Market Analysis Report
China’s Agricultural Technology & Equipment Sector

Presented to:
The Israel Ministry of Industry Trade & Labor
and Israel Export & International Cooperation Institute

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EXECUTIVE SUMMARY

General Agricultural Sector Overview

Market Context – China is the world’s largest agricultural producer by volume, having made huge progress in agricultural production since its Reform and Opening.

Market Drivers

• **Fragmentation of land** – Fragmented land ownership has led to inefficient production. The government is seeking to address this problem through land consolidation and land contract right transfer policies.

• **Weak supply chain and logistics** – China’s agriculture supply chains and logistics systems are fragmented and inefficient, leading to high costs.

• **Harmonious society** – The government has made an effort in recent years to spread development benefits to poorer rural areas.

• **Food safety** – Recent food safety incidents have drawn society and government attention to the prevalence of food safety crises and weaknesses in China’s production systems.

• **Lack of development in agricultural services** – The government is seeking to develop agricultural technology extension (ATE) services, but progress has been slow.

• **Indigenous innovation** – China’s national indigenous innovation strategy has led to extensive government investment in R&D relating to agricultural technology.

• **Environmental challenges** – Climate change and China’s unique pollution issues have caused problems for agricultural production.

• **Policy and fiscal stimulus** – Government support for agriculture has taken many forms including farmer subsidies.

Regulatory Overview

Key Central Government Policy Documents

• **2010 Document No. 1 of CPC Central Committee** – Agriculture has been the focus of the first document released each year by the Communist Party leadership, demonstrating its high priority.

• **Development Plan of China’s Agricultural Technology / National Medium and Long-term Program for Science and Technology** – These development documents indicate key priority areas for China’s agricultural R&D.

• **12th Five-Year Plan** – China’s blueprint for social and economic development from 2011 to 2015; includes five major objectives related to agriculture.
• **National Plan for Expansion of Grain Production Capacity** – outlines mechanisms to establish self-sufficiency in grain production.

• **Catalogue for Guidance of Foreign Investment** – The Catalogue encourages foreign investment in certain agricultural sectors, while restricting and forbidding foreign investment in others.

### Agricultural Biotechnology

• **Overview** – China has promoted biotechnology as an important tool for boosting agricultural productivity.

• **Market Structure** – the Chinese biotech market is highly fragmented, with small domestic companies dominating the market.

• **Market Trends and Opportunities** – The Chinese government emphasizes development of domestic proprietary intellectual property rights in agricultural biotech, which may limit foreign participation.

### Irrigation Technologies

• **Overview** – Flood irrigation is by far the dominant irrigation method in China, although future water shortages have caused the government to emphasize micro-irrigation.

• **Market Structure** – The market is dominated by domestic companies, although foreign companies have had some success in the high-end market.

• **Market Trends and Opportunities** – The government is emphasizing development of drip and sprinkle irrigation technologies because of their reduced water consumption and has explicitly welcomed foreign participation in this area.

### Agro Equipment

• **Overview** – China is relatively unsophisticated in its use of agricultural machinery, although the government has indicated that mechanization is a key priority for China’s agricultural modernization.

• **Market Structure** – Foreign companies dominate the agricultural machinery market.

• **Market Trends and Opportunities** – The government provides extensive subsidies for purchase of machinery products, providing a great market opportunity for manufacturers.

### Future Trends of China’s Agricultural Development

• **Eco-Agriculture** – Agricultural systems that integrate agricultural production, rural economic development, environmental protections, and effective resource utilization will continue to be an opportunity for cooperation between China and Israel.
• **Organic Agriculture** – Food safety concerns and increasing incomes have created a new and growing organic products market. It is expected to grow faster than the wider F&B market.

• **Market Trends and Opportunities** – Opportunities seen for Israeli companies in the following areas in China at the present time:
  - Food Safety – More preference in China for imported food products.
  - Weak supply chain and logistics – Opportunities for logistics firms in China.
  - Lack of development in agricultural services – Opportunities for strategic advice from Israeli companies in areas such as irrigation and improved farming techniques.
  - Agriculture biotechnology – Despite restrictions, market access may be available through academic or business partnerships.
  - Agricultural equipment – Listing in the Subsidy Catalogue could support demand for Israeli products.
1. GENERAL AGRICULTURAL SECTOR OVERVIEW

1.1. MARKET CONTEXT
Since its Reform and Opening, China has made huge progress in agricultural production, and the level and quality of food consumption has improved significantly. China has maintained a core self-sufficiency rate for grain of above 95 percent in recent years despite tight supply in the global food market. Agriculture in 2009 contributed 10.3 percent to its total economy. Growth is expected to continue with an OECD-FAO report forecasting China’s agricultural sector to grow by 26 percent to 2019 from its 2007-2009 base period.

China has a scarce amount of arable land with only 9 percent of the world's total but with a burden to support around 21 percent of the world's population. According to the FAO, cultivated land in China stretches across 120 million hectares. Most arable land is devoted to growing primary grains such as corn, wheat, soybeans, and rice. Limited arable land and a large rural labor force mean that in general, China tends to have a comparative advantage in producing labor-intensive crops such as fruits and vegetables and a disadvantage in land-intensive crops such as grains and oilseeds. These are nonetheless grown because of government policy to maintain food security.

The sector is characterized by abundant labor and small-scale production using small – but a growing degree – of mechanization. China’s production sector is predominately small-scale agricultural and food production. Half of China’s population lives in rural areas, with farm households receiving an average land allocation of around 0.12 hectares. In 2005, the country had about 200 million farms. Productivity per unit of land is generally high, though labor productivity in agriculture is relatively low, according to the OECD.

**Agricultural Output**
China is the world’s largest agricultural producer in terms of volume (the United States is the world’s largest producer in terms of value) and is a major producer of rice, maize, sugar cane, cotton and tea. The bulk of China’s production of food...
grains consists of cereals, mainly rice, wheat, maize, sorghum, barley and millet. Grain production reached 531 million tons in 2009, which is almost 10 percent higher than levels of production in 2005, and represents the sixth year of consecutive growth. In 2008, China’s top agricultural product in value was pork, of which production was valued at USD 48 billion.

Livestock and their products play an important role in the rural economy, besides providing a valuable source of dietary animal proteins. Between 1980 and 2007, China increased its production of meat by more than a factor of six.

### Chinese products as % of global production

<table>
<thead>
<tr>
<th>Year</th>
<th>Wheat</th>
<th>Coarse Grains</th>
<th>Rice (milled)</th>
<th>Oilseeds</th>
<th>Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>16.46%</td>
<td>15.54%</td>
<td>14.66%</td>
<td>16.86%</td>
<td>12.97%</td>
</tr>
<tr>
<td>2009</td>
<td>34.27%</td>
<td>31.58%</td>
<td>30.98%</td>
<td>17.81%</td>
<td>12.53%</td>
</tr>
<tr>
<td>2010</td>
<td>30.13%</td>
<td>26.04%</td>
<td>30.13%</td>
<td>16.03%</td>
<td>12.53%</td>
</tr>
</tbody>
</table>

Source: US Department of Agriculture

### Agricultural Trade

More than one-third of China’s agricultural imports are oilseeds (dominated by soybeans) and edible vegetable oil (dominated by palm oil); their share in total agricultural imports reached more than 50 percent in 2008, led by increased soybean imports. Fish and livestock are not only important export products but also account for a relatively large share of imports. The other...
Important import product is cotton, which accounted for 6–15 percent of total agricultural imports during 2000–08. Both the import and export shares of grain in China's total agricultural trade are very small (1.7 percent in 2008). Similar to the effect of the financial crisis on total agricultural trade, exports of these products declined significantly. For example, in the first three quarters of 2009, exports of fruits and livestock products decreased by 15 and 13 percent, respectively, from their 2008 levels in the same period. Similarly, the growth rate in vegetable exports slowed during the period. The value of agricultural imports declined even more, and imports of oilseeds, edible oil, and livestock products dropped 15–21 percent. China’s farm and fisheries sector export focus has shifted to more labor-intensive products, such as horticultural products, livestock, and aquaculture. China is the world’s largest producer and exporter of aquaculture products with profits exceeding USD 10 billion in 2007.

1.2. MARKET DRIVERS
China’s agricultural sector is driven largely by the country’s growing demand for more efficient means to access, deliver and dispose of food, and for rural society’s development and stability.

**Fragmentation of land**
Fragmentation of landholdings is a major obstacle to agricultural production growth in China. It has caused losses in the area of farmland due to intensive use of land for marking boundaries, and a low efficiency in irrigation water management because of the irregular shape of numerous plots. It also causes inconvenience in travel and agricultural management. New technologies are in urgent need to reduce these production costs. Solving the problem of land fragmentation and turning fragmented land plots into large-scale production units is one of the most important drivers in China’s agriculture sector, and requirements for using machine and advanced management techniques for production, should increase as land is consolidated.

The Chinese government has adopted two important reforms to reduce land fragmentation in recent years – transferring land contract rights and consolidating land. In October 2008, the Communist Party issued new rules that allow farmers

| China’s top agro-product trade partners (2009) |
|-----------------|-----------|-----------------|-------------|
| Export Market | Value (USD billion) | Growth (%) | Import Source | Value (USD) | Growth (%) |
| Japan | 76.8 | 0.05 | US | 140.0 | -2.8 |
| EU | 57.5 | -10.6 | ASEAN | 85.7 | -5.6 |
| ASEAN | 53.4 | 16.9 | Brazil | 84.4 | -4.0 |
| US | 47.0 | -8.2 | Argentina | 34.9 | -58.5 |
| Hong Kong | 35.3 | 2.6 | EU | 33.8 | -8.8 |
to lease their contracted farmland or transfer their land-use rights. These rules are an important part of land reform efforts intended to double rural incomes by 2020. In terms of land consolidation – which refers to the rational (particularly for agriculture) use of land – parcels of land are being consolidated to create larger holdings. Land consolidation has been implemented to increase plot sizes in China since the 1990s; between 1999 and 2006, China added 2.4 million hectares of arable land, of which 850,000 km² came from land consolidation projects. Moving forward, China is striving to add 1.7 million hectares of arable land through land consolidation by 2020.

**Weak supply chains and logistics**

China’s agricultural supply chain and logistics are fragmented. Around 42% of Chinese farmers sell their own agricultural products, and about 70% to 80% of all fresh products circulate through different levels of wholesale markets. Different parts of the supply chain are poorly integrated. The goods yards, storehouses, transportation companies, removal contractors, package plants and traffic systems are operated independently and separately, and there is lack of coordination and communication amongst them. Rural traffic facilities are also a challenge. By the end of 2010, 11.4% of Chinese counties and towns will not be covered by concrete raised roads. This leads to extremely ineffective logistics, slower speed to market, and greater food waste.

**Harmonious society**

‘Harmonious Society’ is a socio-economic concept coined by the Hu-Wen administration that aims to improve all people's livelihood and focus on an overall societal balance and harmony. The 12th Five-Year Plan, which was approved in principle in October, differs from previous plans as it contains a reduced focus on gross domestic product (GDP) growth rates and reflects the leadership’s attention on the quality rather than the pace of economic growth. Government measures include stimulating rural demand and improving access to rural markets, such as initiatives to promote the construction of market places in villages or townships to allow vendors more access to rural areas. Policies also focus on improving social services (including expanding electricity access) and extending purchase credits in rural areas and select consumption subsidies.

The central government allocated RMB 40 billion (USD 6 Billion) for credit subsidies when consumption of durable or investment products are purchased by rural households. By targeting rural markets, these measures also help the sales of urban enterprises and strengthen demand from rural markets. In 2010, the central government invested RMB 94 billion (USD 14.2 Billion) in livelihood projects, such as rural drinking water facilities, power grid and roads, and rural
infrastructure, including water-saving irrigation rebuilding and agricultural technology extension systems.

**Food safety**

In its September 2008 report—“Advancing Food Safety in China”, the World Health Organization (WHO) described China’s food safety regime as “disjointed, chaotic, poorly informed, and old fashioned.” It is a serious issue in China, and despite implementation in June 2009 of the Food Safety Law, legislation still remains weak and will likely bring only marginal improvement at best in food safety. In addition, the fragmented production system is too vast to allow for meaningful monitoring of all stages of the production process, while business ethics and an understanding of the value of a rule-of-law based system remain weak. Regulators are also poorly trained and resourced, while local officials lack incentives to promote food safety above economic growth. According to the MOH, during the first 3 quarters of 2010, there were 187 food safety incidents, during which 5,382 people were poisoned and 136 people died. Foreign companies that can enter the Chinese agriculture sector in a way that promotes food safely or provides technology that promotes this policy goal will be well placed in the market and have a greater likelihood for business success.

**Lack of development in agricultural services**

In China, the amount of knowledge transfer from agricultural science and technology to practical settings is far below that in developed countries. This is mainly due to the lack of agricultural training services, known in China as “agricultural technology extension (ATE) services”, in which staff are sent to conduct training in the countryside.

In July 1993, the Chinese government issued the Law of Agricultural Technology Extension to promote agro-technology and facilitate the prompt application of agricultural scientific research and techniques to agricultural production. The Law also stipulates that the government should encourage and support the introduction of advanced agro-techniques from foreign countries and promote international cooperation and exchange experiences of applying agro-technology.

Currently, China’s ATE service system is mainly government-lead and is established at five levels of government (from central government to town-level). By 2009, there were 139,000 village-level extension units with 904,000 staff.

However, the ATE system does not work well. It is facing problems such as funding shortfalls, low-quality and over-staffed extension teams, as well as sub-standard efforts in meeting market needs etc. For example, over 60% of ATE extension workers do not have an appropriate technical background.
The government is trying to reform the ATE system. One of the most important aspects of the reform is the intention to incorporate business operation principles in the new operating model. For example, a major task is reforming the ATE enterprises and allowing sellers of agricultural products to be more receptive to outside investment and international best farming practices. But the government’s decision of whether or not it will be open to foreign investment or allow access to foreign enterprises has not yet been decided. Israeli agri-tech and agri-services companies should closely monitor developments around the reform of the ATE system. It, as well as the wider need for the introduction of more sophisticated services around China’s agricultural sector, represent a significant opportunity for Israeli companies with niche agri-tech or services offerings.

**Indigenous Innovation focus**

Indigenous innovation is a broad suite of industrial policies aimed at turning the Chinese economy into a technology powerhouse by 2020 and a global leader by 2050. The landmark document that launched the campaign “The National Medium- and Long-Term Plan for the Development of Science and Technology (2006-2020)” is now also known as the MLP which is described as a “grand blueprint of science and technology development” to bring about the “great renaissance of the Chinese nation” to strengthen indigenous innovation and reduce the country’s dependence on foreign technology. A main component of the plan is the rapid expansion of China’s national R&D expenditures, largely through 16 “special projects”, which should assimilate and absorb advanced technologies imported from outside China so that the country can develop high-tech products with proprietary IPR.

The S&T plan aims to achieve major scientific breakthroughs to address development needs and spur domestic innovation. It identifies key priorities in 11 areas, and particular priorities in the agriculture, with a focus on:

- Crop germplasms
- Livestock, poultry and aquatic products disease prevention
- Downstream processing, storage and shipping of agro products
- Biomass development and utilization
- Ecological safety in agriculture and forestry
- Ecologically sound fertilizer and pesticide products
- Multifunctional farming equipment
- Applying computer tech to farming operation
- Modern dairy farming
Dealing with Environmental Difficulties

Climate Change
As a large production area that features complex topography and distinct patterns of climate, China’s farming industry is vulnerable to climate change, with an increase of extreme events, such as drought and flooding; other data shows that temperature rise, loss of arable land and water scarcity will cut China's overall food production by up to 23 per cent by 2050. Currently, as much as 50 million hectares (c.42 percent of cultivated land) of crops in China are threatened by various climatic disasters every year. In 2009 alone, the direct economic loss caused by natural damages was RMB 252.5 billion (USD 38 billion). With increased frequency and intensity of extreme weather events, including heat waves, rainstorms, droughts, floods and typhoons, China may suffer even larger losses in agricultural production in the future.

Pollution
Meanwhile, as the area of cultivated land has been decreasing, a focus has been on using more fertilizers, pesticides and mechanical inputs to increase productivity. But the intensive chemical-use system of farming is creating its own problems. China’s use of fertilizers, at 280 kg per hectare is one of the highest in the world, far above the global average of 100.8 kg; urban and industrial growth have also put pressure on agricultural land and water resources, where agriculture is itself directly affected by pollution from other human activities. Especially industrial production, some of the ecological problems are location-specific, such as desertification in northern China, whereas others are common across the country, such as land degradation, soil erosion and water pollution. These problems contribute to the risk of a reduction in agricultural productivity in the long-term.

Government support, policy incentives and subsidies play a critical role in the development of agriculture. Government spending on agricultural production is diverse and not easily quantified. Public investment in China’s agriculture is focused on broad-based assistance with a social component and is coordinated with provincial government assistance and (high risk) bank loans.

1.3. REGULATORY OVERVIEW
The Chinese agriculture sector has strong support from several key regulations.

2010 Document No.1 of CPC Central Committee is the first document released every year and is ascribed high priority by the current leadership. This year's document marks the 7th time it has been focused on agriculture and rural development. Most recently, the document focused on increasing grain yield and
quality, further increasing investments in rural infrastructures, continuing with rural subsidies, and deepening other reforms.

The Development Plan of China’s Agricultural Technology (2006-2020) & The National Medium-and Long-Term Program for Science and Technology Development (2006-2020) shows the main areas and priority topics for China’s agricultural R&D as:

- Germplasm development, preservation, innovation and targeted cultivation of new varieties;
- Deep processing and advanced storage and shipping of farm produce;
- Integrated development and utilization of agro-forest biomass;
- Development and production of environment-friendly fertilizers, herbicides, and pesticides, and eco-agriculture;
- Multifunctional farm equipment and facilities;
- Agricultural bio-safety and comprehensive pest control.

Catalogue for Guidance of Foreign Investment

China’s agricultural sector has experienced substantial liberalization since its WTO accession in both trade and production policy. China’s WTO commitments include reduction of Tariff barriers for agricultural commodities. China’s rules on the collation of value-added tax are applied in a manner that discriminates against imports of agro-products. According to the current catalogue, investment into China’s agriculture industry falls into the following categories:
Foreign businesses are concerned that the catalogue limits foreign investment in China’s agricultural sector and actively tries to manage food prices. Furthermore it could limit competition and efficiency, which could lead to a lack of innovation and slower development.

The National Development and Reform Commission (NDRC) and the Ministry of Commerce (MOFCOM) have indicated that the catalogue will be updated soon, providing additional investment opportunities for foreign companies in China. In addition, the new catalogue will strongly encourage foreign investment in central

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<tr>
<th>Industry</th>
<th>Encouraged Items</th>
<th>Restricted Items</th>
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| Agriculture, forestry, animal husbandry, fisheries | • Improvement of low-and medium-yielding fields  
• Planting, development and production of woody edible oil, flavorings and industrial raw materials  
• Non-pollution cultivation techniques of vegetables (including edible fungus and melon watermelon), dry and fresh fruit and tea, as well as serial development and production of these products  
• Development and production of sugar, fruit trees, vegetables, forage grass and the related new techniques  
• Production of flowers and plants, as well as construction and operation of nursery bases  
• Planting of rubber, sisal and coffee  
• Planting and cultivation of Chinese medicinal materials (limited to equity joint ventures and cooperative joint ventures)  
• Reusing in fields and comprehensive utilization of straws and stalks of crop, development and production of organic fertilizer resources  
• Planting of forest trees (bamboos), and fostering of fine varieties, new varieties of polyploidy wood and new varieties of transgene wood  
• Breeding of aquatic fingerlings (not including special and precious quality varieties of our country)  
• Construction and operation of ecological environment protection projects such as tree and grass planting for prevention and control of desertification and soil erosion, etc.  
• Breeding of aquatic products, cage culture in deep water, large-scale aquaculture and breeding of ecotype marine species | • Development, breeding and production of new varieties of crops and seeds (Chinese side must hold controlling share)  
• Precious species lumber processing (limited to joint ventures, cooperatives)  
• Cotton (unginned cotton) processing |

<table>
<thead>
<tr>
<th>Forbidden Items</th>
<th></th>
</tr>
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</table>
| • Cultivation of China’s rare precious breeds (including genes in plants industry, husbandry and aquatic products industry)  
• Production and development of genetically modified plants’ seeds  
• Fishing in the sea area within the Government jurisdiction and in inland water |
and western China in an attempt to balance investment between those regions and the eastern regions.

The 12th Five-Year Plan (2011-2015) for National Economic and Social Development

China’s Five-Year Plan is composed of a series of economic development initiatives, and the document outlines the country’s development goals mapped out in five-year segments. The plan lays out guidelines, policy frameworks, and targets for policymakers to ensure the future progress of China. The proposal of the 12th Five-Year Plan (12th FYP) was approved in principle by the CPC Central Committee on October 18, and will receive its final approval by the National People's Congress in March 2011. Below, we have laid out the five major objectives relevant to agriculture and their related policies.

- **Farmers’ income equality**
  - Increase minimum purchase prices for crops
  - Improve grain output and quality, especially by biotechnological methods
  - Adjust and stabilize the production price of goods
  - Further investment in rural infrastructure construction, especially irrigation works and power grids; construct homes for people in need.

- **Improve rural consumption**
  - Strengthen microfinance promotion, which aims to resolve the lack of access to reliable, affordable credit to purchase inputs and to invest in small, off-farm, income-generating activities.
  - Boost farmers’ subsidies.

- **Resource conservation**
  - Promote water-saving agriculture
  - Promote bio-energy
  - Develop environmentally-friendly fertilizers, herbicides, pesticides, and eco-agriculture.

- **R&D and high tech upgrade**
  - Enhance the R&D around GM crops
  - Multifunctional farm equipment and facilities
  - Favourable tax and credit policies for high tech
  - Impose stricter regulations to replace existing imported second-hand construction machines and control the new import of second-hand machines.

- **Rural reforms/urbanization**
  - Keep developing rural land reform, under which farmers will be granted official land-use rights certificates and the right to lease their

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1 Four kinds of subsidies have been provided to farmers in recent years - subsidies to grain producers (a fixed or unfixed sum of money distributed directly to individual farmers), subsidies for the use of superior seed varieties (RMB10 to 15 (~USD 2) per mu distributed to seed companies to lower seed price or to seed buyers, the subsidies covers 11 varieties, including wheat, corn, soybean, rice, highland barley, cotton, rape and peanut), agricultural machinery purchase subsidy (farmers can get 30% rebate on the purchase of certain agricultural machinery), and subsidies for agricultural input (directly distributed to famers according to their input in production goods).
contracted farmland to other parties for the first time. This will likely encourage the consolidation of farms into bigger plots.

- Develop Western/Central regions
- Accelerate urbanization, which will potentially lead to less rural work force and less arable land.

Israeli agri-tech companies that can provide solutions to the issues identified as most important, i.e. the 12th FYP will be well placed to succeed in the market. Israeli agri-tech companies should monitor policy developments relating to the 12th FYP going forwards, as more detail around these policies will be released by officials.

**National Plan for the Expansion of Grain Production Capacity by 50 billion kilograms (2009-2020)**

The plan was released by the National Development and Reform Commission in November 2009, and is designed to expand grain production to ensure food security. A major challenge facing Chinese agriculture is that the growing population continues to create higher consumption pressures. The plan therefore outlines a path for China to become nearly self-sufficient for its grain needs.

The approaches outlined are mainly to upgrade existing irrigation and drainage facilities, increase irrigation area where conditions permit, spread fine strains and high yield technologies to combine fine strains and advanced processes, promote advanced and feasible agricultural machinery, and prevent and control major disease and pests. Israeli companies that can contribute to upgrading existing irrigation technologies, can help introduce high-yielding strains, and can sell more sophisticated machinery into the grain sector will therefore be well placed for business success.
China key regulators for the agriculture sector

- **State Council**
- **National Development and Reform Commission**
  - Coordinates and guides formulation of national medium and long-term economic and industrial development plans.
  - Responsible for overall planning and approval of indigenous innovation-related policies including indigenous innovation product accreditation criteria.
- **Ministry of Agriculture (MOA)**
  - Responsible for regulation and management of China's overall Agriculture sector.
  - Formulates agriculture development plans and market systems for major commodities, and drafts related regulations and policies.
  - Formulates plans and regulations for agriculture education, technology promoting, organizes key R&D projects' selection and implementation.
  - Organizes the registration of seeds' production and trade; supervises the safe usage of agro equipment.
  - Responsible for foreign exchange and cooperation in the Agriculture sector.
- **Ministry of Science and Technology (MOST)**
  - Formulates China's S&T policies.
  - Manages and allocates budgets for S&T projects and programs.
- **Ministry of Environmental Protection (MEP)**
  - Responsible for formulating environmental protection policies and implementation.
  - Formulates pollution prevention and treatment programs for water origins and water use.
  - Organizes and guides the comprehensive environment treatment in urban and rural areas.
  - Organizes and coordinates demonstrations of major R&D projects in respect of environment protection.
- **Ministry of Commerce (MOFCOM)**
  - Develops trade and foreign investment policies and guidelines.
  - Approves foreign-invested enterprises.
  - Manages import/export issues.
2. AGRICULTURAL BIOTECHNOLOGY

2.1. MARKET OVERVIEW

Biotechnology is defined as the use of the biological processes of microbes and plants cells for the benefit of humans. It provides a more sophisticated and precise means of modifying plants and enables breeders to transfer only selected genes into seeds.

China has promoted biotechnology as an important tool for boosting agricultural productivity, food security, and rural incomes. China plans to increase the industrial added value of bio-technology into RMB 300 billion (USD 45.3 billion), making it account to over 1% of the country’s total GDP.

China is one of 19 developing countries that plants GM crops. Currently GM crops already cover 3.8 million hectares in China, ranking 6th in the world in size. Due to China’s shortage of cultivable land, academics believe that promoting GM crops is the only way for China to meet the country’s ever increasing grain demands. China’s agricultural biotechnology is now approaching advanced world levels, but the extent to which technology is put into practice is still limited.

In China, over 7.1 million farmers benefit from GM crops. Many of them face a shortage of natural resource, and engage in small-scale farm production. Insect-resistant (Bt) cotton is the single largest biotechnologically enhanced product produced in China. It is estimated that nearly 69 percent of the 5.5 million hectares of all cotton planted in China is

Flagship Agricultural Biotechnology Companies

Origin Agritech Limited

Founded in 1997, Origin Agritech is a leading agricultural biotechnology company that listed on the NASDAQ in 2005.

- Specializes in research and development, production, sale and distribution of crop seeds.
- Major seed products are corn, rice, cotton and canola. Origin accounts for 7% to 8% of China’s crop seed market.
- Operates 16 marketing centers, 9 processing centers and 10 breeding stations around the country.
- Launched its first entirely internally-developed seed in 2003. As of 2006, Origin has introduced a range of new proprietary hybrids into the market, including: ten corn hybrids; six rice hybrids; and two canola hybrids.
- Plans to develop into one of the most important agricultural biotech research centers within three to five years.

www.originseed.com.cn
Address: No. 21, Science Park Road, Zhongguancun Life Science Park, Beijing.
Tel: +86-10-58907588
Fax: +86-10-58907599
produced with BT cotton varieties. About 5 million farmers in six Northern provinces plant Insect-resistant (BT) cotton. In North China, over 95% of planted cotton is insect-resistant (BT) cotton, in the Yangtze valley it is over 75%, and in Xinjiang approximately 33%, which are China’s three main cotton regions.

2.2. MARKET STRUCTURE
The Chinese Biotech market as a whole is still in a developing stage, with biotechnology R&D mainly conducted by publically funded research institutes, which have little marketing experience, while commercial companies lack R&D capacity. Each county has historically had its own seed companies for which it would maintain regional protectionism.

Foreign and domestic companies are not treated equally in this market, domestic companies, especially publically-listed ones, dominate the market. However, Chinese domestic seed companies are less competitive due to their small research inputs and lack of market operating experience. According to a CCTV report, there are over 8,000 domestic seed companies, but even the biggest player holds less than 5% market share. In 2009, the sum of the five biggest domestic seed companies’ total sales revenue was RMB 4.08 billion (USD 600 million).

Despite the enactment of a seed law in 2000 creating a role for private firms, there is still a limited private sector in agricultural biotechnology industry in China.

Foreign companies
Biotech seed market access for foreign firms is severely limited. In 2002, China’s Foreign Investment Guidance Catalogue prohibited any new foreign investment in the development and production of genetically engineered planting seeds (But companies can still invest in the traditional seeds market). As a result, many international seed giants established joint-ventures with Chinese firms. By 2009, there were 49 FDI or joint venture seed companies in China. Despite the small quantity, FDI and joint venture seed companies hold 80% of China’s seed market share.

Domestic research institutions and universities
Domestic institutions are also important players in agricultural biotechnology. Biotechnology research in China is mainly conducted by public research institutes and universities funded by various parts of the Chinese government.

China’s agricultural biotechnology research mainly focuses on cotton, rice, wheat, corn and soybean, and has especially made considerable achievements on Insect-resistant (BT) cotton. In 1998, foreign insect-resistant cotton had a 95% market
share in China. Driven by intensive research and commercialization backed by Chinese government, this dominance has changed markedly and domestic insect-resistant cotton in 2008 held 93% of market share.

**Foreign research entities**

Foreign investment on research and experiments of GM plants, livestock, and aquatic products needs to be approved by the State Council, even though there have been a considerable number of research projects with international backing. For example, the eight kinds of GM rice under Chinese players’ research are backed by 28 foreign patents, most of which are from active international participants such as Monsanto, Bayer Cropscience and Syngenta.

**2.3. MARKET TRENDS AND OPPORTUNITIES**

China has promoted biotechnology as an important tool for boosting agricultural productivity, food security, and rural incomes. China plans to increase the industrial added value of bio-technology to RMB 300 billion (USD 45.3 billion), or 1% of the country’s total GDP.

Chinese regulatory systems aim to use agricultural biotechnology for promoting biotechnology R&D, tightening safety controls on genetic engineering work, guaranteeing public health, preventing environmental pollution, and maintaining ecological balance.

China has elevated the status of agricultural biotechnology and stressed the importance of developing domestic IP in the field. The Chinese Academy of Science and Technology for Development publicly stated that the seed industry is strategic and that opening up of the industry threatens the survival of domestic firms and the security of China’s germplasm resources. This means that Israeli companies with relevant niche products and technologies may need to consider partnering with domestic companies or transferring some technologies to succeed in the market.

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**Survey: Chinese consumers' acceptance of biotechnology products**

- Willing to purchase biotech foods without any price discrimination: 60%
- Would only buy biotech food products with a price: 20%

Source: United States Department of Agriculture Foreign Agricultural Service
3. IRRIGATION TECHNOLOGIES

3.1. OVERVIEW

China’s water consumption is dominated by agriculture, which comprises 65% of the country’s total water use. Irrigation is one of the major factors contributing to the high productivity of farmland in China, with over 45% of cultivated land currently under irrigation.

However, much of this water is wasted as flood irrigation remains the main irrigation approach, over the more water-efficient micro-irrigation methods of sprinkle and drip irrigation. The adoption of micro and sprinkle irrigation as the developing trend of water-saving irrigation has reached a current penetration of 6.7% of the total irrigated farmland, compared to 87% in the US, and nearly 100% in Israel. About 70% of China’s micro-irrigated land is located in the northwest provinces of Xinjiang and Gansu.

As China faces the prospect of future water shortages with an estimated water supply deficit of 25% by 2030, combined with food security issues brought on by rising food prices, the government has embarked on a campaign to promote agricultural water conservation through greater adoption of micro-irrigation.

The central government has allocated RMB 7.67 billion (USD 1.21 billion) in special funds from 2010 to 2020 to build and maintain water saving facilities in major irrigation districts. It has achieved water saving irrigation area of 25.8 million hectares within major irrigation districts that have implemented water saving structures. These have increased, recovered and improved irrigation areas to 3.77 million hectares.

3.2. MARKET STRUCTURE

Some foreign companies entered the Chinese market in the 1970s, such as Netafim, Rainbird and Valmont. While these foreign brands and products occupy the high-end of the irrigation market, their price and operational complexity have created a barrier to large-scale adoption of their business model in rural China. Indeed, less than 5% of the water-saving irrigation market is owned by foreign companies.

There are more than 500 domestic companies producing water-saving irrigation products in China. One fifth of these specialize in sprinkle irrigation products, and two-fifths are capable of developing drip and sprinkle irrigation products. Most of
the drip and sprinkle irrigation companies are located in Northern China and operate at a small to medium-size scale; in 2009, only around ten drip and sprinkle irrigation companies exceeded RMB 50 million (USD 7.3 million) annual turnover. Dayu Group and Xinjiang Tianye Company dominate the niche market of sprinkle and drip irrigation facilities, at 20 and 60 percent respectively.

3.3. MARKET TRENDS AND OPPORTUNITIES

Drip and sprinkle irrigation

The Chinese government plans to almost quadruple the penetration of drip and sprinkle irrigation, resulting in 8.4 million hectares in 2020. There is a significant opportunity for Israeli companies to play an important role in this market, with government support. However, there are challenges in convincing farmers to invest in water saving technologies:

China’s water pricing mechanism is far from market-oriented, and water prices have been kept artificially low; due to a generally low level of knowledge of the importance of conserving water, there is a tendency to treat water as a limitless commodity for the farmers.

Financial difficulties: Effective financial support is limited for farmers’ investment; the upfront investments for both drip and sprinkle irrigation is up to 60% of a farmer’ annual income and the payback period is often longer than 3 years, which causes low willingness of farmers to invest. Small farm size may fail to meet the optimal scale for the technology to achieve the desired results of saving water.

Flagship Agricultural Technology Companies

Xinjiang Tianye (Group) Co., Ltd.

Established in July 1996, Xinjiang Tianye is a large scale SOE of the No.8 Agricultural Division in the Xinjiang Production and Construction Corps (XPCC).

- Business covers a wide range of fields, including: plastic products; efficient irrigation equipment; chemical products; calcium carbide; foodstuffs; thermoelectricity; mining; building materials; foreign trade; construction; and real estate.
- By the end of 2008, total assets were RMB 15 billion (USD 2.3 billion), with industrial sales revenue of RMB 6.7 billion (USD 1 billion), and benefits and tax of RMB 1.2 billion (USD 180 million). The increasing rate of all operational indicators is 40 percent or so consecutive years.
- Tianye is a famous brand in Xinjiang Province, and the company has been listed among China’s top 500 manufacturers list for many consecutive years.
- Tianye’s drip irrigation system has been applied to service 1.2 million ha; the company is China’s largest manufacturer of plastic, efficient irrigation equipment.
Lack of comprehensive service systems, such as after-sales maintenance services, tailored irrigation products and extension trainings. China currently spends 0.42 percent of agricultural GDP on agriculture technology promotion, compared to 0.6-1.0 percent on average in developed countries and 0.5 percent on average in developing countries’. With the above challenges in mind, Israeli technology providers should consider:

- Reducing costs through innovations in product design and sourcing to meet specific local needs; and that
- In the Chinese agricultural sector, the high demand for water is driven in part by China’s use of flood irrigation as the main irrigation approach.
- Hence, cost effective innovation in water technology – everything from supply (such as desalination) to industrial efficiency (such as more efficient water recycling) to agricultural technologies (such as crop protection and irrigation controls) could play a major role in closing the supply-demand gap.

In order to introduce new technologies and expand project-funding channels, the Chinese government began to explore cooperation with private corporations and financers, including foreign players, in 2000. Water officials have explicitly encouraged foreign participation in China’s water sector, especially in water saving irrigation projects.

Flagship Agricultural Technology Companies

Gansu Dayu Water-saving Group

Founded in 2000, the company is a comprehensive private enterprise that specializes in the production of water-saving irrigation equipment, advanced production equipment, R&D, and sales.

- In October 2009, the company successfully listed on the GEM, becoming the first professional water-saving irrigation company among the listed companies.
- Mainly produces: drip irrigation pipes; fertilizers; filters and water distribution pipes; five other major categories of irrigation products; and nearly 1,000 models and types of water-saving irrigation equipment.
- Annual output of six million meters of drip irrigation pipe; one million tons of tubular products; and 2000 sets of fertilizer filters and automatic control systems.
- 2009 sales revenue was RMB 270 million (USD 40.7 Million), with a profit of RMB 26.7 million (USD 4.03 million) and total market capitalization at more than RMB 30 billion (USD 4.5 Billion).
- Products are sold to service millions of acres of domestic farmland in South Korea, Thailand, South Africa, Australia, India, and more than 20 other countries and regions.
Hence, cost effective innovation in water technology – everything from supply (such as desalination) to industrial efficiency (such as more efficient water recycling) to agricultural technologies (such as crop protection and irrigation controls) could play a major role in closing the supply-demand gap.

China’s procurement process for construction projects usually consists of three phases:

- Feasibility studies and government approval;
- Project design, which is typically done by a local design institute;
- Selection of a construction company, equipment suppliers and engineering supervisors through tender or appointment.
4. AGRICULTURAL EQUIPMENT

4.1. OVERVIEW

Agricultural mechanization is a key priority in the modernization process of China’s agriculture. For example, the Chinese tractor market is attractive for foreign investment, and grew from 60,000 units in 2003 to 220,000 units in 2007. Currently about 50% of farm activity in China is carried out by machinery.

The introduction of subsidies for tractor purchases to support farmers was RMB 10 billion (USD 1.5 billion) in 2009 which will provide a major boost to the tractor industry.

According to the Ministry of Agriculture, China remains an unsophisticated agricultural machinery market, with complex machinery and high horse power. In the north, northeast and northwest parts of China, large scale, large horse-powered machinery are popular due to the flat terrain there. While in other regions, such as mountainous areas, more specialized machinery tends to be adopted to fit in with the special terrain and crops growing in those regions. In those areas.

4.2. MARKET STRUCTURE

Major domestic companies in China’s agriculture machinery market include YTO, Foton and DFAM; international companies include CASE IH, John Deere, New Holland, YANMAR, Mahindra, AGCO Ferguson, etc. Some foreign firms, such as John Deere, enjoy strong brand recognition and have been active in the market for decades. Some domestic commentators have expressed concerns

Flagship Agricultural Vehicle Companies

Changzhou Dongfeng Agricultural Machinery Group Co., Ltd. (DFAM)

Founded in 1952 under the brand name “Dongfeng”, DFAM (also known as Changzhou Tractor Plant) is ranked as a first-class state enterprise. DFAM covers 340,000 square meters, and has 1800 employees and 193 technicians.

- Main products include: walking tractors/power tillers (6-18HP); four-wheel tractors (18-90HP); and equipment sold under the brand name “Changtuo”.
- Average annual production of walking tractors/power tillers is around 120,000 sets, and production capacity of four-wheel tractors is 30,000 sets. The annual export value of these products is USD 80 million. Since 1952, the company has sold over 2.5 million sets of equipment.
- Dongfeng is one of China’s largest manufacturers of tractors. It has a top-tier farm-machinery research institute, as well as 117 advanced machining centers and 18 automatic and semi-automatic production lines.
- By 2010, 48 kinds of DFAM’s products are in the list of advanced agricultural machinery products promoted by the MOA.
that domestic players may find it extremely difficult to grow and effectively deal with such strong foreign competition.

A main driver for the expanded use of agricultural machinery is financial subsidies, which are based around the purchase of specific products listed on a Subsidy Catalogue. In 2010, the central government’s list of agricultural equipment subsidies covered 12 major categories and 180 items in total, including agriculture, animal husbandry and aquaculture machinery. The total value of all equipment purchased with subsidies in 2009 was valued at more than RMB 230 billion (USD 34.7 billion).

Some provincial governments provide subsidies which focus on machineries which are especially needed in certain regions. These include cotton or potato harvesting machines in Xinjiang, for example. Some local governments also put forward policies requiring a greater scale of production and the consolidation of smaller farms before subsidies can be awarded.

MNCs have adopted a range of market entry models, including joint ventures and wholly foreign owned enterprises (WFOEs). The Ministry of Agriculture states that many foreign players tend to adopt a JV strategy to enjoy complementary strengths and share management techniques. Such companies also tend to compete in the high end and high margin segments. Domestic players have dominated in small to medium sized machinery segments, but are rapidly improving their capacity to compete in the larger machine sector segments.

**Flagship Agricultural Vehicle Companies**

**Foton**

北汽福田汽车股份有限公司

FOTON is a state-owned holding listed company that manufactures commercial vehicles.

- Established in 1996, FOTON’s headquarters are located in Beijing’s Changping District, Beijing.
- Has 16 complete automobile divisions and many parts and components divisions across eight provinces, cities and districts in China.
- The company produces the leading brand of commercial vehicles in China. FOTON’s brand value reached RMB 26.837 (USD 4.05 billion) in 2008, ranking first in China’s commercial vehicle market. In 2009, FOTON sold the most commercial vehicles, over 600,000 vehicles, around the world.
- Currently FOTON has 29,000 employees, of which 2,582 are two-stage research and development personnel.
- FOTON’s products and services can be found in over 90 countries and districts all over the world.
- FOTON plans to increase its annual vehicle sales to 4 million and sales revenue to RMB 400 billion (USD 60.4 billion) by 2020, being one of the global top 10 auto enterprises.
4.3. MARKET TRENDS AND OPPORTUNITIES

Agricultural machinery producers are presented with significant market opportunities, and challenges in the Chinese market; while government support, policy incentives and subsidies play a critical role in the creation of these opportunities.

- In 2004 the Chinese government issued the “Law of People’s Republic of China on Promotion of Agricultural Mechanization”, setting up a policy framework for increasing the use of machinery in China’s agricultural sector.
- Monetary subsidies to purchase machinery products that are listed on the Subsidy Catalogue have proven to be the most effective means in elevating the mechanization level of the agriculture sector.
- Since the release of the subsidy policy in 2005, farmers can secure up to 30% rebate on the purchase of agricultural machinery. These policies have helped drive the development of the machinery industry and the market itself.
- The catalogue is compiled and updated by the Ministry of Agriculture on an annual basis.
- Israeli companies which provide products or services that link into the subsidy catalogue, will be better placed for business success in the market.
- The year 2009 saw the biggest jump of subsidy budget allocation, which increased from RMB 4 billion to 13 billion. In 2010 the total subsidy budget is amounted to RMB 14.5 billion.

![Effects of the implementation of the Law on Promotion of Agricultural Mechanization (2004-09)](image-url)
5. FUTURE TRENDS OF CHINA’S AGRICULTURE DEVELOPMENT

5.1. DEVELOPING ECO-AGRICULTURE (CEA)

The term “ecological agriculture” was first used in China in the early 1980s. Chinese eco-agriculture (CEA) is a new and integrated agricultural system which integrates agricultural production, rural economic development, environmental protection, and effective resource utilization.

The Chinese Government provides direct subsidies to support eco-agricultural production activities. From the late 1990s, a subsidy for conserving public forests was introduced in China. From 2000, ecological compensation was also introduced with the aim to return hilly cultivated areas in northwest China back into natural vegetation. Furthermore, the government also subsidized farmers to build biogas tanks for recycling waste. More recently in 2006, the government began subsidizing farmers’ purchase of chemical fertilizers and pesticides. This was due largely to price increases passed on to these products due to high oil prices. In the near future, the government is aiming to create a clearer direction for government subsidies and other eco-agricultural incentives.

Eco-agriculture has come a long way in China. The future development of this sector will depend upon the recognition and implementation of key practices, including agro-ecological planning, agro-ecosystem design, and the re-establishment of biodiversity in agriculture.

- Sino-Israeli cooperation on the R&D of eco-agriculture has been operating for years. Two recently established centers for cooperation include: the Israel-Yellow River Delta Modern Science and Agriculture Research Institute and the China-Canada-Israel Center for Agro-innovation.
- Israel is a leader in irrigation technique, irrigation equipment and water-saving technologies. This is a key sector of CEA, and provides many potential opportunities for cooperation.
5.2. DEVELOPING ORGANIC AGRICULTURE

Concerns over food safety and a rise in income gave birth to China’s domestic organic products market. Currently the purchase of organic food accounts for 0.01 percent to 0.02 percent of China’s total food consumption, however, some analysts expect domestic sales of organic products in China to be as high as USD 3.6 - 8.7 million by 2015.

As the price of organic products is slightly higher than non organic goods, first tier cities, which enjoy higher income levels, are now the main markets for these products in China. Moreover, the consumption of organic products in first tier cities is growing rapidly. As the country concentrates on developing western regions in residents there will have more opportunities to earn higher incomes making second tier cities like Nanjing, Chengdu and Fuzhou, markets for organic products.

By 2009, about 3,000 organic enterprises produced and sold organic products domestically and for export, many small-scale and polycentric organic farms are concentrated near regions that have a diverse consumer base, such as suburban Beijing and Tianjin; most organic farms are located in northern China (such as in Shandong and Liaoning). Some less developed regions, like Xinjiang, Inner Mongolia, Ningxia and Gansu have begun to focus on organic animal products. In 2017, it is expected that organic acreage will account for 1 - 1.5 percent of total Chinese agriculture production, roughly equal to Israel’s 1.5 percent.
The production of organic agriculture involves usage of organic fertilizer, anti-pest technologies, irrigation equipment and so on, in which Israel has advanced technologies. Given the rapid growth of China’s organic product market, there are substantial opportunities for Israeli companies in this sector.

Due to recent incidents of food safety, Chinese customers have shown a preference for imported organic dairy products rather than domestic equivalents. This provides foreign food producers and brands an opportunity to increase their market share in China.

Consumption of organic food was triggered by hundreds of food safety issues in China, and people’s awareness of “healthy food” has been heightening.

5.3. MARKET TRENDS AND OPPORTUNITIES

Food Safety - Due to recent food safety issues, Chinese customers’ preferences have changed to imported organic food products rather than domestic ones. This provides foreign food producers and brands an opportunity to increase their market share in China. This further presents significant opportunities for Israeli companies to offer best-practice approaches into the development of standards, implementing regulations and other elements required by the Food Safety Law. Proactive companies can leverage their expertise to strengthen priority relationships with key regulators.

Weak supply chain and logistics – Despite large investments in infrastructure by the Chinese government some RMB 5 billion (USD 730 million) in 2008, the country still lacks experience in logistics planning, information monitoring, and supply chain management. This situation could present a robust opportunity for Israeli logistics companies and technologies in China.

Lack of development in agricultural services – The Law of Agricultural Technology Extension states that China will encourage and support the introduction of advanced agro-techniques from foreign countries and promote international cooperation and exchanges in agro-technology. With a native arid climate, Israeli companies would also be able to offer strategic advice on topic such as irrigation in the drier parts of China. Technical know-how in this area could position Israeli companies for strong partnerships with Chinese entities. There may be opportunities for Israel to partner or invest in ATE business entities in China.

Agriculture biotechnology – Although Israeli companies currently face regulatory restrictions for investment in agriculture biotechnology, access opportunities may exist for relevant Israeli firms to enter the market through academic or business
partnerships. China has promoted biotechnology as an important tool for boosting agricultural productivity, food security, and rural incomes. Plans exist for increasing the value add of the bio-technology industry to RMB 300 billion (USD 43.9 billion), a point at which it will account for over one percent of the country’s total GDP.

**Agricultural Equipment** – With monetary subsidies driving the China market for agricultural machinery, relevant Israeli companies should aim to have their products listed in the Subsidy Catalogue (updated by the Ministry of Agriculture). If listed, Israeli products would be supported by strong consumer demand, which could be further strengthened through proactive marketing efforts, as strong emphasis is given to brand name and reputation in China.
KEY INDUSTRY EVENTS

CHINA INTERNATIONAL AGRICULTURAL PRODUCTS FAIR
Location: Zhengzhou, Henan
Period: October 18-22, 2010
Host: Ministry of Agriculture, Henan Province
Theme: Changing development focus and promoting modern agriculture

The 8th Agricultural Products Fair aimed to recognize industry achievements and promote trade. The fair occupied an area of 103,000 m² and showcased various aspects of agriculture, including the Top 10 agriculture industrialization companies, innovative agriculture, international trade, Henan agriculture, and agricultural equipment. 660 companies and 235 farming cooperatives from 31 provinces and cities participated in the fair. Transactions related to the last fair reached RMB 42 billion. The fair serves an important role in China for displaying agricultural achievements, spreading awareness of new technologies, promoting trade and cooperation, among other benefits.

CHINA YANGLING HI-TECH AGRICULTURE EXHIBITION
Location: Yangling, Shanxi
Period: November 1-5, 2010
Host: Shanxi Government
Theme: Technological innovation, Demonstration and Modern Agriculture

The 17th Hi-tech Agriculture Exhibition was attended by over 1,260 companies from 25 countries, including China, Japan, France, the US, Korea, and Germany, and featured product demonstrations and recognitions of technological achievements. Over 7,200 agricultural products and services from seven industries were traded and negotiated during the exhibition in agricultural sectors including seeds, livestock, farm products, among others. For the past 16 years, the exhibition has attracted thousands of agricultural companies from over 40 countries and 31 provinces and cities in China. Transactions linked to this event are estimated to have reached RMB 190 billion.

11TH CHINA XINJIANG INTERNATIONAL AGRICULTURE FAIR
Location: Urumqi, Xinjiang
Period: Aug 12-14, 2011
Host: Ministry of Agriculture, Agriculture Department of Xinjiang

Sponsored by the Ministry of Agriculture and the Agriculture Department of Xinjiang, the China Xinjiang International Agriculture Fair (CXIAF) is known as the “Olympics of Agriculture” in the industry. The fair is the largest agricultural fair of China with an exhibition area of 26,000 m² and participation from around 1,100 companies and over 110,000 attendees. Transactions related to the fair last year totaled around RMB 130 million, with agreed sales of just under RMB 2 billion. Representatives from around 7,300 large plantations and 1,632 agricultural cooperatives will be invited to attend next year’s exhibition. High-level forums will also be held to discuss planting quality, scientific fertilization, pest control, among others.
### MAP OF CHINA

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<tr>
<th>Region</th>
<th>Provinces</th>
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<tbody>
<tr>
<td><strong>East China</strong></td>
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<tr>
<td><strong>Middle China</strong></td>
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<tr>
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<td><strong>Northeast China</strong></td>
<td>Liaoning, Jilin, Heilongjiang</td>
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