# IV-2 Glyphosate technical

## - China's position in the world glyphosate technical supply

Table IV-2-1 Key players of glyphosate technical in the world ('000 tonnes)

		PMIDA		Glyphosate	technical
Glyphosate producers	Output '08	So	urce	Capacity '09	Output '08
	Output 00	Self-supply	Outsource	Capacity 09	Output 08
About 50 Chinese producers					
Monsanto (US, Argentina, Brazil,					
Belgium, Malaysia)					
Atanor (Argentina)					
Nortox (Brazil)					
Total					

Source: CCM International

Note: Only PMIDA production circulated in the market is calculated. Monsanto's PMIDA is consumed by itself.

Table IV-2-2 Situation of China's glyphosate output in global market, 2005-2008 (tonne)

Year	Global output	China output	China	PMIDA output	Total*	Share
			share			

2004			
2005			
2006			
2007			
2008			

Total\* including the glyphosate technical and that converted from PMIDA

Source: CCM International

Table IV-2-3 Situation of China's glyphosate in the overseas market, 2004-2008 (tonne)

Year	Overseas consumption*	Export	Share	Export of PMIDA	Total	Share
2004						
2005						
2006						
2007						
2008						

Overseas consumption\* means the demand excluding China's

Total\* including the glyphosate technical and glyphosate technical converted from PMIDA

# - Producers

Table IV-2-5 Overview of glyphosate technical manufacturers in China-2

No.	Abbreviation	Pathway	Raw material		C	apacity, t/a	1			C	Output, ton	nne	
NO.	Appreviation	2009	'09	2005	2006	2007	2008	2009	2005	2006	2007		
XII-1.01	Zhejiang Wynca	AEA	glycine										
XII-1.02	Zhenjiang Jiangnan	AEA	glycine										
XII-1.03	Hubei Taisheng	AEA	glycine										
XII-1.04	Zhejiang Jinfanda	AEA	glycine										
XII-1.05	Nantong Jiangshan	IDA & AEA	glycine & IDAN										
XII-1.06													
XII-1.07													
XII-1.08													
XII-1.09													
XII-1.10													
XII-1.11													
XII-1.12													
XII-1.13													
XII-1.14													
XII-1.15													
XII-1.16													
XII-1.17													
XII-1.18													
XII-1.19													
XII-1.20													

XII-121				 			 		
XII-1.24 XII-1.25 XII-1.26 XII-1.27 XII-1.27 XII-1.30 XII-1.31 XII-1.32 XII-1.33 XII-1.33 XII-1.34 XII-1.35 XII-1.36 XII-1.37 XII-1.38 XII-1.39 XII-1.38 XII-1.39 XII-1.39 XII-1.40 XII-1.40 XII-1.41 XII-1.42 XII-1.43 XII-1.44 XII-1.44 XII-1.44 XII-1.44 XII-1.45 XII-1.46 XII-1.46 XII-1.46 XII-1.47 XII-1.48 XII	XII-1.21								
XII-1.26 XII-1.27 XII-1.28 XII-1.29 XII-1.30 XII-1.31 XII-1.35 XII-1.35 XII-1.36 XII-1.37 XII-1.38 XII-1.39 XII-1.39 XII-1.39 XII-1.39 XII-1.30 XII-1.30 XII-1.31 XII-1.31 XII-1.32 XII-1.34 XII-1.35 XII-1.36 XII-1.37 XII-1.38 XII-1.39 XII-1.39 XII-1.39 XII-1.39 XII-1.39 XII-1.39 XII-1.41 XII-1.42 XII-1.43 XII-1.44 XII-1.43 XII-1.44 XII-1.44 XII-1.45 XII-1.46 XII-1.47 XII-1.48 XII-1.40 XII-1.40 XII-1.41 XII-1.41 XII-1.42 XII-1.43 XII-1.44 XII-1.45 XII-1.46 XII-1.46 XII-1.47 XII-1.48 XII	XII-1.22								
XII-1.26 XII-1.27 XII-1.28 XII-1.29 XII-1.30 XII-1.31 XII-1.32 XII-1.33 XII-1.34 XII-1.35 XII-1.36 XII-1.37 XII-1.38 XII-1.39 XII-1.39 XII-1.44 XII-1.41 XII-1.42 XII-1.43 XII-1.44 XII-1.46 XII-1.47 XII-1.48 XII-1.48 XII-1.48 XII-1.49 XII-1.40 XII-1.41 XII-1.40 XII-1.41 XII-1.40 XII-1.41 XII-1.41 XII-1.42 XII-1.43 XII-1.44	XII-1.23								
XII-1.26       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.24								
XII-1.27       XII-1.28         XII-1.29       XII-1.30         XII-1.31       XII-1.32         XII-1.32       XII-1.33         XII-1.34       XII-1.35         XII-1.35       XII-1.36         XII-1.38       XII-1.39         XII-1.39       XII-1.40         XII-1.41       XII-1.41         XII-1.42       XII-1.43         XII-1.43       XII-1.44	XII-1.25								
XII-1.28         XII-1.30         XII-1.31         XII-1.32         XII-1.33         XII-1.34         XII-1.35         XII-1.36         XII-1.37         XII-1.38         XII-1.39         XII-1.40         XII-1.41         XII-1.42         XII-1.43         XII-1.44	XII-1.26								
XII-1.29       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.27								
XII-1.30 XII-1.31 XII-1.32 XII-1.33 XII-1.34 XII-1.35 XII-1.36 XII-1.37 XII-1.38 XII-1.39 XII-1.40 XII-1.41 XII-1.42 XII-1.42 XII-1.43 XII-1.43 XII-1.43 XII-1.44	XII-1.28								
XII-1.31       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.29								
XII-1.32       IIII-1.33         XII-1.34       IIII-1.35         XII-1.35       IIII-1.36         XII-1.37       IIII-1.39         XII-1.38       IIII-1.39         XII-1.40       IIII-1.40         XII-1.41       IIII-1.41         XII-1.42       IIII-1.43         XII-1.43       IIII-1.44         XII-1.44       IIII-1.44	XII-1.30								
XII-1.33       XII-1.34         XII-1.35       XII-1.36         XII-1.37       XII-1.38         XII-1.38       XII-1.39         XII-1.40       XII-1.41         XII-1.42       XII-1.42         XII-1.43       XII-1.44	XII-1.31								
XII-1.34       IIII-1.35       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.32								
XII-1.36       IIII-1.36       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.33								
XII-1.36       IIII-1.37       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.34								
XII-1.37       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.35								
XII-1.38       IIII-1.39       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.36								
XII-1.39       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.37								
XII-1.40       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	XII-1.38								
XII-1.41       XII-1.42       XII-1.43       XII-1.44	XII-1.39								
XII-1.42       XII-1.43       XII-1.44	XII-1.40								
XII-1.43       XII-1.44	XII-1.41								
XII-1.44	XII-1.42								
	XII-1.43								
XII-1.45	XII-1.44								
	XII-1.45								

XII-1.46							
XII-1.47							
XII-1.48							
XII-1.49							
XII-1.50							
XII-1.51							
XII-1.52							
XII-1.53							
XII-1.54							
XII-1.55							
XII-1.56							
XII-2.1							
XII-2.2							
XII-2.3							
XII-2.4							
XII-2.5							
XII-2.6							
XII-2.7							

#### V Trade analysis

#### V-1 Trade position in the world

China is a very important player in global glyphosate trade. As climbing energy costs keep pushing production costs to grow, developed countries have chosen to import glyphosate from China, mainly attributed to low costs of labor and other resources in China. China therefore has become the biggest exporter of glyphosate in the world in recent years, with export volume reaching tonnes in 2008, satisfying around of the global demand.

Figure V-1.1 Global technical supply & China's rising share in global supply, 2004-2008 .......

#### V-3 Export situation of PMIDA and glyphosate

As the largest glyphosate supplier in the world, the export volume of glyphosate and PMIDA in China has kept increasing in recent years. Average export growth rate of glyphosate technical, formulation and PMIDA stayed at \$100.000 %, \$100.0000 % and \$100.0000 % separately from 2004-2008.

#### V-4 Chinese glyphosate flow

Figure V-4.1 Glyphosate technical flow, 2008

. . . . . .

As the largest glyphosate supplier in the word, China has exported tonnes glyphosate technical in 2008, accounting for of China's glyphosate technical output in 2008.

Table V-4.1 Cooperation between oversea key players and Chinese companies

Oversea key player	Main Chinese supplier
Monsanto	
Dow	
Syngenta	
Helm	
Nufarm	
Atanor	

## VII-2 Domestic demand for glyphosate

## VII-2.1 Overview of Chinese glyphosate technical consumption

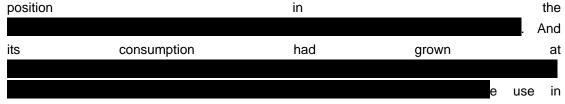
VII-2.2 Position and market size of glyphosate in herbicide industry

Table VII-2.2-1 Supply and consumption of herbicides and its share in glyphosate, 2004~2008 (Calculated by AI, tonne)

Year		Output		Consumption					
rear	Herbicide	Glyphosate Share		Herbicide	Glyphosate	Share			
2004									
2005									
2006									
2007									
2008									

Source: CCM International

As a non-selective herbicide, after so many years' promotion, glyphosate has an irreplaceable



China.

# VII-2.3 Glyphosate formulations use in China

## by specific formulation

Table VII-2.3-1 Consumption of main glyphosate formulations in China, 2004~2008, tonne

Main formulations	2004	2005	2006	2007	2008	CAGR, 04~08
10%SL						
41%SL						
20%SL						
Others						
Total						

Source: CCM International

Note: Others mainly include WP, especially 50%WP.

Table VII-2.3-2 Provinces with 41%IPA consumption exceeding 800 tonnes in 2008, tonne

Province	41%IPA	10%SL	20%SL	50%WP	Total	Share of
Province	consumption	consumption	consumption	consumption	Total	41%IPA

Heilongjiang			
Sichuan			
Guangdong			
Jilin			
Shaanxi			

Source: CCM International

## by crop

Table VII-2.3-3 Planting area of main crops in China, 2004~2008, 000' hectares

Main crops	2004	2005	2006	2007	2008	CAGR '04~'08
Rice						
Wheat						
Corn						
Soybean						
Cotton						
Sugarcane						
Tea						
Rubber						
orchard						
Total						
Share in total crop area						

Source: Ministry of Agriculture

Note: Number with \* is estimated by CCM International

Table VII-2.3-4 Glyphosate consumption in main crops in China, 2004~2008, tonne

Crop	2004	2005	2006	2007	2008	CAGR 04~08
Orchard						
Corn						
Rubber						
Rice						
Soybean						
Cotton						
Wheat						
Sugarcane						
Tea						
Others						



Source: CCM International

Note: Others mainly include weeding for wasteland reclamation, non-agriculture use, etc.

## ✓ Orchard

Orchard covered an a year on year. And the main fruits with large planting area were apple, orange, pear, peach, litchi and grape.

Table VII-2.3-5 Glyphosate consumption in main fruits, 2004~2008, calculated by AI, tonne

Main fruits	2004	2005	2006	2007	2008	CAGR,04~08
Orange						
Apple						
Litchi						
Pear						
Grape						
Others						
Total						
Share in total						