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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 15803-2026

Replacing GB/T 15803-2007

**Technical specification for the monitoring and forecasting of
the oriental migratory locust (*Locusta migratoria manilensis*)**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 15803-2007 "Technical Specification for Monitoring and Forecasting of Locusts in East Asia". Compared with GB/T 15803-2007, the main differences are in the structural design. Aside from integration and editorial changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the.2007 edition);
- b) Added the terms "locust nymphs," "summer locust remnants," "autumn locust remnants," "core locust area," "census," and "area meeting standards," along with their definitions (see 3.1, 3.4,...). 3.5, 3.7, 3.11, 3.14);
- c) The definitions of the terms "summer locust", "autumn locust", "locust area", "general locust area", "monitored locust area", "occurrence area", and "suitable area for locusts" have been changed (see...). 3.2, 3.3, 3.6, 3.8, 3.9, 3.12, 3.13 (and 2.4, 2.5, 2.1, 2.17, 2.18, 2.10, 2.9 of the.2007 edition);
- d) The terms "locust infestation survey", "female locust rate", "egg-laying female locust rate", "occurrence period", "surface area of locust remnants", "locust nymph density", and "average density of locust nymphs" have been deleted. "Locust control measures" and "key locust-prone areas" and their definitions (see sections 2.3, 2.6, 2.7, 2.8, 2.11, 2.12, 2.13, and 2.16 of the.2007 edition);
- e) The number of locust egg sampling points for each locust type in the locust-producing area has been increased (see 4.1);

- f) The development progress of overwintering locust eggs has been removed (see 3.1.3 in the 2007 edition);
- g) The time frame for the excavation period survey has been changed, and the survey frequency requirements have been changed (see 4.2.1, 3.2.1 in the 2007 version);
- h) The number of locust nymph sampling points in each locust area has been changed (see 4.2.3,

1 Scope

GB/T 15803-2026 is the Chinese national standard covering watching for locusts - the survey of the breeding areas, the density at which solitary insects begin to band and swarm, and the forecast that decides whether a control operation is mounted. China runs a national pest forecasting network, and standards like this one are what make a report from one county comparable with a report from another. The document fixes the survey design and timing, the sampling and counting, the records and the forecast issued from them. It replaces GB/T 15803-2007 and has been in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, replacing GB/T 15803-2007. The document is under the responsibility of the Ministry of Agriculture and Rural Affairs. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document defines the relevant terms and definitions for the East Asian migratory locust, specifies the grading indicators for its occurrence severity, and describes the locust infestation survey and occurrence prediction. Methods such as measurement and information reporting. This document applies to the monitoring and surveying of East Asian migratory locust populations.

4 Locust Infestation Survey

4.1 Ovulation period survey Starting in late March, eggs were randomly collected from different plots within the locust-infested area every 10 days, for a total of three rounds. The number of samples collected each time was combined with... Based on local conditions, the reference number of sampling points for different types of locust areas is shown in Table

1. Each sampling point covers 1 m², with a 10 cm soil layer excavated, and the data are statistically analyzed. Total number of egg masses and total number of eggs within the sampling point. Randomly select 5 to 10 egg masses each time (if the number of egg masses is less than 5, all eggs must be investigated), and observe each egg individually. The survival status of the eggs was analyzed and recorded, including causes of death such

as shriveling, mold, parasitism, and insect bites. The number of dead eggs was counted. The average number of eggs per cluster was calculated. Average locust egg density, highest locust egg density, and overwintering mortality rate of locust eggs. The survey results were recorded in the East Asian migratory locust egg-laying period survey record table (according to Appendix A). Table A.1).

4.2 Locust nymph stage survey

4.2.1 Investigation of the Excavation Period From mid-April to early May, in sheltered, sunny, high-slope areas where locust eggs are concentrated, surveys are conducted every 5 days. When first-instar locusts are found... The emergence of summer locusts coincides with the nymphal stage. Ten days after the conclusion of the survey of remaining summer locusts, areas where adult summer locusts appeared earlier were selected, and surveys were conducted every 5 days. When the locust nymphs reach their first instar, it marks the emergence period of the autumn locusts. The survey results are recorded in the East Asian migratory locust nymph development progress survey record table (see Table A.2).

4.2.2 Systematic Survey of Developmental Progress Select representative locust areas with different ecological environments, and conduct surveys every 5 days from 10 days after the locust nymphs emerge from the soil until the peak of molting. Ten random sampling points were taken from each type of locust area, with each point covering an area of at least 1 square meter. Locusts were captured from each sampling point (when the total number captured was less than 100). (The number of sampling points should be appropriately increased). Based on the morphological characteristics of locust nymphs at different stages (see Appendix B), the number of locust nymphs at each age should be counted, and the survey results should be recorded in the East Asian... Record of locust nymph development progress (see Table A.2).

4.2.3 Survey of Occurring Area and Density During the peak period of third-instar locust nymph occurrence, a general survey was conducted before implementing control measures. The number of sampling points for each locust type is shown in Table

2. The survey adopted parallel equalization... Distance sampling method. each point is surveyed within 10m^2 , that is, the number of locusts is visually estimated within a 1m wide area after moving forward 10m, and the total number of locusts in the sampling point is recorded. The number of gregarious locusts and the number of locust swarms were analyzed, and the average density, maximum density, and proportion of gregarious locust nymphs were calculated. Based on the surveyed area, the total area was estimated. The area affected was recorded. The survey results were recorded in the East Asian migratory locust nymph density survey record table (as per Table A.3).

4.3 Adult Stage Survey The investigation of adult locusts focuses on the affected area and density, and the male-to-female ratio of summer (autumn) locusts. This includes the peak egg-laying periods of both summer and autumn adult locusts. One general survey was

conducted. The sampling method was the same as for the locust nymph density survey. Each sampling point covered 666 m² (i.e., a walking distance of 222 m and an estimated visual width of 3

m) of East Asian locust population. The number of adult locusts was determined, and the area affected by locust remnants in the local area was estimated. At the same time, at least 50 adult locusts were randomly selected, and the number of female locusts was counted. The average density of the remaining locusts was calculated. Degree, highest density, and male-to-female ratio. The survey results should be recorded in the East Asian migratory locust residual locust density survey record table (as per Table A.4).

5 Occurrence Prediction

5.1 Prediction of Occurrence Period Based on local climate conditions, the effective accumulated temperature method (see Appendix C for effective accumulated temperature of each age of the East Asian migratory locust) was used to calculate the developmental stage according to formula (2). The number of days is used to predict the peak period of the 3rd instar locust nymphs.

5.2 Prediction of Occurrence Area Based on the spring locust egg survey and the area and distribution of residual locusts from summer (autumn), combined with the environmental conditions in the locust-affected areas, the affected area and the area meeting the standards were determined. Accumulation and prediction of the main occurrence areas.

5.3 Prediction of Occurrence Based on the predicted density and affected area, combined with the suitable area for locust infestation, an occurrence index is calculated and compared with the grading index for the occurrence severity of the Oriental migratory locust. (Table 3) Predict the degree of occurrence.

6 Data compilation and reporting

6.1 Statistical Table of Occurrences The occurrence of the East Asian migratory locust was summarized and statistically analyzed for the year. Data was compiled and information was recorded for the summer locust, autumn locust, and the actual occurrence of the East Asian migratory locust throughout the year. The statistical tables (as per Tables D.1 to D.3 in Appendix D) shall be submitted within the prescribed time.

6.2 Annual Trend Forecast Table Based on the survey results of locust remnants from last autumn and this summer, data was compiled, and a forecast of the current year's occurrence trend was made. The East Asian locust population was then recorded. The locust occurrence forecast tables for summer and autumn (as per Tables D.4 and D.5) should be submitted at the prescribed time.

6.3 Trend Forecast Table for the Following Year Based on the actual occurrence of the East Asian migratory locust and the results of the autumn locust survey, data was compiled, and