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Crop pests and diseases monitoring and forecasting in China

Late May 2018

Minor infestation of pests and diseases on wheat so far

Affected area reached 7.0 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.

In late May 2018, the wheat in southern China are during the mature stage, due to the lower temperature and higher precipitation than previous years, pest and disease are slightly occurred in winter wheat regions of China. The total area affected by wheat yellow rust (*cerealis*) and aphids (*Sitobion avenae* & (*Puccinia*

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striiformis), sheath blight (*Rhizotonia Rhopalosiphum padi*) has reached 7.0 million hectares.

Review of meteorological conditions

Field temperature is lower than previous years. In late-May 2018, maximum of the averaged field temperature of the plant areas in China reached 22.7 °C, and in part of the northern area reached 20.4 °C.

Precipitation is higher than previous years. According to the rainfall in north and northwest of China, field humility reached a suitable level for pests and diseases development.

Wheat yellow rust

In late May 2018, the occurrence of yellow rust reached 0.5 million hectares, with the disease mainly occurred in central and northwest of China. The specific distributions and severities are shown in Figure 1 and Table

1.

Specifically, the yellow rust severely occurred in southern Shaanxi, moderately occurred in northern Henan, while slightly occurred in eastern Gansu.

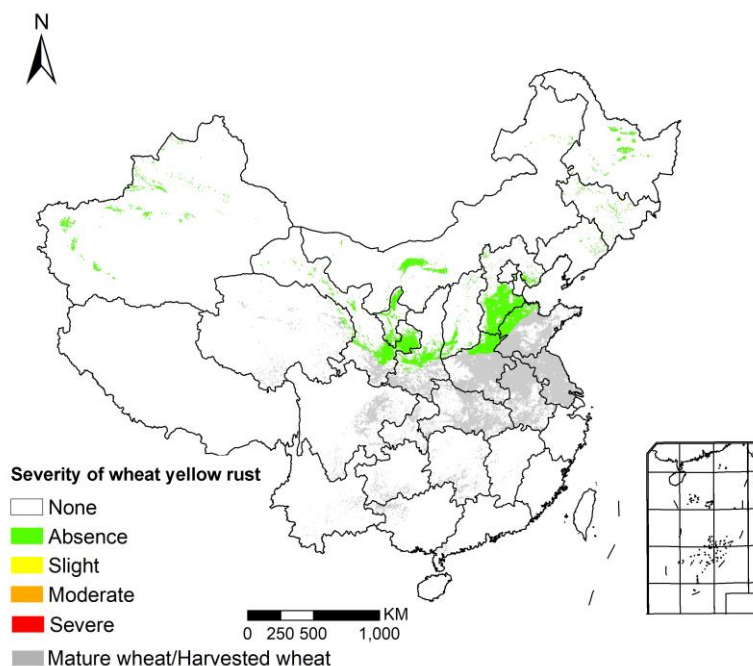


Figure 1 Spatial distribution of wheat yellow rust in China (late May 2018)

Table 1 Statistics of wheat yellow rust in China (late May 2018)

Region	Area / Thousand hectare					Occurrence ratio/%
	Absence	Slight	Moderate	Severe	Total area	
Northeast China	84.0	0.7	0.6	0	85.3	2
North China	2275.3	52.7	32.0	20.7	2380.7	4
East China	1797.3	65.3	24.0	13.3	1900.0	5
Central China	1619.3	28.0	36.7	27.3	1711.3	5
Northwest China	2558.8	44.6	60.0	44.7	2708.0	6
Total	8334.7	191.3	153.3	106.0	8785.3	5

Wheat sheath blight

In late May 2018, the occurrence of sheath blight reached 3.1 million hectares, with the disease mainly occurred in north and northwest of China. The specific distributions and severities are shown in Figure 2 and Table

2.

Specifically, the sheath blight severely occurred in Henan, and Shandong; moderately occurred in Gansu, Shaanxi, and Hebei; while slightly occurred in Inner Mongolia, and Shanxi.

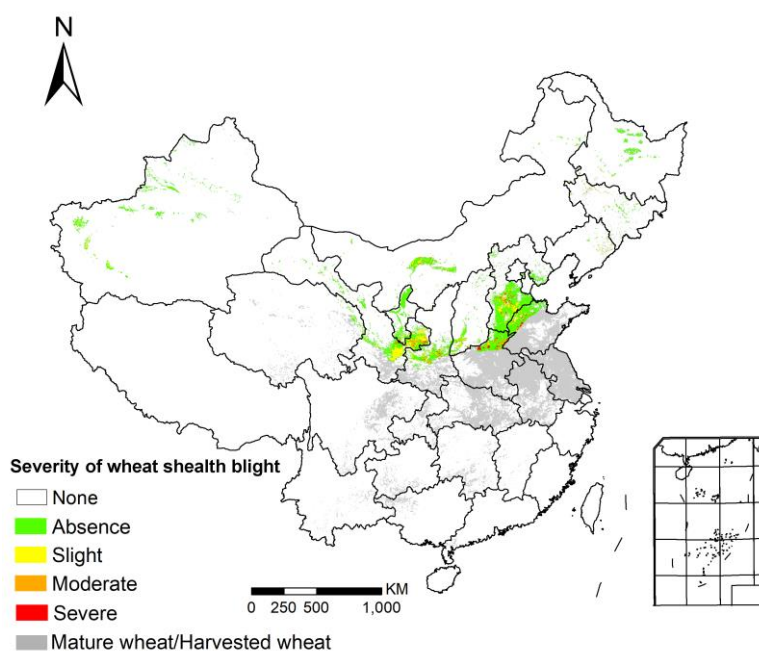


Figure 2 Spatial distribution of wheat sheath blight in China (late May 2018)

Table 2 Statistics of wheat sheath blight in China (late May 2018)

Region	Area / Thousand hectare				Total area	Occurrence ratio/%
	Absence	Slight	Moderate	Severe		
Northeast China	74.0	8.0	2.0	1.3	85.3	13
North China	1608.7	543.4	154.0	74.6	2380.7	32
East China	1210.0	230.7	264.0	195.3	1900.0	36
Central China	1087.3	314.6	186.0	123.4	1711.3	36
Northwest China	1692.7	677.3	220.7	117.3	2708	37
Total	5672.7	1774.0	826.7	511.9	8785.3	35

Wheat aphid

In late May 2018, the occurrence of aphid reached 3.4 million hectares, mainly occurred in east and northwest of China. The specific distributions and severities are shown in Figure 3 and Table 3.

Specifically, the aphid severely occurred in Gansu, and Shaanxi; moderately occurred in Henan and Shanxi; while slightly occurred in Shandong, Hebei and Inner Mongolia.

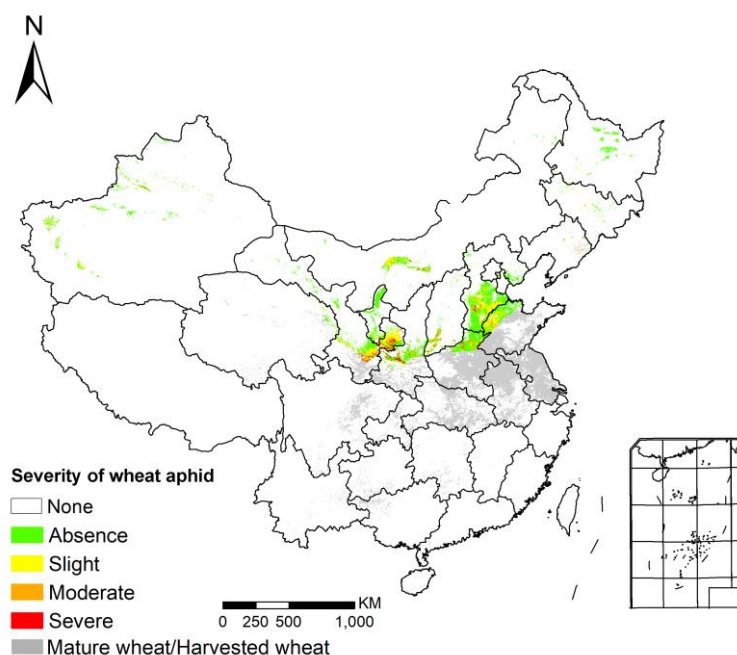


Figure 3 Spatial distribution of wheat aphid in China (late May 2018)

Table 3 Statistics of wheat aphid in China (late May 2018)

Region	Area / Thousand hectare				Total area	Occurrence ratio/%
	Absence	Slight	Moderate	Severe		
Northeast China	74.7	7.3	2.0	1.3	85.3	13
North China	1503.3	536.0	214.7	126.7	2380.7	37
East China	1136.0	366.0	237.3	160.7	1900.0	40
Central China	1026.0	210.0	272.0	203.3	1711.3	40
Northwest China	1606.7	508.0	352.0	241.3	2708.0	41
Total	5346.7	1627.3	1078.0	733.3	8785.3	39

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The crop pests and diseases monitoring and forecasting system are available under:

<http://www.rscropmap.com/>

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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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