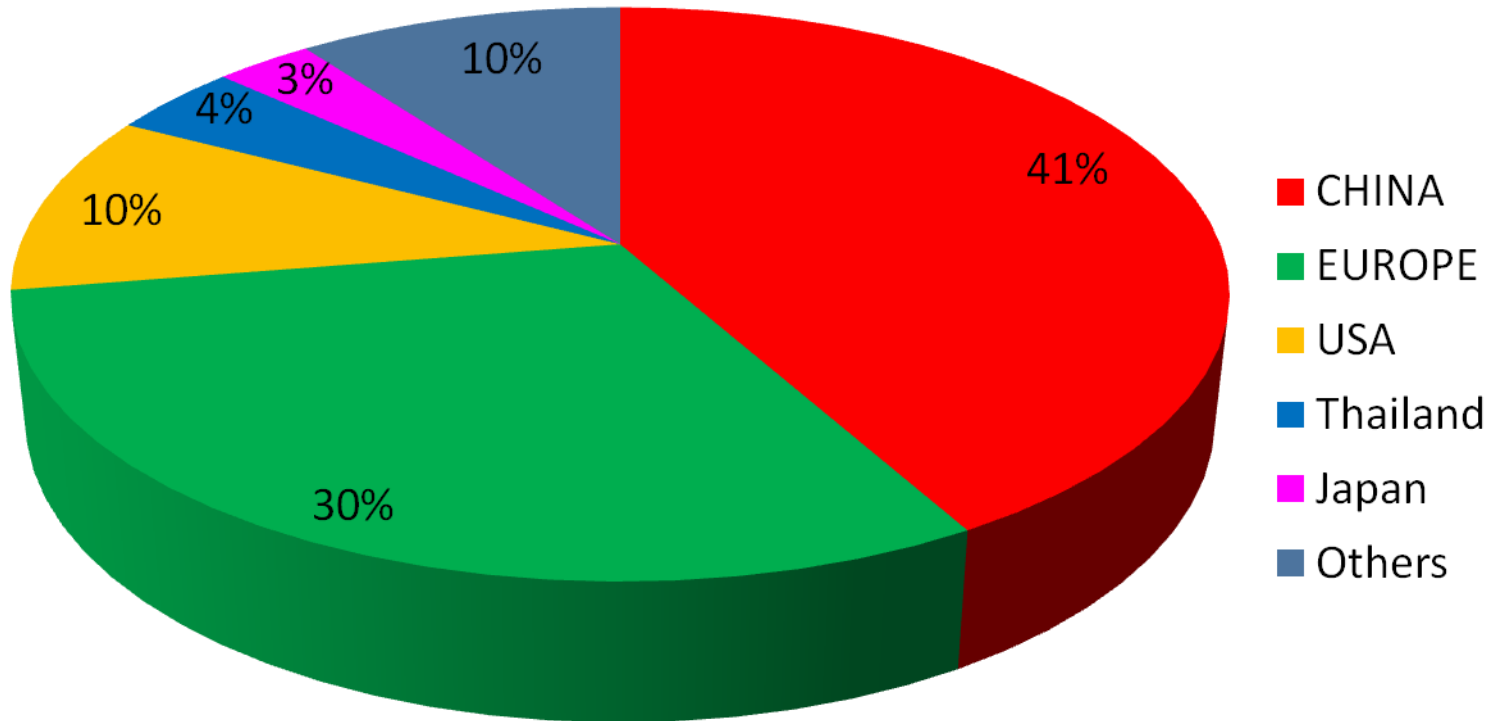


## **The situation of China imports castor oil**





# (1) 、Castor oil exports from India in 2016





## (2) 、 2012-2016 Castor oil imports by China

unit: MT



year month	2012	2013	2014	2015	2016
JAN	2500	9583	18066	14150	20450
FEB	16013	9874	17320	7199	15639
MAR	17023	24928	11285	16423	19330
APR	22225	32354	16189	17508	30873
MAY	31285	17946	15108	23044	21217
JUN	33298	24386	18165	23838	30945
JUL	31609	31990	18949	27752	20247
AUG	15395	27705	14208	13955	18888
SEP	15852	11397	18236	19429	15845
OCT	20797	22680	12616	16704	18285
NOV	13428	12028	6513	18927	23197
DEC	4125	7012	6379	28879	22206
TOTAL	223550	231883	173035	227808	257122
Compare with last year		+3.7%	-25.4%	+31.7%	+12.9%

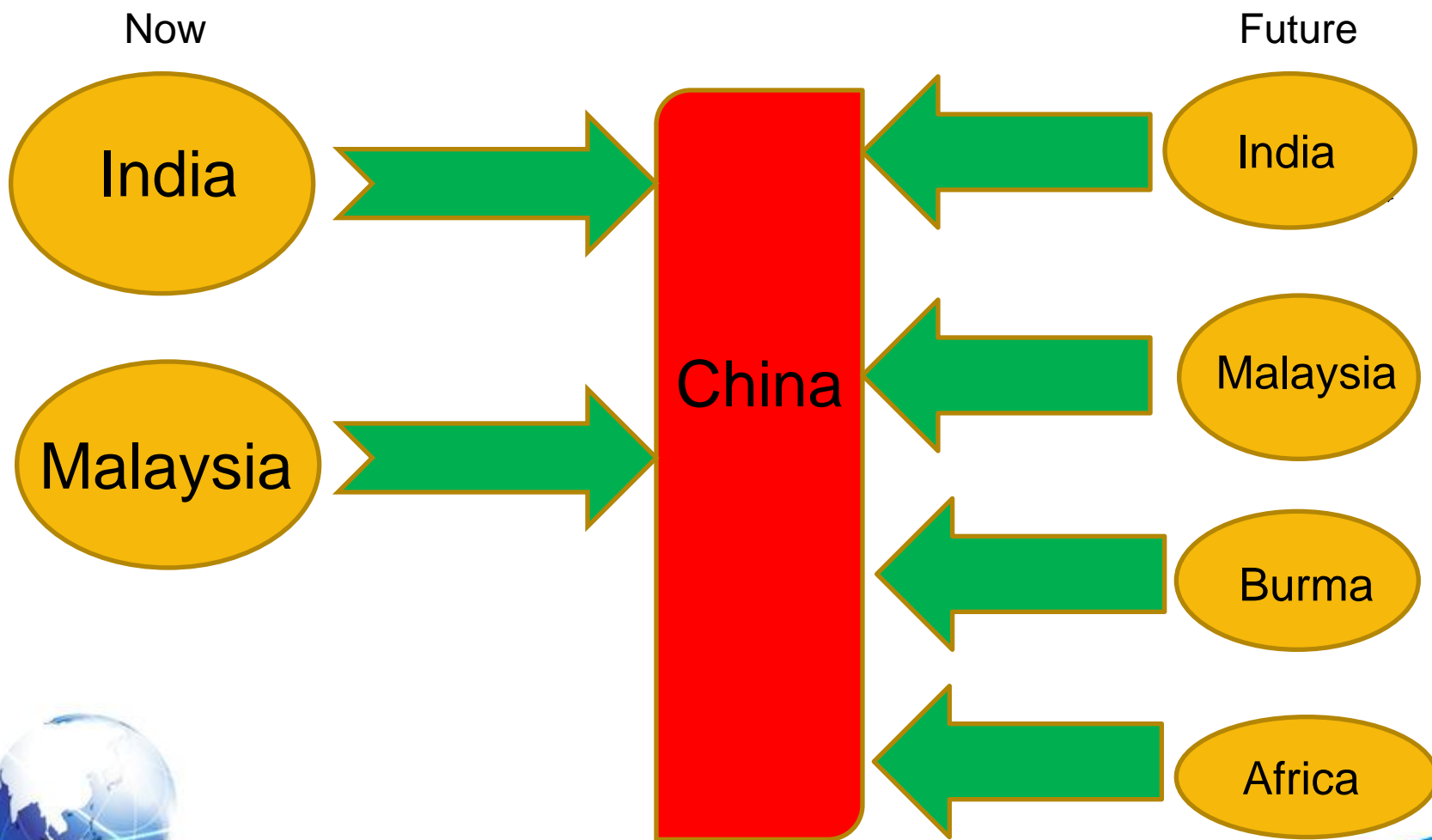
## (2) 、 2012-2016 Castor oil imports by China



In 2016, China imported 257KT castor oil. It increased 12.9% compared with year 2015 and 21.9% to the average of last three years. Two reasons for the increase. Firstly, China's economy develops by 7% yearly. The total consumption of castor oil is growing gradually. Secondly, castor seed planting had been declining since 2012.



### (3) 、 Castor oil imports by China in future



## (4) 、 The development of castor industry in Burma



Burma has a tropical monsoon climate, with a history of castor planting. Hengshui Jinghua Chem and Yunnan castor research institute set up castor demonstration base in Burma in 2016 to recover its castor industry gradually. Now its planting area is 6.67KHA, seed production is about 15KT. The production will increase in 2017.





## (5) 、 2017 Castor oil imports by China---estimate

The demand for castor oil will be increased in China in 2017, expected to be increased by about 8%. In the past years, 80% of castor oil came from India, but starting from 2017, China will increase imports of other countries, meanwhile domestic supply will also increase. Detailed reasons are as follows:

1. With the benefit of castor planting embodied, more and more farmers start to plant castor. Therefore, castor seed crop size will be enlarged and seed production will also increase.
2. Castor planting in Burma, Africa will be enlarged.
3. At present, China also import castor seed from Pakistan, Burma, Kampuchea.

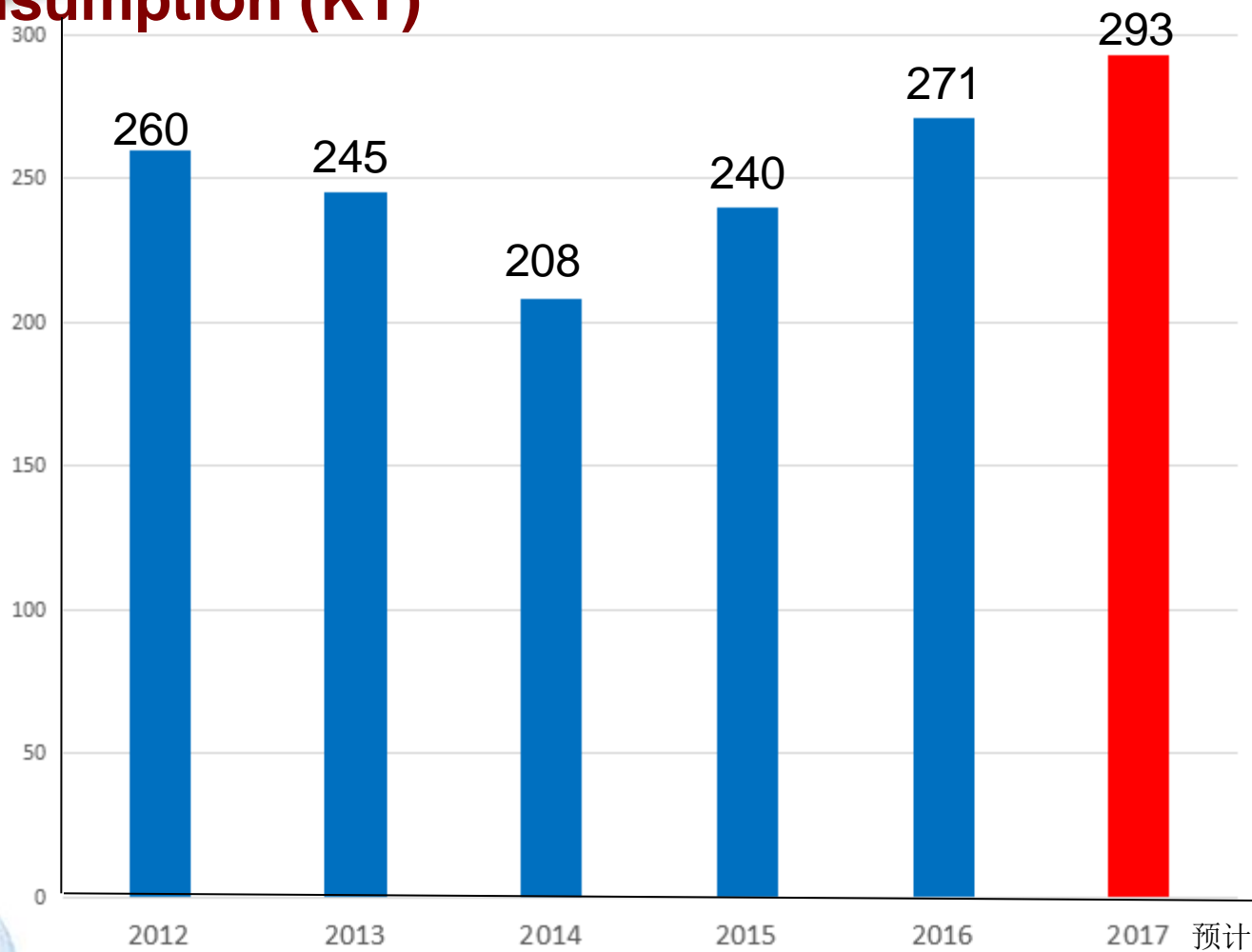




# The application of castor oil in China



# (1) 、2012-2016 Chinese castor oil annual consumption (KT)



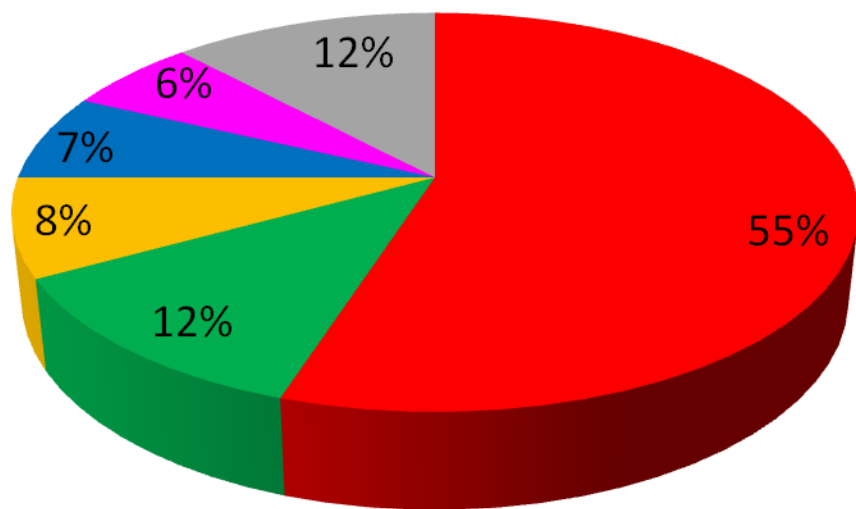


## (2) 、 Chinese main factories castor oil consumption in 2016 (KT)

factories	castor oil consumption
Hengshui Jinghua Chem	73.5
Casda Biomaterials	45
Tianxing Biotechnology	35
Shandong Dongying Shunli Chem	15



### (3) 、 Chinese castor oil usage distribution in 2016 (KT)



■ SEBACIC ACID

■ 12HSA

■ PAINTING

■ PRINTING AND  
DYEING

■ ADHESIVE

■ OTHERS

USAGE	KT
SEBACIC ACID	150
12HSA	32.5
PAINTING	22.5
PRINTING AND DYEING	17.5
ADHESIVE	15
OTHERS	33.5



## (4) 、 Castor oil processing industry in China

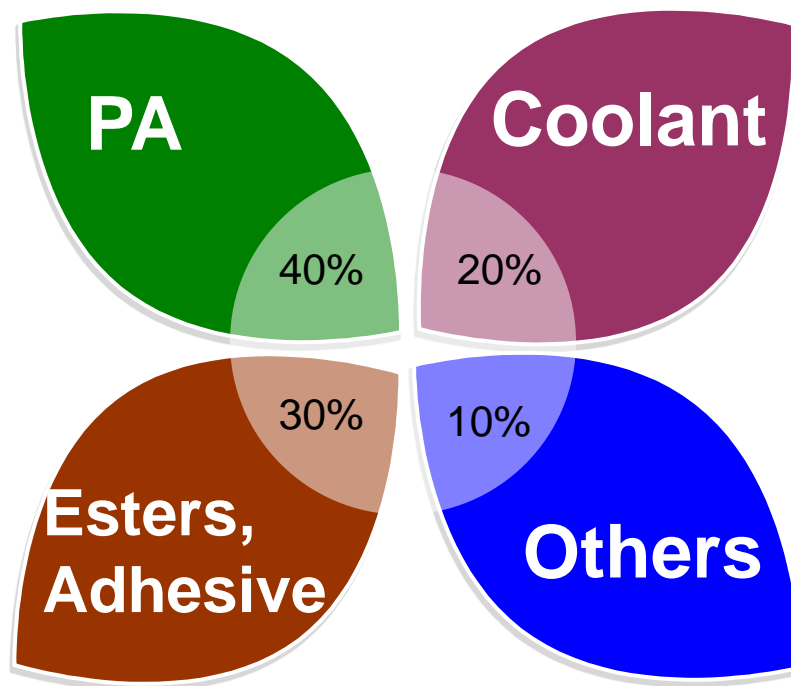
➤ **SEBACIC ACID:** Among 10 manufacturing enterprises like Hengshui Jinghua, Casda only 6 runned in 2016. The average rate of operation was 52%. The output of sebacic acid in China covers more than 95% in the global market.

➤ **12HSA:** There are 6 main factories, like Shandong Tianxing, Neimengu Tonghua, etc. China is one of the main producing countries.



## (4) 、 Castor oil processing industry in China

➤ **SEBACIC ACID**: application



## (4) 、 Castor oil processing industry in China

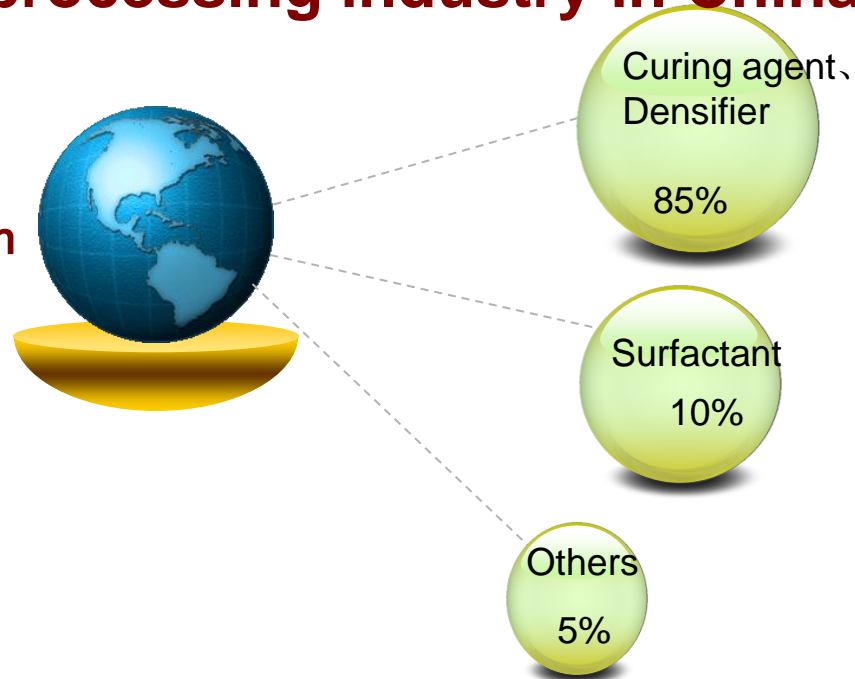
### ➤ **SEBACIC ACID: the industry situation in 2016**

Castor oil processing industry is concentrated on sebacic acid. The export of sebacic acid from China is 47.1KT in 2016. It kept the same level with year 2015. In the fourth quarter of 2016, the sebacic acid factories were been limited production because of the smog problems. We believe that the sebacic acid factories will improve their thechnology and upgrade the equipment to reach the government's requirements. It will help the whole industry to be more green and healthy.



## (4) 、 Castor oil processing industry in China

### ➤ 12HSA: application



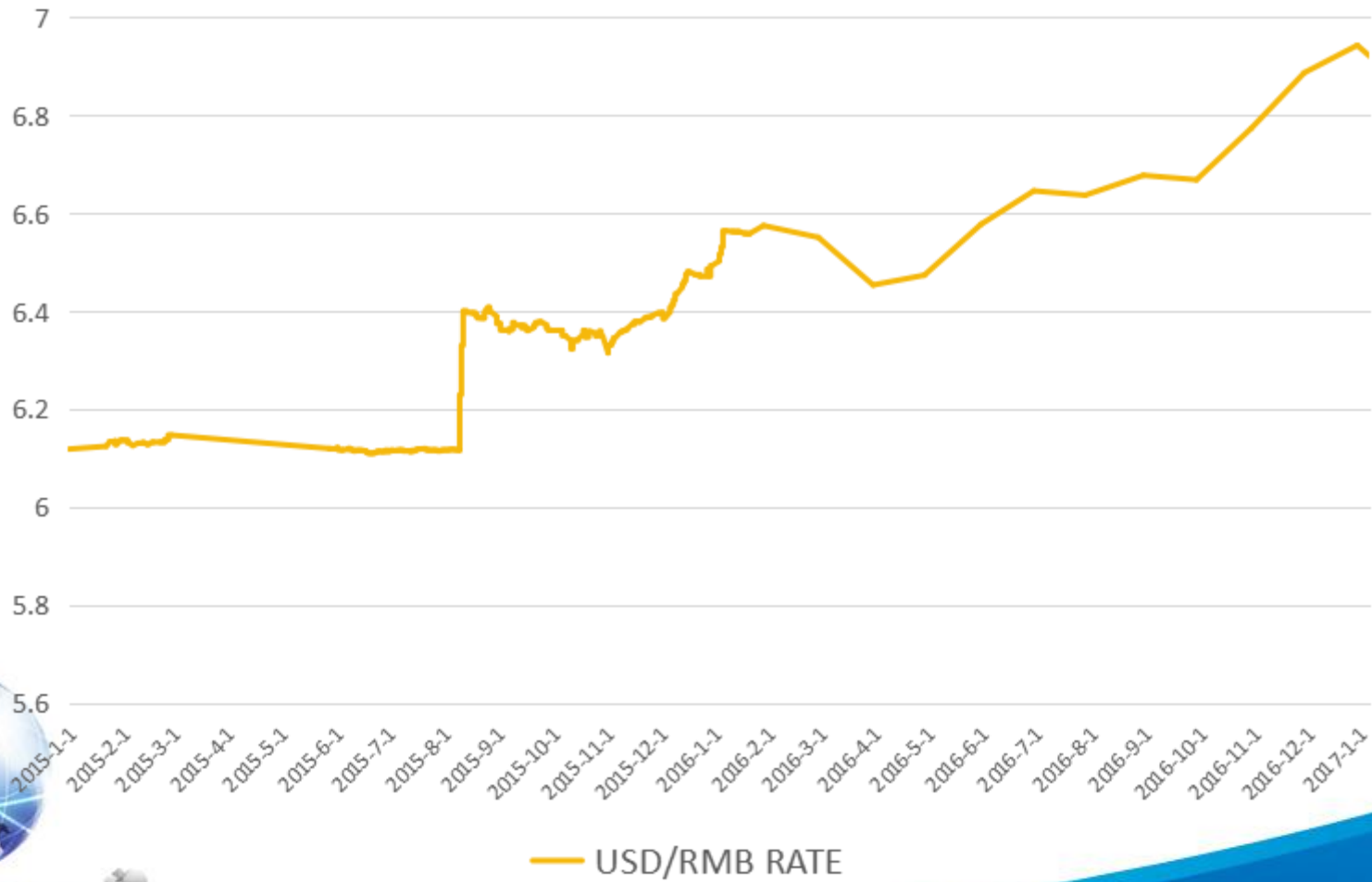
### ➤ 12HSA: industry development

12HSA is the vital and non-substitute material for lithium base grease. Due to the economy development ,the production and consumption of lubricating grease develop rapidly. So the demand of 12HSA is increasing.



# (5) 、 Problems in castor oil processing industry in China

## ➤ 1、 Exchange Rate





## (5) 、 Problems in castor oil processing industry in China

### ➤ 2、 Environment



In the fourth quarter of 2016, because of the air pollution in north of China, the local government adopted a series of measures to limit industrial enterprise production. The main castor oil processing enterprises are in the north of China. Thus it is almost affected but differently, especially the sebacic acid production enterprises which lowered by nearly 40% of the output compared with last year. So the supply's tightly and price's higher.





4

# Hengshui Jinghua Chem in 2016



## (1) 、 Rizhao Steel Group ● Hengshui Jinghua Chem

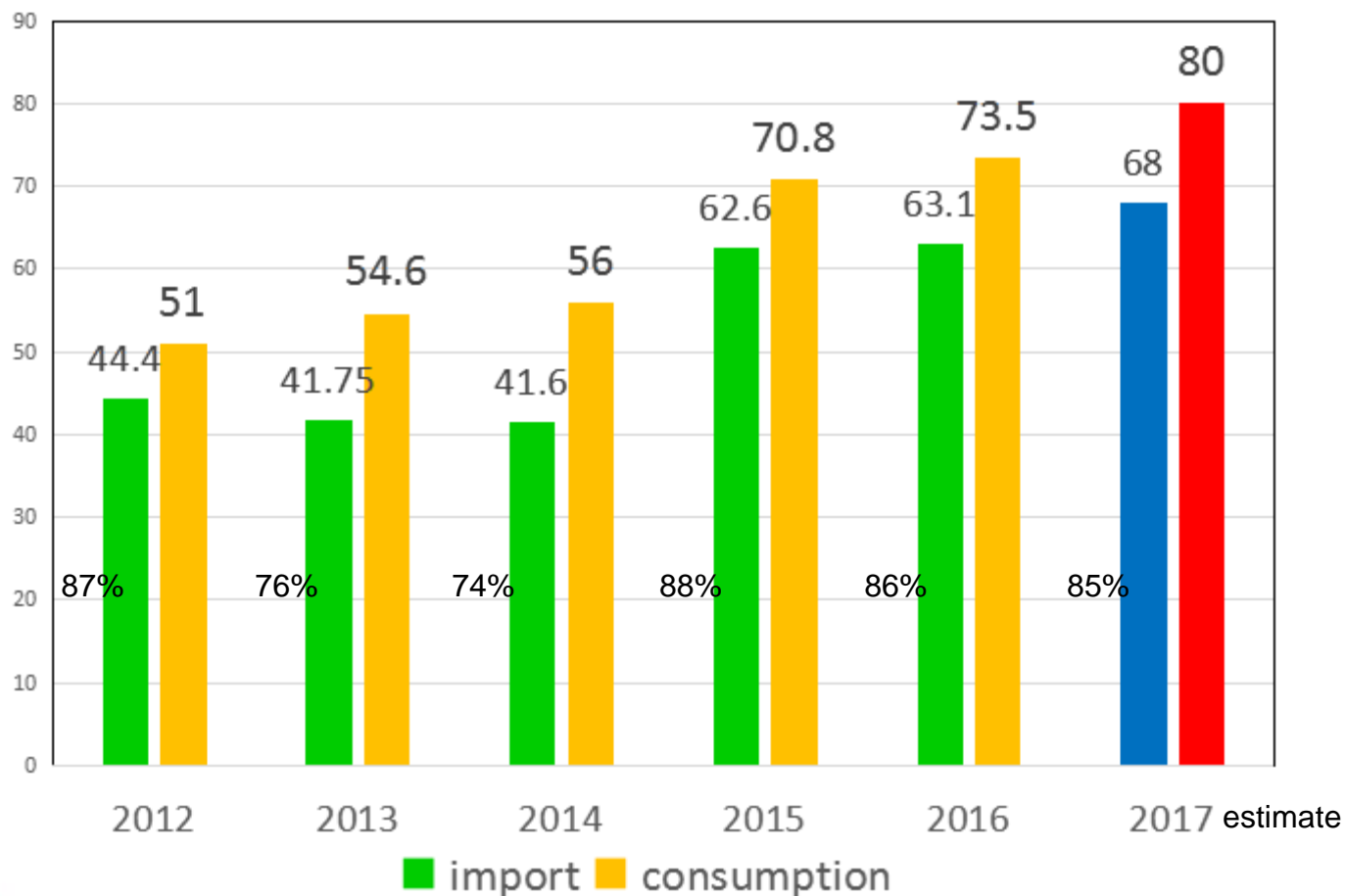
Ri Zhao Steel Group was set up in 2004, which has 26000 employees. Its main business is steel 、 investment 、 real estate 、 chemicals etc. It's turnover is \$10 billion. Hengshui Jinghua Chemical Co., Ltd. is subordinate to Rizhao Steel Group. It's the biggest manufacturer of sebacic acid and has two automated production lines and produced 36.7 KT sebacic acid in 2016, which accounts for 51% of global market.

It consumes more than 70000mt of castor oil per year.

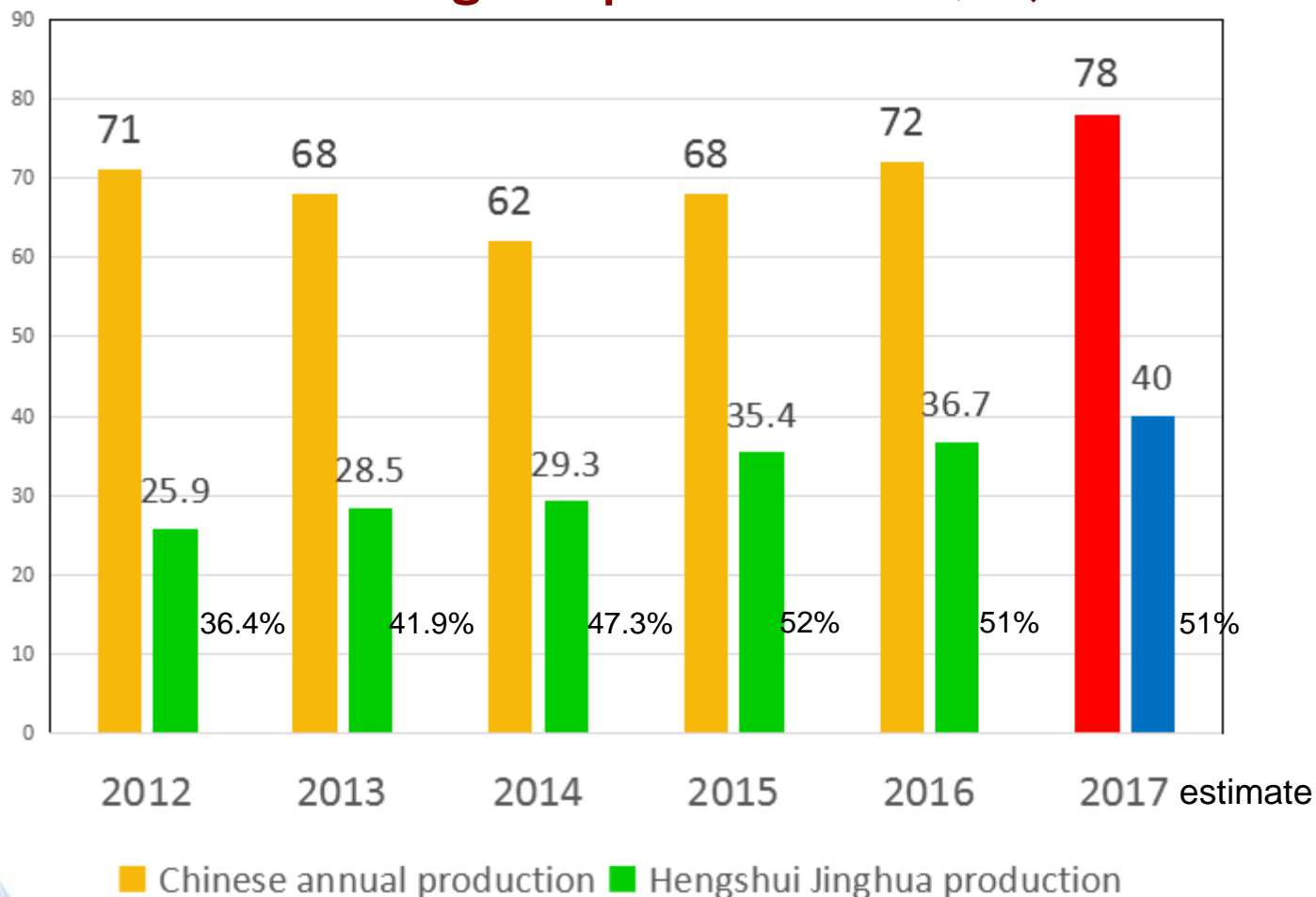
Castor oil is the main material of sebacic acid. About 1.9MT of castor oil can get 1MT of sebacic acid. The byproducts of sebacic acid are sec-octyl alcohols, fatty acid, glycerin, which are widely used in alcohol, plasticizer, painting and other industries.



## (2) 、 2012-2016 Hengshui Jinghua castor oil imports and consumption (KT)



### (3) 、2012–2016 Chinese sebamic acid annual production and Jinghua production (KT)



# Forward Outlooking

- Based on the last ten years, China's manufacturing industry will develop quickly. Castor oil, as a special product, will be applied in more fields. So the demand of castor oil will increase. And the relevant enterprises in China will be more scalization, intensification, high technology and automation.
- Due to the increase of castor oil usage, China will develop domestic castor industry and will import more castor oil from other countries, but still mainly import from India.
- HENGSHUI JINGHUA, as the largest castor oil consumption manufacturer in China, will further strengthen multifaceted cooperation with more castor oil region including India to promote common development of the castor industry.



**Thank you !**

