

II Seeds, crops and grains situation in China

Table II-1 Challenges in China's seeds, crops and grains in the next five years

N o.	Challenges	Reason
1		
2		
3		
4		

Table II-2 Opportunities of China's seeds, crops and grains in the next five years

No.	Opportunities	Reason
1		
2		
3		
4		
5		

II-1 Plant structure of crops

Table II-1.1 Planting area of different crops in China, 2004-2009 (10³ hectares)

Item	2004	2005	2006	2007	2008	2009 est.
grain crops						
vegetable						
oil-bearing crops						
Cotton	5,693					
melon	2,147					
sugar crops	1,568					
tobacco leaf						
medicinal herbs						
Other crops						
Total						

II-2.2 Grain supply and demand

II-2.2.1 Rice supply and demand

China's rice supply is witnessing slight oversupply, while the gap between domestic and international prices is not big enough to stimulate large export rises that could cause shortages.

Table II-2.2.1.1 Rice supply and demand, 2004-2009

Item	2004	2005	2006	2007	2008	2009 est.
Planted area ('000 ha.)						
Yield (tonne/ha.)						
Beginning stocks (million tonnes)						
Production (million tonnes)						
Imports (million tonnes)						
Total supply (million tonnes)		165.87				
Domestic use (million tonnes)		127.31				
Exports (million tonnes)		0.69				
Total use (million tonnes)		128.00				
Ending stocks (million tonnes)						
Stocks/Total use (%)						

II-2.2.2 Corn supply and demand

.....

Table II-2.2.2.1 Corn supply and demand, 2004-2009

Item	2004	2005	2006	2007	2008	2009 est.
Planted area ('000 ha.)						
Yield (tonne/ha.)						
Beginning stocks (million tonnes)						
Production (million tonnes)		139.4				
Imports (million tonnes)		0.00				
Total supply (million tonnes)		176				
Domestic use (million tonnes)		137				
Exports (million tonnes)		8.64				
Total use (million tonnes)						
Ending stocks (million tonnes)						
Stocks/Total use (%)						

II-2.2.3 Wheat supply and demand

Table II-2.2.3.1 Wheat supply and demand, 2004-2009

Item	2004	2005	2006	2007	2008	2009 est.
Planted area ('000 ha.)						
Yield (tonne/ha.)						
Beginning stocks (million tonnes)						
Production (million tonnes)						
Imports (million tonnes)						
Total supply (million tonnes)						
Domestic use (million tonnes)						

Exports (million tonnes)						
Total use (million tonnes)						
Ending stocks (million tonnes)						
Stocks/total use (%)						

II-3.2 Seed market structure and trade

◆ Seed market structure

.....

Table II-3.2.1 China's market structure of seed products in 2008

Crop	Species number	Sales revenue (million USD)	Market share	Annual output (000' tonnes)	Commercialized output	Commercialization rate
Corn						
Rice						
Rapeseed						
Wheat						
Cotton	98					
Soybean	32					
Vegetable						
Melons						
Floriculture						
Others						

Table II-3.2.2 China's import and export situation of vegetable seeds, 2004-2008

Year	Import value (million USD)	Import volume (tonne)	Export value (million USD)	Export volume (tonne)
2004				
2005				
2006				
2007				
2008				

III Diseases, pests and weeds situation in China

III-1.1 Introduction to major diseases

Table III-1.1.1 Total stricken area of major diseases in traditional crops, 2004-2009, million hectares

Year	Rice	Corn	Wheat	Cotton
2004				
2005				
2006				
2007				
2008				
2009				

Table III-1.1.2 Total stricken area of major diseases in rice in 2004-2009, million hectares

Year	Rice blast	Sheath blight	Rice stripe	Rice false smut	Total
2004					
2005					
2006					
2007					
2008					
2009					

Table III-1.1.3 Total stricken area of major diseases in wheat in 2004-2009, million hectares

Year	Stripe rust	Powdery mildew	Sharp eyespot	Fusarium head blight	Total
2004					
2005					
2006					
2007					
2008					
2009					

III -1. 2 Introduction to major insect pests

Table III-1.2.1 Major insect pests that seriously threaten crops in China

No.	Insect pests	Item
1		
2		
3		
4		
5	Mole crickets	
6		
7		

8		
9		
10		
11		
12		
13		
14		

Table III-1.2.2 Total stricken area of omnivorous insect pests in 2004-2009, million hectares

Year	Grasshopper				Armyworm	Meadow Moth
	East Asia grasshopper	Asian grasshopper	Tibet grasshopper	Haplotropis brunneriana Sauss		
2004						
2005						
2006						
2007						
2008						
2009						

Table III-1.2.3 Total stricken area of major insect pests in traditional crops, 2004-2009, million hectares

Year	Rice	Wheat	Cotton	Corn
2004				
2005				
2006				
2007				
2008				
2009				

III -1. 3 Introduction to major weeds

Table III-1.3.1 Major weeds that seriously threaten traditional crops in China

Crop	Weed	Crop	Weed
Rice		Cotton	
	Alternanthera philoxeroides griseb		
Wheat		Corn	

III -2 Serious pest, disease and malignant weed

Table III-2.1 Serious insect pests, diseases and weeds threatening traditional crops in China

Crop	Serious insect pests, diseases and weeds	Crop	Serious insect pests, diseases and weeds
Rice	[REDACTED]	Wheat	[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
Cotton	[REDACTED]	Corn	[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
	Cotton red mite		[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]
	[REDACTED]		[REDACTED]

Table III-2.2 Alien species of insect pests, diseases and weeds in China

Insect pests	Source	Diseases	Source	Weeds	Source
[REDACTED]	North Korea	[REDACTED]	US	[REDACTED]	North America
[REDACTED]	[REDACTED]	[REDACTED]	Japan	[REDACTED]	Brazil
[REDACTED]	[REDACTED]	[REDACTED]	Japan	[REDACTED]	South America
[REDACTED]	[REDACTED]	[REDACTED]	US	[REDACTED]	North America
[REDACTED]	[REDACTED]	[REDACTED]	US	[REDACTED]	Mexico
[REDACTED]	[REDACTED]	[REDACTED]	Japan	[REDACTED]	Central America
[REDACTED]	[REDACTED]	[REDACTED]	Japan	[REDACTED]	Central America
[REDACTED]	[REDACTED]	[REDACTED]	US	[REDACTED]	Brazil
[REDACTED]	[REDACTED]	[REDACTED]	Japan	[REDACTED]	Brazil
[REDACTED]	[REDACTED]	[REDACTED]	US	[REDACTED]	Europe

IV Crop protection in China

IV-2.1.1 3S technology (Remote Sensing, Geography Information System and Global Positioning System)

Table IV-2.1.1.1 Institutes which developed radars used to monitor insects

Year	Radar	Institute
1986		
1998		
2004		
2006		
2006		

IV-2.2.2 Biological control

Table IV-2.2.2.1 Key parasitoids and their target in China

Parasitoids	Pests
Trichogrammatid.	

Table IV-2.2.2.2 Imported natural enemies for the prevention and control of insect pests

Natural enemy	Insect pests	Source of natural enemy	Comments
Rodolia cardinalis			

IV-6 Opportunities and Challenges of crop protection in China

Table IV-6.2 Opportunity of Chinese CP market in next five years

No.	Title	Reason	Opportunity
1			
2			
3			
4			

5			
6			

Table IV-6.3 Challenge of Chinese CP market in next five years

No.	Title	Reason	Challenge
1			
2			
3			
4			
5			

V Production and market of pesticides in China

V-1 Historical data about pesticides

Table V-1.1 Number of pesticide producers with three certificates in China, 2003-Sep. 2009

Year	Pesticide	Biological pesticide
2003		
2004		
2005		
2006		
2007		
2008		
2009		

Table V-1.2 Top 50 pesticide companies in China in 2006, by sales income (million USD)

No.	Company	Abbreviation	Sales income	Profit	Profit ranking
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11	Shandong Binnong Technology Co., Ltd.				
12					
13					
14					
15					

16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
	Total				

Table V-1.7 Capacity and output of pesticides in China, 1994-2008 (tonne)

[illegible]

1997										
1998										
1999	632,900									
2000	652,600									
2001	685,900									
2002										
2003										
2004										
2005										
2006										
2007										
2008										
2009 est.										

Table V-1.8 Registration volume of water-based formulations in China

Item	1998	2002	2006	2007
Suspension concentrate (SC)				
Flowable concentrate				
Micro emulsion (ME)				
Emulsion in water (EW)				
Water dispersible granule (WG)				
Suspension emulsion (SE)				
Capsule suspension (CS)				

Table V-1.12 Pesticides import & export, break down by category (converted to 100% technical, tonne)

Year	Export				Import			
	Insecticide	Herbicide	Fungicide	Total	Insecticide	Herbicide	Fungicide	Total
1998	33,795							
1999								
2000								
2001								
2002								
2003								
2004								
2005								
2006								
2007								
2008								
2009 est.								

Table V-1.13 Application area of pesticides by category, 2006-2009 (million hectares)

Pesticide category	2006	2007	2008	2009
Insecticide				
Herbicide				
Fungicide				
Total				

Table V-2.1 New registration of pesticide formulations in China, 2006-2008

Specification	2006		2007		2008	
	Number	Rate (%)	Number	Rate (%)	Number	Rate (%)
EC						
SP						
SL						
SC						
EW						
WDG						
GR						
Seed treatment						
Others						
Total						

Table V-2.3 Potential pesticides in China, 2009 -1

Category	Product	Inventor	Patient
Insecticide			
Fungicide			
Herbicide		Dupont	

Table V-4.1 Regulations on re-registration of pesticide producers and threshold of new ones

Type of enterprises	Registered capital (yuan)	Investment (yuan)	Environmental protection investment (yuan)
New technical producer			
New formulation producer			
Technical producers who need re-registration			
Formulation producers who need re-registration			