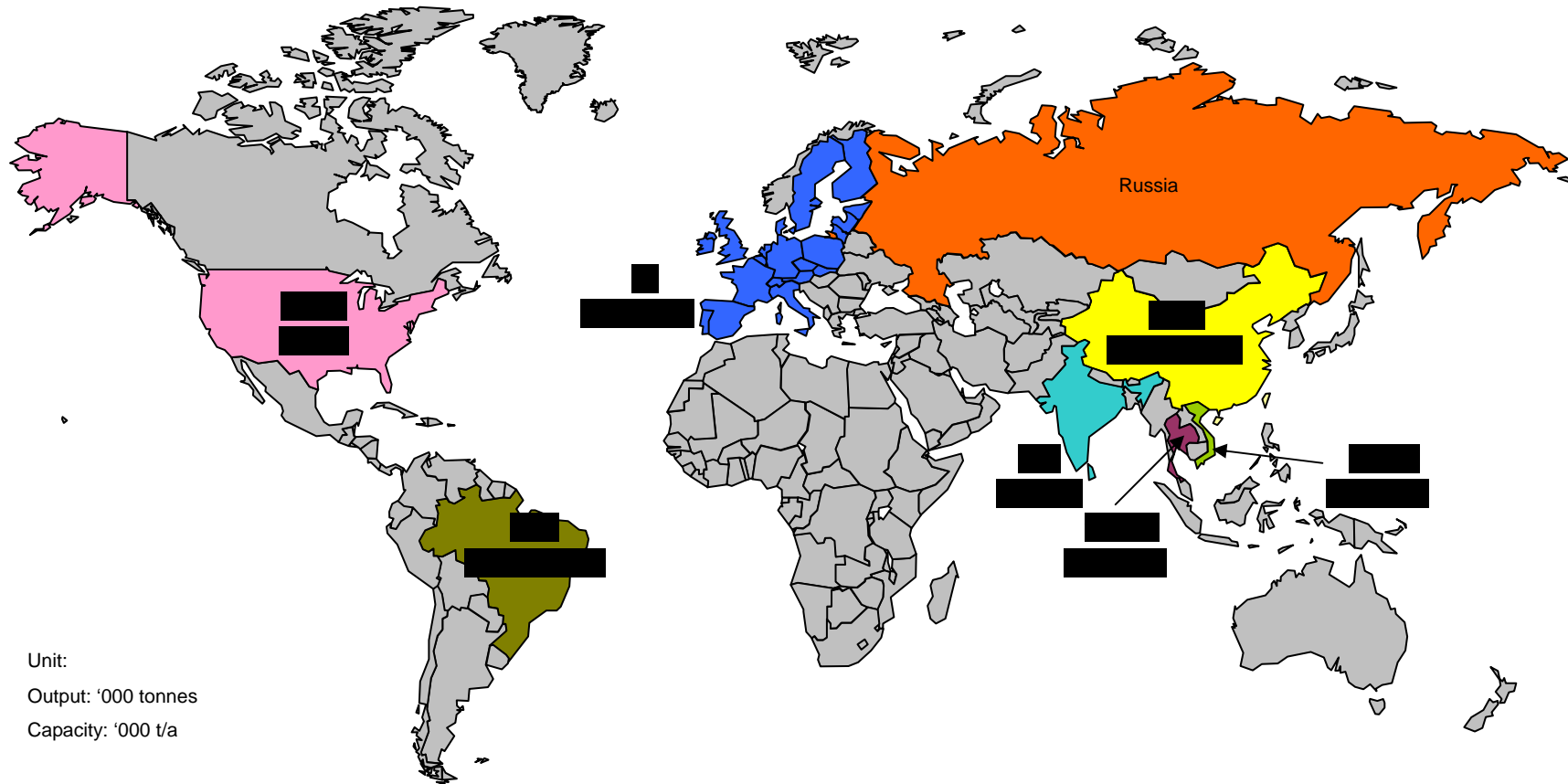


➤ Overview of global NPKs production

Figure I-1-1 Production situation of NPKs in major countries/regions, 2009



Note: The data, let us say, 17,675.6/30,000 in this figure means the output/capacity for this country/region in 2009.

Source: CCM International

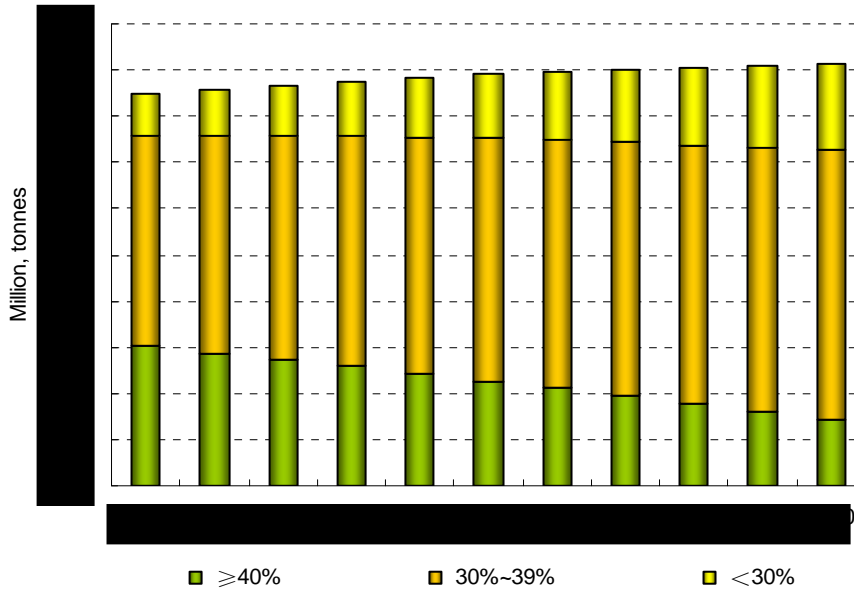
## II NPKs market in America

### II-1 The US

#### II-1.6 Forecast (2010-2020)

##### ➤ Traded NPKs common grades by quantity

Figure II-1.6-3 Forecast on traded quantity of NPKs by content in the US, [REDACTED]



Source: CCM International

From 2010 to 2020, medium concentration NPKs ( $30\% \leq \text{NPK content} < 40\%$ ) will be the major NPKs grades such as [REDACTED], in the US, because the most important crops consuming NPKs will be the lawn, flowers and vegetable. And the consumption of low concentration (NPK content  $< 30\%$ ) would get larger and larger since more liquid fertilizers will be popular in some professional fields.

##### ➤ Capacity with grades by plant

Table II-1.6-1 Forecast on NPKs capacity in the US by plant, 2010-2020

Company	2010		2015		2020	
	Capacity, t/a	Plants, unit	Capacity, t/a	Plants, unite	Capacity, t/a	Plants, unit
AGU	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

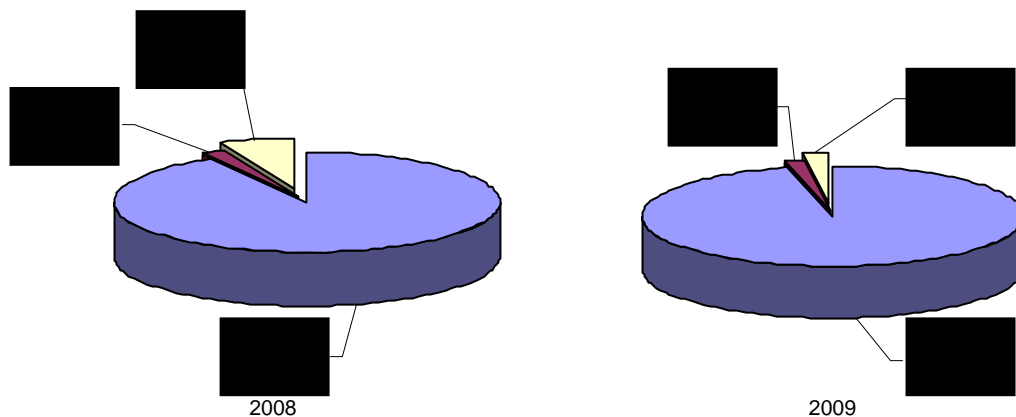
Source: CCM International

As the NPKs market in the US will not get larger, it can be estimated that AGU would not expand its capacity in the next 10 years.

## II-2 Brazil

### II-2.4 Import and export analysis

Figure III-2.4-4 Volume share of Brazil's NPKs by export destination, 2008-2009



Source: UN Comtrade & CCM International

Accuracy: 90%

- Tables for major import origins and export destinations of NPKs in Brazil.

Table II-2.4-3 Import origins of NPKs in Brazil, 2009

No	Country and region	Volume, tonne	Value , USD	Average price, USD/kg
1	Norway			
2	Russia			
3	Israel			
4	Germany			
5	Italy			
6	Argentina			
7	The US			
8	Spain			
9	Portugal			
10	Canada			
11	South Africa			
12	Netherlands			
13	China			
14	Mexico			

Source: UN Comtrade & CCM International

Accuracy: 90%

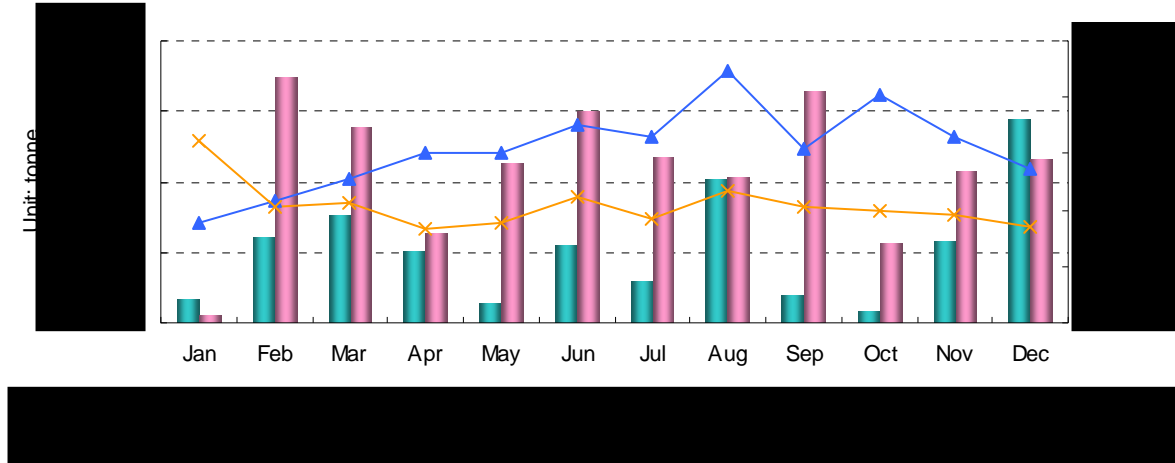
### III NPKs market in Asia

#### III-1 China

##### III-1.4 Import and export analysis

###### ➤ Import situation 2008 and 2009

Figure III-1.4-1 Monthly import volume and average import price of NPKs in China, 2008-2009



Accuracy: 95%

Entering Feb. 2009, the import volume of NPKs increased much in China and kept at a high level in the next ten months (over [redacted] per month, except Apr. and Oct.). .....

Table III-1.4-3 Import origins of NPKs in China, 2008

No.	Country and region	Volume, tonne	Average import price, USD/kg
1	Russia	[redacted]	[redacted]
2	Norway	[redacted]	[redacted]
3	Belgium	[redacted]	[redacted]
4	Romania	[redacted]	[redacted]
5	Israel	[redacted]	[redacted]
.....	.....	[redacted]	[redacted]
17	Turkey	[redacted]	[redacted]
18	France	[redacted]	[redacted]
19	Thailand	[redacted]	[redacted]
20	Australia	[redacted]	[redacted]
<b>Total</b>		[redacted]	-

Source: CCM International

Accuracy: 95%

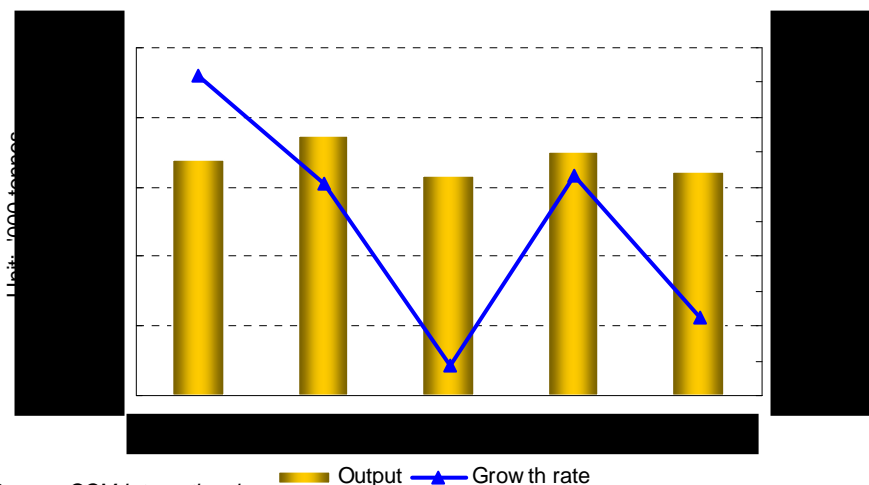
## III-2 India

### III-2.2 Production situation

#### ➤ Traded NPKs' common grades by quantity (2005-2009)

In India, the NPKs output has dropped slightly in the past five years, due to little effect from the previous policies. In 2009-2010, the output of NPKs is ██████████ tonnes in India, down 8.73% than that in the previous fiscal year.

Figure III-2.2-7 Output of NPKs in India, 2005-2009



Source: CCM International

Accuracy: 83%

India mainly produces high concentration NPKs, with output of about ██████████ in total per year.

Table III-2.2-1 Output of common grades of NPKs in India, 2003-2009, '000 tonnes

Grade	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
10-26-26	██████████	██████████	██████████	██████████	██████████	██████████	██████████
12-32-16	██████████	██████████	██████████	██████████	██████████	██████████	██████████
15-15-15	██████████	██████████	██████████	██████████	██████████	██████████	██████████
19-19-19	██████████	██████████	██████████	██████████	██████████	██████████	██████████
14-35-14	██████████	██████████	██████████	██████████	██████████	██████████	██████████
17-17-17	██████████	██████████	██████████	██████████	██████████	██████████	██████████
Others	██████████	██████████	██████████	██████████	██████████	██████████	██████████
<b>Total</b>	██████████	██████████	██████████	██████████	██████████	██████████	██████████

Source: National Informatics Centre (NIC) of India & CCM International

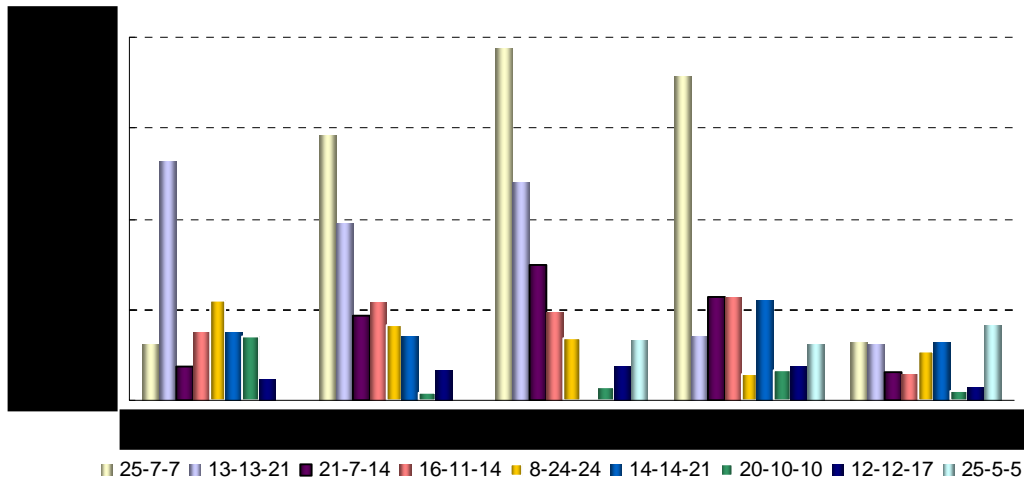
Note: Detailed data in 2008-2009 and 2009-2010 are unavailable

Accuracy: 87%

### III-3 Thailand

#### III-3.4 Import and export analysis

Figure III-3.4-2 Import volume of some NPKs grades, 2005-2009

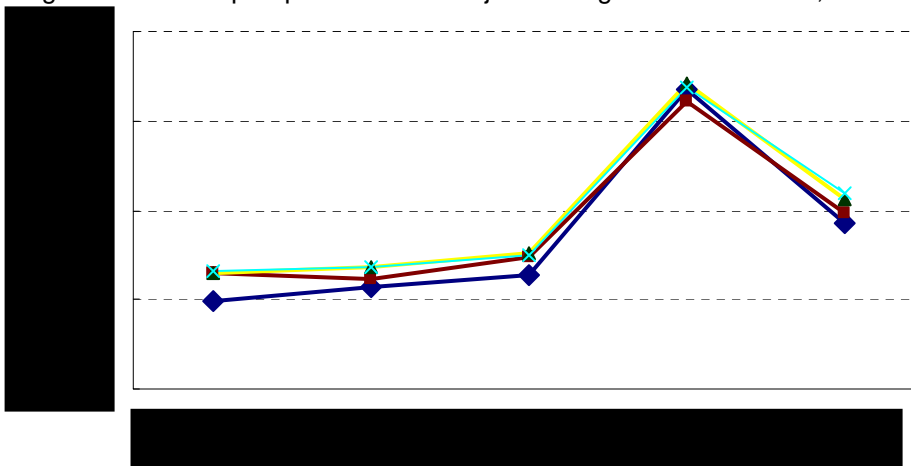


Source: Thailand Customs & CCM International

Accuracy: 90%

- There is little difference in prices of major grades. In 2008 import price reached the highest point of recent years but drops in 2009.

Figure III-3.4-3 Import price trend of major NPKs grades in Thailand, 2005-2009



Source: Thailand Customs & CCM International

Accuracy: 90%

### III-4 Vietnam

#### III-4.2 Production situation

Table III-4.2-2 Key NPKs producers in Vietnam, 2009

No.	Name	Abbr.	Capacity' 2009, t/a	Output, 2009	Major grades
1	Binh Dien Fertilizers Co., Ltd.	BFC			16-16-8, 20-20-15, [REDACTED], [REDACTED], 9-16-16
2	[REDACTED]	[REDACTED]			16-16-8, 5-10-3, 10-5-5, 12-5-10, 8-8-4, 8-10-14, 8-10-3, 10-10-5
3	The Southern Fertilizers Company	SFC			16-16-8, [REDACTED], 14-8-6
4	Japan Vietnam Fertilizer Joint Venture Company	JVF			16-16-8, [REDACTED]
5	[REDACTED]	[REDACTED]			20-20-15, 20-10-15, 10-5-30, 20-15-10, 15-15-15, 12-10-12, 14-14-14
6	Five Star Fertilizer	Five Star			[REDACTED], 16-16-8
7	Can Tho Fertilizers and Chemicals Joint Stock Company	CFC			16-16-8, [REDACTED], 20-5-5, 15-5-5, 14-7-14,
8	[REDACTED]	VAFCO			5-10-3, 10-10-5
9	Ninh Binh Phosphate Fertilizer Joint Stock Company	NIFERCO			5-12-3, [REDACTED], 16-16-8, 10-10-12
10	Agricultural Products and Materials Joint Stock Company	Apromaco			N/A

Note: Apromaco is a new entrant who starts production in Aug. 2009. Besides, Friendship fertilizer factory (FFF) starts production in Apr. 2010 with capacity of 100,000t/a.

Source: CCM International

## IV NPK fertilizer market in the EU

### IV-2 Production situation

Table IV-2-9 Cash cost analysis of 18-18-18, 13-40-13, 15-5-30 for [REDACTED], 2009

Nutrient	Classification	18-18-18			13-40-13			15-5-30		
N	NH4-N	8.1%			8.7%			4.8%		
	NO3-N	9.9%			4.3%			10.2%		
P <sub>2</sub> O <sub>5</sub>	-	18%			40%			5%		
K <sub>2</sub> O	-	18%			13%			30%		
Component	Formula	Usage, t/t	Price, USD/t	Cost, USD/t	Usage, t/t	Price, USD/t	Cost, USD/t	Usage, t/t	Price, USD/t	Cost, USD/t
NH <sub>4</sub> NO <sub>3</sub>	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
(NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub>	[REDACTED]	-	-	-	-	-	-	[REDACTED]	[REDACTED]	[REDACTED]
NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub>	[REDACTED]	0.300	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	-	-	-
KCl	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	0.217	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
*NH <sub>4</sub> Cl	-	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	-0.281	[REDACTED]	[REDACTED]
<b>Subtotal</b>		[REDACTED]	-	<b>385.6</b>	[REDACTED]	-	[REDACTED]	[REDACTED]	-	<b>397.5</b>
Fillers		[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Labor force		-	-	[REDACTED]	-	-	[REDACTED]	-	-	[REDACTED]
Other cost		-	-	[REDACTED]	-	-	[REDACTED]	-	-	[REDACTED]
<b>Total</b>		-	-	[REDACTED]	-	-	<b>465.9</b>	-	-	[REDACTED]

Note: \* by product in the production process

Source: CCM International

Accuracy: 85%

In the production of above three kinds of NPKs, [REDACTED] regulates the content of nitrogen and removes the non-essential element of chlorine through generating the by product of ammonium chloride. Moreover, the generation of ammonium chloride also contributes to the reduction of cost of basic fertilizers. ....