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## China, Peoples Republic of

## Asparagus

## Situation

### 2003

**Approved by:**

Maurice W. House  
U.S. Embassy, Beijing

**Prepared by:**

Casey E. Bean, Adam Branson

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**Report Highlights:**

Resulting from dynamic changes occurring in China's export oriented asparagus industry, FAS Beijing provides the following report-the first of its kind on China's asparagus industry. This report, although based on far different production data from US industry reports, concurs that China has emerged as a dominant exporter of fresh and processed white and green asparagus. Reports indicate summer flooding may have damaged growing areas and demand for imported asparagus seed is strong. China's 2002 exports of fresh and processed asparagus were up sharply to roughly 2,000 MT and 107,000 MT, respectively. Exports in 2003, however, are down compared to the previous year, as are prices.

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**Executive Summary**

Although China is the world's largest asparagus producer, the Chinese Ministry of Agriculture considers the vegetable a minor crop and there is little recorded information publicly available. Much of China's asparagus production is contracted for processing and exports rather than the domestic market. Industry sources indicate the three to five year production outlook depends largely upon China's export market access to developed nations with stringent sanitary import controls. Therefore, a concerted effort is being made to improve asparagus sanitary quality and keep asparagus and other vegetable export markets open.

Fresh asparagus exports increased 34 percent over the last three years from 2000 to 2002 while processed exports increased 20 percent. In the first 11 months of 2003, however, exports to several European countries are lower as demand for Chinese asparagus appears to be falling. With less demand, export prices have fallen and will likely be passed along to growers making asparagus production less desirable. As such, many growers may choose to plant other vegetable and horticultural crops with greater marketing potential unless domestic demand increases or China develops, opens, and competes in other export markets with the US, Peru, or other producing nations to make maintaining asparagus fields profitable.

**MOA Production and Acreage Vastly Different from UN FAO Data**

Official 2003 estimates from China's Ministry of Agriculture (MOA) for asparagus production are not yet available. MOA estimates last year's, 2002, production at 507,900 metric tons (MT) on 42,980 hectares (Ha) of land. This was a decrease from MOA's recorded 2001 production of 622,300 MT on 44,540 Ha. MOA's production volume and planted area for 2002 and 2001 are significantly lower than UN FAO estimated production and planted area which were 4,357,365 MT on 1,021,538 Ha in 2002 and 4,207,365 MT on 961,538 Ha in 2001.

The significant difference between MOA data, which indicates declining production, and the UN FAO data, indicating increased production at levels eight and one-half times greater than MOA data, suggests further exploration of the industry would be valuable during China's asparagus growing season of mid-April to September or October. Until then, however, it is possible that using UN FAO data, as was done in US government and industry reports, may overstate the threat posed from China's asparagus industry as most Chinese industry sources indicate MOA data may be more reliable as China's asparagus production is contracted and most growers would not produce much asparagus without dedicated buyers looking to export.

**Yields, Growing Areas, Seed Research, and Standards**

The principle asparagus production provinces (areas with greater than 5,000 Ha planted) are Hebei, Shanxi, Jiangsu, Fujian, and Henan. Shandong province is also a large asparagus producer by volume and planted area, but the province was not listed as one of the growing regions with planted area greater than 5,000 Ha, possibly because Shandong production areas border Henan and Jiangsu provinces. Reports indicate planting area changes in many of these key growing areas stems from growers converting asparagus lands to other higher priced vegetables or higher yielding vegetable crops that require less management or less water and inputs.

Existing asparagus plantings are comparatively dense and high yielding with reports indicating 1 mu of land (one-fifteenth a hectare) able to support 20,000 asparagus shoots and yield between 1.2 to 2.0 MT of cut asparagus per mu (or, 18 – 30 MT/Ha). Growers land holdings, however, are very small and most vegetable plots occur only in small strips of land between large row crops. Still, despite the limits to production, Chinese asparagus yields are among the highest in the world as Chinese labor is abundant, inexpensive, and growers are able to provide management and inputs necessary for higher yields.

According to MOA data, nationwide yields decreased from 13.97 MT/Ha to 11.82 MT/Ha from 2001 to 2002 as weather related problems limited production. These yields are much greater than yields indicated in GAIN reports for other asparagus producing nations like Peru (10-11 MT/Ha), Japan (4.1 MT/Ha), Mexico (3.4-4 MT/Ha) or the UK (2.1 MT/Ha). Flooding along key asparagus growing fields near the Yellow River lowered 2003 yields, as well. As such, many growers will have to re-plant asparagus fields and 2003 production and yields could be lower for the next few years as Chinese growers do not typically cut asparagus shoots for the first two years after planting.

Researchers at the Chinese Asparagus Research Center in Weifang, Shandong Province report most asparagus is harvested from April through September with milder climates capable of harvesting small volumes in a second cutting from September to as late as November. The center conducts research work on suitable asparagus seed varieties for China. On March 18, 2004 the center reports it will convene the Second Annual Chinese Asparagus Seed Forum/Convention where researchers will likely exchange the latest information on hybrid asparagus seed development. Presently, the center website ([www.lusunchina.com](http://www.lusunchina.com)) provides introductory comparisons between four predominant Chinese asparagus varieties (Shandong Asparagus Seed No. 1, 88-5, Asparagus Prince F1, and 2000-X) and a few foreign seed varieties (e.g. Mary Washington 500W, UC800, and UC157F2).

Meeting with China's Canned Food Industry Association (CCFIA) revealed that 80 percent of asparagus production is white and discussions with industry sources indicates most white asparagus production is in the southern Chinese provinces of Fujian, near the city of Xiamen or near Jiangsu near the city of Nantong. White varieties require significant labor input from farmers to monitor growth ensuring that shoots have not broken through the soil or the piling up of soil on top of shoots. Production is often under contract with processors for peeling, canning and bottling, and exported to European destinations. Most canneries do not package products under their own name, but instead, package and label processed asparagus with customers' foreign brand names. Industry sources report southern asparagus can be harvested two times a year. The first harvest is usually from May to June with an additional harvest from September to November. Industry members report, however, the second harvest is often of lesser yield and poorer quality.

According to industry sources, northern asparagus production is primarily green or green/violet asparagus and comes from the areas of Shandong or Shanxi. Shandong asparagus is often produced for the Japanese market around Qingdao and must be of "extra" quality that is unpeeled and extremely tender. Government officials indicate Shanxi asparagus production is in the southwestern corner of the province near the 90-degree bend in the Yellow River that puts the river on its course into eastern China. Reports indicate that a significant amount of the province asparagus production was fast-frozen (possibly IQF).

Different Chinese government agencies (i.e. MOA, Ministry of Health, the State Environmental Protection Administration) developed standards for "green food," "wholesome food," and "pollutant/pesticide free food" in order to improve fruit quality and safety. However, no single standard/certification dominates the production market. Growers and scientists identify the MOA wholesome food standard as more practical and less costly for growers and as such could become the leading production guideline. This standard, however, allows growers to use pesticides and agri-chemicals and the products are not considered organic.

### **Food Safety Concerns and Maximum Residue Limits**

The Chinese Government is placing increased emphasis on food product safety, the quality of agricultural produce, and the protection of the environment. Industry sources indicate much of the food safety concern relates to agricultural inputs and the increasingly stringent product requirements or maximum residue limits from EU countries and Japan. However, Chinese consumers are increasingly aware of the misuse and abuse of agri-chemical inputs along with extraneous residues from elements or other naturally occurring metals on vegetables and other food products. As such, grower education and agricultural technology extension efforts have led to increased publication of "how to" reports along with possibly contributing to the promulgation of new sanitary and phytosanitary measures.

In October 2003, China drafted sanitary measures for the maximum limits of pesticides on all food products. The limits, seemingly equivalent to CODEX alimentarius standards, for the following pesticides were published for asparagus and vegetables with stalks (e.g. asparagus, celery, artichokes):

Carbendazim	- 0.1 mg/kg
Chlorpyrifos	- 0.05 mg/kg
Dichlorvos	- 0.2 mg/kg
Dimethoate	- 0.5 mg/kg
HCH	- 0.05 mg/kg

Additional draft regulations covering fresh and canned vegetables maximum limits of arsenic (CH3026), cadmium (CH3029), chromium (CH3030), copper (CH3031), fluorine (CH3033), iron (CH3034), lead (CH3035), mercury (CH3036), nitrites (CH3038), rare earth (CH3041), selenium (CH3042), and zinc (CH3043) were recently published. The US Government responded to the drafted regulations indicating that many of the limits China is ready to impose are for items where there are no international standards.

### **Price Information for Growers and Traders**

MOA reports little information on farmgate and wholesale asparagus prices and the prices vary by quality, season, and geographic region. Reports from MOA and provincial agricultural bureaus websites ([www.agri.gov.cn](http://www.agri.gov.cn)) indicate September 2002 average grower incomes in Henan Province for asparagus production were around US \$322 per MT or US \$5,800 per hectare on yields of 18 MT/Ha. In Shandong, reports indicate growers could receive between US \$475 to US \$650 per MT or US \$12,700 to US \$14,500 per hectare on production of 22.5 MT/Ha to 27 MT/ha (note: most growers have only a fraction of a hectare planted with asparagus). Through the first 11 months of 2003, Chinese fresh asparagus export prices averaged US \$1210 per MT while processed asparagus exports averaged US \$960 per MT.

**Large but Declining Exports of Fresh and Processed Asparagus**

Chinese fresh and processed asparagus exports peak from May to October with the largest export volumes in June, July, and August. In 2002, China exported 2,073 MT of fresh asparagus and 106,866 MT of processed asparagus. Presently, the top five markets for Chinese asparagus are Germany, Spain, Japan, the Netherlands, and the United States. Germany and Japan, however, both imported significantly lower volumes through the first 11 months of 2003 resulting in fresh asparagus export declines. The top five importers of processed asparagus are Spain, Germany, the Netherlands, France, and Japan. Processed asparagus exports are significantly lower, as well, as Germany and Spain imported much lower volumes from January through November.

The ports of Qingdao and Shanghai accounted for approximately 93 percent of fresh asparagus exports by value in 2002 and 91 percent of exports through November 2003. As for processed asparagus exports, Qingdao and Xiamen accounted for approximately 90 percent of the volume and value of exports in 2002 and nearly 92 percent of the volume and value through the first 11 months of 2003.

Chinese fresh (HTS 070920) and canned/jarred (HTS 200560) asparagus imports are limited. China Customs recorded canned/jarred asparagus imports in 2002 when traders in Xiamen, China re-introduced near 30 MT of processed asparagus into China that apparently had been in bonded storage. Determining whether this product was consumed in China or later exported to other markets is impossible. In the first ten months of 2003, approximately 10 MT of fresh asparagus entered Kunming, China from Thailand.

PSDTables  
Production

<b>PSD Table</b>						
<b>Country</b>	<b>China, Peoples Republic of</b>					
<b>Commodity</b>	<b>Fresh Asparagus</b>				(HA)(MT)	
	2001	Revised	2002	Estimate	2003	Forecast
	USDA Official [Old]	Post Estimate [New]	USDA Official [Old]	Post Estimate [New]	USDA Official [Old]	Post Estimate [New]
<b>Market Year Begin</b>		01/2002		01/2003		01/2004
Area Planted	0	44540	0	42980	0	43000
Area Harvested	0	44540	0	42980	0	43000
TOTAL Production	0	622300	0	507900	0	515000
Imports, Fresh	0	1	0	10	0	10
TOTAL SUPPLY	0	622301	0	507910	0	515010
Exports, Fresh	0	2073	0	1600	0	1800
Domestic Fresh Market	0	510228	0	406310	0	413210
For Processing	0	110000	0	100000	0	100000
TOTAL UTILIZATION	0	622301	0	507910	0	515010

**Price Data**

Note: Listed prices are Chinese worldwide average export prices for each month. Wholesale and farmgate prices are not published.

<b>Prices Table</b>			
<b>Country</b>	China, Peoples Republic of		
<b>Commodity</b>	Fresh Asparagus		
Prices in	US \$	per uom	MT
Year	2002	2003	% Change
Jan	640	1200	88%
Feb	350	1050	200%
Mar	2560	1450	-43%
Apr	1540	1580	3%
May	1410	1330	-6%
Jun	1390	1360	-2%
Jul	1520	1270	-16%
Aug	1380	1110	-20%
Sep	1290	950	-26%
Oct	1220	1090	-11%
Nov	1180	1240	5%
Dec	1260	NA	#VALUE!
Exchange Rate	8.3	Local Currency/US \$	
Date of Quote	1/2/2004	MM/DD/YYYY	

## Export Trade Data

China's Fresh Asparagus (070920) Exports by Destination (Volume: MT) (Value: Million USD)										
	2000		2001		2002		2002		2003	
	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Nov	Jan-Nov	Jan-Nov	Jan-Nov
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
<b>Germany</b>	238	\$0.349	714	\$0.869	1,105	\$1.559	1,000	\$1.419	597	\$0.792
<b>Spain</b>	297	\$0.366	47	\$0.030	225	\$0.222	196	\$0.192	376	\$0.347
<b>Japan</b>	516	\$0.825	364	\$0.707	301	\$0.498	299	\$0.494	168	\$0.283
<b>Netherlands</b>	106	\$0.076	48	\$0.045	202	\$0.290	181	\$0.265	136	\$0.140
<b>U.S.</b>	8	\$0.015	19	\$0.016	29	\$0.023	6	\$0.003	54	\$0.046
<b>All Others</b>	186	\$0.140	192	\$0.215	211	\$0.258	173	\$0.201	106	\$0.135
<b>World</b>	1,351	\$1.771	1,384	\$1.882	2,073	\$2.850	1,855	\$2.575	1,437	\$1.741
Source: China Customs			Some volumes and values may not match due to rounding							

China's Processed Asparagus (200560) Exports by Destination (Volume: MT) (Value: Million USD)										
	2000		2001		2002		2002		2003	
	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Nov	Jan-Nov	Jan-Nov	Jan-Nov
	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
<b>Spain</b>	13,703	\$13.314	22,827	\$22.070	31,545	\$35.212	30,600	\$34.078	26,623	\$28.077
<b>Germany</b>	27,544	\$19.900	27,730	\$20.198	29,441	\$25.391	27,805	\$23.877	22,474	\$18.032
<b>Netherlands</b>	17,273	\$15.982	17,278	\$13.883	17,602	\$17.039	16,516	\$15.899	19,212	\$17.076
<b>France</b>	5,125	\$5.271	7,366	\$7.204	7,560	\$8.405	7,127	\$7.904	7,390	\$8.078
<b>Japan</b>	6,187	\$9.053	5,679	\$7.626	5,380	\$7.395	5,073	\$6.963	4,624	\$6.223
<b>Denmark</b>	2,616	\$1.453	2,820	\$1.648	2,816	\$1.886	2,639	\$1.756	2,498	\$1.637
<b>Belgium</b>	1,662	\$1.376	1,503	\$1.137	1,429	\$1.354	1,317	\$1.223	1,686	\$1.575
<b>Sweden</b>	1,699	\$1.317	1,532	\$1.045	1,414	\$1.098	1,351	\$1.055	1,414	\$1.219
<b>Australia</b>	632	\$0.926	1,105	\$1.555	1,376	\$1.946	1,145	\$1.638	1,282	\$1.741
<b>Italy</b>	1,120	\$0.916	1,402	\$1.058	1,430	\$1.334	1,266	\$1.174	1,100	\$1.022
<b>U.S.</b>	571	\$0.497	571	\$0.565	519	\$0.569	453	\$0.484	1,025	\$1.085
<b>All Others</b>	5,405	\$4.466	6,186	\$5.002	6,353	\$6.287	5,981	\$5.835	5,852	\$5.584
<b>World</b>	83,537	\$74.472	95,998	\$82.990	106,866	\$107.916	101,272	\$101.886	95,180	\$91.348
Source: China Customs			Some volumes and values may not match due to rounding							