



NL Agency  
*Ministry of Foreign Affairs*

## **China - Horticulture Sector** **Summarized Fiche**

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## Colophon

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# 1 Summary of general developments and opportunities for the Dutch horticultural sector

With the increasing purchasing power in China and thus a greater demand for more varieties and quality of horticultural products, China offers many opportunities, particularly in the field of propagation materials and horticulture-supporting industries.

The recent food scandals in China have made cleaner and more sustainable ways of production to priorities of Chinese authorities. The increasing shortage of all major means of production (water, energy, land, labor) requires a strong improvement of the production methods, for which China needs foreign knowledge and technology.

Greenport Holland International sees opportunities in China for modern horticultural projects, where a cluster of Dutch companies can deliver value in short term.

In this document the term "horticulture" refers to the cultivation of flowers, plants, trees, fruits and vegetables, and supporting industries, such as greenhouse equipment, substrate, biological control, cold rooms, etc.

## 1.1 Chinese government: investment and development plans

Many provinces and cities in China pay great attention to (further) development of horticulture. To make this possible, large budgets are allocated and special facilities are made available to attract investors. Some important regions in this field are:

Yunnan Province: strives to become the central flower region of Southeast Asia. A new airport in Kunming (due to open beginning 2012) should further open the doors to foreign markets in Asia. This provides opportunities for the expansion of the Dutch presence in Yunnan, not only for growers but also for propagation material, knowledge transfer and technology supply.

Shandong Province is by far the largest production region for fruit and vegetables in China. This can also provide opportunities for Dutch companies in all parts of the chain.

Sichuan Province: wants to develop the horticultural sector rapidly, especially floriculture. For this, they receive strong support from the national Ministry of Agriculture.

Dalian City: wants to become an important flower center in northeast China. Although it is still in its infancy, this ambition gets a lot of support from the local government.

Tianjin Province: large greenhouse project with strong support from the local government is being developed. Several Dutch companies are already involved.

Hebei, Jiangsu Provinces: major greenhouse projects are in the pipeline. There are partnerships with Province of South-Holland and City of Westland.

Fujian Province: high ambitions for the agricultural and horticultural sector, in close corporation with Wageningen University, making use of the Sino-European Agricultural Development Center in Zhangzhou.

## **1.2 Chinese companies: investment and development plans**

Chinese governments and companies realize that the production per farm is too low. This is caused by the small scale of the farms (on average around ½ ha), the still primitive technology (mainly in soil, without climate control) and limited knowledge on cultivation.

Many local companies wish, often with support from local authorities, to develop in both scale and quality. Given the large backlog compared with the Netherlands (usually > 40 years), this development will in general not directly be aimed at achieving the quality of Dutch horticulture in a single step. Dutch companies can, however, play a commercial role in this process.

## **1.3 Investment and development plans of companies that want to invest / do business in China**

Dutch floricultural companies, which are mostly located in Yunnan, are currently all expanding their production capacity. Dutch horticultural project managers are hired more often, and demand for Dutch greenhouse equipment is growing.

Appendix 2 gives an overview of the regional distribution of Dutch horticulture in China.

Activities of Dutch companies in China vary from a production site, an agent, a distributor, delivery to a Chinese importer or advisory. A suitable form should be found per product / market combination and based on the specific opportunities and obstacles. There is no standard formula.

## **1.4 Chinese government: incentives and other measures**

Governmental priorities are: increasing food supply (self sufficiency) and food safety (using less pesticides, hormones, etc.), higher income level of farmers and more product varieties.

Financial incentives are mostly the responsibility of provincial or local authorities. Besides, authorities are often subsidising modern greenhouse development, mostly in combination with real estate development and ecological tourism.



## **1.5 Image of the Netherlands**

The Netherlands has an excellent reputation in the field of horticulture, both on the field of floriculture, and fruit and vegetables. At the same time, Chinese authorities and companies realise that the circumstances in China are very different from the Netherlands, so custom made solutions are needed. Successful demonstration projects are very helpful to convince Chinese about the benefits of Dutch horticulture.

According to trade figures 2010 of the Dutch Agricultural Economic Institute (LEI), the export of horticultural products from the Netherlands to China is roughly as follows:

Floricultural products: 42 mln euro, of which 32,5 mln euro flower bulbs and 5,4 mln euro plants and cuttings. The export of cut flowers was less than 1 mln euro.

Vegetable and flower seeds: 7,3 mln euro. Export of fresh potatoes, vegetables and fruit was negligible, of processed produce 3,2 mln euro. On the field of import from China the overview is:

Floricultural products: 27,3 mln euro, of which 22,3 mln plants and cuttings.

Fresh vegetables: 25,7 mln, of which onions, garlic etc. 20,7 mln euro.

Fruit, nuts, species: 97,7 mln euro, divided over a wide range of products.

Processed vegetables and fruit: 89,7 mln euro and flower and vegetable seeds 12,2 mln euro.

## **1.6 Information about legislation (i.e. tenders, certification)**

Although in recent years the Chinese government pays more and more attention to plant breeders' rights, illegal growers are still a problem. Plantum NL has appointed China as a focus country, by implementation of the current 2g@there program Green Genetics. Improvements would greatly improve market opportunities for breeders. Phytosanitary requirements for export to China are strict, and often vary depending on the local phytosanitary official.

Dutch exports of fresh fruits and vegetables to China are hardly possible. For each species a bilateral protocol has to be signed.

## **1.7 Market trends and developments**

For now a major part of horticulture is being conducted in a relatively primitive manner: small (0.5 ha per family), in soil and without climate control. As far as produce is grown in greenhouses, this is mainly in plastic tunnel greenhouses in southern China and so-called "solar greenhouses" (with one thick wall for heat storage) in northern China.

At national level, China is still largely self-sufficient, but this is likely to change. Causes are increasing domestic demand (population growth, increased purchasing power with rapidly growing middle class in large cities), more quality demand (food, more varieties), decreasing agricultural land (urbanization, desertification) and cultivation problems (drought, pest resistance).

The Chinese government is convinced that a substantial step has to be made, both regarding quality and quantity. This will require massive investments in breeding, production technology, cultivation knowledge, biological pest control, management, logistics and marketing.

Chinese companies are usually too small to make this system jump and it is mainly (partly) government financed projects which are of interest. Access by foreign firms is strongly dependent on the contacts (guanxi) with the responsible government officials and the availability of demonstration facilities.

As background to this document: in 2008, the Dutch Ministry of Agriculture commissioned surveys on the Chinese markets for vegetables, fruit and floriculture in China. These surveys are both available on <http://nabsokunming.hollandinchina.org>, under "reports".

## **1.8 Projects & tenders**

In tender procedures for horticultural projects, Chinese suppliers are often given a preferred position. For this reason, close and long term contacts with Chinese authorities are of great importance.

According to a recent report of the EU Chamber of Commerce, Chinese authorities continue to discriminate against foreign companies, mainly for the benefit of local state-owned corporations.

## **1.9 DESTEP factors (demographic, economic, social, technology, ecological, political)**

In all these areas Dutch horticulture is far ahead of China and could play a valuable role.

This could be done at the level of individual companies or through consortia. Chinese authorities regularly designate specific regions to let the horticultural sector develop fast and with high quality. This offers Dutch consortia the chance to conduct turn-key chain-wide projects. The question is whether Chinese parties (both governments and companies) are able and willing to invest sufficiently to make this system jump and if they are willing to give foreign companies a role in this development.

An important difference in approach is that Dutch companies tend to focus on quality and long term, while Chinese are mainly driven by low cost and short-term profit. Another problem is that in Dutch horticulture

the combination of technology and skills is important, while the Chinese often stare blindly on technology.

The Chinese national government aims at maximizing knowledge transfer from foreign to Chinese companies by requiring that a Chinese company should have a majority shareholdership in any company active in breeding and propagation. This is stipulated in the Chinese Seed Law.

Many basic conditions in China are far from obvious. These include issues such as licensing, water and electricity supplies, qualified and motivated staff, biological pest control, adequate logistic system (cold chain), plant breeders' rights, clear regulations, independent judiciary and enforcement, and predictability of infrastructural projects.

Conclusion: China is definitely not a simple country in the area of horticulture, but given the huge potential demand and ambitious government plans, it is advisable to consider seriously the possibilities.

#### **1.10 Technology**

For the vast majority of the horticultural industry in China, the state of the art and cultivation knowledge is at a low level. For instance, the tomato production is usually only 20 to 25 kg per m<sup>2</sup> per year, compared with 60 to 70 kg in the Netherlands. Cultivation is usually done in non-heated tunnel greenhouses or one-wall greenhouses ("solar greenhouses").

Technical improvements are slow, due to unfamiliarity with the benefits of improved technology, financing constraints and insufficient attention to cultivation knowledge.

#### **1.11 Events / seminars**

##### Annual trade fairs

##### *China Hortiflor*

Main floriculture trade fair in China, alternately in Beijing and Shanghai (in 2012 April 11 to 14 in Beijing). Each year the Dutch government arranges a Holland Pavilion in which Dutch companies can rent a booth: [www.hortiflorexpo.com](http://www.hortiflorexpo.com).

##### *China Agriculture Trade Fair Changchun (Jilin province)*

Major agricultural fair in August.

##### *Asia Fruit Logistica Hongkong*

Trade fair for fruit, takes place annually in September.

[www.asiafruitlogistica.com](http://www.asiafruitlogistica.com)

International Fruit / Vegetable / Food Exposition Yantai (Shandong Province)

Fruit Fair in September [www.fruitveg-expo.cn/en/index.asp](http://www.fruitveg-expo.cn/en/index.asp)

*China Yangling Agricultural Fair (Shaanxi Province)*

Largest agricultural trade fair in China, focusing on NW China, in November each year. <http://en.agri-fair.com>

*China Fruit & Vegetable Trade Fair*

Annual fruit and vegetable market. In 2009 en 2010 in Guangzhou, in 2011 in Nanning. <http://en.chinafvf.com>

Large exhibitions of at least several months

Regular large horticulture / floriculture expositions of several months.

Examples:

- April 2011 - October 2011: Xi'an Horticulture Expo
- September 2011 - April 2012: China Chongqing International Garden Expo

Trade missions

Each year a number of trade missions take place, aimed at agriculture in general, vegetables, fruit and/or floriculture.

These missions are organized by the agricultural team at the Dutch embassy in Beijing, GMV/Potato Center in Beijing, NABSO Kunming, Dutch provinces and large municipalities, EVD/NCH, Chamber of Commerce, VNC, etc.

## 2 References

Monthly newsletter from NABSO Kunming and surveys on the market for floriculture, fruit and vegetables in China can be found on <http://nabsokunming.hollandinchina.org>.

### 3 Annex 1: Notes on subdivisions within horticulture in China

In addition to the general description above on the opportunities and challenges within Chinese horticulture, below further information per horticultural subsector.

#### 3.1 Floriculture

Since the 90s, many Chinese farmers switched from growing vegetables to flowers, due to higher revenues. Particularly Yunnan province (SW China) has developed into a major region for flower production, mainly because of the favorable climate. This province now produces approximately 60% of Chinese flowers and exports are more and more flowers are exports to other Asian countries.

A major problem is the lack of cold chain. Only at logistic centres as auctions and airports cold storage is available, albeit inadequate. The packaging and handling is far from optimal as well.

Despite improvements in recent years, plant breeders' rights are still a problem. Protection is now possible for many species (based on UPOV 1978), but registration and enforcement are inadequate. The Chinese government is aware of its importance, however, and supported by Plantum NL and Naktuinbouw the developments are positive.

The Dutch sector in China is particularly active in propagation material, since in that field cultivation technique makes the biggest difference. In 2006-2007, 6 Dutch companies have established a production facility in China, backed by EVD grants. Furthermore, a number of Dutch bulb exporters have been active on the Chinese for many years, often hampered by phytosanitary problems though.

Over 80% of the flower bulbs used in China are imported from the Netherlands. In the season 2009/10 the value was 25 million euro, up 60% from the previous season. Lily and Tulip account for 77% and 17% of these imports.

The demand for Dutch propagation material is large, especially when combined with good cultivation guidance. The retail market is still immature, especially since it is aimed primarily at low cost and less at quality and new varieties. Although coming from a low level, China and surrounding markets are emerging markets, so the quality of demand will grow in the coming years.

To let China make the previously mentioned system jump, there are good opportunities for Dutch supporting industry with know-how and products, such as greenhouses, installations, cold storage, training and education, etc., especially if Chinese governments offer financial support.

### **3.2 Fruit and vegetables**

See the 2008 report for an overview of fruit and vegetable sector in China.

Current developments in the Chinese market are strong growth in domestic demand for higher quality/safety and packaged food (convenience), and a further development of exports.

To facilitate this, improvements are needed in: varieties, cultivation techniques, supply chain management and logistics (40% waste now!) and food processing. In each of these aspects, the Netherlands has much to offer.

A number of Dutch companies are active in China in breeding and production of vegetable seeds. These companies often penetrate far into the chain, to influence the preferences of wholesale, retailers and consumers.

In fruit and vegetable production in China, Dutch companies have so far developed little or no activities.

Also in fruits and vegetables, breeder rights are an important issue. Dutch companies have applied for various types of plant variety: potatoes (11), eggplant (4), tomato (3) and pear (1). Problems are the long procedure and lack of enforcement.

Exports from the Netherlands to China are problematic, since for each fruit/vegetable species a bilateral protocol with China needs to be signed. In 2000 a protocol for seed potatoes was signed and currently a protocol on pears is being discussed. Several Dutch companies export via other countries to China.

Exports from China to Europe mainly consists of processed and frozen vegetables, especially the latter sector is growing very rapidly (by volume China is now no. 1 in the world). In this area, more and more Dutch trading companies are active.

### **3.3 Greenhouse installation**

The vast majority of greenhouses in China are primitive tunnel and one-wall solar greenhouses. Because of lower winter temperatures in northern China, in that area there are more greenhouses with climate control. Modern greenhouses are often (partly) funded by governmental organizations, as part of a floricultural development zone, agricultural demonstration park, etc.

For Dutch companies there is a relatively small but growing market for modern greenhouses and installations such as climate control and automation. Automation can however, given the cheap labor in China and resistance against large investments, be difficult for the market to accept.

### **3.4 Trees**

Export from Netherlands to China is problematic, since trees with soil are not allowed. This has been an obstacle the development of a Holland Park in Beijing.

Export from China to the Netherlands is for phytosanitary reasons (long horn beetle) almost impossible.

In the field of tree production in China for the Chinese market, some Dutch tree growers cooperate with Chinese companies, so far only on a small scale though.

Major opportunities lie in the area of propagation material, which can be imported from the Netherlands only without soil. In this area, several Dutch companies are active.

### **3.5 Landscaping**

The massive urbanization in China (about 160 cities > 1 million inhabitants) is increasingly combined with government initiatives for large public parks and gardens and to make new architecture more green (eg green roofs, link between green and water). For an image in this respect see [www.degroendestad.nl](http://www.degroendestad.nl).

There are also frequent major (temporary) horticultural exhibitions including the Shanghai Flower Port and in 2011 the Horticultural Expo in Xi'an and Garden Expo in Chongqing.

These projects offer opportunities for both landscape architects and suppliers of plants, especially flower bulbs and nursery stock for trees. Good scouting and government contacts are essential for this sector.

### **3.6 Education and Training**

Chinese companies and governments appear to be focused on acquiring high tech equipment and less on acquiring and maintaining knowledge and skills. This has already led to the failure of many horticultural projects. However, Chinese companies start to realise this, leading to an increase in demand for horticultural education and training.

In the field of horticulture, Van Hall Larenstein is very active in China. Since the late 90s there is a so-called 2 +2 program, which means that Chinese students first study in China for 2 years and then 2 years at VHL. VHL has also participated in an EVD grant program to set up trainings in China.

Also PTC + (practical training center) participated in this grant program, has offered several trainings in China and is now working on establishing a training centre in Kunming.



## 4 Dutch Government Economic Network

The Dutch Government Economic Network consists of the Economic Department of the Embassy, Consulates and the Netherlands Business Support Offices. The network supports Dutch companies and other organizations to find their way to do good business in the Chinese market or help with the preparation for a market entry. All the services are provided uniquely to Dutch organizations/companies, free of charge

The Dutch Government Economic Network provides the following services to Dutch companies:

- Provide industry and market information (from small request to larger individual Market Scans)
- Support in the match making of trade missions
- Provide connections with the right partners in China to do business
- Support in connecting with local authorities
- Identification of market opportunities
- Trade promotion

For more information on the services and the activities of the Dutch Government Economic Network: <http://business.hollandinchina.org>

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