

# **Forecasts on Crop Pests and Diseases in China**

**The First Edition  
April 2021**

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**Kcomber Inc.**

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## 1. Introduction

Based on comprehensive analysis of previous occurrence of pests and diseases, crop distribution, planting methods and climatic trend, the occurrence area of major corn pests and diseases may reach 29.33 million ha. in 2021, up 13.4% year on year. It is predicted that the Class-I crop pests and diseases will occur heavily in 2021, with an occurrence area of 95.20 million ha., an increase of 17.5% compared with that in 2020. Thereinto, Class-I crop pests and diseases, such as *Spodoptera frugiperda*, wheat stripe rust, rice planthopper and rice leaf roller, are very likely to occur severely.

According to the National Agro-Tech Extension and Service Center (NATESC) and some experts, major pests and diseases of grain crops such as wheat, rice and corn will break out heavily, affecting an area of 140.00 million ha. in total, a year-on-year increase of 14%, which threatens more than 70% of the agricultural production areas in China.

In addition, potato late blight will happen heavily in most areas of the Southwest China, eastern part of Northwest China, Northeast China and northern part of North China. It is expected that *Loxostege sticticalis* will occur heavily in most part of Inner Mongolia Autonomous Region, western part of Northeast China. Overall occurrence of migratory locusts will be slight in China. It is worth noting that desert locust and *Ceracris kiangsu Tsai* may invade the border of Southwest China again.

In this report, CCM will provide the forecasts on the occurrence of pests and diseases in China in 2021 from the following aspects:

- ✓ Class-I crop
- ✓ Rice
- ✓ Wheat
- ✓ Corn

## 2. Methodology

The report is drafted by diverse methods as follows:

- Desk research

The sources of desk research are various, including published magazines, journals, government websites and statistics, industrial statistics, association seminars as well as information from the Internet. A lot of work has gone into the compilation and analysis of the obtained information.

- Internet

CCM visited government websites and contacted with players in the domestic agrochemical industry through B2B websites and software as well as obtained registration information on the internet.

- Data processing and presentation

The data collected and compiled are sourced from:

- CCM's database
- Published articles in periodicals, magazines, journals and third-party databases
- Statistics from governments and international institutes
- Telephone interviews with domestic producers, joint ventures, service suppliers and governments
- Third-party data providers
- Comments from industrial experts
- Professional databases from other sources
- Information from the internet

The data from various sources have been combined and cross-checked to make this report as precise and scientific as possible. Throughout the process, a series of internal discussions were held in order to analyse the data and draw the conclusions.

### 3. Executive summary

In crop production, regional outbreaks of diseases like wheat stripe rust, wheat scab and wheat crown rot have become regular. Rice leaf roller, *Chilo suppressalis* and rice planthopper have shown prominent resistance to pesticides. Rice blast, rice sheath blight and rice bacterial leaf streak have a tendency to break out seriously. Potato late blight, mole disease and scab disease not only threaten the development of the industry, but also pose a major threat to the commodity rate of agricultural products. *Spodoptera frugiperda* is posing a grave threat to the corn industry.

It is predicted that the occurrence of major crop pests and diseases will remain severe in 2021. Overall occurrence and control areas of pests, diseases, weeds and rodents will reach XXX million ha. and XXX million ha. separately in China this year. After comprehensive analysis of previous occurrence of pests and diseases, crop distribution, planting methods, climatic trend and other factors, it is predicted that Class-I crop pests and diseases will occur heavily in 2021, with an occurrence area of XXX million ha., an increase of XXX% compared with that in 2020. It's worth noting that some pests and diseases will threaten more than XXX% of the growing areas of food crops such as wheat, rice, corn and potato.

## 4. What's in this report?

**Note: Key data/information in this sample page is hidden, while in the report it is not.**

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### 1 Forecasts on crop pests and diseases in China in 2021

#### 1.1 National overall occurrence forecasts on crop pests and diseases

On the basis of comprehensive analysis of previous occurrences of pests and diseases, crop distribution, planting methods, climatic trend and other factors, it is predicted that the occurrence of major crop pests and diseases will remain severe in 2021. Specifically, migratory pests such as *Spodoptera frugiperda*, rice planthopper, rice leaf roller, *Loxostege sticticalis*, along with some epidemic diseases such as wheat scab, wheat stripe rust, rice blast and potato late blight, all will pose a great threat to food production during the year. Overall occurrence and control area of pests, diseases, weeds and rodents will reach XXX million ha. and XXX million ha. separately in China in 2021.

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### 2 Forecasts on the Class-I crop pests and diseases in China in 2021

#### 2.1 Prediction of overall occurrence of the Class-I crop pests and diseases

On the basis of comprehensive analysis of previous occurrences of pests and diseases, crop distribution, planting methods, climatic trend and other factors, it is predicted that the Class-I crop pests and diseases will occur heavily in 2021, with an occurrence area of XXX million ha., an increase of XXX% compared with that in 2020.

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#### 2.2 Forecasts on major pests in China in 2021

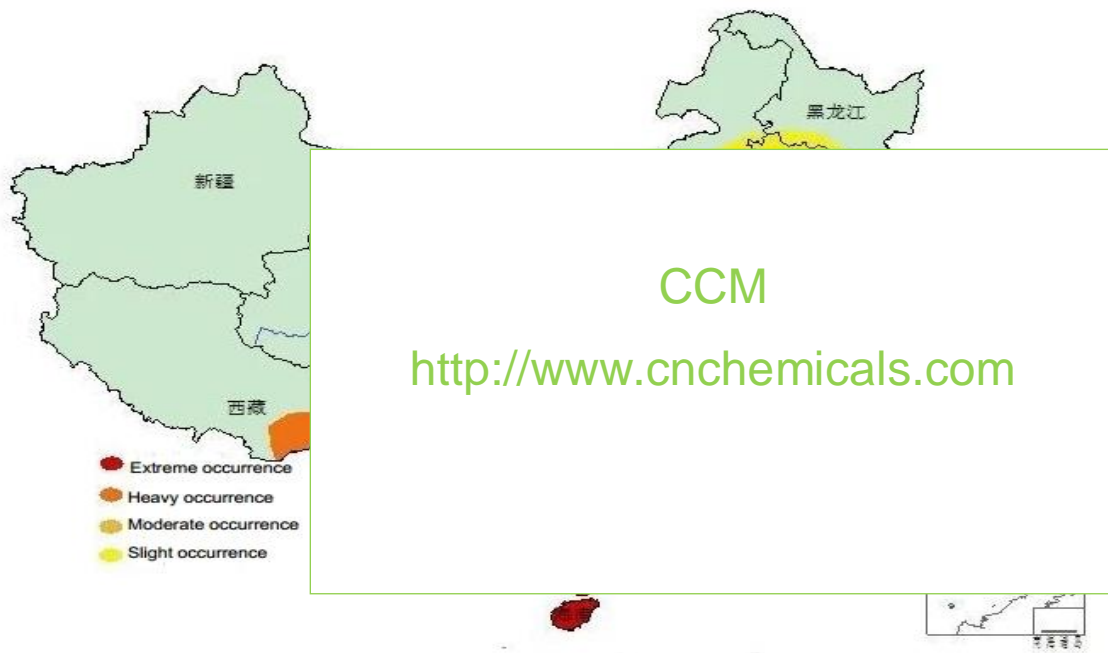
It is expected that the overall occurrence of Class-I crop pests (mainly include XXX kinds of pests) in China will be moderate to heavy in 2021. Among them, the occurrence areas of migratory locust, armyworm, rice planthopper, rice leaf roller, *Chilo suppressalis* are relatively large.

##### ***Spodoptera frugiperda***

In China, *Spodoptera frugiperda* is expected to occur frequently in 2021, affecting an area of around XXX million ha. The occurrence areas involve corn planting areas in Huang-Huai-Hai region and southern part to the region.

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Figure 2.2-1 Prediction of *Spodoptera frugiperda* occurrence in 2021



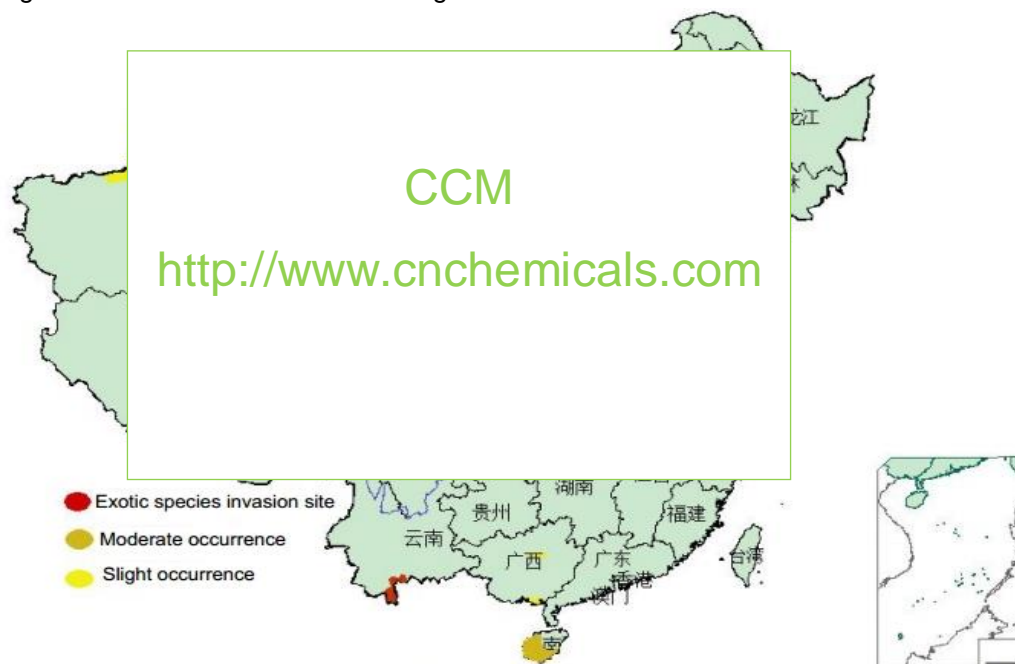
Source: National Agro-Tech Extension and Service Center

**Locusta migratoria and other migratory locusts**

Overall occurrence area of *Locusta migratoria* and other migratory locusts is expected to XXX million ha. in China in 2021. Thereinto, occurrence areas of Oriental migratory locust, Asiatic migratory locust and Tibetan migratory locust will reach XXX million ha. in total. In Northern Agriculture-animal Husbandry Ecotone, the occurrence area of locust is estimated to reach XXX million ha. These pests may occur in the shore area of the Yellow River, Bohai Bay, lake reservoir areas in North China, Sino-Kazakhstan border area (in Xinjiang Uyghur Autonomous Region), reed wetlands in Heilongjiang Province and part of Jilin Province, the river valleys involving Jinsha River, Yalong River and Yarlung Zangbo River, as well as Tongtian River basin in Qinghai Province; high-density locusts may occur in some areas.

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Figure 2.2-2 Prediction of *Locusta migratoria* occurrence in 2021



Source: National Agro-Tech Extension and Service Center

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### 3 Forecasts on pests and diseases on three major crops in China in 2021

#### 3.1 Forecasts on pests and diseases of major crops in China in 2021

It is predicted that the occurrence of major crop pests and diseases in China will be severe in 2021, such as wheat stripe rust, wheat scab, rice planthopper, rice leaf roller, *Spodoptera frugiperda*, armyworm and corn borer.

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#### 3.2 Forecasts on corn pests and diseases in China in 2021

Based on comprehensive analysis of previous occurrence of pests and diseases, crop distribution, planting methods and climatic trend and other factors, the occurrence of major corn pests and diseases will remain severe in 2021. Overall occurrence areas of four kinds of corn pests and diseases will reach XXX million ha., up XXX% compared with that in previous year. Specifically, the four corn pests and diseases include three kinds of pests (*Spodoptera frugiperda*, armyworm and corn borer) and one disease (northern leaf blight).



### ***Spodoptera frugiperda***

In 2021, *Spodoptera frugiperda* will affect the corn growing areas of Huang-Huai-Hai region and southern part of the region. *Spodoptera frugiperda* are expected to appear frequently and cause severe damage in Southwest China and South China. In Jiangnan region and the middle and lower reaches of the Yangtze River, it is likely to occur moderately. It will occur slightly in Jianghuai region, Huanghuai region, Northwest China and North China this year. In addition, sporadic outbreaks of the pest may happen in the southern part of the Northeast China. On the whole, occurrence areas of *Spodoptera frugiperda* will reach XXX million ha., more than XXX% of which are concentrated in southern part of the Yangtze River basin.

#### **Corn borer**

It is predicted that corn borer will occur moderately in most areas of Northeast China, and break out heavily in most parts of Huang-Huai region and some parts of Southwest China. Overall occurrence area of the pest is likely to reach XXX million ha., lower than that in last year.

#### **Armyworm**

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#### **Northern leaf blight**

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Table 3.2-1 Forecasts on occurrence area of corn pests and disease in China, 2017–2021

No.	Pests and diseases	Occurrence area, million ha.				
		2017	2018	2019	2020	2021
1	Corn borer	XXX	XXX	XXX	XXX	XXX
2	Armyworm	XXX	XXX	XXX	XXX	XXX
3	<i>Spodoptera frugiperda</i>	XXX	XXX	XXX	XXX	XXX
4	Northern leaf blight	XXX	XXX	XXX	XXX	XXX

Source: National Agro-Tech Extension and Service Center (NATESC)

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