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

SN/T 5184-2020

Technical specifications for avian paratyphoid quarantine

禽副伤寒检疫技术规范

(English Translation)

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 Biosecurity measures
- 5 Diagnostic technology
 - 5.1 Clinical diagnosis
 - 5.2 Pathological diagnosis
 - 5.3 Isolation and identification of pathogens
 - 5.4 Slide agglutination test

Foreword

This document is compiled in accordance with the rules given in GB/T 1.1- 2 009.

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

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

1 Scope

This document specifies the clinical diagnosis, pathological diagnosis, pathogen isolation and identification technology, slide agglutination test and polymerization of avian paratyphoid fever.

Enzyme chain reaction (PCR method).

This document is applicable to the on-site diagnosis and laboratory diagnosis of paratyphoid in live chickens or free-range chickens and poultry.

2 Normative references

The contents of the following documents constitute the indispensable clauses 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 6682 Analytical laboratory water specifications and test methods GB 19489
Laboratory Biosafety General Requirements

3 Terms and definitions

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

4 Biosecurity measures

The experimental operation and protection requirements involved in the sample collection, sample processing and inspection process should meet the requirements of GB 19489.

5.1 Clinical diagnosis

Chicks with paratyphoid fever are mainly of acute septicemia, and they often die soon after hatching. No obvious symptoms are seen. Chicks are about 10 days old.

After the onset of illness, mental fatigue, fear of cold, drooping head and wings, loose feathers, like crowding in warm places, loss of appetite, polydipsia, Diarrhea, watery and thin feces are discharged, and the area around the anus is often contaminated by thin feces. Some have ophthalmia, blindness, and some have difficulty breathing. Often Death within 1 to 2 days, the mortality rate is 10% to 80%.

Adult chickens usually do not show symptoms after infection and become chronic carriers. The intestinal bacteria can be carried for 9 to 16 months. After adult chicken infection Anorexia, diarrhea, dehydration, general weakness, drooping wings and loose feathers, the mortality rate is about 10%, most of which can recover in a short period of time.

5.2 Pathological diagnosis

At necropsy, the most acute lesions are often insignificant, only the liver is congested and enlarged, the gallbladder is dilated and filled with bile. Sick chicken with a longer course After death, symptoms of weight loss, water loss, and coagulation of yolk appear. The liver and spleen have congestion, bleeding streaks, or large gray-white necrotic spots on the needle tip.

Kidney congestion. There is pericarditis, the pericardial fluid increases and contains fibrinous exudate. The small intestine has hemorrhagic inflammation, especially the duodenum is the most serious.

The cecum is dilated, and the intestinal cavity is sometimes blocked by light yellow or white cheese-like substances. Young chicks less than 10 days old often have pneumonia lesions.

5.3.1 Reagents and materials

5.3.1.1

Non-selective enrichment solution. buffered peptone water (BP), see A.1.

5.3.1.2

Selective enrichment solution. Selenite cystine enrichment solution (SC), sodium tetrathiosulfonate brilliant green enrichment medium (TTB), RVS large Rappaport-Vassiliadis soya peptone broth, see A.2~A.4.

5.3.1.3

Non-selective agar plates. blood agar plates, nutrient agar plates, see A.5~A.6.

5.3.1.4

Selective agar plates. Bismuth sulfite agar (BS), cholestire agar (DHL), HE agar (Hektoen Enteric Agar), Xylose Lysine Deoxycholate Agar (XLD), Salmonella chromogenic medium, see A.7~A.11.

5.3.1.5

Biochemical identification reagents. triose iron agar, lysine decarboxylase medium, ornithine decarboxylase medium, urease medium, for semi-solid agar, sugar fermentation tube, micro biochemical tube, biochemical identification kit or reagent strip, see A.12~A17.

5.3.1.6

Diagnostic serum. AF multivalent O serum, O9 factor serum, O12 factor serum, Ha factor serum, Hd factor serum, Hg.m factor serum and Hg.p factor serum.

5.3.1.7

Distilled water. The distilled water used to prepare the culture medium and reagents shall meet the requirements of GB/T 6682 secondary water.

5.3.2 Equipment and equipment

5.3.2.1

Biological safety cabinet.

5.3.2.2

Fully automatic microbial identification system.

5.3.2.3

Constant temperature incubator. 25 °C ±1 °C, 30 °C ±1 °C, 35 °C ±1 °C.

5.3.2.4

Constant temperature water bath. $46\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$.

5.3.2.5

Homogenizer or sterilized mortar.

5.3.2.6

Microscope. 10x~100x.

5.3.2.7

Inoculation loop and inoculation needle.

5.3.2.8

Erlenmeyer flask.

5.3.2.9

Sterilized test tube. 18 mm~180 mm.

5.3.2.10

Sterilized straws. 10 mL (scale accuracy of 0.1 mL) and 1 mL (scale accuracy of 0.01 mL).

5.3.2.11

Sterilized measuring cylinder. The capacity is 100 mL and 250 mL.

5.3.2.12

Sterilized petri dishes. 90 mm to 100 mm in diameter.

5.3.2.13

Adjustable micropipette or pipette. 10 μL ~200 μL , 50 μL ~1 000 μL and pipette tip.

5.3.3.1 Cloaca and fresh fecal swab

After the swab is directly streaked and inoculated on the selective medium plate, the plate is placed at $36\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ for 24 h, and suspicious colonies are picked for identification; at the same time, place the streaked cotton swabs in selective enrichment solution, culture for 24 h and 48 h, and transfer to selective agar plates on. The agar plate was cultured for 24 hours, and suspicious colonies were directly picked for identification.

5.3.3.2 Gallbladder contents

Swab the contents of the gallbladder on non-selective and selective agar plates. At the same time, place the swabs separately in non-selective and selective Culture for 24 h and 48 h in the sex enrichment solution, then streak and transfer to selective agar plates.