#### INVASIVE ALIEN SPECIES AND THE IPPC,

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Because of the quick development of international trade, intercommunion and the change of global environment, the possibility of IAS spreading in the world increases greatly. So many animals, plant and microorganism invade our country and brought serious future trouble. Chinese government has done some works to prevent and contain the invasive alien species under these requires of IPPC.



- The impacts of invasive alien species to China.
- The existing and developing phytosanitary regulations and management system in China
- The harmonization of national pyhtosanitary standards in China
- Invasive alien species and the international cooperation

### 1. The impacts of invasive alien species to China.

According to the superficial statistic result, there are 107 kinds of weeds, 32 kinds of pests and 23 kinds of pathogeny as invasive alien species to China.

## 1.1 Harm to the production of agriculture and forestry in China.

#### Leafminer

- \* There are fifteen leafminers in China, including three alien species which are respectively vegetable leaf miner (*Liriomyza sativae*), pea leaf miner (*L. huidobrensis*), American serpentine leaf miner (*L. trifollii*).
- \* Vegetable leaf miner was first found in 1993, and now has expanded mostly areas in China. More than 2.73 million hectares have happened. The economic loss amounts to 3 billion yuan annually.
- ❖ Pea leaf miner was first found in 1995 in China. Its drugresistance is stronger than vegetable leaf miner's, and its harm is graver than vegetable leaf miner's too.







pea leaf miner



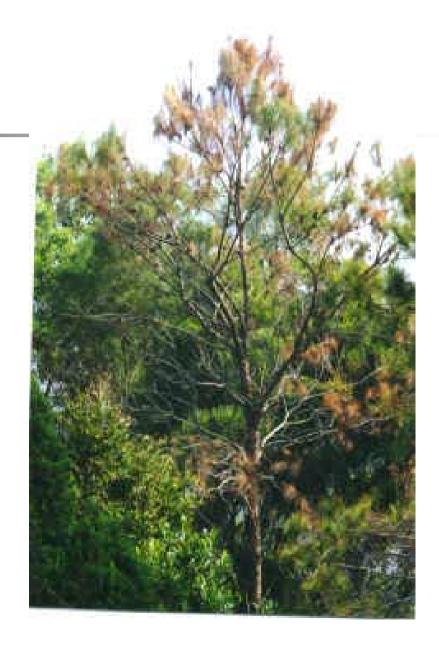
American serpentine leaf miner

## Pine wood nematode (*Bursaphelenchus xylophilus* )

- Pine wood nematode is called pine's cancer. After introducing China in 1980s, it spread and expanded quickly. More than 35 million pines have already died away. The direct economic loss amounts to 250 million yuan.
- To prevent Huangshan's pine from invasive pine wood nematode, Chinese government launch one-off 62 million yuan into establishing defend-system at the end of 1990s.



Pine wood nematode





### Fall webworm (Hyphantria cunea)

• Fall webworm was first found at the end of 1970s. Fall webworm ate up nearly all leaves of green-plant when it broke out. Nowadays, nearly 67 thousand hektares have happened. Our country has screened a sort of parasitic bee to control this insect.



### screened parasitic bee

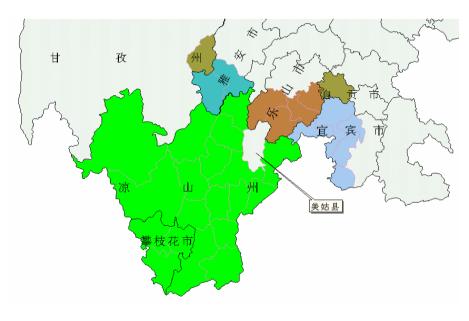
parasitic bee pods given out in trees



#### 1.2 Impacts to the bio-diversities to China

### Crofton weed (Eupatorium adenophorum)

- It came into Yunnan from Burma in 1935and it has widely distributed in southeast part of China.
- It appeared in Sichuan in 1980s and broke out in 1990s.





### Crofton

■ It has almost completely taken the place of crops, lawn and forest in some areas and some region was covered up to 60~85%. The secretion of this weed led to a lot of original animals and plants decline and die, and the bio-diversities bankruptcy. Now Crofton weed is extending 35km from south to north annually.

### Osmund camomile

It came into Shenzhen from Hongkong in 1980s. Since then, it broke out quickly by scrambling trees and overcastting grass. Thousands of plants withered and died duo to it.





### Osmund camomile

In Lingting Island National Reserve of Shenzhen, about 600 original monkeys haven't enough foods and have to depend on manual breeding as a result of osmund camomile taking up 40~60% forest land.



### Common cordgrass (Spartina anglica)



• It was introduced from fremdness in 1960 and 1980 to protect tidal bank. The dense common cordgrass destroyed offing circumstance. Many mangroves along the beach died during the course of competing the life space with common cordgrass.

### Water hyacinth ( Eichhornia crassipes)



■ In 1920s~1930s,we introduced it as feedstuff. Now it has lakes, rivers and ponds distributed widely in and formed single-preponderant groups.

### Water hyacinth



About 1 billion yuan were spent on water hyacinth refloatation every year. The number of water life decreased from 84 in 1960s to 20 today.



# 1.3 Reasons for the alien species invading China

■ 1.3.1 The increasing international tread of plants and their products.

According to the statistic of port interception between 1986~2000, more than 620 kinds of insects, 250 kinds of diseases and 300 kinds of weed seeds were examined and inspected.

1.3.2 The phytosanitary management system is not integrated for our government.

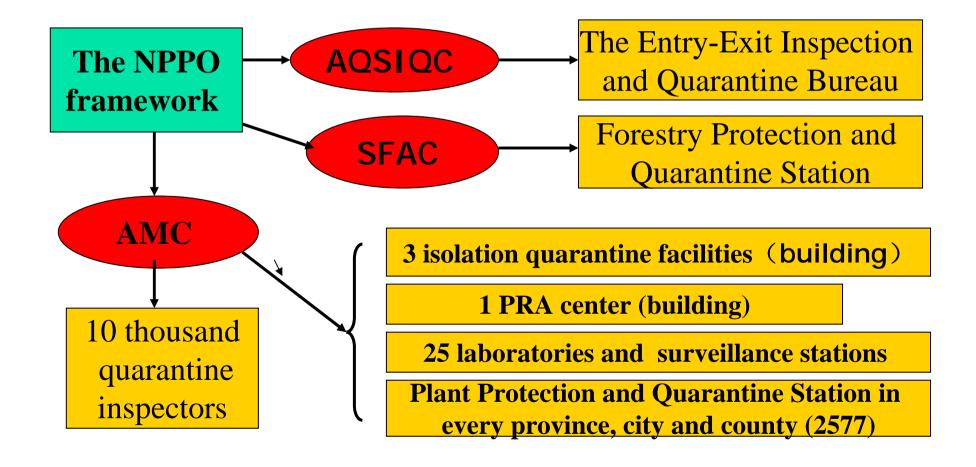
In our country, the domestic quarantine and import and export quarantine are separate all along. In addition, the national quarantine works were governed by agriculture and forest department. So many advantages can't be used fully. There are some problem between system and management, so that the laws, rules and regulations are not consistent. 1.3.3 The pyhtosanitary capacities of our country are looking forward to be improved.

In the past, we are short of quarantine facilities and basal instruments for quarantine and inspection. Some pests brought with human spread and extended quickly because we can't detect in time and haven't a reliable early-warning system.

■ 1.3.4 The ecology environment is too complicated to controlling some invasive aliens

Our country has a vast territory and bioenvironment is very complex. After aliens break in, they always can survive somewhere. 2. The existing and developing phytosanitary regulations and management system in China

**2.1** The existing system of pyhtosanitary management



#### 2.2 The legal policy system of pyhtosanitary

- The Law of the P. R. China on the Entry and Exit Animal and Plant Quarantine
- «The Regulation of Plant Quarantine»
- other relative regulations
- "The forest law of the People's Republic of China"
- "The seed law of the People's Republic of China"
- \* "The prohibited directory by the Statute of plant quarantine"
- \* "The detailed regulation by the Statute of plant quarantine (agricultural part, forestry parts)"



### 2.3 The harmonization of the national regulations and rules

• 2.3.1 In 1999, the Ministry of Agriculture and the State Administration for Entry-Exit inspection and Quarantine issued the rule for importing seed and seedlings according to the international rules. In May 2001, China State Council promulgated the Regulation of P. R. China on Management of GMOs.



### 2.3 The harmonization of the national regulations and rules

• 2.3.2 According to relevant international standard, our country is carrying out new legislative investigation and studying, in order to update "The Regulation of Plant Quarantine to a law to meet the need of working frame of IPPC. In the new "law", all the definitions will try to use these international defines. Now we are trying our best to conform with market economy and international law well.



### 2.3 The harmonization of the national regulations and rules

 2.3.3 We have carried through the national-wide agricultural plant pest general investigation from 2000 to 2003. So we can get information of epidemic situation and establish the Pest Information System. And the government has put this work into a general work. The item of investigation founding has been wrote to 《The Regulation of Plant Quarantine》. A new pest early-warning system will be established next year base on this work. It is necessary to increase the information across and enhance the transparency according to SPS Agreement.

# 3. The harmonization of national pyhtosanitary standards in China

3.1 Draw or revise the phytosanitory standards

According to the criteria of the 3th session of ICPM, China have done some criteria plans:

- Guidelines for determination of tolerance level;
- Quarantine requirements for Mediterranean fruit fly;
- Quarantine requirement for the introduction of GMOs;
- Inspection, detection, identification and treatment of fruit fly.

It is carrying out or preparing to carry out revising and establishing part of standards so that the domestic rules of plant quarantine will suit the international laws. The standards that are drawing and revising include these quarantine rules of isolated facility, potato seeds, import the seedlings of flowers, grapes, grazing and lawn grass. The standards of being prepared include the quarantine and inspection methods of all most quarantine pests and the standards of how to build pest free areas.

## 3.2 Application of the legislation, regulation under the IPPC framework

- We have issued all the international regulations of IPPC such as No.1 to No. 17 ISPMs to the phytosanitary institutions all over the country. It is encouraged to use or practice these standards in their works. The ISPMs content has been added to the quarantine staff training curricular. Some workshops have been held to discuss how to implement the ISPMs. Most of the ISPMs principals have been followed in quarantine works.
- We are also participating to draw two APPPC standards:
- Guidelines for the Development of that Disinfestations Treatments of Fruit Fly Host Commodities;
- Training Requirements for Plant Quarantine Inspectors.



# 3.3 Set up a report system of invasive alien species

State Environmental Protection Administration of China (SEPAC) and the Chinese Academy of Sciences (CAS) worked out and announced "The first batch of invasive alien species list of China" on January 10, 2003. The second batch will be reported later as a stated system.



### 3.4 Stress pest risk analysis in China

■ PRA are very important in plant quarantine. But PRA work of Chinese Agricultural Department is still in first step. We haven't the standards about PRA and the works just followed the relative standards of IPPC. And we should make great efforts to make some rules in this hand. Up to present, China has completed more than 30 PRA reports on foreign plants entering into China.



### 3.5 Establishment of pest free areas

• According to ISPMs No.4 "Principles of Plant Quarantine as related to International Trade" and No.10 "Requirements for the Establishment of Pest Free Places of Production and Pest Free Production Sites", our country are establishing "apple pest free area", "citrus pest free area" and other pest free production sit to meet the need of international trade. The relative regulations and standards are been drawing now.

#### 3.6 Achievement and future

- China has specific department to be responsible for the management of standards. A certain amount of money is used for researching and drafting of standards for quarantine step by step in a planned way.
- So far, 13 national rules on agriculture plant quarantine have been issued, which included seeds or seedlings of wheat, rice, cotton, soybean, potato, sweet potato, apple and transporting of agricultural plants. Series of pest-free seed and seedling propagation bases have been established by follow the above standards.



In recent years, China has adopted a lot of international standards in routine work. But general speaking, national standards for plant quarantine are still not enough in China, and more efforts should be taken to work out more standards for quarantine need.



# 4. Invasive alien species and the international co-operation

- Now alien invasion is a global problem. That is difficult to be solved if only a country pays effort one-side. It is necessary to cooperate with other countries or areas and use measures of origin country for reference. And we should establish some important plans on researching and application through some international organizations such as FAO, UNESCO and IUCN.
- As a developing country, China needs the technique, methods of management, information and economic assistance to preventing the invasive alien species urgently.

### Thanks!

