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Report Highlights:

The Chinese government continues to place great importance on biotechnology in agriculture and has committed to investing US\$500 million in research and development from 2006-2010. China is the world's sixth largest producer of biotech enhanced crops and it remains the largest market for U.S. biotech agricultural products. However, domestic political factors continue to prevent China from commercializing any biotech staple food crops, most significantly rice and corn. Persistent concerns about the biosafety regulations established six years ago add to the uncertainties over some aspects of the trade in biotech products. This document is an update of the 2005 report (CH5069) and includes the most recent approvals for domestic production and importation and current policy issues of concern relating to the regulatory process.

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SECTION I. EXECUTIVE SUMMARY

China is the largest export market for U.S. crops produced with the aid of biotechnology. Despite a lack of transparency in the development and application of regulations, U.S. biotech soybeans and other products are selling at record levels and are forecast to continue doing well in the future.

While details about the future of agricultural biotechnology policy in China are still in doubt, biotechnology will undoubtedly play an integral part in China's agricultural development. China is currently the sixth largest producer of biotechnologically enhanced plants based on total acreage (3.5 million hectares in 2006). China has a strong biotech research program and has committed to investing US\$500 million during the 11th Five-Year Plan (2006-2010). China is set to become an even larger player in agricultural biotechnology as it has ratified the Biosafety Protocol and participated as a full Party in the Third Meeting of the Parties (MOPIII) in Brazil in March 2006.

While China has begun to accept more domestic and imported biotechnology products, aspects of China's regulatory system pose potential market access impediments. The barriers include requirements that product must be fully approved in the originating country before the application can be submitted for approval in China, unprecedented testing for products already approved in other countries, a requirement that foreign seed developers provide viable seeds for developing detection methods, the lack of specific regulatory guidelines to approve stacked events, and holding only two windows a year for acceptance of applications for new products.

Several internal and external factors influence China's biotech policy. These contradictory and competing political concerns have so far prevented China from commercializing any food and fodder crops, most significantly rice and corn. First, though there is a strong interested in maintaining self-reliance in grains and boosting farmer income, biotechnology has not been used as a tool to boost production due to uncertainty over consumer reaction and threats from importers to cease purchases of certain Chinese products. Bureaucratic competition over the role of biotechnology supervision exacerbates these ongoing contradictions.

Though several ministries are influential in biotechnology, the Ministry of Agriculture (MOA) is the country's primary governing body over agricultural biotechnology issues. MOA Ministerial Decrees 8, 9 and 10 create the legal framework under which these products are regulated. Other government agencies, such as the General Administration on Quality Supervisions Inspection and Quarantine (AQSIQ) and the State Environmental Protection Administration (SEPA) are also involved. For example, SEPA is China's lead agency for the Biosafety Protocol.

The U.S. government is engaged in bilateral (and interministerial) policy and technical discussions with China as well as capacity building activities to support these discussions. Through this, the U.S. government continues to push for increased transparency in the development of regulations governing this field and look for ways to promote overall market access for U.S. biotechnology crops.

SECTION II. BIOTECHNOLOGY TRADE AND PRODUCTION

Biotechnology crop production in China

China has commercialized five genetically modified plants since 1997 (cotton, tomato, sweet pepper, petunia, and papaya) and, according to an International Service for the Acquisition of Agro-biotech Applications (ISAAA) report, China is now the sixth largest producer of

agricultural biotechnology crops in the world by acreage, (behind the United States, Argentina, Brazil, Canada, and India) at 3.5 million hectares in 2006. Pest-resistant (Bt) cotton is the single largest biotechnologically enhanced product produced in China. It is estimated that more than 65 percent of the total cotton planted area in China is for Bt cotton varieties, almost exclusively in Yangtze and Yellow River regions. Other crops approved for commercial production are either not being produced (tomato, sweet pepper) or are in very small production (papaya).

Some surveys show that there may be some unapproved varieties in production. A survey started in 2002 at the Biochemical Analysis and Experiment Center of Ho Chi Minh Agricultural University found that though corn is not a biotech product that has been approved for commercial production, 30 percent of the samples of corn imported from China contained genetically modified varieties. The imported GM corn samples mainly contained pest and herbicide resistant genes (VM5050). China has also been criticized for allowing the production of biotech rice prior to its official approval. In recent years, Greenpeace allegedly found biotech content in samples of rice and rice products gathered in southern China.

For a detailed list of agricultural biotechnology products approved for commercial production, see Section III.

Biotechnology crop development in China

China does not regularly publish lists on products undergoing research and development. Among the hundreds of biotech products under development, Bt cotton varieties, bacterial blight resistant rice (Xa21), and high oil content canola have been approved for productive testing. According to a recent publication by the Ministry of Agriculture, other major crops under filed trials include insect resistant rice, insect resistant corn, high lysine content corn, wheat resistant to pre-harvest germination, and insect resistant soybean. The Chinese government has made advancement of the biotechnology field a high priority, including it in the last three 5-year plans. As a result, China has the most sophisticated agricultural biotechnology program in the developing world.

There is no private sector development in China. Seeds in China are produced by public research institutes and universities funded by the Chinese government. Outside investment in this field was possible until 2002, but was listed on as an industry where foreign investment is excluded. In 2003, China's government spent over 363 million RMB (about \$44 million USD) on biotechnology research, three times 1998 funding levels. The Chinese government is going to invest \$US 500 million on agricultural biotechnology, primarily on seed breeding, in the 11th Five Year Plan (2006-2010). Foreign investment is allowed in conventional seed production, but is limited to minority shareholders in joint ventures with Chinese companies.

Importation of biotechnology crops

China has approved four biotech products for import as processing materials (soybean, corn, canola, and cotton) and is a significant importer of U.S. biotech products. In February 2004, the Ministry of Agriculture granted safety certificates to the first batch of genetically altered crops under the new regulations. Since that time, China has gone on to approve a series of biotechnology improved crops. In December 2006, the Ministry renewed the safety certificates for a series of events that were going to expire in February 2007. The safety certificate of a food crop, such as soybeans, is valid for three years and that of a non-food crop like cotton is valid for five years. The current list of biotech events approved for import as processing materials follows:

Biotech crops approved for import as processing materials (as of Feb. 28, 2007)

Bioteon	nops approved for imp	or t as process	ing materials (as si	100.20,2007)
Crop	Trait	Event	Developer	Safety certificate validity
Cotton	Insect resistance	531	Monsanto	02/20/2004-
				02/20/2009
Cotton	Herbicide tolerance	1445	Monsanto	02/20/2004-
0011011			on.oun.co	02/20/2009
Corn	Herbicide tolerance	NK603	Monsanto	07/08/2005-
33			on.oun.co	07/08/2008
Cotton	Insect resistance	BollgardII	Monsanto	07/20/2006-
0011011	moot resistance	Bongaran	Mondanto	07/20/2011
Corn	Insect resistance and	59122	DuPont & Dow	12/20/2006-
00111	herbicide tolerance	07122	AgroSciences	12/20/2009
Soybean	Herbicide tolerance	GTS40-3-2	Monsanto	12/20/2006-
Soybean	The bleide tolerance	01040 5 2	Worldanto	12/20/2009
Canola	Herbicide tolerance	GT73	Monsanto	12/20/2006-
Carlola	Therbielde tolerance	0173	Worlsanto	12/20/2009
Canola	Herbicide tolerance	Ms1Rf1	Bayer CropScience	12/20/2006-
Carlola	Tierbielde tolerariee	WISTINIT	Dayer cropodictice	12/20/2009
Canola	Herbicide tolerance	Ms1Rf2	Bayer CropScience	12/20/2007
Cariola	Therbicide tolerance	IVISTRIZ	Dayer Cropscience	12/20/2009
Canola	Herbicide tolerance	Ms8Rf3	Bayer CropScience	12/20/2004
Cariola	Herbicide tolerance	IVISORIS	Bayer Cropscience	
Canola	Herbicide tolerance	T45	Bayer CropScience	12/20/2009 12/20/2006-
Cariola	Herbicide tolerance	145	Bayer Cropscience	12/20/2000-
Canala	Harbiaida talaranaa	Topos10/2	Davor Crancolonas	
Canola	Herbicide tolerance	Topas19/2	Bayer Cropscience	12/20/2006-
Canola	Harbiaida talaranaa	Over 225	Davor CranCalanas	12/20/2009
Cariola	Herbicide tolerance	Oxy-235	Bayer CropScience	12/20/2006-
Cama	Impost resistance	MONOCO	Managanta	12/20/2009
Corn	Insect resistance	MON863	Monsanto	12/20/2006-
Come	Import monitoring	MONOTO	Managanta	12/20/2009
Corn	Insect resistance	MON810	Monsanto	12/20/2006-
Come	I manat maniataman amal	D+11	Cummonto	12/20/2009
Corn	Insect resistance and	Bt11	Syngenta	12/20/2006-
0	herbicide tolerance	D+4.7./	C	12/20/2009
Corn	Insect resistance ad	Bt176	Syngenta	12/20/2006-
	herbicide tolerance	0.101		12/20/2009
Corn	Herbicide tolerance	GA21	Monsanto	12/20/2006-
		TOF	D 0 0 1	12/20/2009
Corn	Herbicide tolerance	T25	Bayer CropScience	12/20/2006-
		T04565	D D 105	12/20/2009
Corn	Insect resistance and	TC1507	DuPont & Dow	12/20/2006-
_	herbicide tolerance		AgroSciences	12/20/2009
Cotton	Herbicide tolerance	LLCOTTON25	Bayer Cropcience	12/20/2006-
				12/20/2009

Potential for agricultural biotechnology exports to the United States

China is not currently exporting biotech crops to the United States and is unlikely to be an exporter in the near-term. As such, China has not sought approval from U.S. regulators for products commercialized in China.

SECTION III. BIOTECHNOLOGY POLICY

Ministerial Responsibilities

The Joint-Ministerial Conference for Biosafety Management of Agricultural GMOs is a loose mechanism that meets irregularly to discuss and coordinate on major issues in biosafety management of agricultural GMOs. The conference consists of seven government agencies under the State Council, including the Ministry of Agriculture (MOA), National Development and Reform Commission (NDRC), the State Administration of Environmental Protection (SEPA), the General Administration on Quality and Supervision, Inspection and Quarantine (AQSIQ), the Ministry of Science and Technology (MOST), the Ministry of Commerce (MOFCOM), and the Ministry of Health (MOH).

MOA is chiefly responsible for approval of biotech agricultural crops for import and domestic production. MOA has recently taken over from MOST the management of central government funds distributed to Chinese institutes and universities for research and development of agricultural GMOs. However, SEPA is the lead authority for negotiation and implementation of the Biosafety Protocol (BSP), which China ratified on April 27, 2005. SEPA has expressed its intent to develop an overarching Biosafety Law but has stated that the drafting of the law has been held up due to its importance and comprehensive nature. AQSIQ and their local inspection and quarantine offices (CIQs) are responsible for the nation-wide management of the inspection and quarantine for entry and exit of all GMO products. AQSIQ's Ministerial Decree 62 (CH4017) governs the steps that should be taken at customs when importing or exporting biotechnologically enhanced goods.

China has established a technical system to support the regulatory system on agricultural biotechnology. The National Biosafety Committee (NBC) consists of 74 experts with multidisciplinary backgrounds from nine ministries, nine research institutions, and nine universities. NBC meets twice a year, normally in June and December, to evaluate applications of safety certificates for agricultural GMOs for different uses as submitted by domestic and foreign seed developers. NBC is divided into three expert groups responsible for: biotech plants, animals and microorganisms, and food and feed.

The National Technical Committee for Standardization of Biosafety Management of Agricultural GMOs consists of 41 experts and administrative officials and is responsible for drafting and revising technical standards for agricultural GMOs including standards for safety assessment, testing and detection.

There are 49 MOA-authorized centers across the country, which undertake environmental safety testing, food safety testing and detection of agricultural GMOs.

The agricultural departments at provincial levels are responsible for monitoring field trials of biotech products, facilities processing GMO products, seed market, and labeling.

Regulatory Framework

The biotechnology regulatory environment for agriculture is outlined in the State Council's regulations "Food and Agricultural Import Regulations and Standards; Agricultural Genetically Modified Organisms Safety Administration Regulations 2001" (CH1056) and largely implemented by MOA under Ministerial Decrees 8, 9 and 10. These decrees (Measures on the Safety Evaluation Administration of Agricultural GMOs, Measures on the Safety Evaluation Administration of Agricultural GMO Imports, and Measures on Agricultural GMO Labeling Administration (CH7053)) govern domestic approval, import approval, and labeling.

Import approvals

The Ministry of Agriculture must approve biotechnology products that are intended for import into China. The approval process varies depending on the product's intended use (research, processing material, or production), safety levels, and the potential threat of the organism to human or animal health and the environment. Refer to MOA Decree 9 (CH7053) for different requirements for importing GMOs with different purposes.

For importation of products for processing materials, which consists of the bulk of exports from the United States to China, Article 12 of decree 9 states that a foreign seed developer must apply for an agricultural GMO safety certificate from MOA's Agricultural GMO Biosafety Office. The regulations require applicants to provide a variety of materials and to have certification that the exporting country has allowed use and sale of products in its domestic market and that they have undergone tests there showing no harm to animals, plants or the environment. MOA also requires authorized domestic institutions to conduct environmental safety (field trials) and food safety (animal feeding) tests to verify data provided by the seed developer. All these documents must be reviewed by the National Biosafety Committee, which meets twice a year, before MOA can issue a safety certificate.

Although the regulation provides that MOA should respond to an application for a safety certificate within 270 days, the approval processes and timelines of issuing a safety certificate vary from crop to crop depending on the product's intended use and potential impact on human or animal health and the environment. In general, the process of getting a safety certificate for imported biotech food crops as processing materials like soybeans will last about two years because it involves steps of varying length, such as import of testing materials and evaluation by National Biosafety Committee. And this process for a non-food crop, such as cotton, is much quicker as it does not require a field trial. Industry sources speculate, however, that obtaining a safety certificate for import GM crops for planting in China could require between 8 to 10 years.

Approval for domestic production

To produce biotech crops domestically in China, technology providers must pass a safety evaluation by the National Biosafety Committee and must be issued a safety certification by the MOA's Agricultural GMO Biosafety Office. As outlined below, the approval process for biotechnology products for domestic cultivation involves five steps: research, pilot experiment, environmental release, experimental production, and safety certification. Approvals are sought at the provincial level. After completing the five steps, products are eligible for safety certificates. The Agricultural GMO Biosafety Office delegates evaluation of the application to the National Biosafety Committee. The final safety certificate is good for the province or region for which the original application was made. The 5-step approval process is as follows:

- (1) Application to continue research under Decree 8 including a report on experimental research already completed;
- (2) Application for a pilot experiment to begin so-called "medium testing," or test plots of less than ½ acre:
- (3) Application for testing for "environmental release." Environmental release testing takes place on less than 2 acres with specified safety precautions;
- **(4)** Application for production testing takes place on less than 5 acres and is the final test before seeking final approval;
- **(5)** The final application is for a safety certificate. The safety certificate is required for registration and approval formalities.

In addition to a safety certificate for commercial production, biotech seed developers must seek registration of the biotech seed variety at the provincial agricultural department as

required by the Seed Law. The process will take another 2-3 years. (Note: in some provinces this process may begin in step 4 of "production testing" and therefore can save one year).

Chinese Domestic Political factors and Biotech Production

There are a number of contradictory and competing factors influencing the development of biotech policy in China. These factors have various weight, but the final conclusion is that the sum of the negative factors has prevented China from commercializing much of its current research. Some of the most important factors are described below.

<u>Self-reliance and Food Security</u>: China's efforts over the last several years to remain self-reliant in grain (official sources indicate self-reliant as being 85-90% self-sufficiency) have created pressure on the government to adopt more active policies that target production efficiency, such as biotechnology policies. In able to accomplish this, China will have to experience very high productivity growth rates due to the lack of land for planting expansion. This drive is one of the main reasons that China has invested so much money in domestic development of biotechnology.

<u>Bureaucratic Competition</u>: Interagency struggles exist over the competent ministry for regulating biotechnology in China. China's signing of the Biosafety Protocol and SEPA's interest in developing national regulations to bring itself into conformity with the Protocol continues to be a subject of debate within the government and challenge MOA's leading role.

<u>Trade Concerns</u>: There is uncertainty over the impact that further GM crop commercialization would have on Chinese agricultural exports. Although the country has become a significant net farm product importer in recent years, it is concerned about losing export markets for non-GM crops and food products. China exports corn, soybeans, and rice to Korea and Japan and both have said they will likely stop importing if China commercializes biotech varieties of these products.

<u>Infant Industry</u>: Over the years, China has sent mixed signals to the global biotech industry and agricultural traders. China was very open to biotech products beginning in the mid-1980s and introduced a more restrictive approach in the late 1990s. Since a 2002 ban on foreign investment in the local seed technology industry, international biotechnology firms developing products in the Chinese market in part because China feels that the competition would be too great for local research institutions. To make up for the lack of private investment, public funding for biotechnology increased in the late 1990s and promoting genetic engineering became a key instrument of food security policy. Part of this argument suggests that Chinese research institutions cannot compete against multinational companies and that seed production should stay in local hands for food security reasons.

<u>Farmer Income</u>: On the key goals China wants to achieve is a more prosperous and stable rural population. China has seen the introduction of the one major biotech product produced domestically (cotton) reduce labor inputs, reduce chemical usage, increase yields, and raise farmer income. This model is a powerful example of how biotechnology could be used to improve the lives of millions of rural Chinese and further many of its goals, especially food security.

Approved biotechnology products

The following is a list of biotech products that have been approved for commercial production in China. The list does not include petunia events or animal vaccine events that are also approved and commercialized. Some food crops such as sweet pepper are no longer in production (or have never been planted) because their safety certificates have expired.

Crop	Trait	Developer	Event	Commercial production area	Validity
Sweet pepper	Virus resistance	Beijing University	Shuangfeng R	Liaoning	06/1998- 06/2000
Sweet pepper	Virus resistance	Beijing University	PK-SP01	Beijing, Fujian, Yunnan	07/1999- 12/2004
Chili pepper	Virus resistance	CAAS	N/A	Beijing	01/01/2002- 12/31/2003
Tomato	Virus resistance	Beijing University	8805R	Liaoning	06/1998- 06/2000
Tomato	Virus resistance	Beijing University	PK-TM8805R	Beijing, Fujian, Yunan	07/1999- 12/2004
Tomato	Prolonged shelf life	Biotech Research Centerrch Institute, CAS	Da Dong No. 9	Beijing	01/2000- 012004
Papaya	Virus resistance	South China Agriculture University	Huangnong 1	Guangdong	07/20/2006- 07/20/2011
Cotton	Insect resistance	Monsanto	NC33B	Hebei, Shandong	12/15/2002- 12/31/2007
Cotton	Insect resistance	Monsanto	DP99B	Hebei, Shandong Jiangsu, Anhui	12/15/2002- 12/31/2007; 12/25/2004- 12/25/2009; 07/2005- 12/2010
Cotton	Insect resistance	Monsanto	DP35B	Hebei, Shandong, Henan	12/2005- 12/2010
Cotton	Insect resistance	Microorganism Research Institute, CAS/Cotton Research Institute of Shanxi Academy of Ag. Sciences	DR409	Xinjiang Shandong, Henan Shaanxi	12/20/2003- 12/20/2008; 12/25/2004- 12/25/2009; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Monsanto	NC20B	Henan Hebei, Shandong, Jiangsu, Shanxi, Anhui	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Monsanto	Hanza 154	Hebei, Henan	07/20/2006- 07/20/2011
Cotton	Insect resistance	Monsanto	DPH37B	Anhui Jiangsu, Sichuan, Jiangxi, Hubei, Hunan, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010

Cotton	Insect resistance	Monsanto	DPH38B	Hunan	12/2005- 12/2010;
	resistance			Anhui	12/20/2006- 12/20/2011
Cotton	Insect resistance	Monsanto	DPH52B	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Monsanto	DP410B	Anhui Jiangsu, Sichuan, Jiangxi, Hubei, Hunan, Henan	12/15/2002- 12/31/2007; 12/25/2004- 12/25/2009
Cotton	Insect resistance	Monsanto	NC32B	Anhui	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS	GK1	Anhui	12/15/2002- 12/31/2007
Cotton	Insect resistance	Biotech Research Center, CAAS	GK-12	Hebei, Henan, Jiangsu, Shandong, Xinjiang	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS	GK19	Hubei	12/15/2002- 12/31/2007
Cotton	Insect resistance	Biotech Research Institute, CAAS	GK22	Jiangsu	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GK30	Shandong, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Shandong Cotton Research Center	GK31	Shandong Hebei, Tianjin, Jiangsu, Shanxi, Anhui, Henan	12/25/2004- 12/25/2009; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GK32	Shandong Jiangsu, Henan	12/25/2004- 12/25/2009; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GK33	Shandong, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GK34	Shandong	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GK35	Shandong	12/25/2004- 12/25/2009

Cotton	Insect	Biotech Research	GK39	Hebei, Henan	12/25/2004-
	resistance	Institute, CAAS/Hebei Hejian Guoxin Rural Extension Service		Shandong, Shanxi, Shaanxi, Hubei, Anhui	12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Plant Protection Institute, CAAS	GK44	Henan Hebei, Beijing, Shandong, Tianjin, Shanxi, Anhui	12/25/2004- 12/25/2009; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Handan Research Institute of Ag. Sciences	GK45	Hebei, Henan Shandong, Tianjin, Shanxi	12/25/2004- 12/25/2009; 07/20/2006- 07/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Academy of Ag and Forestry Sciences	GK50	Henan, Hebei	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangsu Siyang	GK51	Jiangsu, Anhui	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GK52	Shandong	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jinqiu Seed Co. Ltd.	GK53	Hebei, Shandong Shanxi, Anhui, Henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Academy of Ag and Forestry Sciences	GK55	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangsu Dafeng Cotton Breeding Farm	GK58	Jiangsu	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Xinjiang Academy of Ag Sciences	GK62	Xinjiang	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/PPI, CAAS	GK69	Henan	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/PPI CAAS	GK70	Henan	12/2005- 12/2010

Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jinqiu Seed Co. Ltd	GK71	Hebei, Shandong, Shanxi, Hubei, Hunan, Anhui, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jiaxing Agro-Science Co. Ltd	GK72	Hebei, Shandong, Anhui, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jiaxing Agro-Science Co. Ltd	GK75	Hebei, Shandong, Anhui, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Shijiazhuang Xipu Seed Co. Ltd.	GK76	Hebei, Shandong, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Shijiazhuang Xipu Seed	GK77	Hebei, Shandong, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS	GK95-1	Shanxi	12/15/2002- 12/31/2007
Cotton	Insect resistance	Biotech Research Institute, CAAS/CAU	GK164	Hebei, Shandong, Henan	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	GK-zhong 394	Shandong	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS	GKz1	Henan Hebei, Shandong, Sichuan, Shaanxi, Shanxi, Hubei, Anhui	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS	GKz2	Henan Hebei, Shandong, Shaanxi, Shanxi, Anhui	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Lunan Ag Extension Service	GKz8	Jiangsu, Hubei	12/25/2004- 12/25/2009
Cotton	Insect resistance	Nantong Century Biotech Seed Co. Ltd	GKz9	Jiangsu	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GKz10	Shandong, Jiangsu	12/25/2004- 12/25/2009

Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Handan Research Institute of Ag	GKz11	Hebei, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GKz12 (Lumianyan 20)	Shandong, Jiangsu Hebei Tianjin, Jiangsu, Hubei, Anhui, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Jiyang Luyou Cotton Research Institute	GKz13	Shandong, Jiangsu Hebei	12/25/2004- 12/25/2009; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hunan Cotton Science Research Institute	GKz17	Hubei, Hunan Jiangsu, Anhui Zhejiang, Sichuan, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Zhejiang Cixi Academy of Ag Sciences	GKz18	Zhejiang, Jiangxi	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Academy of Ag & Forestry Sciences	GKz19	Hebei, Henan Shaanxi	12/25/2004- 12/25/2009; 07/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangsu Keteng Cotton Co. Ltd	GKz20	Jiangsu	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Hejian Guoxin Ag Extension Service	GKz21	Hebei, Henan Shandong, Jiangsu, Hubei, Anhui	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Science System Engineering Co.		Shandong	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Nanjiang Agricultural University	GKz23	Hubei, Anhui Jiangsu, Zhejiang, Hunan, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GKz25 (Lumianyan 24)	Shandong, Anhui Hebei, Tianjin, Jiangsu, Shanxi Jiangsu, Hubei,	12/25/2004- 12/25/2009; 12/205- 12/2010; 12/20/2006-

				Henan	12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GKz26	Shandong, Jiangsu	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangsu Academy of Ag Sciences	GKz27	Jiangsu, Hubei	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Cotton Research Center	GKz29 (Lumianyan 25)	Shandong, jiangsu Hebei Tianjin, Jiangsu, Hubei, Anhui, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangsu Yancheng Xinyang Ag Experiment Station	GKz32	Jiangsu	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hubei Huimin Seed Co.	GKz33	Hubei	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Sichuan Academy of Ag Sciences	GKz34	Sichuan Hubei	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jiyang Luyou Cotton Institute	GKz39	Shandong, Jiangsu	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	GKz (zhong) 39	Shandong, Anhui, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Handan Academy of Ag Sciences	GKz41	Hebei, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/PPI,CAAS	GKz42	Henan	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	GKz (zhongza) A49-668	Shandong, Anhui, Henan	12/25/2004- 12/25/2009

Cotton	Insect resistance	Biotech Research Institute, CAAS/Anhui Huainan Luyi Academy of Ag Sciences	GKz43	Hubei, Hunan, Anhui	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Xipu Seed Co. Ltd.	GKz45	Hebei, Shandong, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/CAU	GKz65	Hebei, Henan	07/20/2006- 07/20/2011
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	GKZCRI060 1	Shanxi	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Hejian Guoxin Ag Extension Service	sGK3	Hebei, Shandong Jiangsu, Hubei, Anhui, Henan Tianijin	12/25/2004- 12/25/2009; 12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co.	sGK10	Hebei, Henan Shandong, Tianjin, Shaanxi, Anhui Shanxi, Hunan	12/25/2004- 12/25/2009; 12/2005- 12/2010; 07/20/2006- 07/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co.	sGK11	Hebei, Henan Shandong, Tianjin, Jiangsu, Shaanxi, Anhui Hunan	12/25/2004- 12/25/2009; 12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shijiazhuang Academy of Ag Sciences	sGK12	Hebei, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shijiazhuang Academy of Ag Sciences	sGK13	Hebei Shandong	12/25/2004- 12/25/2009; 12/2005- 12/2010;
Cotton	Insect resistance	Biotech Research Institute, CAAS	sGK16	Hebei Hunan	07/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co.	SGK18	Hebei, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shijiazhuang	sGK22	Hebei Shandong	12/25/2004- 12/25/2009; 12/2005-

		Academy of Ag Sciences			12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Yintian Seed Co. Ltd	sGK23	Hebei Shandong, Jiangsu, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cangzhou Academy of Ag Sciences	sGK25	Hebei Shandong, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Dezhou Yirui Cotton Research Institute	sGK26	Hebei Shandong	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Yintian Seed Co. Ltd	sGK27	Hebei Shandong, Jiangsu, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Yintian Seed Co. Ltd	sGK28	Hebei Shandong, Jiangsu, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Ag Univeristy	sGK29	Hebei Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Ag Univeristy	sGK30	Hebei Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangxing Academy of Ag Sciences	sGK31	Shandong	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jinqiu Seed Co. Ltd.	sGK33	Hebei, Shandong, Shanxi	12/20/2006- 12/20-2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co.	SGK35	Anhui	12/20/2006- 12/20-2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Henan Xinxiang Jinke Cotton Research Institute	sGK36	Hebei, Henan Shandong, Anhui	12/25/2004- 12/25/2009; 12/2005- 12/2010

Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong	sGK37	Hebei Shandong, Anhui,	12/25/2004- 12/25/2009; 12/20/2006-
		Jiaxing Agro-Science Co. Ltd.		Henan	12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei	sGK38	Hebei	12/25/2004- 12/25/2009;
		Yitian Seed Co. Ltd.		Shandong, Shanxi, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute,	sGK39	Hebei	12/25/2004- 12/25/2009;
		CAAS/Shandong Jiaxing Agro-Science		Shandong, Anhui. Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Guoxin Rural Technology Extension Service	sGK41	Hebei, Shandong, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Center, CAAS/Shijiazhuang Academy of Ag. Sciences	SGK321	Hebei, Shandong, Jiangsu, Anhui, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Center, CAAS	sGK791	Henan	07/2005- 12/2010
Cotton	Insect resistance	Biotech Research Center, CAAS/Henan Xinxiang Mianke Cotton Institute	sGK958	Shandong, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK3017	Hebei	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGK-zhong 23	Henan Hebei, Shandong, Anhui	12/15/2002- 12/31/2007; 12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research	sGK-zhong 27	Henan Hebei, Shandong, Hubei, Anhui	12/15/2002- 12/31/2007; 12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK-zhong 35	Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK-zhong 96-48	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research	sGK-zhong 0099	Shandong	12/2005- 12/2010

		Institute,CAAS			
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGK-zhong 156	Hebei, Shandong, Anhui, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK-zhong 177	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGK-zhong 264	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK-zhong 825	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK-zhong 3017	Hebei, Shandong, Anhui, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	sGK-zhong 51504	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGK-zhong 92329	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGK-zhong 99668	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	SGKz001	Hubei, Anhui	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	SGKz003	Anhui	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Nanjing Ag University	sGKz2	Jiangsu, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGKz4	Hubei, Anhui Shandong, Henan	12/25/2004- 12/25/2009; 12/20/2003- 12/31/2008

Cotton	Insect	Biotech Research	SGKz6	Hebei, Henan	12/25/2004-
	resistance	Institute, CAAS/Hebei Handan Academy of Ag. Sciences			12/25/2009
Cotton	Insect resistance	Institute, CAAS/Beijing Silver Land Biotech Co.	SGKz8	Hebei, Shandong, Anhui Jiangsu, Shaanxi, Henan	12/25/2004- 12/25/2009; 12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Jiangsu Academy of Ag Sciences	SGKz9	Beijing, Tianjin Jiangsu, Anhui	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Century Biotech Co. Ltd	SGKz10	Hebei, Jiangsu	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hunan Institute of Cotton Sciences, Beijing Zhongnong Seed Co. Ltd	SGKz11	Hubei, Hunan Zhejiang, Sichuan, Anhui, Henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hunan Institute of Cotton Sciences	sGKz12	Hubei, Zhejiang, Sichuan, Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shijiazhuang Academy of Ag Sciences	sGKz18	Hebei, Shandong	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hunan Academy of Cotton Sciences	sGKz19	Hubei, Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Dezhou Yinrui Cotton Research Institute	sGKz20	Hebei, Shandong, Shanxi, Hubei, Hunan, Anhui, Henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Henan Academy of Ag Sciences	sGKz21	Henan	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Nanjing Ag University	SGKz22	Anhui	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Century Biotech Co.	sGKz25	Hebei	12/2005- 12/2010

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Cotton	Insect resistance	Biotech Research Institute, CAAS/Henan Xixiang Mianke Cotton Institute	sGKz27	Shandong, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Feng Family Cotton Tech. Co.	SGKz29	Shandong, Henan	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Yinong Seed Co. Ltd.	SGKz30	Hebei	07/20/2006- 07/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Century Biotech Co. Ltd	SGKz31	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Jinqiu Seed Co. Ltd	SGKz32	Hebei, Shandong Hubei, Anhui	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Yinong Seed Co. Ltd.	sGKz33	Hebei Henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co.	sGKz34-3	Jiangsu, Shaanxi, Henan Hunan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co.	SGKz35	Hebei, Shandong, Shanxi, Hunan, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co. Ltd.	SGKz36	Hebei, Shandong, Shanxi, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Beijing Silver Land Biotech Co. Ltd.	SGKz37	Hebei, Shandong, Shanxi, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong Xinrui Seed Tech Co. Ltd	SGKz39	Hebei, Shandong	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Yintian Seed Co. Ltd.	sGKz40	Hebei, Shandong, Shanxi, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Shandong jiaxing Ag Research Institute	SGKz41	Hebei, Shandong, Anhui, Henan	12/20/2006- 12/20/2011

Cotton	Insect	Biotech Research	sGKz42	Hubei, Anhui	12/20/2006-
	resistance	Institute, CAAS/Hebei Hejian Guopxin Rural Extension Service			12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hunan Cotton Research Institute	sGKz43	Hubei, Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hunan Academy of Cotton Sciences	sGKz45	Hubei, Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Hebei Guoxin Rural Technology Extension Service	SGKz46	Hebei, Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	SGKz-zhong 927	Henan	12/22/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	SGKz-zhong 929	Henan	12/22/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	SGKz-zhong 980	Shandong, Anhui, Henan Zhejiang	12/25/2004- 12/25/2009; 12/22/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	sGKz2018	Shandong, Hubei, Anhui, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute,CAAS	SGKz-zhong BZ12	Shandong, Hubei, Anhui, Henan	12/25/2004- 12/25/2009
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	SGKz zhong 637	Anhui, Henan, Hubei, Shandong	12/20/2006- 12/20/2011
Cotton	Insect resistance	Shijiazhuang Academy of Agricultural Sciences	Jinmian- 26	Hebei, Liaoning Tianjin	12/25/2004- 12/25/2009; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Hebei Ag & Forestry Academy of Sciences	Yiza3268	Hebei Tianjin	07/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Hebei Ag & Forestry Academy of Sciences	Yifeng106	Hebei Tianjin, Shanxi	07/2005- 12/2010; 10/20/2006- 12/20/2011

					12/20/2011
Cotton	Insect resistance	Hebei Ag & Forestry Academy of Sciences	Yi228	Hebei, Shandong	07/2005- 12/2010
Cotton	Insect resistance	Hebei Ag & Forestry Academy of Sciences	Yi2000	Hebei, Shandong	07/2005- 12/2010
Cotton	Insect resistance	Hebei Ag & Forestry Academy of Sciences	Yiza566	Hebei, Shandong	07/2005- 12/2010
Cotton	Insect resistance	Shanxi Academy of Ag Sciences	2001pb-3	Hebei, Shanxi, Henan Shandong,	12/2005- 12/2010; 07/20/2006- 07/20/2011
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan1 5	Shaanxi Hebei, Tianjin, Jiangsu, Shanxi, Anhui, Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan1 6	Hebei, Jiangsu, Shanxi	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan1 8	Hebei,Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan1 9	Hebei, Tianjin, Jiangsu	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan2 0	Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan2 1	Hebei, Tianjin, Jiangsu, Shanxi, Shaanxi, Anhui, Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan2 2	Hebei, Shanxi, Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan2 3	Anhui, Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan2 5	Henan	12/2005- 12/2010
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan 27 (Lu 9154)	Shandong Hebei, Tianjin, Shanxi, Henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Shandong Cotton Research Institute	Lumianyan 28 (Lu 272)	Shandong Hebei, Tianjin, Jiangsu, Shanxi, Anhui, Henan	12/2005- 12/2010 12/20/2006- 12/20/2011
Cotton	Insect resistance	Shijiazhuang Minfeng Seed Co. Ltd.	Chuangyou mian-9	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Handan Academy of Ag Sciences	Han5158	Hebei Shandong, Tianjin, Jiangsu, Shaanxi, Shanxi, Anhui,	12/2005- 12/2010;

				Henan	
Cotton	Insect resistance	Handan Academy of Ag Sciences	Han7860	Hebei Shandong, Tianjin, Shanxi, Henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Handan Academy of Ag Sciences	Han 103	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Handan Academy of Ag Sciences	Hanza 326	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Handan Academy of Ag Sciences	Hanza 160	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Handan Academy of Ag Sciences	Han 685	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Handan Academy of Ag Sciences	Han 6208	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Handan Academy of Ag Sciences	Hanza 301	Hebei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Shijiazhuang Wanfeng Seed Co. Ltd.	Hefeng 201	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Shijiazhuang Wanfeng Seed Co. Ltd.	Hefeng 202	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Hengmian 4	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yi1286	Hebei Shandong, Tianjin, Jiangsu, Anhui, Shaanxi, Shanxi, henan	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yi3927	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yi863	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yifeng 103	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yifeng 1056	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yifeng 197	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yifeng 522	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yifeng 554	Hebei Shandong	12/2005- 12/2010; 12/20/2006- 12/20/2011
Cotton	Insect resistance	Hebei Yifeng Seed Co. Ltd/Hebei Yifeng Cotton Science Co. Ltd.	Yifeng 908	Hebei	12/2005- 12/2010
Cotton	Insect resistance	Hebei Academy of Ag and Forestry Sciences	Yimian 616	Hebei	12/2005- 12/2010

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Cotton	Insect	Century Biotech Co.	Yiwu 589	Hebei	12/2005-
	resistance	Ltd.			12/2010
Cotton	Insect	Hebei Academy of Ag	Yiyou 768	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010
Cotton	Insect	Handan Academy of Ag	Handan 885	Hebei	12/2005-
	resistance	Sciences			12/2010
Cotton	Insect	Handan Academy of Ag	Handan 802	Hebei	12/2005-
Jotton	resistance	Sciences	nandan 662		12/2010
Cotton	Insect	Hebei Academy of Ag	YiH 239	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010
Cotton	Insect	Hebei Academy of Ag	Yiyou 01	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010
Cotton	Insect	Hebei Academy of Ag	Youza 69	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010
Cotton	Insect	Hebei Academy of Ag	Yiza 6268	Hebei	12/2005-
0011011	resistance	and Forestry Sciences	1124 0200	l lebel	12/2010
Cotton	Insect	Hebei Academy of Ag	Yiza 708	Hebei	12/2005-
Cotton	resistance	and Forestry Sciences	1124 700	liebei	12/2003-
	resistance	and rolestry sciences		Shandong	12/20/2006-
				Sharidong	12/20/2000-
Catton	Incont	Chiliaghuana Minfana	Vizbona 210	Hebei	
Cotton	Insect	Shijiazhuang Minfeng	Yizhong 318	Переі	12/2005-
0 11	resistance	Seed Co. Ltd	0054		12/2010
Cotton	Insect	Shijiazhuang Shenhe	99F1	Hebei	12/2005-
	resistance	Sci & Tech.			12/2010
_	_	Development Co. Ltd			
Cotton	Insect	Hebei Tianhe Seed Co.	Zhuangzhua	Hebei	12/2005-
	resistance	Ltd	ngmian 3		12/2010
Cotton	Insect	Hebei Tianhe Seed Co.	Zhuangzhua	Hebei	12/2005-
	resistance	Ltd	ngmian 4		12/2010
Cotton	Insect	Hebei Academy of Ag	Yi 122	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010
Cotton	Insect	Hebei Academy of Ag	97H1	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010;
				Shandong, Tianjin,	12/20/2006-
				Jiangsu, Shaanxi,	12/20/2011
				Shanxi, Anhui,	
				Henan	
Cotton	Insect	Hebei Academy of Ag	Yizha808	Hebei	12/2005-
	resistance	and Forestry Sciences			12/2010
Cotton	Insect	Hebei Kelong Seed Co.	Kelong 2088	Hebei	07/20/2006-
	resistance	Ltd.			07/20/2011
Cotton	Insect	Hebei Kelong Seed Co.	Kelong 2019	Hebei	07/20/2006-
	resistance	Ltd.			07/20/2011
Cotton	Insect	Hebei Academy of Ag	Yi1316	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Academy of Ag	YiFRH 3018	Hebei	07/20/2006-
3011011	resistance	Sciences	5010		07/20/2000
Cotton	Insect	Hebei Academy of Ag	Yi3816	Hebei	07/20/2011
COLLOIT		Sciences	113010	I ICDCI	07/20/2006-
Cotton	resistance		VILI154	Hoboi	
Cotton	Insect	Hebei Academy of Ag	YiH156	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011

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Cotton	Insect	Hebei Academy of Ag	Yi4025	Hebei	07/20/2006-
0 11	resistance	Sciences)// 1 4/O		07/20/2011
Cotton	Insect	Hebei Academy of Ag	Yimian 169	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Academy of Ag	YiH963	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Academy of Ag	Yi151	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Academy of Ag	Yi1516	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Academy of Ag	Kuaiyu 66	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Academy of Ag	Kuaiyu 2	Hebei	07/20/2006-
	resistance	Sciences			07/20/2011
Cotton	Insect	Hebei Tianfeng Agro-	Tianfeng	Hebei	07/20/2006-
	resistance	Science Co. Ltd.	1658		07/20/2011
Cotton	Insect	Hebei Yixin Agro-	Yixin 8	Hebei	07/20/2006-
Cotton	resistance	Science Co. Ltd.	TIXIII O	l lobel	07/20/2011
Cotton	Insect	Hebei Huimin Seed Co.	Tai 99-17	Hebei	07/20/2006-
Cotton	resistance	Ltd.	101 77-17	liebei	07/20/2000-
Cotton		Beijing Zhongke Strong	Strong 1 E1	Hebei	12/20/2006-
Cotton	Insect resistance	Ag Biotech Co. Ltd	Strong 1-F1	Переі	
0 11		U	005		12/20/2011
Cotton	Insect	National Institute of	225	Hebei	12/20/2006-
	resistance	Engineering Technology			12/20/2011
		for Semi-drought			
_		Agriculture			
Cotton	Insect	National Institute of	Chaozao 2	Hebei	12/20/2006-
	resistance	Engineering Technology			12/20/2011
		for Semi-drought			
		Agriculture			
Cotton	Insect	National Institute of	Chaozao 3	Hebei	12/20/2006-
	resistance	Engineering Technology			12/20/2011
		for Semi-drought			
		Agriculture			
Cotton	Insect	Hebei Huigu Agro Sci &	Guozamian	Hebei	12/20/2006-
	resistance	Tech Co. Ltd.	1		12/20/2011
Cotton	Insect	Hebei Agriculture	Nongdamian	Hebei	12/20/2006-
ootton	resistance	University	9		12/20/2011
Cotton	Insect	Hebei Yike Seed Co.	Yikemian 1	Hebei	12/20/2006-
Cotton	resistance	Ltd.	TIRCITII	licoci	12/20/2000
Cotton	Insect	Hebei Yike Seed Co.	Mianza 1	Hebei	12/20/2006-
COLLOIT	resistance	Ltd.	iviiai iza I	I ICDEI	12/20/2008-
Cotton			Vifona 010	Hoboi	
Cotton	Insect	Hebei Academy of Ag	Yifeng 919	Hebei	12/20/2006-
0-44-	resistance	and Forestry Sciences	\(\(\frac{1}{2} = \frac{1}{2}	Llaka!	12/20/2011
Cotton	Insect	Hebei Academy of Ag	Yifengguang	Hebei	12/20/2006-
	resistance	and Forestry Sciences	Zamian 1		12/20/2011
Cotton	Insect	Hebei Academy of Ag	Yifeng 911	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Yongnian Seed	Yuanza 96-	Hebei	12/20/2006-
	resistance	Farm	15		12/20/2011

Cotton	Insect	Hebei Century Sunlight	Yangguang 1	Hebei	12/20/2006-
	resistance	Agro-Science Co. Ltd.			12/20/2011
Cotton	Insect	Shandong Cotton	Lu H208	Shandong	12/2005-
	resistance	Research Institute			12/2010;
				Hebei, Tianjin,	12/20/2006-
				Jiangsu, Anhui,	12/20/2011
				Henan	
Cotton	Insect	Shijiangzhuang	Chuanyoumi	Hebei	12/20/2006-
	resistance	Minfeng Seed Co. Ltd.	an 168		12/20/2011
Cotton	Insect	Handan Academy of	Hanwu 198	Hebei	12/20/2006-
	resistance	Agricultural Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	Yimian 3536	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	YiH888	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	YiH999	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	Yiyou 861	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	Yiyou 972	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	YiH170	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cotton	Insect	Hebei Academy of Ag	HB1	Hebei	12/20/2006-
	resistance	and Forestry Sciences			12/20/2011
Cottone	Insect	Shandong Guanfeng	K9918	Shandong	12/2005-
	resistance	Century Biotech Co.			12/2010
		Ltd.			
Cotton	Insect	Shandong Cotton	Lu 2015	Shandong	12/2005-
	resistance	Research Center			12/2010
Cotton	Insect	Shandong Cotton	Lu 8159	Shandong	12/2005-
	resistance	Research Center			12/2010
Cotton	Insect	Shandong Cotton	Lu 2H3	Shandong	12/2005-
	resistance	Research Center			12/2010
Cotton	Insect	Shandong Cotton	Lu H206	Shandong	12/2005-
	resistance	Research Center			12/2010
Cotton	Insect	Shandong Cotton	Lu H619	Shandong	12/2005-
	resistance	Research Center			12/2010
Cotton	Insect	Handan Academy of Ag	Hanza 306	Shandong, Tianjin,	12/20/2006-
	resistance	Sciences		Jiangsu, Shanxi,	12/20/2011
				Anhui	
Cotton	Insect	Handan Academy of Ag	Hanza 98-1	Shandong, Tianjin,	12/20/2006-
	resistance	Sciences		Jiangsu, Shanxi,	12/20/2011
				Anhui	
Cotton	Insect	Handan Academy of Ag	Hanza 429	Shandong, Tianjin,	12/20/2006-
	resistance	Sciences		Jiangsu, Shanxi,	12/20/2011
				Anhui	
Cotton	Insect	Microorganism	BR98-2	Shanxi	12/2005-
	resistance	Research Institute,			12/2010;
		CAS/Shanxi Academy		Shandong, Hubei,	12/20/2006-
		of Ag Sciences		Henan	12/20/2011

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Cotton	Insect	Shandong Heima Seed	BZ9304	Shandong	12/20/2006-
	resistance	Co. Ltd			12/20/2011
Cotton	Insect	Shandong Dezhou	BZH04	Shandong	12/20/2006-
	resistance	Academy of Ag Sciences			12/20/2011
Cotton	Insect	Shandong Guanfeng	Guanmian 4	Shandong	12/20/2006-
	resistance	Century Biotech Co. Ltd			12/20/2011
Cotton	Insect	Shandong Cotton	H22	Shandong	12/20/2006-
	resistance	Research Institute			12/20/2011
Cotton	Insect	Shandong Cotton	Lu 1151	Shandong	12/20/2006-
	resistance	Research Institute			12/20/2011
Cotton	Insect	Shandong Cotton	Lu 154	Shandong	12/20/2006-
	resistance	Research Institute			12/20/2011
Cotton	Insect	Shandong Cotton	K0215	Shandong	12/20/2006-
	resistance	Research Institute			12/20/2011
Cotton	Insect	Shandong Agriculture	SF01	Shandong	12/20/2006-
	resistance	University			12/20/2011
Cotton	Insect	Shandong Agriculture	SF02	Shandong	12/20/2006-
	resistance	University			12/20/2011
Cotton	Insect	Shandong Agriculture	SF03	Shandong	12/20/2006-
	resistance	University			12/20/2011
Cotton	Insect	Shanxi Academy of Ag	SX01	Shanxi	12/2005-
	resistance	Sciences			12/2010
Cotton	Insect	Hubei Huimin Seed Co.	Ezamian 10	Jiangsu, Zhejiang,	12/2005-
	resistance	Ltd		Jiangxi, Hunan,	12/2010
				Anhui, Henan	
Cotton	Insect	Hubei Jingchu Seed Co.	Chuza	Jiangsu	12/2005-
	resistance	Ltd	180F1		12/2010;
				Hubei, Anhui	12/20/2006-
					12/20/2011
Cotton	Insect	Jiangsu Academy of Ag	MR3	Jiangsu	12/20/2006-
	resistance	Sciences/Century			12/20/2011
		Biotech Co. Ltd			
Cotton	Insect	Jiangsu Siyang Cotton	Sizamian 6	Jiangsu	12/20/2006-
	resistance	Seed Breeding Farm			12/20/2011
Cotton	Insect	Jiangsu Xuzhou	Xuza 3	Jiangsu	12/20/2006-
Cotton	resistance	Institute of Ag Sciences		Jiangsu	12/20/2000-
Cotton	Insect	Jiangsu Yanjiang	TK9988	Jiangsu	12/20/2006-
Cotton	resistance	Institute of Ag Sciences		Jangsa	12/20/2000
Cotton	Insect	Zhejiang Cixi Academy	Cikangza 3	Jiangsu, Hubei,	12/20/2006-
Cotton	resistance	of Ag Sciences	Cikarigza 5	Hunan, Anhui,	12/20/2000
	resistance	or rig Gerenees		Henan	12/20/2011
Cotton	Insect	Zhejiang Cixi Academy	Ciza 1	Zhejiang	12/20/2006-
Cotton	resistance	of Ag Sciences	CIZa I	Zricjiarig	12/20/2000
Cotton	Insect	Jiangsu Keteng Cotton	Kezamian	Jiangsu	12/20/2006-
COTTOIT	resistance	Co. Ltd	133	Jangsa	12/20/2001
Cotton	Insect	Jiangsu Keteng Cotton	Kemian 3	Jiangsu	12/20/2006-
3011011	resistance	Co. Ltd		Janga	12/20/2000-
			i .	1	1, ,
Cotton	Insect	Sicuan Academy of Ag	GA18xHB	Sichuan	12/20/2006-

Cotton	Insect resistance	Sicuan Academy of Ag Sciences	GA5xR27	Sichuan	12/20/2006- 12/20/2011
Cotton	Insect	Northwest Ag	Shan 204	Shaanxi	07/2005-
	resistance	University			12/2010
Cotton	Insect resistance	Nanjing Ag University	Nankang 6	Jiangxi	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Shayang Academy of Ag Sciences	KC9704	Hubei	07/2005- 12/2010
Cotton	Insect resistance	Microorganism Institute, CAS	Keza 2	Hubei, Anhui, Henan	07/2005- 12/2010
Cotton	Insect resistance	Jingzhou Academy of Ag Sciences	01-80	Hubei	12/2005- 12/2010
Cotton	Insect resistance	Jingzhou Academy of Ag Sciences	JZHR9999	Hubei	12/2005- 12/2010
Cotton	Insect resistance	Hubei Cangjiang Tunyu Seed Co. Ltd	Tunzamian 8F1	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Fuyue Agriculture Development Co. Ltd	1440	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Fuyue Agriculture Development Co. Ltd	Ezamian 19F1	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Huimin Seed Co. Ltd	Huahui 2	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Sanhu Farm Institute/Hubei Sanhu Seed Seed Co. Ltd	SH01-3	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Sanhu Farm Institute/Hubei Sanhu Seed Seed Co. Ltd	SH38310	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Zhengzhou Xiaguang Station of Ag Scicnes	XG-2	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hubei Academy of Ag Sciences	EK288	Hubei	12/20/2006-
Cotton	Insect resistance	Denong Zhengcheng Seed Co. Ltd	Demian 206	Hubei	12/20/2006- 12/20/2011
Cotton	Insect resistance	Sichuan Academy of Ag Sciences	RH16	Hubei, Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Jingzhou Xiaguang Station of Ag Sciences	XG05-1	Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hunan Academy of Cotton Sciences	Xiang Q168	Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hunan Academy of Cotton Sciences	Xiang sK5-1	Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Hunan Arts and Sciences University	Xiangwen 1	Hunan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Jiangsu Siyang Cotton Breeding Farm	Siza 3	Anhui	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute/Cotton	Zhong 501	Henan	12/2005- 12/2010

		Research Institute,CAAS			
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	Zhongza 302	Henan	12/2005- 12/2010
Cotton	Insect resistance	Beijing Aoruijin Seed Co. Ltd	Aoshimian 3401	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Beijing Aoruijin Seed Co. Ltd	Aoshimian 4201	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	National Ag Engineering Institute for Semi-drought Agriculture	Yiza 528	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Seed Co. of Henan Academy of Ag Sciences	Qiule 8	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Dengzhou Seed Co.	Dengza 1	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Henan Dishen Seed Co. Ltd	Fanmian 3	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Kaifeng Institute of Ag and Forestry	Kaimian 21	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Kaifeng Institute of Ag and Forestry	Kaizamian 2118	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Kaifeng Institute of Ag and Forestry	Bianmian 5 (Kaimian 15)	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute/Cotton Research Institute,CAAS	Zhong 3901	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Biotech Research Institute, CAAS/Cotton Research Institute, CAAS	Zhong 186	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Zhengzhou Institute of Ag and Forestry Sciences	Zheng Z3	Henan	12/20/2006- 12/20/2011
Cotton	Insect resistance	Nanyang Institute of Ag Sciences	Wan 98	Henan	12/20/2006- 12/20/2011

Biotechnology products under field trial for planting

China requires field-testing of biotechnology crops targeted for cultivation. MOA's Agricultural GMO Biosafety Office handles permission for all testing and final issuance of safety certificates. The first field trial step is "medium testing," which is defined as "small-scale experiments conducted in a controlled system or under controlled conditions," China requires applicants to go through two field tests before being approved for a safety certificate. The second stage is the "environmental release" test, defined as "medium-scale experiments conducted under natural conditions with proper safety protection." The last field testing is the "production test," which is carried out on a large-scale prior to production and

application. Industry representatives have estimated that the whole process could take eight to ten years.

This testing schedule is clearly more suited to companies or institutes that are developing the variety inside China. Due to the long development cycle, an institution has more time to coordinate the purely experimental stages with the application process. Alternatively, a product this from abroad has had all the testing stages completed, but has to repeat them again, which doubles the product roll-out timeframe.

China does not regularly publish a list of products under development. A recent publication by MOA indicates that as of June 2006, China had approved 456 events for medium testing, 211 products for environmental releases (enlarged field trials), and 181 products for production testing.

Labeling Policy

China's labeling regulations, governed by Ministry of Agriculture Decree 10 (CH7053), require approved agricultural biotech products be labeled and prohibits the importation and sale of any unlabeled or mislabeled products. The types of products listed are:

- 1. Soybean seed, soybean, soybean powder, soybean oil and soybean meal;
- 2. Corn seeds, corn, corn oil and corn powder;
- 3. Rape seed for planting, rape seed, rape oil and rape meal;
- 4. Cotton seed;
- 5. Tomato seed, fresh tomato and tomato paste.

Decree 10 states that the reason for the regulation is "to strengthen the administration of GMO labeling, standardize the selling activities of agricultural GMOs, guide the production and consumption of GMOs and protect consumers' right to be informed." The regulations spell out the type of labeling required as well as the specific language that is required on the individual labels.

China and the Biosafety Protocol

China's State Council ratified the Biosafety Protocol on April 27, 2005. This was not in time for the 2nd Meeting of the Parties (MOP) in Montreal, thus China participated as an observer. China participated in MOP-3 discussions in Brazil in March 2006 as a full member.

As the lead authority for the Biosafety Protocol, China's State Environmental Protection Agency (SEPA) is charged with developing implementing regulations. Though SEPA has not published any new or revised laws with regard to implementation of the Protocol, SEPA has continued to state its intent to develop an overarching Biosafety Law that would take precedence over the Ministry of Agriculture's decrees regulating agricultural biotechnology.

Issues of Concern in the Regulatory Process

Below are some of the current issues of concern for foreign countries and companies that export biotech commodities to China.

<u>Synchronous approvals</u>: China requires complete regulatory approval for a product in its country of initial development before it can apply for approval in China. Given the fact that China requires verification tests on environment and food safety, which involve field trials and animal feeding studies, the entire approval process may take up to 2 years. This means there will be at least a two-year gap between official approval of a new product in the United States and bringing the product to the Chinese market.

<u>Stacked events</u>: China's regulations currently do not include guidelines for the evaluation of stacked events. Although many countries, including the United States, do not regulate stacked events that are produced through backcrossing two or more approved individual biotech events, the Chinese Ministry of Agriculture considers stacked events new products and therefore require regulatory review. While China has approved cases of stacked events for local cultivation, officials have indicated that China will consider approval for importation of products composed of stacked events for processing on a case-by-case basis. There are a few cases of stacked events of domestic origin gaining the safety certificate.

<u>Detection methods</u>: MOA requires foreign biotech seed developers to provide viable seeds in order to develop detection methods without signing a Material Transfer Agreement (MTA). This requirement creates concerns of the biotech companies about IPR infringement, as the Chinese research institutions that develop the detection methods are also seed developers. However, a MTA is signed when a company applying for a safety certificate for an imported GMO product for processing provides viable seeds for the environmental testing.

<u>Discontinued products</u>: It is difficult for biotech seed developers to provide viable seeds of discontinued products to MOA for the purpose of developing detection methods. The companies argue that they should be able to provide DNA for the discontinued products. Biotech companies are also still required to apply for safety certificates for discontinued products because China does not allow adventitious presence of such products.

Revision of biosafety regulations: The Ministry of Agriculture has repeatedly stated that it will modify the current regulations governing agricultural GMOs that were first published in 2002 (CH7053) in a bid to keep in pace with the advancement of biotechnology. It is hoped that the modification process will be transparent and the revised version will be notified to the WTO for public comments.

SECTION IV. MARKETING ISSUES

Market acceptance issues

China's consumers are by and large open to and acceptant of biotechnology products. Generally, there does not seem to be the negative stigma attached to biotech foods that exists in some other Asian markets. A recent nation-wide study found 60 percent or more of respondents were willing to purchase biotech foods (including soybeans and rice) without any price discrimination. Twenty percent would only buy biotech food products when a price discount was offered. Twenty percent of respondents to the study would not accept biotech foods (with the exception of biotech rice with enhanced nutritional traits) regardless of any discounts in price.

Another study found that Chinese consumers' awareness to biotech foods was low, with about 75 percent having never heard of biotech foods or having heard of them on an occasional basis. The study found that a large majority of Chinese consumers hold a favorable or neutral attitude toward biotech foods, with only 5-15 percent of urban consumers opposed to biotech foods.

These findings are consistent with a recent study by the Asian Food Information Center's study on communicating with consumers on biotechnology that found that a "majority of consumers hold an open-minded position towards biotechnology foods and did not reject them per se."

SECTION V. CAPACITY BUILDING AND OUTREACH

U.S. Government funded outreach and capacity building programs

The U.S. and Chinese governments are working closely on several fronts to assist China in its capacity to effectively and fairly handle biotechnology. The U.S.- China High-Level Biotechnology Joint Working Group (BWG) was established in July 2002 as a way to address bilateral biotechnology issues of mutual interest. To supplement the policy discussions, a technical subgroup (TWG) was established in July 2003. Together, these for a have become a constructive means to address issues of common concern.

Some technical cooperation programs agreed to at the last BWG are a Technical Workshop on Safety Assessment, a Sampling/Testing Expert Exchange, a Veterinary Biologics visit in Iowa, a Biotechnology Short Course, an Insect Resistance Management Collaboration, research collaborations, APEC support, and technical meetings.

SECTION VI. REFERENCE MATERIALS

Reference Materials Subcategory

For more on studies on the marketing of biotechnology products, please see "Consumer Attitudes Toward Biotech Foods in China" by W. Lin, A. Somwaru and F. Tuan of the Economic Research Service of the U.S. Department of Agriculture and J. Huang and J. Bai of the Center for Chinese Agricultural Policy of the Chinese Academy of Sciences. The study is a selected paper prepared for presentation at the American Agricultural Economics Association Annual Meeting in Denver, Colorado on August 1-4, 2004.

A second study by the same authors titled "Consumers' Willingness to Pay for Biotech Foods in China" was prepared for presentation at the American Agricultural Economics Association Annual Meeting in Providence, RI and is dated May 12, 2005.

Yet another study on the market in China is the Asian Food Information Center's "Communicating with Consumers on Food Biotechnology," prepared in May of 2005. The survey tracks consumer views on biotech foods from a variety of angles. The report looks at China, India, and the Philippines.

Other useful sources of information include:

USDA GAIN Reports: http://www.fas.usda.gov/scriptsw/attacherep/default.asp

The International Service for the Acquisition of Agri-biotech Applications: www.isaaa.org