

## **RESPONSES TO COMMENTS RECEIVED FROM THE PUBLIC CONSULTATION ON PROPOSED AMENDMENTS TO THE FOOD REGULATIONS REGARDING MICROBIOLOGICAL STANDARDS FOR READY-TO-EAT (RTE) FOOD**

The Agri-Food and Veterinary Authority (AVA) initiated a public consultation exercise for the period 22 August 2017 to 23 October 2017 on proposed amendments to the Food Regulations regarding microbiological standards for ready-to-eat food. Concurrently, we have also notified the WTO of the proposed amendments via notifications G/TBT/N/SGP/39 and G/SPS/N/SGP/59. Feedback was sought from stakeholders on the following:

- I. Whether the proposed definition of RTE food in paragraph 4 accurately describes such food. If not, please propose an alternative definition and provide supporting information in the form of authoritative references for your proposed definition.
- II. Whether the 5 categories of RTE food under paragraph 5, accurately describe all the categories of RTE food available on the market. If not, please propose additional or alternative categories and provide supporting information in the form of authoritative references for your proposal.
- III. Whether the RTE food products imported / manufactured by your company are able to comply with the proposed limits for total plate count, indicator organisms and pathogens.

### **Issue I**

Four companies expressed support for the proposed definition; of which one was a major food retailer, two were food manufacturers, and the last was a food ingredient supplier.

Four companies sought clarification on the scope of the proposed definition. AVA has responded to the companies on the scope of the proposed definition with details in **Table 1** of the **Annex**.

### **Issue II**

Two companies expressed support for the proposed total plate count limits for the 5 proposed categories of ready-to-eat food. One of the two companies also proposed to expand the descriptor for “solid food” for Category 1 products to include “semi-solid food”. A foreign government also sought clarification on the limits for “solid-liquid food” under Category 1. AVA has clarified that “semi-solid food” and “solid-liquid food” would be captured under “solid food”, with a limit of  $10^2$  cfu/g.

12 companies and 1 foreign government sought clarification on the classification of various types of RTE food products under the total plate count (TPC) categories. Of these 12 companies, eight were food manufacturers, one was a food handler, two were local food importers and the last was a food testing laboratory. AVA has responded to the companies on the classification of the food products with details in **Table 2** of the **Annex**.

Three companies expressed concern that TPC would not be applicable to cut fruits, fruit juices and food with live cultures. AVA explained that total plate count is an indicator of bacteria load in a sample. As certain RTE food products (such as cut fruits, fruit juices and food with live cultures) contain a naturally high microbial load, it would not be practical nor appropriate to impose a TPC limit for these products.

Two companies commented that sweetened condensed milk, condensed creamer and condensed filled milk may not be able to comply with the proposed TPC limit of 1000 cfu/g under category 2(a). AVA responded that based on surveillance data, more than 90% of these products available for sale in Singapore were able to comply with the proposed limit, and that the proposed limit was reasonable and appropriate.

### **Issue III**

Five companies (two local food importers and three food manufacturers) responded regarding their ability to comply with the proposed limits for total plate count, indicator organisms and pathogens. All were supportive of the proposed amendments and informed AVA that the RTE food products imported or manufactured by their companies were able to comply with the proposed limits.

### **Others**

#### **Units for microbiological limits**

One company and a foreign government suggested the inclusion of Most Probable Number (MPN)/g, in addition to Colony Forming Unit (CFU)/g. AVA responded that the unit of CFU/g count is currently being adopted in the major developed countries (such as Australia, New Zealand, Canada, and United Kingdom) as well as in other countries such as Hong Kong. Taking reference from these countries, AVA would be standardizing the units to CFU/g for consistency and clarity.

#### **Rationale for testing TPC and indicator organisms in RTE food**

Two foreign governments queried on the rationale for conducting tests for TPC and indicator organisms in RTE food. AVA has responded that the proposed standards are applicable not only to pre-packaged foods, but also to RTE foods served at food and beverage (F&B) outlets and food services. As the local population largely eats out and, in addition, food sold at these outlets may be cooked in advance and subjected to further handling (such as cutting, chopping, mixing) without a kill step before serving, TPC and indicator organisms serve as useful hygiene indicators for verifying the operator's hygiene practice.

#### **Pathogen tests**

Three foreign governments commented that the listed pathogens may not be relevant for all RTE food, and queried on the rationale for testing the listed pathogens in RTE food. Two companies commented that it would be costly for companies to test for all of the pathogens specified in paragraph 7 of the consultation paper. Two other companies sought clarification on the type of pathogen tests to be conducted for RTE food.

AVA responded that all RTE foods should be free of any pathogens. As food consumed in Singapore comprises composite dishes and may be consumed without all components being fully cooked, it is important to impose limits for pathogens. The list of pathogens in the proposed standards are known hazards in RTE food in the local context. AVA also clarified that the intention was not to require traders to test for all of the specified pathogens. The type of pathogen tests to be conducted would be dependent on the characteristics and risk profile of the RTE food product intended for sale in Singapore.

Two companies suggested for the limit of <200 cfu/g for *Bacillus cereus* to be increased. AVA has informed the companies that the proposed limit is realistic and is a safeguard to protect the health of consumers in Singapore.

### **Conclusion**

AVA appreciates the time taken by individuals and organisations to submit feedback and comments which have contributed to the decision making process, and would like to encourage all food industry members to actively participate in future calls for comments.

Following this consultation, AVA will be further reviewing the microbiological standards, taking into consideration the comments received by stakeholders. A second round of consultation will be conducted in mid-2018 and stakeholders will be invited to provide comments.

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## ANNEX

**Table 1: AVA's response to queries on proposed definition**

| <b>Queries on proposed definition</b>                                                                                                                                                                                                                                                                                                                                                | <b>AVA's response</b>                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Whether food packers are subject to the proposed microbiological standards for ready-to-eat food                                                                                                                                                                                                                                                                                     | Yes, activities that concern the handling/preparation of food (including packing) would be captured under "producer" in the proposed definition. |
| Whether the following food products are considered as RTE foods: <ul style="list-style-type: none"> <li>• Food which requires reconstitution with hot/cold water before consumption (such as powdered instant drinks and instant noodles)</li> <li>• Food that needs to be reheated by microwaving/steaming before consumption (such as convenience meals and sandwiches)</li> </ul> | Yes, it is the intention to include these products as RTE foods subject to the proposed microbiological standards.                               |
| Whether the following food products are considered as RTE foods: <ul style="list-style-type: none"> <li>• Culinary pastes (such as tom yum paste) meant for cooking with other food ingredients</li> <li>• Bouillon cubes</li> </ul>                                                                                                                                                 | These products are not regarded as RTE foods, and are not subject to the proposed microbiological standards.                                     |

**Table 2: AVA's response to queries on product classification for total plate count limits**

| <b>Classification for total plate count</b>                                                                                                                                                    | <b>Colony forming unit/gram (cfu/g)</b>                     | <b>Examples of food products falling into each category</b>                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category 1:<br>Shelf-stable canned, retort and ultra-high temperature processed foods subjected to sterilization or equivalent processing                                                      | <10 (liquid foods)<br>and<br><10 <sup>2</sup> (solid foods) | Canned ham<br>“Solid-liquid food” and “semi-solid food” are regarded as solid foods                                                                                                          |
| Category 2:<br>(a) Sweetened Condensed milk                                                                                                                                                    | <10 <sup>3</sup>                                            | Sweetened condensed creamer and sweetened condensed filled milk                                                                                                                              |
| (b) Ready-to-eat foods (not in categories 1 & 4) in which most components are cooked without intention for further processing or heating before consumption; this may include pasteurised food | <10 <sup>5</sup>                                            | <ul style="list-style-type: none"> <li>• Infant formula and follow-on formula</li> <li>• Growing up milk</li> <li>• Milk powder</li> <li>• Sesame oil</li> <li>• Pasteurized soup</li> </ul> |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>which are shelf stable or may require refrigeration; or non-fermented dairy products and dairy-based desserts; or sauces; or bakery and confectionery products; or powdered foods</p>                                                                                                                                                                                                                            |                | <ul style="list-style-type: none"> <li>• Cooked cereal (e.g. granola)</li> <li>• Bento sets containing cooked food which requires reheating by microwaving before consumption</li> <li>• Hummus</li> <li>• Food for special medical purpose</li> <li>• Pasteurized honey</li> <li>• Cooked ham</li> <li>• Instant noodles</li> <li>• Instant soup</li> <li>• Seasoning powder</li> </ul>                                                                                                                                                                                                                                                                                          |
| <p>Category 3:<br/>Ready-to-eat foods (not in categories 1, 2 &amp; 4) that are consumed raw or that contain a significant amount of raw ingredients in the final food product</p>                                                                                                                                                                                                                                  | $<10^6$        | <p>Minimally processed (i.e. sliced, chopped, shredded) raw RTE meat products like sashimi and parma ham, smoked ham, cured meat</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p>Category 4:<br/>Fresh fruits and vegetables, fruits and vegetables juices which have not been subjected to pasteurisation or equivalent processing, fermented food products, preserved food products (including salted or pickled food products), dried foods, yoghurts, ripened cheeses, foods containing probiotics; foods containing a significant portion of these ingredients in the final food product</p> | Not applicable | <ul style="list-style-type: none"> <li>• Salads with meat items</li> <li>• Compound salads containing a mixture of cheese, nuts or canned corn</li> <li>• “Yu Sheng” (i.e. vegetable salad with sliced raw fish)</li> <li>• Cut fruits and fruit juices</li> <li>• Ripened cheese (such as parmesan cheese and feta cheese)</li> <li>• Wine and beer</li> <li>• Sandwiches or wraps with lettuce or other raw washed vegetables, egg, cheese, cold cuts and salad dressing</li> <li>• Tsatziki (yoghurt dip)</li> <li>• Coleslaw</li> <li>• Fermented bean curd</li> <li>• Fermented soybean paste</li> <li>• Kimchi</li> <li>• Gochujang (fermented red pepper paste)</li> </ul> |

|                                                                    |                  |          |
|--------------------------------------------------------------------|------------------|----------|
|                                                                    |                  | • Salami |
| Category 5:<br>All other ready-to-eat foods not<br>specified above | <10 <sup>5</sup> | --       |