



**Webtraining on Agricultural Machinery and Safer  
Application of Chemicals-November 16, 2021**

# Safety application of agricultural machinery and chemicals in China

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# The main content

1. Development of plant protection machinery
2. The results and effects achieved in Machinery and Safer Application of Chemicals
3. Challenges and needs



# Development of plant protection machinery

- China is a big country in pesticide production and use in the world.
- In the past, the development and utilization of plant protection machinery were relatively backward, mainly using manual sprayers, Knapsack sprayers and small truck mounted sprayers as the main plant of traditional plant protection.



# Development of plant protection machinery



Manual sprayers



Knapsack Electric Sprayer



Knapsack spray duster



# Development of plant protection machinery

- The machinery efficiency was low, pesticide waste was much, and the control effect was poor, which seriously affected the effective use of pesticides and the prevention and control of major crop diseases and insect pests.



# Development of plant protection machinery

- Since 2013, a new stage of agricultural development, with the accelerated promotion of rural land transfer, the rapid development of family farms, new agricultural business entities and large planting households, major changes have taken place in the organizational mode of pest control and pesticide application equipment, with high operation efficiency and wide application scope-- water saving, drug saving and environment-friendly large and medium-sized pesticide applicators have become a new favorite and hot commodity in the plant protection machinery market.



# Development of plant protection machinery



Self-propelled boom sprayer



Air supply sprayer



. Plant protection unmanned aircraft



# Development of plant protection machinery



## China Compulsory Product Certification

- Mandatory product certification management regulation 强制性产品认证管理规定
- Inspection and Quarantine on May 26, 2009
- Implemented on September 1, 2009

Aim to protect national security and prevent fraud, protect human health or safety, animal or plant life or health, to protect environment, must be certified as stipulated by the state related products (hereinafter referred to as the mandatory product certification), and mark authentication marks, before leaving the factory, sales, import or use in other business activities.





# Development of plant protection machinery



## China Compulsory Product Certification catalogue

- 1.Plant protection machinery
- 2.Medium power wheeled tractors

In China, plant protection machinery implements compulsory product certification management.

Plant protection machinery manufacturers need to obtain compulsory product certification to produce and sell corresponding products. including plant protection machinery and small and medium power wheeled tractors.



## The results and effects achieved

- 1. The development capacity of new and efficient plant protection machinery enterprises is enhanced.
- 2. The steady development of large and medium-sized spray rod spray machine application.
- 3. Aviation plant protection, especially aviation plant protection technology has made rapid progress.



## The results and effects achieved

- 4. Precision pesticide application technology is widely used.
  - Precision pesticide application technology is an important technical component of smart agriculture.
  - It is also an important feature of the development of precision agriculture in the information age.
- 5. The benefits of plant protection machinery renewal are remarkable.



# The results and effects achieved

- **Zero Increase in pesticide use by 2020**

In 2015, the Ministry of Agriculture and Rural Affairs proposed to implement the "Zero Increase in pesticide use by 2020" action.



## The results and effects achieved

- In china, the state has vigorously promoted the professional unified control of crop diseases and pests and implemented **the action of zero growth of pesticide use**, which has widened the demand space for new and efficient plant protection machinery and greatly accelerated the upgrading of plant protection machinery. The level of plant protection machinery and equipment has been rapidly improved and has become an important symbol of modern plant protection.



# Challenges and needs

- At present, the safety of plant protection machinery and chemicals in China is facing some challenges. Plant protection machinery in China is rapidly evolving with the change of agricultural operation mode and crop planting mode. Manual sprayers have been greatly reduced, and small and medium-sized application machinery has been increased. Plant protection unmanned aircraft and large application machinery have also developed to a certain extent.



# Challenges and needs

- However, there are also some problems such as uneven product quality, backward pesticide application technology concept and insufficient agricultural machinery and techniques, which need to strengthen the work in product research and development, technology research, popularization and application.