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Crop pests and diseases monitoring and forecasting in China

Early August 2018

Medium infestation of pests and diseases on maize so far

Affected area reached 3.0 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 August in 2018, due to the higher 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 (*Setosphaeria turcica*) reaches 3.0 million hectares. (*Mythimna separata*), maize northern

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leaf blight.

Review of meteorological conditions

Field temperature in Southern and Northern China are higher than previous years. In early August 2018, maximum of the averaged field temperature of the plant areas in China reached 33°C, and in part of the northern area reached 40°C.

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 July, field humidity reached a suitable level for pests and diseases development.

Maize armyworm

In early August 2018, the occurrence of maize armyworm reached 2.0 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, Henan, and Hebei; moderately occurred in Heilongjiang, Henan, and Liaoning, while slightly occurred in Shaanxi.

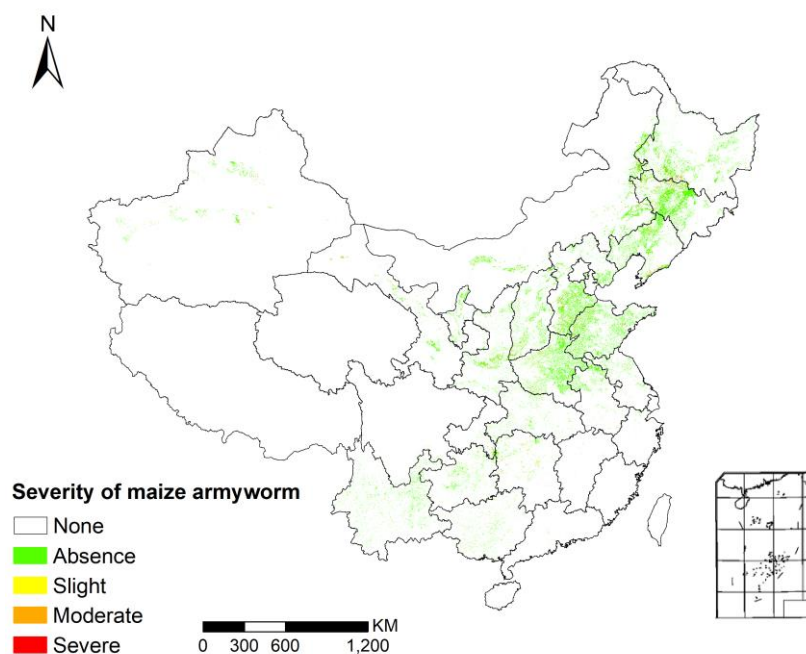


Figure 1 Spatial distribution of maize armyworm in China (early August 2018)

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

Region	Area / Thousand hectare				Total area	Occurrence ratio/%
	Absence	Slight	Moderate	Severe		
Northeast China	10370.7	268	285.3	208.7	11132.7	7
North China	4749.3	150.7	117.3	82	5099.3	7
East China	4427.3	101.4	61.3	39.3	4629.3	4
South China	578	16	8.7	6	608.7	5
Central China	4105.3	152	46.7	24	4328.0	5
Northwest China	3134.7	90	82	59.3	3366.0	7
Southwest China	2551.3	116.8	39.3	21.3	2728.7	7
Total	29916.6	894.9	640.6	440.6	31892.7	6

Maize northern leaf blight

In early August 2018, the occurrence of maize northern leaf blight reached 1.0 million hectares, with the disease mainly occurred in Northeast China and Central China. The specific distributions and severities are shown

in Figure 2 and Table 2.

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

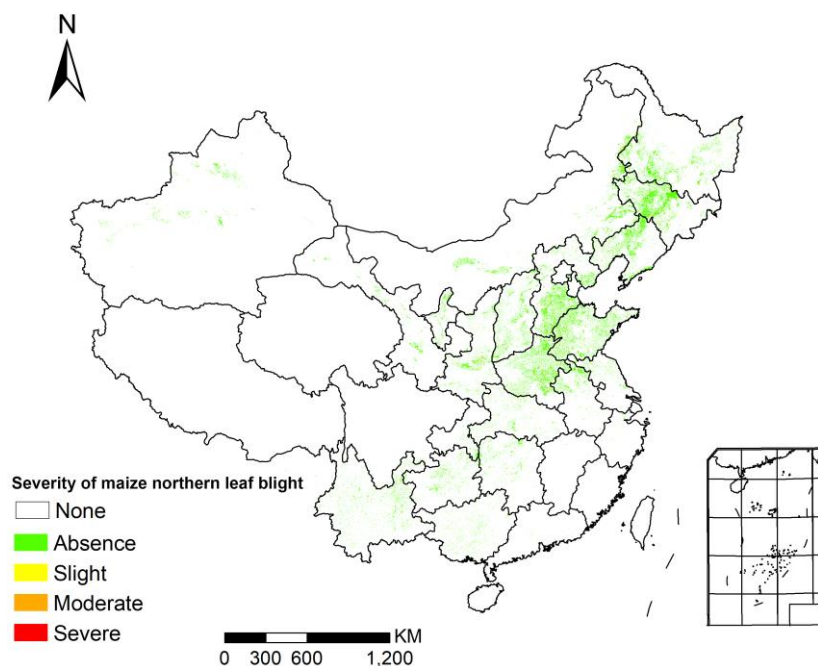


Figure 2 Spatial distribution of maize northern leaf blight in China (early August 2018)

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

Region	Area / Thousand hectare					Total area	Occurrence ratio/%
	Absence	Slight	Moderate	Severe			
Northeast China	10777.3	106.7	142	106.7	11132.7	3	
North China	4936	70.6	54	38.7	5099.3	3	
East China	4485.3	72	43.3	28.7	4629.3	3	
South China	594	7.3	4.7	2.7	608.7	2	
Central China	4192.7	67.3	41.3	26.7	4328.0	3	
Northwest China	3256.7	42.6	38.7	28	3366.0	3	
Southwest China	2648.7	40	24	16	2728.7	3	
Total	30890.7	406.5	348	247.5	31892.7	3	

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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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