



HORTICULTURAL INDUSTRY DEVELOPMENT IN CHINA

Presented by: Mr. CHEN Changbing
Professor & Deputy Division Director for Cash Crops
National Agro-Tech. Extension & Service Center (NATESC)
Ministry of Agriculture, P. R. China
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ABOUT NATESC



- A governmental agency affiliated to Ministry of Agriculture(MOA) , P. R. China.
- Established in 1995 by combining the former National Agricultural Technology Extension Station, National Seed Station, National Soil and fertilizer Station and National Plant Protection Station into a single agency.
- 22 divisions with a total of 149 staffs, including 37 professors, 45 senior agronomists, and 25 agronomists.
- The top-level agricultural extension agency in China, guiding around 31,000 extension agencies and 330,000 extension staffs cross China.



ABOUT NATESC



Functions and Responsibilities:

- Introduce, field-test, demonstrate and extend the important farming technologies and improved varieties nationwide (such as crop cultivation, soil improvement, scientific fertilization, water-saving agriculture, pest management and safe-use of pesticides technologies);
- Execute plant quarantine management, national variety testing and approval under the authorization of MOA;
- Organize monitoring of crop pest incidence and soil fertility, and carry out quality test and supervision of seeds, soil and fertilizers in nationwide;
- Provide guidance for the development of national agro-tech extension system, and for the qualification of extension staffs;
- Coordinate the implementation of key extension projects, and the release of agro-tech information on crop production, as well as the establishment of standards for crop production;
- Organize international exchanges and cooperation programs for crop production;
- Guide the professional operation of the affiliated associations, such as China Seed Association, China Agricultural Technology Extension Association etc.



HORTICULTURAL PRODUCTION



- China Produces majority of horticultural crops, including fruits, vegetables, flowers, melons, tea, mushrooms, traditional Chinese herbal medicine etc.
- The largest horticultural producer and consumer in the world.
- With the increasing of population and urbanization, as well as great advances in production technology, in the past years, China had got great developments in horticulture production.
- Compared with year of 2000, the total output of fruits increased by 191%, vegetables by 88.2%, tea by 252%, and the total sales of flowers increased by 779% in 2016.



HORTICULTURAL PRODUCTION



- In 2016, total output of fruits was 181.2 million tons, planting area was 12,981,600 hectares, among which facility fruits was 8.2 million tons and 468,000 hectares respectively;
 - And consumption per capita was 131 kg, 1.5 times more than the world's average (but 9.5 kg for grape, less than the world's average).
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- Traditionally, apple, citrus and pear are the top three in Chinese fruits production, their output accounted for 56% of the fruits' total output, other fruits varieties include grape, peach, banana, cherry, mango, kiwifruit etc;
 - With living level improved and consumption structure changed, consumption of grape, cherry and kiwifruit has risen continuously, leading to the rapid increase of production.





HORTICULRAL PRODUCTION



- In 2016, total output of vegetables was 797.8 million tons (accounting for over 50% of the world's total output) , planting area was 22,328,300 hectares, among which facility vegetables was 280 million tons and 3,894,000 hectares respectively;
 - And consumption per capita was 577 kg.
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- Nearly 300 vegetable species are produced in China, Chinese cabbage, tomato and cucumber are the top three, their output accounted for 30% of the vegetables' total output.





HORTICULRAL PRODUCTION



- The world's biggest producer of flower;
- In 2016, planting area of flowers was 1,330,441 hectares (among which facility flowers was 133,500 hectares), total sales was \$ 22.1 billion.

- Six tea categories in China: green tea, black tea, oolong tea, yellow tea, white tea, dark tea;
- In 2016, total output of tea was 2,404,947 tons, planting area was 2,902,100 hectares, total sales was \$ 26.3 billion;
- Among which output of green tea accounted for 63.4% of the total.





HORTICULTRAL TRADE



- In 2016, the export value of fruits was \$ 7.14 billion, with a year-on-year growth of 3.6%, accounting for 9.8% of China's total exports of agricultural products;
 - The major export fruits categories include apple, citrus, pear, grape, peach and strawberry, as well as fruit juice and fruit can;
 - Top 10 export markets: Thailand, Viet Nam, US, Japan, Russia, Malaysia, China HK, Indonesia, the Philippines and Kazakhstan.
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- In 2016, the import value of fruits was \$ 5.81 billion, with a year-on-year growth of -1.0%, accounting for 5.2% of China's total imports of agricultural products;
 - The major import fruits categories include grape, cherry, kiwifruit, banana, Longan and dragon fruit;
 - Top 10 import markets: Chile, Thailand, Viet Nam, the Philippines, US, New Zealand, Ecuador, Peru, South Africa and Australia.
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- Fruits are the traditional export products with comparative advantages in China, maintaining trade surplus;
 - In recent years, the surplus has shrunk because of the fast growth of imports of banana, blueberry, mango, avocado and cherry.



HORTICULTRAL TRADE



- In 2016, the export value of vegetables was \$ 14.7 billion, with a year-on-year growth of 11.0%, accounting for 20.2% of China's total exports of agricultural products;
 - The major export vegetable categories include fresh frozen vegetables (41%), processing preserved vegetables(34%), and dry vegetables (14%);
 - Top 5 export markets: Northeast Asia (Japan, Korea), ASEAN Countries(Viet Nam, Malaysia, Indonesia, Thailand), North America (US, Canada), EU (Germany, Italy, Netherlands), Russia.
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- In 2016, the import value of vegetables was \$ 0.53 billion, with a year-on-year growth of -2.0%, accounting for 0.5% of China's total imports of agricultural products;
 - US is the largest source of China's vegetable imports with the value of more than \$ 0.2 billion, Thailand, Malaysia, Indonesia, Thailand, Italy and Canada behind it.
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- The vegetable has been the No.1 product to balance the agricultural products trade deficit in China;
 - China has a strong vegetables export growth to ASEAN countries in recent years.



HORTICULTRAL TRADE



- In 2016, the export value of flowers was \$ 0.29 billion, with a year-on-year growth of 10.0%, accounting for 0.4% of China's total exports of agricultural products;
 - In 2016, the import value of flowers was \$ 0.22 billion, with a year-on-year growth of 3.7%, accounting for 0.2% of China's total imports of agricultural products.
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- Japan and EU are the major sources of China's flower exports;
 - EU is also the largest source of China's flower imports, the percentage is more than 50%;
 - In 2016, China imported the tulips etc of over \$ 0.1 billion form Netherlands in recent years.



HORTICULTRAL TRADE



- In 2016, China exported 329,000 tons of tea, with a year-on-year growth of 1.2%, the export value was \$ 1.48 billion, with a year-on-year growth of 7.5%, China's tea export volume accounted for nearly 17% of the global tea exports;
 - The export volume of black tea increased significantly (33,000 tons, 17.9% higher,) the export of green tea (271,000 tons) and Oolong tea (16,000 tons) maintained steady growth;
 - In 2016, China exported tea to about 130 Countries and Regions, among them 11 Countries and Regions importing more than 10 thousand tons of tea from China, accounting for 65.1% of China's tea total tea exports: Morocco, Uzbekistan, Senegal, Ghana, US, Russia, Mauritania, Algeria, China HK, Japan, Germany.
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- In 2016, China imported 22,000 tons of tea, with a decline of 1.4% year-on-year, the import value is \$ 110 million, with a year-on-year growth of 5.1%;
 - The import volume of black tea accounted for more than 70% of the total imports;
 - The top 5 source of China's tea imports: Sri Lanka, China Taiwan, India, Indonesia and South Korea.



SIGNIFICANCE



- Horticulture industry is one of the most important agricultural sub-sectors in China. For example, the gross production value of vegetables in 2016 in China was more than \$ 317.5 billion, accounting for around 35% of the crops farming gross production value.

- Horticulture industry is one of the most significant ways of increasing farmers' income and poverty alleviation. In 2016, Chinese farmer earned more than \$ 160 from vegetable production, accounting for 10% of net income of farmer per capita.



SIGNIFICANCE



- Horticulture industry is one of the most significant ways of employment creation. At present, there are altogether 100 million farmers engaged in vegetable production directly, as well as other 80 million involved in vegetable processing, transport and sales; 80 million farmers engaged in fruits sub-sector, 80 million farmers in tea sub-sector and 6.6 million in flower sub-sector.
- Horticulture international trade is the main industry to balance the trade deficit of agricultural products in China. In 2016, the trade deficit of agricultural products was \$ 6.12 billion, but the trade surplus for fruits and vegetables reached to \$ 1.55 billion.



SIGNIFICANCE



- Chinese Government has paid great attention to horticulture industry development and had made great achievements.
- In 2008, China issued “the Plan on National Advantage Regions for Horticulture crops” to promote the regional distribution for horticulture production;
- For example, China had established six advantage regions for vegetables production, four advantage regions for tea production.....
- In recent decades, China had promoted a group of advanced technologies to increase the yield, improve the quality and save the cost, such as the mechanization farming, plastic film mulching technology, fertigation technology, intensive seedling, IPM.....



SIGNIFICANCE



mechanical harvest for vegetable



fertigation for tea production



plastic film mulching technology



vegetable intensive seedling





SIGNIFICANCE



- China focus on expanding horticulture industrial chain and improve the added value by developing further processing, cultural tourism.....
- China has established the traceability system to ensure horticultural products quality and safety, the qualified rate of horticultural products remains over 97.5% in recent years.





CHALLENGES



- Higher labor costs and lower comparative benefit, taking vegetable as an example, compared with year of 2001, the cost, output value and net profit per hectare in 2015 were \$ 10,346, \$ 15,555 and \$ 5,209, rose by 237% , 145% and 59% respectively, the rise in cost is the greatest.
- Horticultural product quality should be further improved, at present in Chinese market, low-grade product is oversupply, but high-end and high quality product is in short supply.
- Horticultural produce mechanization rate is only 20%, much lower than wheat (93.71%), maize (79.76%) and rice (73.14%).
- The problem of horticultural product safety is still existing due to the huge use of pesticide and chemical fertilizer, the chemical fertilizer application rate for horticulture accounts for 40% of the total application rate in agricultural production.
- Horticultural industry still largely depends on smallholder farmers, leading to the low scale benefit, the amount of small farmer households planting area of 0.67 hectare or below accounts for 70% of the total.



NATIONAL INITIATIVES



- National Initiative on Promoting Organic Manure Replacing Chemical Fertilizer for Horticulture Crops;
 - Goal: in 100 demonstration counties, the chemical fertilizer application rate for horticultural crops reduces by at least 20%.
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- National Initiative on Reducing Use of Chemical Fertilizer and Pesticide for Horticulture Crops;
 - Goal: improving chemical fertilizer and pesticide efficiency rate to over 40% through green and sustainable agricultural farming methods.
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- National Initiative on Horticulture Seed Industry Promotion;
 - Goal: based on “the Plan on National Advantage Regions for Horticultural Crops”, constructing a group of horticultural crops breeding bases, to provide high quality seedling for production.



CONCLUSION



Big population;
Large Consumption;
Huge market;
Brighter future of
horticultural industry
development.



Thank
You!



Postal address: No.20
Maizidian Street,
Chaoyang District, Beijing,
P. R. China

Tel: 0086-10-59194502

Fax: 0086-10-59194507

Cell: 0086-13621346811

Email:

1973789627@qq.com