



THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY

Voluntary  Public

**Date:** 1/16/2014  
**GAIN Report Number:** 14004

## **China - Peoples Republic of**

**Post:** Beijing

### **National Food Safety Standard - Honey (Draft for Comments)**

**Report Categories:**

FAIRS Subject Report

**Approved By:**

Michael Riedel

**Prepared By:**

M. Meador and Ma Jie

#### **Report Highlights:**

On December 3, 2013, China notified the WTO of National Food Safety Standard: Honey as SPS/N/CHN/633. This standard applies to direct edible honey and does not apply to honey products. The deadline for submission of final comments to China is February 1, 2014. The proposed date of entry is to be determined.

Comments can be sent to China's SPS Enquiry Point at [sps@aqsiq.gov.cn](mailto:sps@aqsiq.gov.cn).

This report is an INFORMAL translation of this document.

**General Information:**

**BEGIN TRANSLATION**

**National Food Safety Standard Honey  
(Draft for Comments)**

**Foreword**

This standard replaces the National Food Safety Standard-Honey (GB14963-2011).

This standard contains the following major modifications on the basis of the GB 14963-2011:

- Modifying the scope of the standard;
- Modifying the requirements on the honey source;
- Modifying the sensory requirements;
- Adding the physical and chemical indexes of “moisture limit”;
- Deleting the physical and chemical indexes of “zinc” limit;
- Deleting the micro-biotic indexes of “counting of osmophilic yeast” and the “pathogen limit”;
- Adding the hygiene requirements for the production process;
- Deleting the “Normative Annex A - Counting of Osmophilic Yeast”; adding the “Normative Annex A- Method for the Determination of Color” and the “Normative Annex B - Method for the Determination of Moisture”.

# **National Food Safety Standard**

## **Honey**

### **1. Scope**

This standard applies to honey directly for consumption, but not to the products of honey.

### **2. Terms and Definitions**

#### **2.1. Honey**

Honey is a natural sweet substance produced 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 the nectar sources**

The plants, which are the source of nectar gathered by the honey bees shall be safe and innocuous; they shall not be derived from the plants with noxious honey sources.

#### **3.2. Sensory Requirements**

The sensory requirements shall comply with the provisions in the Table 1.

**Table 1 Sensory Requirements**

| Item              | Requirements   | Testing methods   |
|-------------------|--|---|
| Color             | Depending on the nectar sources, honey color can range from nearly colorless to dark amber             |   |
| Taste, smell      | With the special taste and color; no peculiar smell  |   |
| Condition         | Viscous fluid, partial or complete granulation at normal temperature                                   | Put honey of appropriate amount in a 50ml beaker and observe the color under natural light. Measure the color pursuant to methods provided in the Annex A. Inspect whether the honey contains foreign substances; smell the honey; rinse mouth with warm water, and then taste the honey. |
| Foreign substance | Should not contain foreign substances, such as bee limbs, bee larva, wax or visible foreign substances |   |

#### **3.3. Physical and Chemical Indexes**

The physical and chemical indexes shall comply with the requirements in the Table 2.

**Table 2 Physical and Chemical Indexes**

| Items  | Index | Testing methods   |
|--|-------|---|
| Moisture (g/100g) ≤  | 23    | Measure moisture by using the methods in Annex B                  |
| Fructose and glucose (g/100g) ≥  | 60    | Measure the items using the methods provided by the GB/T 18932.22 |
| Sucrose (g/100g)<br>Eucalyptus honey, citrus honey, clover honey,<br>Lychee honey, wild osmanthus honey<br>≤ | 10    |   |
| Other honey ≤  | 5     |   |

### **3.4. Limit of Contaminants**

The limits of contaminants shall comply with the provisions in GB 2762.

### **3.5. Residue of Veterinary Drug and Pesticides Limits**

#### **3.5.1. Residue of Veterinary Drug Limits**

The residue of veterinary drugs shall comply with the provisions in relevant standards.

#### **3.5.2. Residue of Pesticides Limits**

The residue of pesticides shall comply with the provisions in GB2763.

### **3.6. The Microbiological Index**

Shall comply with provisions of the Table 3

| Item                               | Index | Testing methods* |
|------------------------------------|-------|------------------|
| Aerobic bacterial count/ (CFU/g) ≤ | 1000  | GB4789.2         |
| Coliform count/ (MPN/g) ≤          | 0.3   | GB4789.3         |
| Mould count/ (CFU/g) ≤             | 200   | GB4789.15        |

\*Analysis and operation of the samples shall follow provisions in the GB4789.1.

### **3.7. Other Provisions**

No other substances shall be added to honey. The packaging containers, tools, and materials of equipment that have direct contact with honey shall comply with provisions of relevant standards.

## **Annex A**

### **(Normative Annex)**

#### **A.1 Sample Preparation**

Mix even the uncrystallized samples. With crystallized samples, seal the sample bottle, heat the bottle in warm water no higher than 60°C; mix the sample after it is completely melted, and cool the sample quickly to room temperature for measurement. Avoid moisture entering the bottle when the crystallized sample is melting; remove bubbles in the sample before measurement. Method: put a sample of 20g to 50g in a 100ml flask, seal the bottle, and shake the flask in 60°C water for five minutes and heat the sample to a temperature higher than 40°C; connect the flask to the vacuum pump and vacuum for 30 seconds to remove the bubbles. Place the prepared sample in the sample bottle, mark the bottle and seal for storage.

#### **A.2 Measurement**

Pour the bubble-free sample to the Pfund color comparison sink, and measure the color with the specific Pfund color photometer; read the value and determine the color pursuant to the Table A.1.

| Name of the Color | Color value of the Pfund Color Meter/ (mm) | Name of the Color | Color value of the Pfund Color Meter/ (mm) |
|-------------------|--|-------------------|--|
| Colorless         | Below 8                                    | Light amber       | Below 85                                   |
| Extra white       | Below 16                                   | Amber             | Below 114                                  |
| White             | Below 34                                   | Dark amber        | Below 140                                  |
| Super light amber | Below 50                                   |                   |  |

## Annex B

### (Normative Annex)

#### **Measurement of Moisture**

##### **B.1 Devices**

B.1.1 ABBE refractometer.

B.1.2 Ultra thermostat.

B.1.3 Constant temperature water bath tank:  $60^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .

##### **B.2 Sample Preparation**

Follow procedures provided by the A.1.

##### **B.3 Operation Procedure**

**B.3.1** Adjust temperature: connect the ABBE refractometer with the constant temperature water bath tank, and tune temperature of the constant temperature water bath tank to the needed temperature.

**B.3.2** Adjust the refractometer: before measurement, use fresh distilled water to correct refraction index of the refractometer in accordance with the Table B.1.

**Table B.1 Distilled Water Refraction Index**

| Temperature/ $^{\circ}\text{C}$ | Refraction Index | Temperature/ $^{\circ}\text{C}$ | Refraction Index |
|---------------------------------|------------------|---------------------------------|------------------|
| 14                              | 1.333 5          | 25                              | 1.332 5          |
| 16                              | 1.333 3          | 26                              | 1.332 4          |
| 18                              | 1.333 0          | 28                              | 1.332 2          |
| 20                              | 1.333 0          | 30                              | 1.331 9          |
| 22                              | 1.332 8          | 38                              | 1.330 8          |
| 24                              | 1.332 6          | 40                              | 1.330 5          |

Adjust the water temperature, so the water flowing through the refractometer is  $40^{\circ}\text{C}$ . Separate the two prisms of the refractometer; dip absorbent cotton in distilled water (if necessary in Xylene or ether) and wipe the prisms clean. Dry the prism with clean absorbent cotton (or lens cleaning paper); when the prisms are completely dry, place one or two drops of distilled water on the lower prism using a glass stick, close the prism quickly, and align it with the light, observe through the eyepiece lens, and adjust the hand wheel, so the refraction index is at the point when the  $40^{\circ}\text{C}$  water flows through. Observe the eyepiece lens and see if the dividing line of dark and the bright sector falls at the cross of the object lens.

If there is deviation, adjust the screw with the square hole adjustable wrench to move the dividing line to the center. After the adjustment, do not adjust the screw before the sample is measured.

**B.3.3** Measurement: wipe the prism clean before measurement to avoid other substances left on the prism affecting the test accuracy. Using a glass stick to dip the mixed sample, and drop one or two drops of evenly mixed sample on the lower prism; close the prism quickly and wait for a few seconds for the sample to reach 40°C. Aim the prism at the light, look through the eyepiece lens, and turn the compensator, so the dividing line of dark and the bright sector becomes definite and clear; turn the indicator scale so the shadow line falls through the cross of the object lens; read the index on the meter, and verify the temperature, which shall be 40°C.

## B.4 Result Calculation

Calculate moisture with the formula (1):

In the formula: X – moisture content of the sample, g/100;

$n$  – refraction index when the sample is at 40°C;

Permissible error of the parallel test is 0.2%.

If reading the refraction index under 20°C, it can be converted to the percentage of moisture pursuant to the Table B.2. When reading the refraction index at the room temperature, it can be converted to the refraction index at 20°C with the formula (2).

$$\text{Refractive index } (20^\circ\text{C}) = n + 0.000\ 23\ (t - 20) \dots \quad (2)$$

In the formula:  $n$  – refraction index at the room temperature  $t$  °C

*t* – temperature when the refraction index is read.

Note: if there is dispute, please use the method to measure the refraction index at the temperature of 40°C.

**Table B.2 Conversion of Honey Moisture**

| Refraction index<br>(20°C) | Moisture/<br>(g/100g) | Refraction index<br>(20°C) | Moisture/<br>(g/100g) | Refraction index<br>(20°C) | Moisture/<br>(g/100g) |
|----------------------------|-----------------------|----------------------------|-----------------------|----------------------------|-----------------------|
| 1.504 4                    | 13.0                  | 1.493 5                    | 17.2                  | 1.483 0                    | 21.4                  |
| 1.503 8                    | 13.2                  | 1.493 0                    | 17.4                  | 1.482 5                    | 21.6                  |
| 1.503 3                    | 13.4                  | 1.492 5                    | 17.6                  | 1.482 0                    | 21.8                  |
| 1.502 8                    | 13.6                  | 1.492 0                    | 17.8                  | 1.481 5                    | 22.0                  |
| 1.502 3                    | 13.8                  | 1.491 5                    | 18.0                  | 1.481 0                    | 22.2                  |
| 1.501 8                    | 14.0                  | 1.491 0                    | 18.2                  | 1.480 5                    | 22.4                  |
| 1.501.2                    | 14.2                  | 1.490 5                    | 18.4                  | 1.480 0                    | 22.6                  |
| 1.500 7                    | 14.4                  | 1.490 0                    | 18.6                  | 1.479 5                    | 22.8                  |

|  |      |         |      |         |      |
|--|------|---------|------|---------|------|
| 1.500 2                                | 14.6 | 1.489 5 | 18.8 | 1.479 0 | 23.0 |
| 1.499 7                                | 14.8 | 1.489 0 | 19.0 | 1.478 5 | 23.2 |
| 1.499 2                                | 15.0 | 1.488 5 | 19.2 | 1.478 0 | 23.4 |
| 1.498 7                                | 15.2 | 1.488 0 | 19.4 | 1.477 5 | 23.6 |
| 1.498 2                                | 15.4 | 1.487 5 | 19.6 | 1.477 0 | 23.8 |
| 1.497 6                                | 15.6 | 1.487 0 | 19.8 | 1.476 5 | 24.0 |
| 1.497 1                                | 15.8 | 1.486 5 | 20.0 | 1.476 0 | 24.2 |
| <b>1.490 6 (Should be<br/>1.496 6)</b> | 16.0 | 1.486 0 | 20.2 | 1.475 5 | 24.4 |
| 1.496 1                                | 16.2 | 1.485 5 | 20.4 | 1.475 0 | 24.6 |
| 1.495 6                                | 16.4 | 1.485 0 | 20.6 | 1.474 5 | 24.8 |
| 1.495 1                                | 16.6 | 1.484 5 | 20.8 | 1.474 0 | 25.0 |
| 1.494 6                                | 16.8 | 1.484 0 | 21.0 |         |      |
| 1.494 0                                | 17.0 | 1.483 5 | 21.2 |         |      |

**END OF TRANSLATION**