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Crop pests and diseases monitoring and forecasting in China

Mid September 2018

Medium infestation of pests and diseases on maize so far

Affected area reached 6.2 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.

Mid September in 2018, due to the lower 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 6.2 million hectares.

Content

Review of meteorological conditions

Field temperature in Southern and Northern China are lower than previous years. In mid-September, minimum of the averaged field temperature of the plant areas in China reached 16℃, which was 2.7℃ lower than the same period of previous years.

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 early-mid September, field humility reached a suitable level for pests and diseases development.

Maize armyworm

In Mid 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 central Jilin, southern Heilongjiang, northern Henan and southern Hebei, moderately occurred in northwestern Shandong, central Shaanxi, and southern Liaoning, while slightly occurred in southern Shanxi，northern Hunan and central Xinjiang.

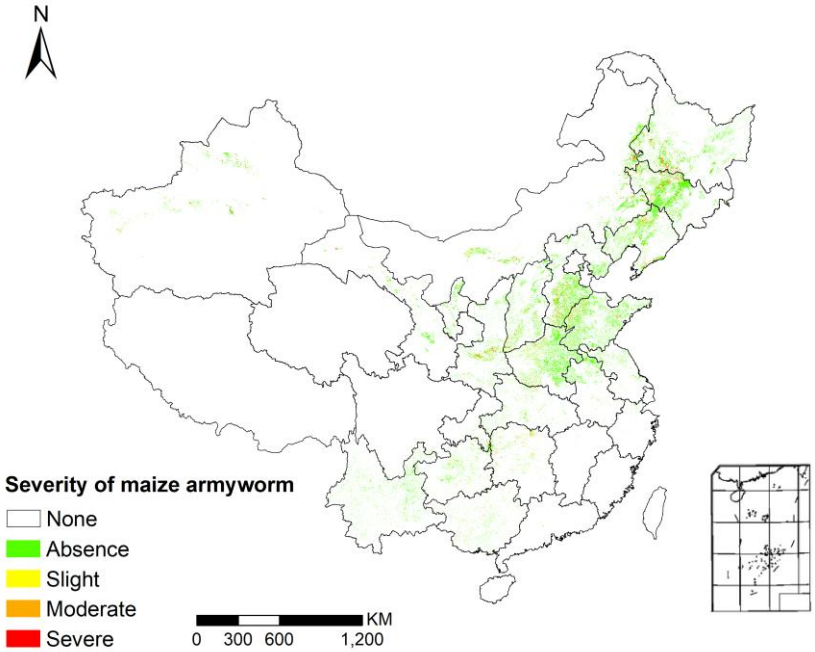

Figure 1 *Spatial distribution of maize armyworm in China (mid September 2018)*

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

Region	Area / Thousand hectare					
	Absence	Slight	Moderate	Severe	Total area	Occurrence ratio/%
Northeast China	9620.7	531.3	566.0	414.7	11132.7	14
North China	4405.3	300.0	232.0	162.0	5099.3	14
East China	4229.3	200.0	120.0	80.0	4629.3	9
South China	544.7	32.0	19.3	12.7	608.7	11
Central China	3886.0	302.7	92.0	47.3	4328.0	10
Northwest China	2906.7	180.0	162.0	117.3	3366.0	14
Southwest China	2372.0	232.7	80.0	44.0	2728.7	13
Total	**27964.7**	**1778.7**	**1271.3**	**878.0**	**31892.7**	**12**

Maize northern leaf blight

In mid September 2018, the occurrence of maize northern leaf blight reached 2.3 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 maize northern leaf blight severely occurred in central Jilin, southern Heilongjiang and western Shandong, moderately occurred in northern Liaoning, southern Hebei, while slightly occurred in central Inner Mongolia, northern Henan, and southern Shanxi.

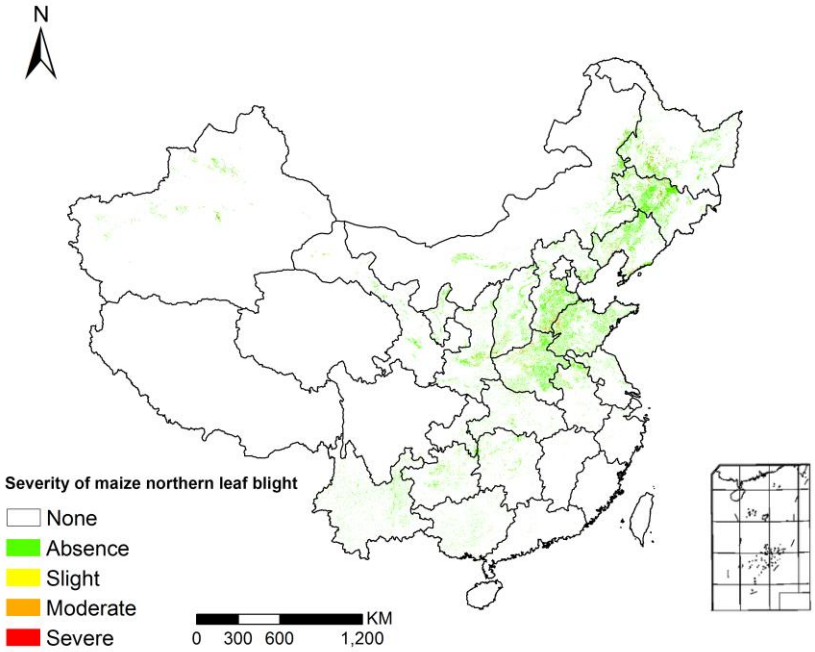

Figure 2 *Spatial distribution of maize northern leaf blight in China (mid September 2018)*

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

Region	Area / Thousand hectare					
	Absence	Slight	Moderate	Severe	Total area	Occurrence ratio/%
Northeast China	10335.3	282.7	297.4	217.3	11132.7	7
North China	4709.3	168.7	130.0	91.3	5099.3	8
East China	4282.0	174.0	104.0	69.3	4629.3	8
South China	571.3	18.7	11.3	7.3	608.6	6
Central China	4013.3	216.8	64.7	33.3	4328.1	7
Northwest China	3122.7	96.0	86.0	61.3	3366.0	7
Southwest China	2551.4	116.0	39.3	22.0	2728.7	6
Total	**29585.3**	**1072.9**	**732.7**	**501.8**	**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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