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GAIN Report

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National Food Safety Standard on Honey (draft)

Report Categories:

FAIRS Subject Report

Approved By:

Scott Sindelar

Prepared By:

Melinda Meador and Wu Bugang

Report Highlights:

On May 10, 2011, China's Ministry of Health notified to the WTO the National Food Safety Standard on Honey (draft) as G/SPS/N/CHN/362 to solicit comments until May 18, 2011. This report contains an unofficial translation of the draft standard.

General Information:

BEGIN TRANSLATION

National Food Safety Standard
Honey

GB14963-xxxx

Issue date:

Adoption date:

Issued by the Ministry of Health

Foreword

This standard replaces GB 14963-2003, the Hygienic Standard for Honey as well as some of the indexes in GB 18796-2005, Honey; in case any index in GB 18796-2005, Honey referred to in this standard, the indexes in this standard shall prevail.

This standard contains the following major modifications on the basis of GB 14963-2003:

—Modifies the scope of the standard;

—Adds the definition for honey;

—Modifies the requirements on raw materials into the requirements on honey sources; and clarifies the varieties and names of the major poisonous honey plants;

—Modifies the organoleptic requirements;

—Modifies the physical and chemical indexes;

—Adds the requirements on the maximum limit of pollutants, the maximum limit of veterinary drug residue and the maximum limit of pesticide residue;

—Adds the requirements on the counting of osmophilic yeast

National Food Safety Standard

Honey

1. Scope

This standard applies to honey but not to the products of honey.

2. Terms and Definitions

Honey

Honey is a natural sweet substance made through fully brewing when the nectar, secretion and sweet deposits from plants are gathered, mixed with the secretion of their own, modified and stored in the honeycomb by honey bees.

3. Technical requirements

3.1 Requirements on honey source

The nectar, secretion and sweet deposits gathered by the honey bees from the plants shall be safe and innocuous and shall not be derived from the plants with nocuous honey sources such as Tripterygium wilfordii Hook.F, Macleaya cordata (Willd.) R.Br and Stellera chamaejasme chamaejasme L.

3.2 Organoleptic Requirement

Depending on the honey sources, the color and luster of the honey shall vary from water-white (nearly achromatic color) to dust-color with unique savor free from extraneous odor, taking the shape of viscous fluid at normal temperatures, or crystallized in full or in part and shall not contain the limbs or larva of the honey bees or the pieces of wax or any macroscopical impurities (excluding wax comb honey).

3.3 Physical and Chemical Indexes

The physical and chemical indexes specified in Table 1 shall be satisfied.

Table 1 Physical and Chemical Indexes

Item	Index	Testing methods
Fructose and /dextrose (g/100 g)≧	60	GB/T 18932.22
Cane sugar/(g/100 g) Eucalyptus *honey*, citrus honey, clover *honey* Lychee honey Wild osmanthus *honey* ≦ Other honeys ≦	10 5	
Zn/(mg/kg) ≦	25	GB/T 5009.14

3.4 Maximum Limit to Pollutants

The maximum limit of pollutants shall comply with the provisions in GB 2762.

3.5 The maximum limit of veterinary drug residues and the maximum limit of pesticide residues

3.5.1 The maximum limit of veterinary drug residues

The maximum limit of veterinary drug residues shall comply with the provisions in relevant standards.

3.5.2 The maximum limit to pesticide residues

The maximum limit of pesticide residues shall comply with the provisions in GB 2763.

3.6 Maximum Limit to Microorganism

The maximum limit of microorganisms shall comply with the provisions in Table 2.

Table 2: **Maximum Limit to Microorganism**

Item	Index	Testing method[a]
Total number of bacterial colony /(CFU/g) ≦	1000	GB 4789.2
Coliform /(MPN/g) ≦	0.3	GB 4789.3
Mould counting /(CFU/g) ≦	200	GB 4789.15
Osmophilic yeast Counting /(CFU/g) ≦	200	A ppendix A
Salmonella /(/25 g)	No detected	GB 4789.4
Shigella /(/25 g)	No detected	GB/T 4789.5
Staphylococcus aureus /(/25 g)	No detected	GB 4789.10
[a] Analysis and treatment of samples are carried out according to GB 4789.1		

Appendix A

Osmophilic yeast Counting

A. 1 Devices and materials

Other than the devices for routine sterilization and culture in microorganism laboratory, other devices and materials are as follows:

A.1.1 Constant temperature incubator: 25°C±1°C.

A.1.2 Ice box: 2 °C〜5 °C.

A.1.3 Homogenizer and asepsis homogeneous bags, homogeneous cups and sterilization mortar.

A.1.4 Scale with Sensitivity 0.1 g.

A.1.5 Asepsis tube:18 mmx180 mm.

A.1.6 Asepsis sucker: 1 mL (with the gage of 0.01 mL), 10 mL (with the gage of 0.01 mL) or micropipette and the sucking head

A.1.7 Asepsis erlenmeyer flask: 500 mL ，250 mL。

A.1.8 Asepsis petri dish: 90 mm in diameter.

A.1.9 Asepsis L-shape spreading rod: made of the materials of glass, plastics or stainless steel with diameter of the rod less than 2 mm.

A.1.10 Microscope:10x～100x.

A.2 Culture medium and reagent

A.2.1 Dextrose Solution 30%, (pH 6.5±0.5)

A.2.1.1 **Compositions**

Anhydrous dextrose	30.0 g
Distilled water	100 ML

A.2.1.2 Method of preparation

Right amount of dextrose is weighed and dissolved into distilled water; adjust the pH value to about 6.4 if necessary. When sub-packaged, it is autoclaved at 115°C for 20 minutes.

A.2.2 Dichloran, glycerin 18% (DG18) and agar-agar

A.2.2.1 Compositions

Peptone from Casein	5.0 g
Anhydrous dextrose	10.0 g
Ppotassium dihydrogen phosphate	1.0 g
Magnesium sulphate（$MgSO_4 \cdot H_2O$)	0.5 g
Dichloran	0.002 g
Anhydrous glycerol	200 g
Agar	15 g
Chloramphenicol	0.1 g
Distilled water	1000 mL

A.2.2.2 Method of preparation

In addition to Chloramphenicol, all the components are heated to boiling and fully dissolved; **adjust the pH value to about 6.4 if necessary. Add** Antibiotics **into, it is autoclaved** at 121°C for 15 minutes, getting the final pH 5.6±0.2. After sterilization, immediately cool in 44°C～47°C water bath to below 50°C. Inject about 15 mL～20 mL of culture medium into each sterilized Petri dish, place them onto a horizontal table to solidify for use. If necessary, it may be placed into a 36 °C incubator for a night to keep dry and free of water drops on the surface of the agar. Then store away from light.

A.3 Test program

The test program for Osmophilic yeast is shown in Fig A1.

Sample of 25 g+225g Dextrose Solution 30%, fully vibrated and homogenized

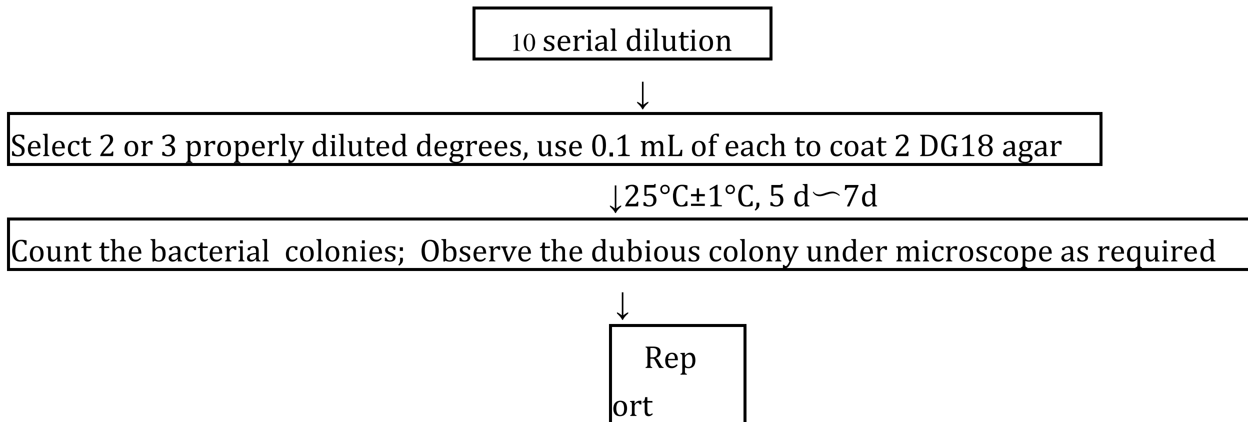

Fig A.1 Diagram for test program for Osmophilic yeast

A.4 Operational procedure

A.4.1 Sample collection and storage

When collected, the sample is required to be tested as soon as possible; if not, an ordinary sample should be kept in the refrigerator at 2°C～5°C and be tested within 24 hours; the frozen sample should be thawed below 45 °C no more than 15 minutes or at 2°C～5°C no more than 18 hours.

A.4.2 Sample dilution

A.4.2.1 Sampling

Weigh 25 g of solid or liquid sample to be tested by a scale under aseptic manipulation; add into 225 g diluent of Dextrose Solution 30%, homogenizing for one minute by a rotating blade homogenizer or slapping for two minutes by a slap type *homogenizer* to prepare into 1:10 homogenized diluent. In case of no homogenizer, put the sample into an asepsis erlenmeyer flask with glass beads, then full vibrate.

A.4.2.2 Gradient dilution

Suck one mL of 1:10 diluent by an asepsis sucker, inject the diluent into a tube with 9 mL of Dextrose Solution 30%, blending by a vortex **shaker to prepare 1:100 diluent. Use another** 1 mL asepsis sucker to prepare the diluent by ten times increment according to the previous manipulation; whenever one time of increment for dilution, change one 1 mL asepsis sucker.

A.4.3 Coating and cultivation

A.4.3.1 On the basis of the estimate of the polluted extent of the samples to be tested, select 2 to 3 series of proper dilution to inoculate 2 DG18 agar plates. When the diluent is fully blended, inoculate the diluent onto the surface of each plate immediately; and then, use asepsis L-shape coating rod to coat the surface of the agar plate thoroughly. It is noted that the bottom end of the coating rod should not touch the edge of Petri dish. While testing the samples, it is required that two DG18 agar plates should be inoculated with 0.1 mL diluent for blank control.

A.4.3.2 After inoculation, it is required to place all the plates inside the 25°C±1°C constant

temperature incubator to cultivate away from light as soon as possible. Don't turn over the Petri dish while cultivating. After 48 hours of cultivation, it is required to begin to observe the growth of the fungi on the plates every day so as to prevent the overspread of mould from covering the target bacterial colonies. The cultivation ends at the seventh day.

A.4.4 Counting of bacterial colonies

A.4.4.1 Select the plates with the number of bacterial colonies from 15 to 150 to count the number of bacterial colonies.

A.4.4.2 Typical Osmophilic yeast is a round bacterial colony with the center uplifting, opaque yet tidy edged, with diameter of 1 mm︷2 mm on the DG18 agar plates. If necessary, use low-power microscope to directly observe whether the bacterial colony growing onto the plates is the targeted bacterial colony or not. In case of interference of mold colony, the counting of filamentous colony should ignore?.

A.4.5Report

The number of the Osmophilic yeast in the samples shall be reported in the unit of CFU /g with reference to the reporting mode as prescribed in GB 47892.

END TRANSLATION