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

SN/T 1264-2020

Replacing SN/T 1264-2003

**Quarantine and identification methods for boll elephants in
Mexico**

墨西哥棉铃象检疫鉴定方法
(English Translation)

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Foreword

This document is drafted in accordance with GB/T 1.1-2020.

This document replaces SN/T 1264-2003 "Mexican Boll Elephant Identification Method".

Compared with SN/T 1264-2003, the main technical changes of this document are as follows except for editorial changes.

-Added detailed identification feature descriptions of subfamily, morphological feature differences and feature maps of similar species;

-Deleted the introduction, some common terms and definitions, some instruments and reagents, sample preparation and storage.

This document was proposed and managed by the General Administration of Customs of the People's Republic of China.

Drafting organizations of this document. Chinese Academy of Inspection and Quarantine, Changchun Customs, People's Republic of China, Xi'an, People's Republic of China customs.

1 Scope

This document stipulates the basic information, identification methods, of identification of the Mexican boll elephant *Anthonomus grandis* Boheman in phytosanitary conditions.

Methods of equipment and reagents, testing, experimental identification, result determination and specimen retention.

This document is applicable to the quarantine and identification of Mexican boll elephants in plant quarantine.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

The following terms and definitions apply to this document.

Beak rostrum

For any extended mouthparts or front extensions of the head, the beak of a weevil is formed by extending the forehead forward.

Antennal groove scrobe the antennal groove is located in the beak, it is the groove that accommodates the antennal shank.

Stria

The row pattern is the longitudinally arranged grooves on the back of the elytra, including rows of engraved dots. Under normal conditions, an elytra has 10 lines, Starting from the elytra seam, mark the lines 1~10.

Interval between lines the area between every two rows of elytra is the inter-row. Under normal circumstances, an elytra has 11 rows, starting from the elytra slit, Mark the lines as 1~11.

Pygidium

Expose the somites outside the elytra, you can see the dorsal plate of the abdomen.

Spermatheca

The spermatheca is a part of the female genitalia, a cyst-like structure used to receive sperm during mating.

4 Basic information

The basic information of the Mexican boll elephant is as follows.

Scientific name. *Anthonomus grandis* Boheman English name. Cotton boll weevil Mexican boll weevil belongs to Coleoptera, Curculionidae, Curculioninae, Anthonomus.

The similar species is *Anthonomus quadrigibbus* Say, both of which have important quarantine significance.

See Appendix A for other relevant information about the Mexican boll elephant.

5 Identification method

Observed with a stereo microscope, the external morphological characteristics of adults are the main basis for the identification of this standard. When the larvae are obtained, feed After adulthood, further identification will be done.

6.1 Equipment

Stereo microscope, light incubator, forceps, dissecting scissors, dissecting needle, sealing bag, petri dish, absorbent paper, small brush, Finger tube.

6.2 Reagents

10% sodium hydroxide (NaOH), absolute ethanol, 75% ethanol, larval preservation solution (75% ethanol. glycerol=100.0.5~1).

7 Detection

Seed cotton and cottonseed carry the risk of spreading this insect. At the quarantine site, imported cottonseeds and seed cotton should be strictly inspected.

For the epidemic, the quantity must be strictly controlled, and the shipper must issue an official fumigation certificate to ensure that no live insects exist. In the import inspection, if a livelihood is found Insects should be exterminated. Although lint is less likely to carry insects, it must be tested to prevent it from being mixed with insect-carrying cottonseeds. test If cottonseeds are found in the middle, they must also be fumigated; check the inside and outside, the upper and lower walls, the corners of the gaps, and packaging, bedding, residues and other places where pests may hide; goods stored in warehouses or other places should be checked Whether there are traces of pests and pest activities on the surface of the stack, the corners of the stack, the outside of the package, the corners of the bag, and the surrounding environment. If larvae are found, send them together the master puts it in the sealed bag together. Place it in a petri dish, sealed bag with a label or number, and record the time, location, host, type of goods, Detailed information from country or

region, inspector, etc.

8.1 Feeding

When the insects are larvae, they need to be raised as adults. Put the insect-carrying host in the insect-raising box, keep the temperature at 25°C~30°C, relatively wet Degree 70%~90%. The gauze gate of the insect breeding box prevents adult insects from escaping.

8.2 The distinguishing characteristics of adults of the subfamily Weevil They are small to medium-sized, mostly sturdy, with the front and back ends of the shoulders shrunk into a diamond shape, and the body is covered with scales of different colors and shapes.

The antennae are slender, mostly located in the middle of the beak, inserted in the middle of the antennal groove, and the stalk usually does not exceed the front edge of the eye, and is rod-ovate. The eyes are usually large, Facing forward, round or long oval. Forehead width is smaller than eye width. The beak is usually slender, curved and cylindrical. Some groups of females have much longer beaks than males, Some are longer than body length. The beak surface has no bristles or only sparse bristles, unevenly distributed. The base of the antennal groove is located on both sides of the beak, from the back Invisible. The head is small, hemispherical, the front chin is not enlarged to cover the lower jaw, and the lower jaw is visible on all sides of the chin. The upper jaw is located on the back of the beak, Up and down activities. The posterior side panels of the mid-chest do not rise and are not visible from the back. The tibia has no spines, and the top comb-shaped bristles are transversely perpendicular to the tibial axis.

Larvae are parasitic in various environments, such as living plant tissues including stems, leaves, flower buds, fruits and seeds, the length of the beak and the size of the damaged fruit Size related.

8.3 Distinguishing characteristics of adults of the genus Weevil

The jaw moves vertically; the beak is usually slender and long; the eyes are on the side, not protruding from the surface of the head, and the ventral surface of the head is separated from the eyes; no prothorax Ventral groove; antennae cords 7 segments; lateral edge of elytra is straight or slightly curved at base segment of hindfoot; elytra is obtuse at base posterior, not facing the front protrudes below the corner of the pronotum; the back side panel has a small notch on both sides of the end of the dorsal corner; the top of the pronotum is slightly concave or not, the depression is at least as long as the base segment; the tibia is slender; the base of the tarsal claw is separated, with teeth (with base protrusions or teeth). This genus has important quarantine the two species of significance are the Mexican boll elephant *Anthonomus grandis* Boheman and its similar species, the apple flower elephant *Anthonomus Quadrigibbus* Say, see Appendix B for the main morphological differences between the two, and Appendix C for the morphological feature diagram.