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Crop pests and diseases monitoring and forecasting in China

Early September 2018

Medium infestation of pests and diseases on maize so far

Affected area reached 6.1 million ha in China

Overview

Integrated with multi-source Earth Observation data, e.g. meteorological data, field data, and remote sensing data (such as GF series and HJ series in China, MODIS and Landsat series in US, Sentinel series in EU), and self-developed models and algorithms for crop pest and disease monitoring and forecasting, AIR (RADI) constructed the 'Crop pests and diseases monitoring and forecasting system', which could regularly release thematical maps and reports on main crop pests and diseases in whole China.

Early September in 2018, due to the similar temperature and higher precipitation than previous years, pest and disease are moderately occurred in maize regions of China. The total area affected by maize armyworm (*Mythimna separata*), maize northern leaf blight (*Setosphaeria turcica*) reaches 6.1 million hectares.

Content

Review of meteorological conditions

Field temperature in Southern and Northern China are equal with previous years. In late August, minimum of the averaged field temperature of the plant areas in China reached 20℃, and in part of the southern area, reached 30℃.

Field precipitation in Southwest China and Northern China are higher than previous years. According to the rainfall process in Northeast China and North China in late August, field humility reached a suitable level for pests and diseases development.

Maize armyworm

In early September 2018, the occurrence of maize armyworm reached 3.9 million hectares, with the pest mainly occurred in Northeast China and North China. The specific distributions and severities are shown in Figure 1 and Table 1.

Specifically, the maize armyworm severely occurred in Jilin, Heilongjiang, and Hebei; moderately occurred in Henan, Shaanxi, and Hunan, while slightly occurred in Shanxi and Inner Mongolia.

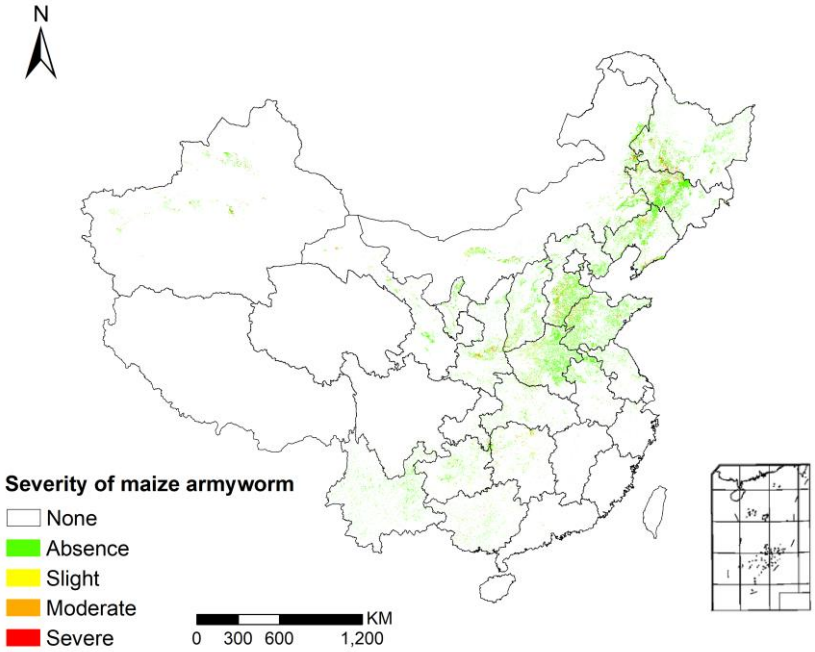

Figure 1 *Spatial distribution of maize armyworm in China (early September 2018)*

Table 1 *Statistics of maize armyworm in China (early September 2018)*

Region	Area / Thousand hectare					
	Absence	**Slight**	**Moderate**	**Severe**	**Total area**	**Occurrence ratio/%**
Northeast China	9656.7	520	548.7	407.3	11132.7	13
North China	4414.7	295.3	228	161.3	5099.3	13
East China	4239.3	194.7	117.3	78	4629.3	8
South China	548	30.7	18	12	608.7	10
Central China	3890.6	300	90.7	46.7	4328.0	10
Northwest China	2914.6	176.7	160	114.7	3366.0	13
Southwest China	2378.1	229.3	78	43.3	2728.7	13
Total	**28042**	**1746.7**	**1240.7**	**863.3**	**31892.7**	**12**

Maize northern leaf blight

In early September 2018, the occurrence of maize northern leaf blight reached 2.2 million hectares, with the disease mainly occurred in Northeast China. The specific distributions and severities are shown in Figure 2 and Table 2.

Specifically, the rice leaf roller severely occurred in Jilin, Heilongjiang; moderately occurred in Liaoning, Hebei, and Shandong, while slightly occurred in Inner Mongolia, Henan, and Hunan.

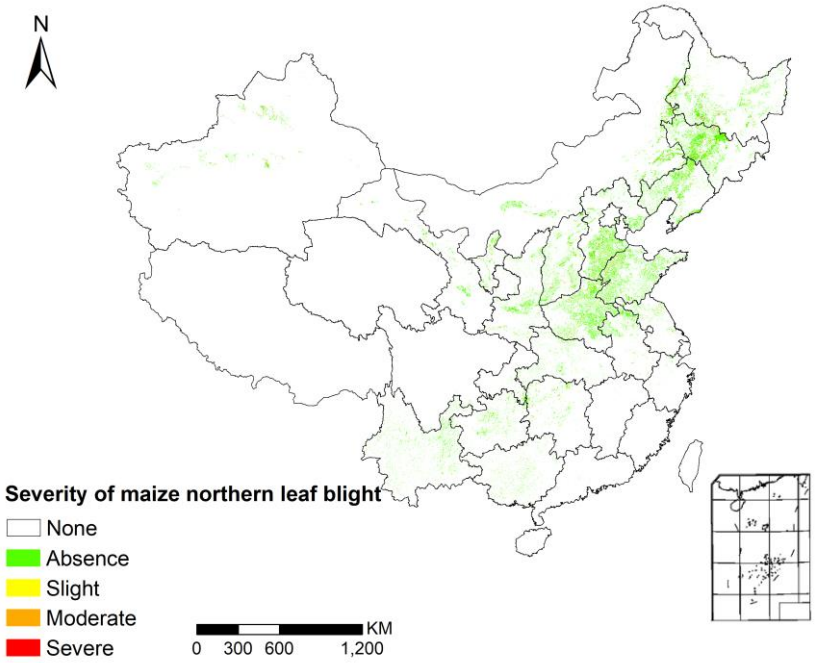

Figure 2 *Spatial distribution of maize northern leaf blight in China (early September 2018)*

Table 2 *Statistics of maize northern leaf blight in China (early September 2018)*

Region	Area / Thousand hectare					
	Absence	Slight	Moderate	Severe	Total area	Occurrence ratio/%
Northeast China	10360	271.3	290.7	210.7	11132.7	7
North China	4740	156	118.6	84.7	5099.3	7
East China	4340	144.7	86.6	58	4629.3	6
South China	573.3	18	10.7	6.7	608.7	6
Central China	4038	200	60	30	4328.0	7
Northwest China	3127.3	92.7	85.3	60.7	3366.0	7
Southwest China	2558.7	113.3	36.7	20	2728.7	6
Total	**29737.3**	**996**	**688.6**	**470.8**	**31892.7**	**7**

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The crop pests and diseases monitoring and forecasting system are available under:
http://www.rscropmap.com/

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Disclaimer

The geographic borders are purely a graphical representation and are only intended to be indicative. The boundaries do not necessary reflect the official position.

Mission statements: As the science and knowledge service, the Sino-UK Crop Pest and Disease Forecasting & Management Joint Laboratory is to support independent evidence for crop monitoring.

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