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

SN/T 4078-2020

Replacing SN/T 4078-2014

Technical specifications for quarantine of beetles in hive

蜂房小甲虫检疫技术规范

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Overview
5.1 Preparation of sampling tools and protective equipment
5.2 Sampling inspection ratio
5.3 Inspection method
6 Laboratory identification
6.1 Reagents and materials
6.2 Apparatus and equipment
6.3 Test procedure
6.4 Inspection method
6.5 Morphological identification
7 Results judgment

Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020.

This document replaces SN/T 4078-2014 "Technical Specifications for the Quarantine of Beetle Beetles".

Compared with SN/T 4078-2014, the main technical changes of this document are.

- Increase the quarantine method for hive beetles in bee products;
- Added the description of typical morphological characteristics of honeybee beetle adults;
- Modified and supplemented the figure of adult morphological characteristics of honeybee beetles in Appendix A.

This document refers to the "Terrestrial Animal Diagnostic Test and Vaccine Standard Manual" (2017 edition) developed by the World Organization for Animal Health (OIE) in Chapter 2.2.5, the quarantine and identification methods of beetles in the hive, the degree of consistency is this document was proposed and managed by the General Administration of Customs of the People's Republic of China.

Drafting organization of this document. Wuhan Customs of the People's Republic of China.

1 Scope

This document provides an overview of the hive beetle, on-site quarantine, laboratory identification and results determination methods.

This document is applicable to the quarantine of hive beetles and the identification of hive beetles in bee products.

2 Normative references

The contents of the following documents constitute an indispensable clause of this document through normative references in the text. Among them, dated quotations Only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable Used in this document.

GB/T 18088 Entry and Exit Animal Quarantine Sampling

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4 Overview

Small hive beetle (SHB, Latin name *Aethina tumida* Murray) is parasitic in the hive A scavenger beetle, belonging to Coleoptera (Coleoptera), Nitidulidae (Nitidulidae). The adult and the small beetle of the hive the larvae feed on honey and pollen in the hive. Honey that beetles have eaten is watery and fermented, while adult beetles like to eat bee eggs and larvae.

Seriously endanger the fecundity of the bee colony, destroy the comb and spleen, cause the bee colony to collapse, flee, or even die, and affect the quality of honey and provide nourishment.

The apiculture has brought huge losses.

The small hive beetle first appeared in some countries in southern Africa, and it did little harm to the local bee colony.

A weak bee colony, a strong African colony can prevent small beetles from breeding in the colony. The removal of beetles by European honeybees is not as strong as that of African honeybees.

Small beetles are far more harmful to European bees than African colonies.

See Appendix A for specific information on the epidemiological characteristics and

morphological description of beetle disease.

5 On-site quarantine

5.1 Preparation of sampling tools and protective equipment

Protective clothing, sterile gloves, disposable masks, hats and other protective equipment, magnifying glass, sterilized jars, sterilized tweezers.

5.2 Sampling inspection ratio

Seed bees. no less than 20%~50% of the total number of bees; production bees. no less than 15%~20% under 100 groups, no less than 101~200 groups 10~15%, no less than 10% for.201~300 groups, no less than 5%~10% for more than 300 groups. The sampling rate is in accordance with GB/T 18088.

5.3 Inspection method

5.3.1

Pay attention to personal protection when collecting on-site quarantine samples and wear protective clothing and other protective equipment. Pay attention to the bees before the colony quarantine Whether there are abnormal sick and dead bees around the box, then according to the sampling ratio, the bee colony is randomly determined to check (or group by group) for careful inspection.

5.3.2

Open the cover of the beehive and observe the corners of the beehive, the middle of the upper beam and the wall of the beehive, and under the debris of the opened nest or bottom plate.

Surface, observe for the presence of beetles or their larvae. Then grasp the upper corner of the nest frame and shake the spleen, gently shake off half or three-quarters of the bees Take out the nest frame and observe whether there are beetles or larvae at the bottom of the beehive. Spread paper or wooden boards on a flat ground not far from the beehive.

Place the nest spleen horizontally on top of it, erect the nest frame, tap the nest spleen lightly, and carefully observe the residue that shakes off it. If a bee is found Small house beetles or other similar beetles, put them in a sterilized jar, affix a label and send them to the laboratory for quarantine and identification.

6.1 Reagents and materials

6.1.1

Magnifying glass (5~10 times).

6.1.2

Dissecting needles.

6.1.3

Small camel brush.

6.1.4

Slides and cover glasses.

6.1.5

Screen (aperture of 0.250 mm).

6.1.6 30% glycerin solution.

6.2 Apparatus and equipment

6.2.1

Microscope.

6.2.2

Stereo microscope.

6.3.1 Direct inspection of samples

For samples with high transparency such as honey, royal jelly, etc., first check whether there is a black suspected beetle suspended in the entire sample.

Or other colored dots and particles, directly use a straw to take out for inspection. See 6.4 for inspection methods.

6.3.2 Sample preparation

For uncrystallized samples, stir them evenly. Samples with poor transparency caused by crystallization should be kept in a closed condition.

In a water bath over 60°C, shake thoroughly until the sample is completely melted and mixed, and cool to room temperature for inspection. Weigh the honey sample for 100 g, add 100 mL of distilled water at 40°C to melt and dilute the honey.

6.3.3 Filtration of samples

The sample is slowly poured through a sieve with an aperture of 0.250 mm, and the retained components are washed twice with distilled water to make the retained components it is evenly distributed on the filter screen without overlapping.