



Chinese Academy of Agricultural Sciences

One Belt One Road (OBOR) initiative and plant health

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Outline

- **Plant health in China**
- **Importance of international co-operation**
- **Opportunity of “One Belt and One Road”
initiative**

Plant health in China

Goals of agricultural production in china

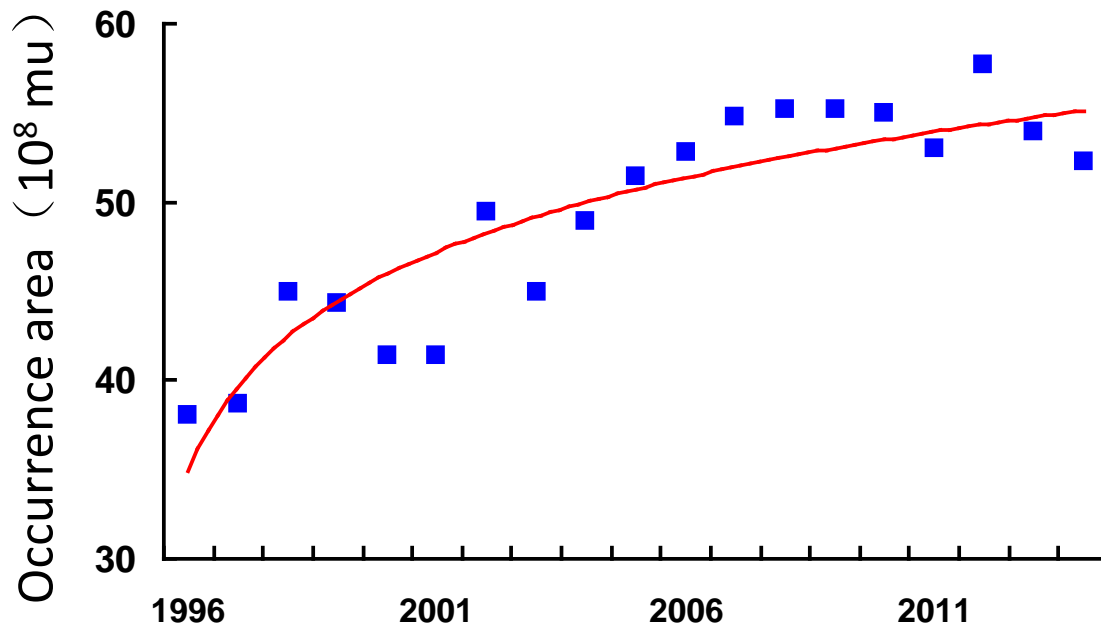
- ◆ Green productive process
- ◆ Low productive cost
- ◆ Sustainable development



Plant health in China

Crop pests in China

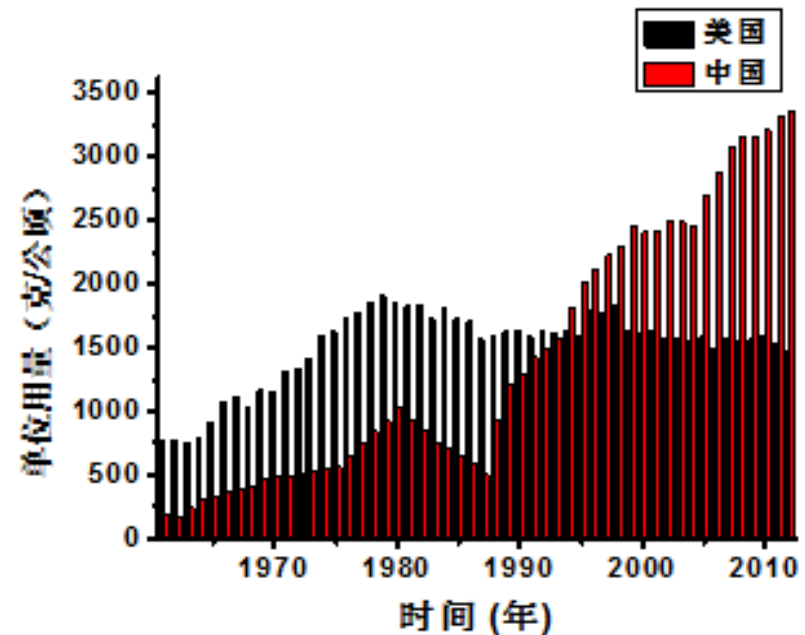
- ◆ More than 1000 species of crop pests
- ◆ Annual occurrence area ~450 million ha
- ◆ Key factor for food security and safety



Plant health in China

- Difficulty for small farmer to use green control method
- Low cost and high convenience to use chemical pesticides

Chemical control accounted for 80% in China



- Total use of pesticides in China (2013): 1.83 million tons
- Use of pesticides and insecticides per unit area: 2.3 and 14.7 times compared with the U.S.

Plant health in China

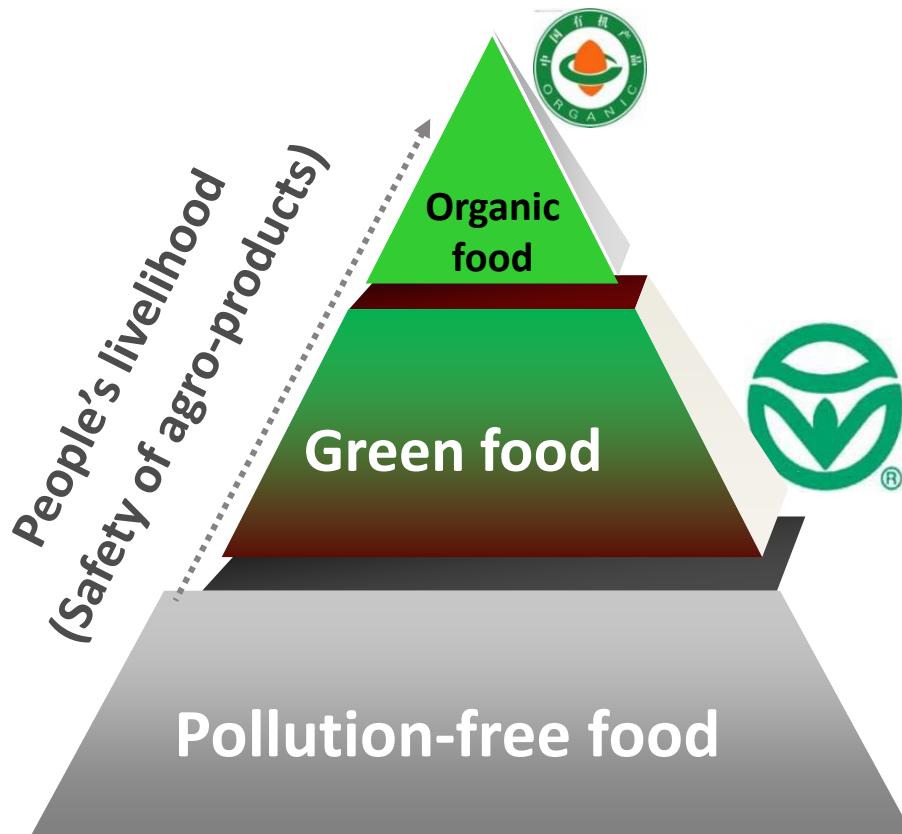
Pesticide over use

- **Environmental pollution**
- **Safety of agro-products**
- **Increased resistance to pesticides**
- **Decreased bio-diversity**



Plant health in China

Green management of crop pests — A social, economical and ecological demand



农业部文件

农农发〔2015〕2号

农业部关于印发《到2020年化肥使用量
零增长行动方案》和《到2020年农药
使用量零增长行动方案》的通知

各省、自治区、直辖市和计划单列市农业（农牧、农村经济）厅（委、局），新疆生产建设兵团农业局，黑龙江省农垦总局：

为贯彻落实中央农村工作会议、中央1号文件 and 全国农业工作会议的精神，紧紧围绕“稳粮增收调结构，提质增效益”的工作主线，大力推进化肥减量增效、农药减量控害，积极探索产出高效、产品安全、资源节约、环境友好的现代农业发展之路，农业部制定了《到2020年化肥使用量零增长行动方案》和《到2020年农药

— 1 —

In Mar. 2015, MOA China announced the “Act of zero increase in pesticides by 2020”



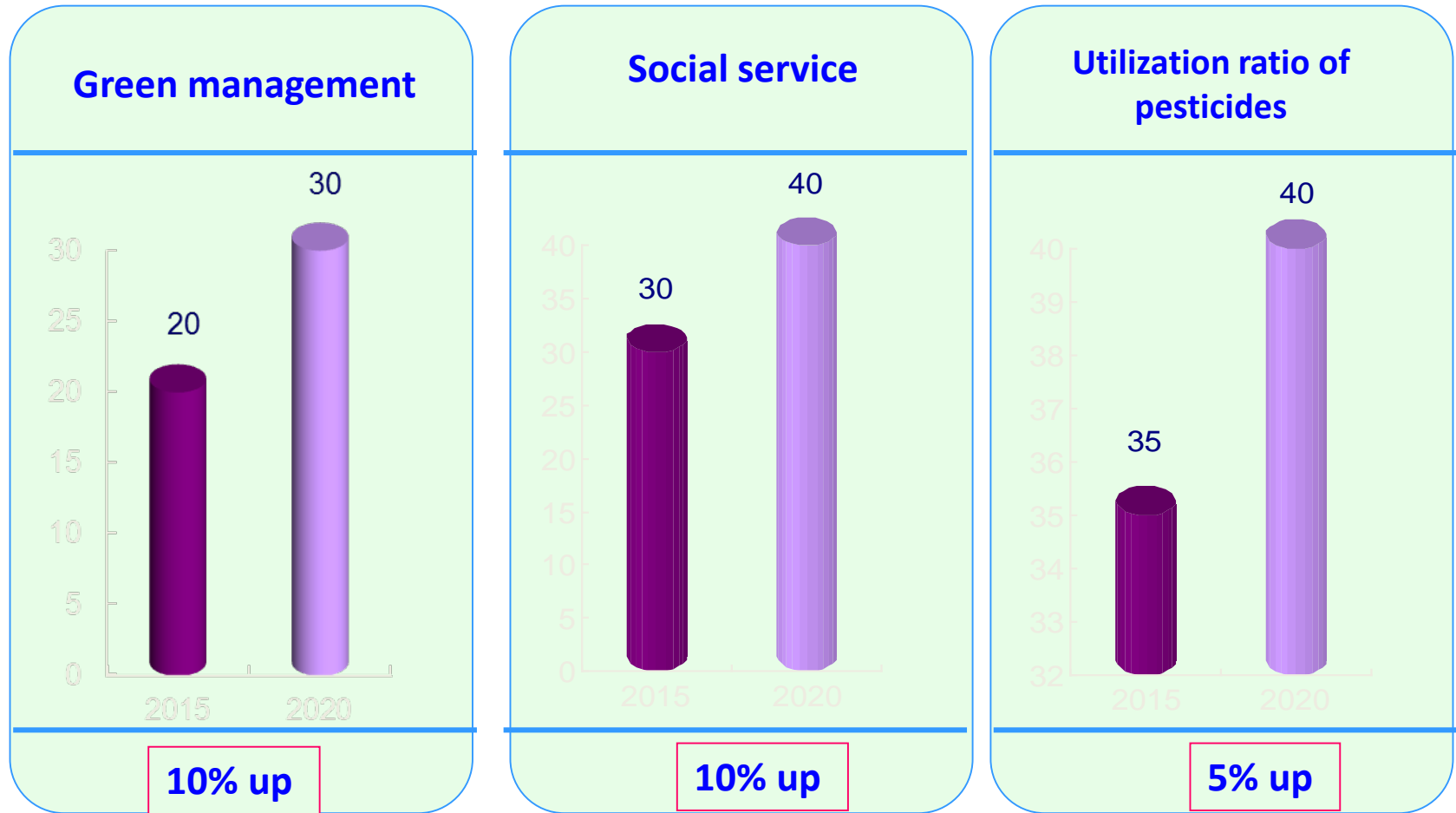
Plant health in China

➤ Using green management products to replace chemical

- ☐ Natural enemy
- ☐ Biological pesticide
- ☐ SIT
- ☐ Physical control
- ☐ Feeding attractant
- ☐ Insect pheromone
- ☐ Agronomy based control
- ☐ Plant resistance
- ☐ Transgenic crops
- ☐ IPM



Plant health in China

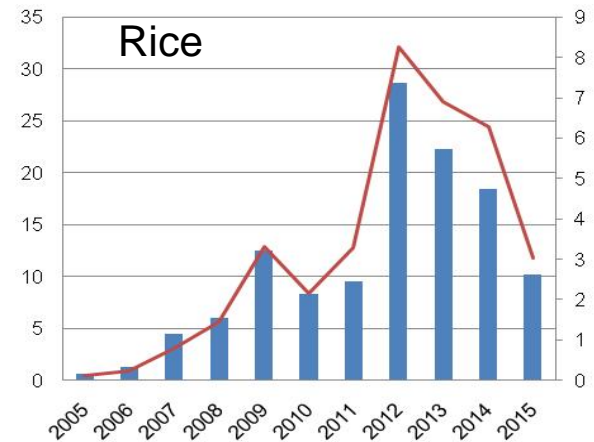
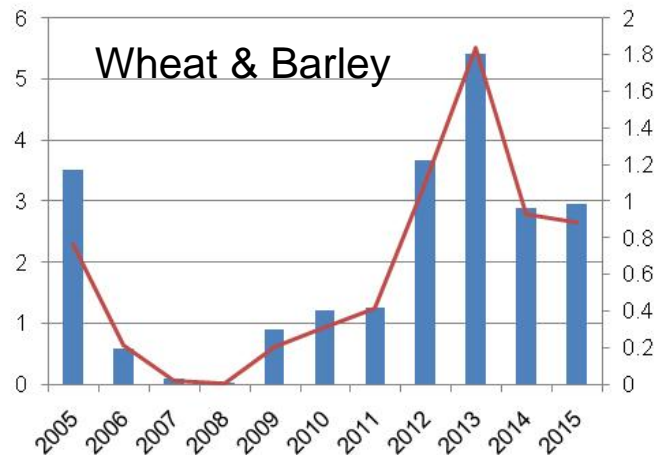
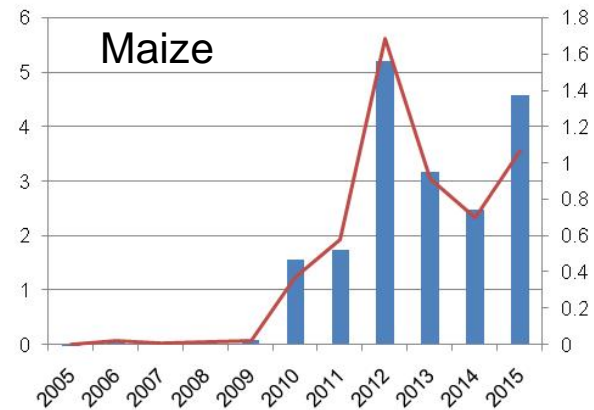
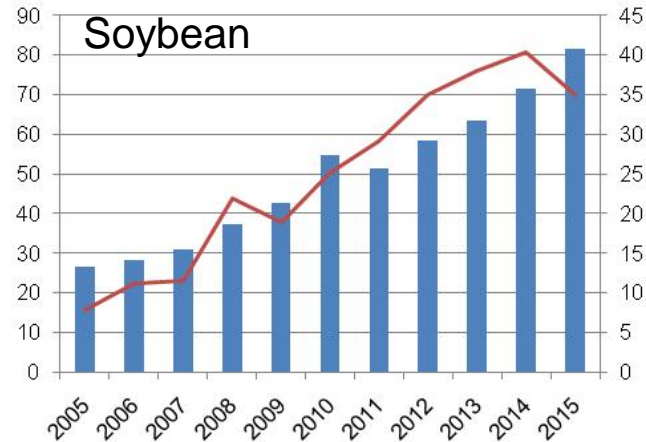


- By 2020, pesticide use in terms of unit area will be restricted below the average level of the last 3 years

Plant health in China

- To establish modern S&T innovation system
- To establish monitoring and warning information system
- To establish modern quarantine and IAS management system
- To establish small farmers plant health service system
- To train modern farmers

Importance of international co-operation



Food Imports in China

■ Import volume

— Import value

(10 billion tons/dollars)

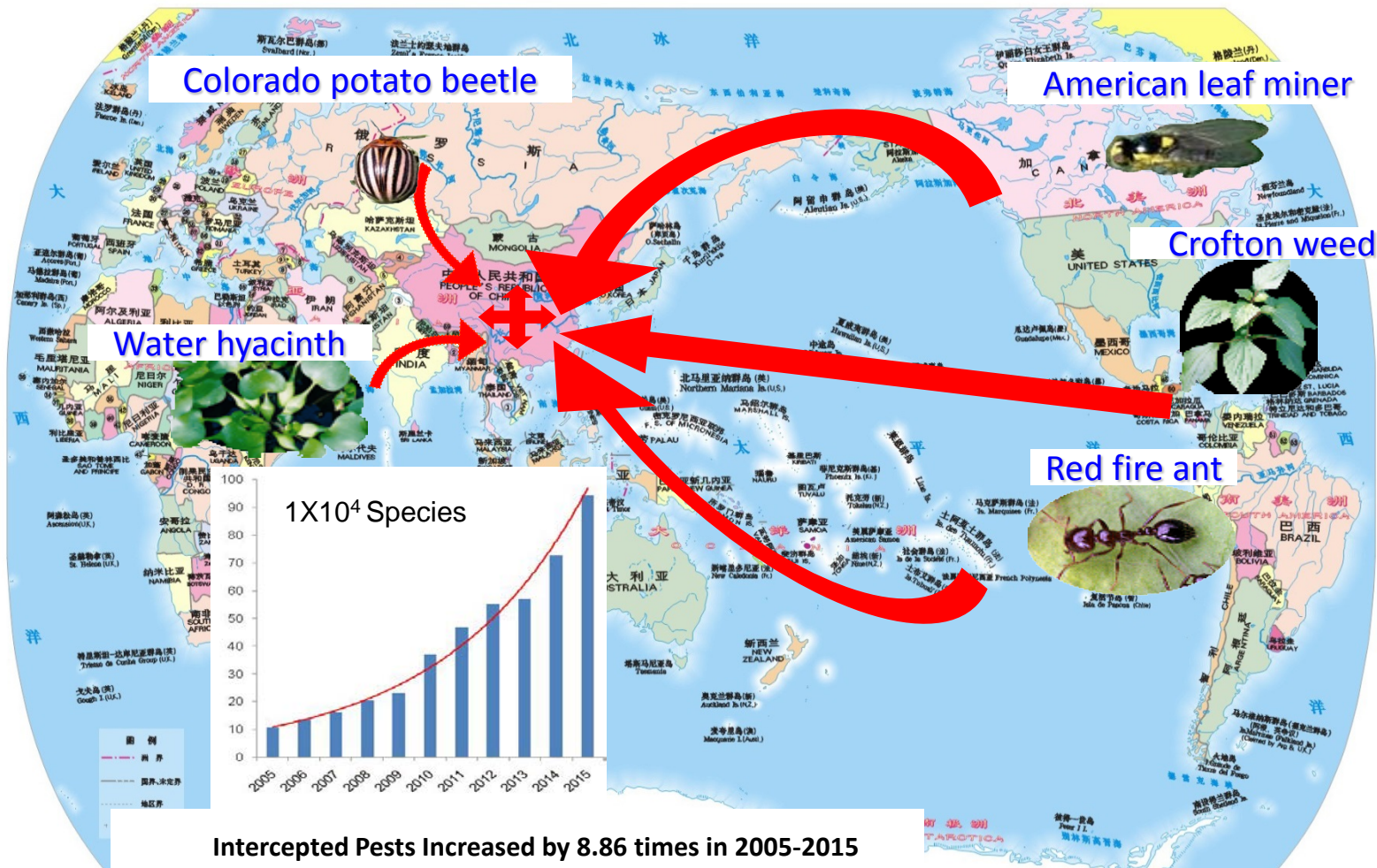
Importance of international co-operation

➤ Invasive alien species (IAP)

Globalization increases biological invasions risk

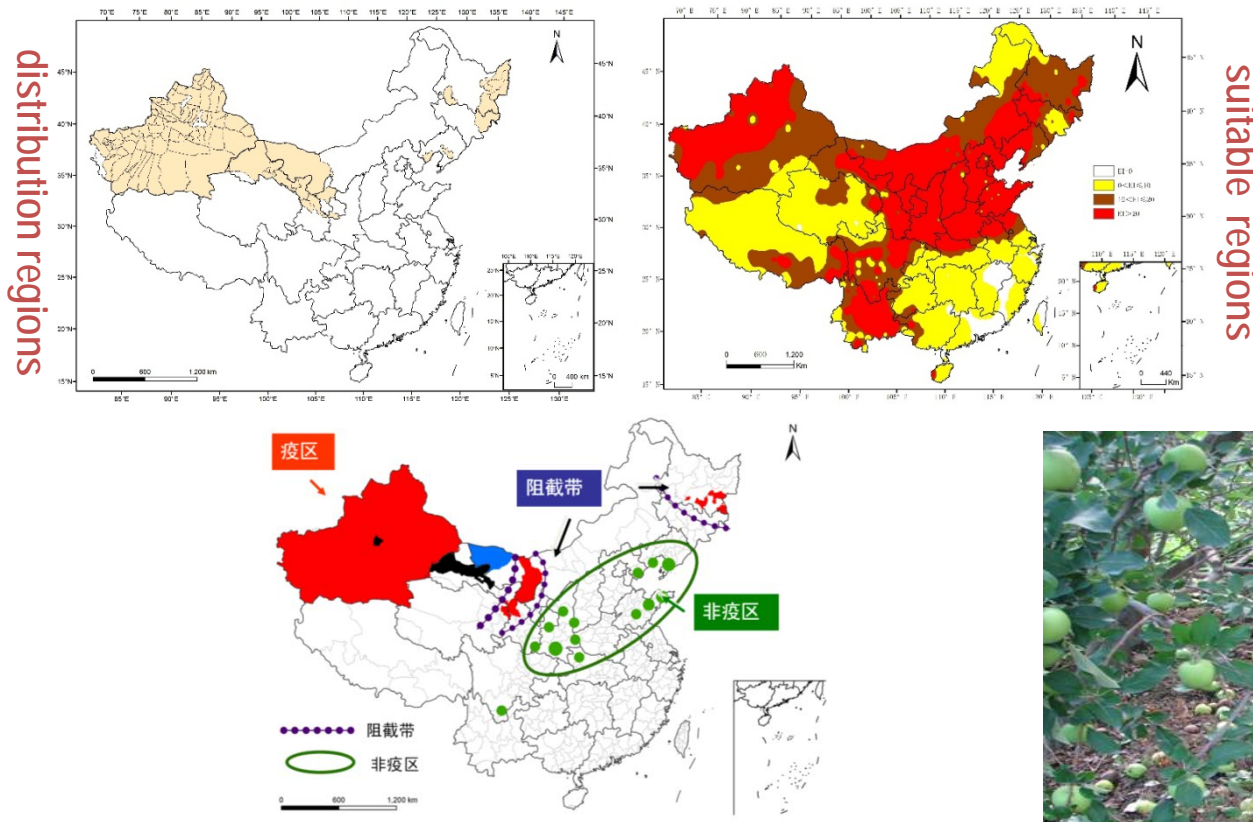
世界地图

WORLD MAP

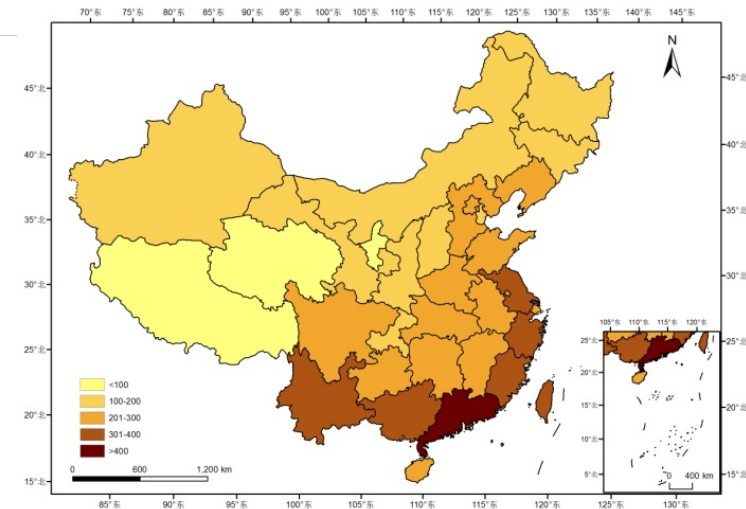
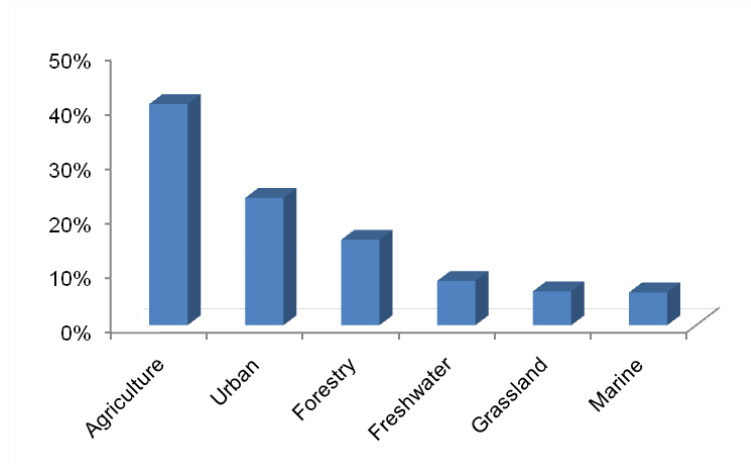
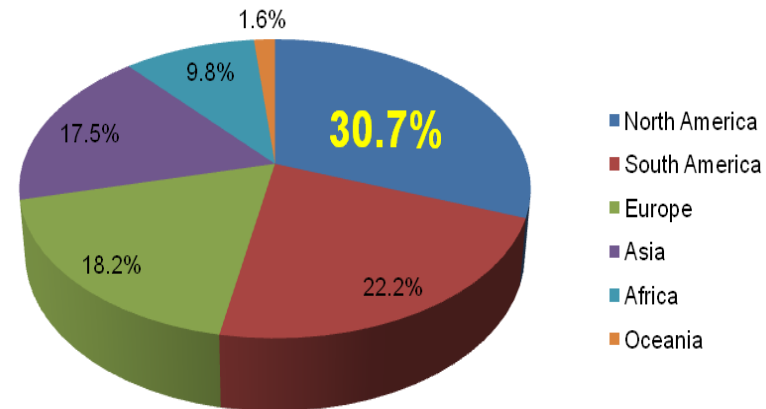
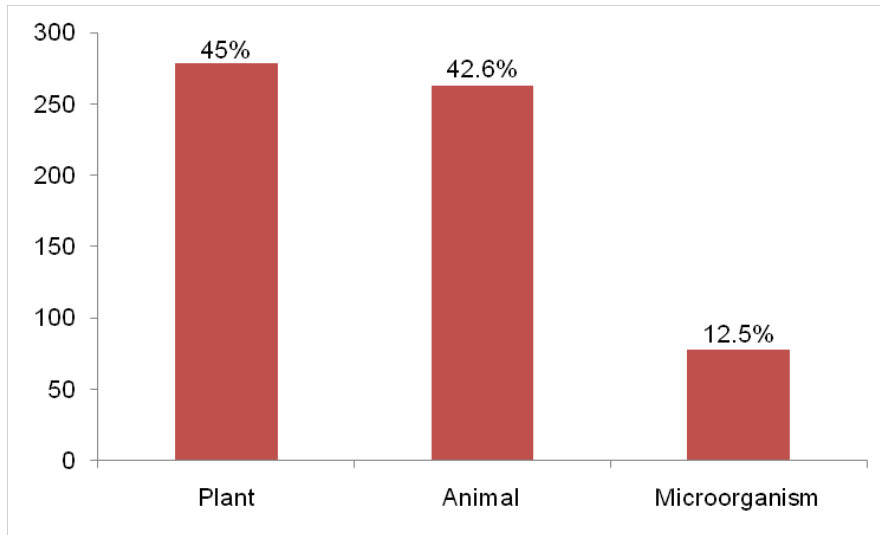


Importance of international co-operation

- Codling moth
- Distributed in Shan'xi, Xinjiang
- Distributed in Heilongjian, 2015



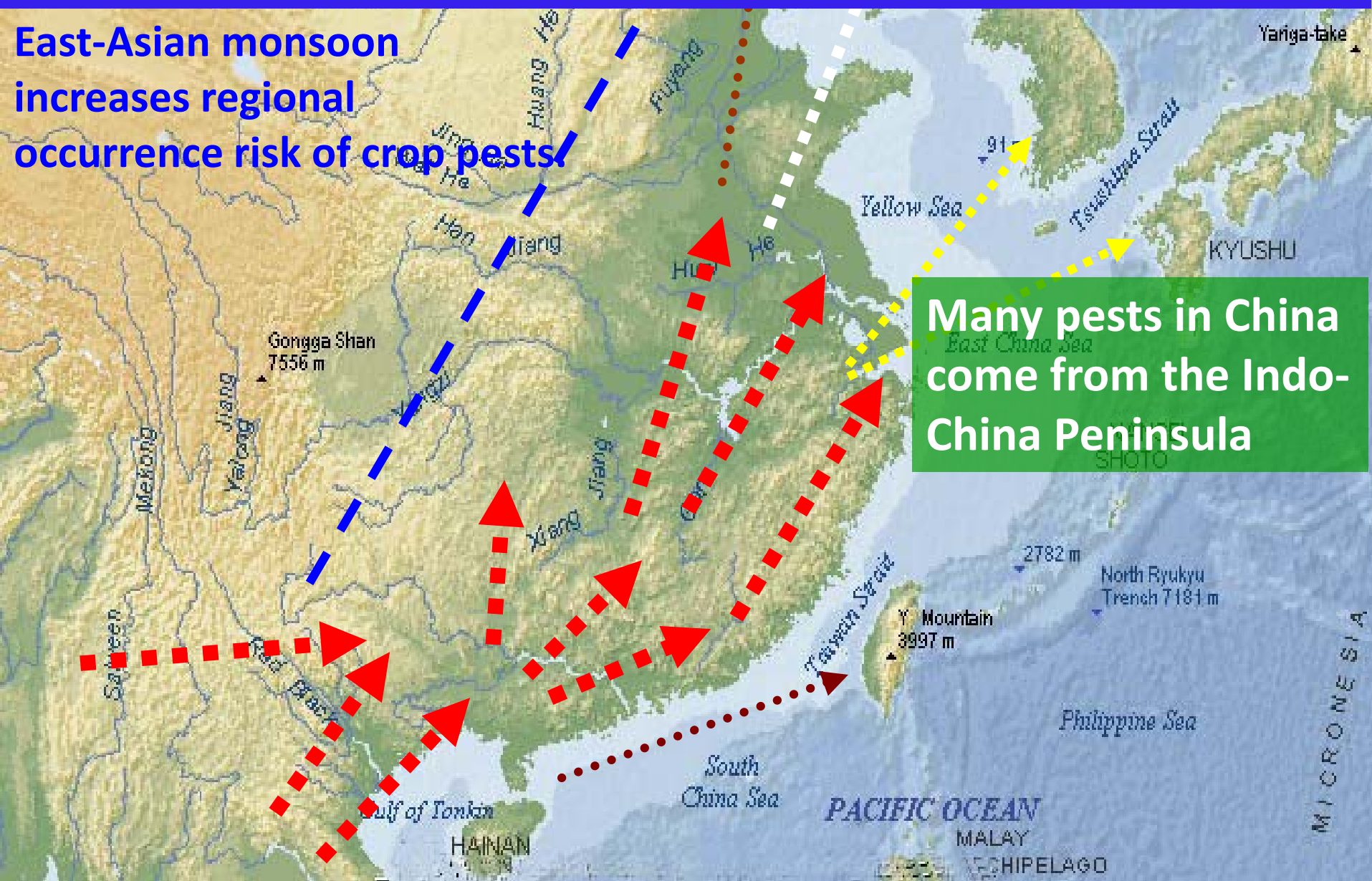
Importance of international co-operation



Invasive Alien Species in China

Importance of international co-operation

East-Asian monsoon
increases regional
occurrence risk of crop pests



Importance of international co-operation



Monitoring sites in Hainan island



Opportunity of international co-operation

VISION AND ACTIONS ON JOINTLY BUILDING SILK ROAD ECONOMIC BELT AND 21ST-CENTURY MARITIME SILK ROAD

2015/03/28

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Opportunity of international co-operation



Opportunity of international co-operation

SPECIAL EMPHASES ON AGRICULTURE AND ECOLOGY

S &T Co-operation:

- To strengthen deeply-collaboration in science and technology of agriculture
- To reinforce collaboration on prevention and management of cross-regional agricultural invasive pests
- To tighten collaboration on climate change and biodiversity
- To enhance ecological civilization
- To develop more GREEN pest control products



自动虫情测报灯



Opportunity of international co-operation

SPECIAL EMPHASES ON AGRICULTURE AND ECOLOGY

Custom Co-operation:

- To enhance collaboration on mutual recognition of quarantine
- To improving bi/multilateral cooperation in inspection and quarantine techniques, certification and accreditation, standard measurement...

Platform Co-operation:

- To establish Joint Laboratory, Technical Transfer Center between/among OBOR countries for providing facilities for scientists



中国农业部与国际应用生物科学中心
生物安全联合实验室

**MOA-CABI Joint
Laboratory of Bio-safety**



P2/P3 biosafety lab

Opportunity of international co-operation

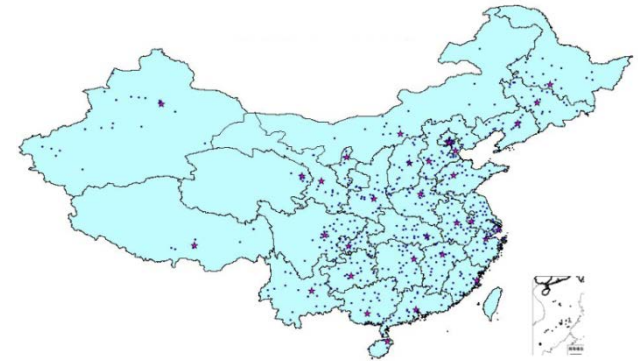
SPECIAL EMPHASES ON AGRICULTURE AND ECOLOGY

Exchange co-operation:

- To exchange scientists,
- To share more information on science and technology

Education co-operation:

- To jointly hold international workshops
- To run education training on S & T
- To train scientific youth, women, students, volunteers



Opportunity of international co-operation

OPPORTUNITIES

- ❑ Focusing on **BETTER Cross-Regional Control (BCRC) or Better Border Control (BBC)** points for expanding international collaboration in plant protection area, especially focuses on biosafety and food-security topics
 - ❑ Developing **BETTER** proposals on scientific research, technology transfer, platform establishment for DEEP-TH collaboration
 - ❑ Applying **BIG** collaboration funds from MOST, MOA or NSFC
-
- ◆ **Improving** Better Cross-Regional Control of agricultural pests
 - ◆ **Intensifying** the technical transfer among OBOR countries

Opportunity of international co-operation

OVERALL GOALS

- ◆ To promote the best pest management practices in order to contribute to global agricultural sustainable development
- ◆ To facilitate the international trade, to ensure food security, food safety, and to alleviate poverty



PLANT HEALTH INTERNATIONAL
COOPERATION

DISCUSS TOGETHER
ENJOY TOGETHER
COOPERATE TOGETHER

THANK YOU

