Circular concerning the breeding and marketing of insects and insect-based food for human consumption

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1. Aim

This circular aims to clarify the general rules which apply for the breeding and marketing of insects and insect-based food for human consumption while waiting at the European level for a legal clarification of the legal rules, especially the establishment of the status of novel food of insects.

2. Scope

This circular applies to all food business established in Belgium that breeds insects and/or markets insects and insect-based food for human consumption. This circular does not apply to insects for animal feeding, which are moreover not allowed in feed for breeding animals.

The regulation (EC) No 258/97 provides that foods or food ingredients which haven't been used for human consumption at a significant level in the European Union before May 15, 1997, are novel foods or novel food ingredients. According to this regulation, all novel foods or novel food ingredients must be assessed and receive a European authorisation before they can be placed legally on the Community market. This authorisation covers, amongst other things, the conditions of use, the designation of the novel ingredient or novel food as well as the specific labelling requirements. With regard to insects for human consumption, the European Commission has conducted a survey amongst all Member states in order to know which insects are placed on the food market. The Belgian authority has for this purpose submitted a list of insects proposed for human consumption in Belgium (see table). Currently, there is legal uncertainty about including entire insects and their preparations (for example worm pasta) within the scope of the novel food regulation. The European Commission has recently written a new proposal to revise the novel food regulation. This proposal considers all types and forms of insects as novel food, unless evidence can be provided that they have been used for human consumption at a significant level in the European Union before May 15, 1997. This new regulation must be approved by the European Parliament and the Council of the European Union. Currently, the European Commission cannot provide details as regards to the predicted timing of the publication. While waiting for a legal clarification of the European legislation, the insects mentioned down here in the table are currently tolerated to be
commercialised on the national territory. However, this tolerance is not applicable for food ingredients isolated from insects, such as for example protein isolates because they are clearly included in the scope of the novel food regulation. The operators wishing to place insects on the market which are not mentioned in the table must submit an application to the FPS Health, Food chain safety and Environment (FPS HFCSE) in accordance with the 'novel food' application procedure in order to obtain a European authorisation. More information concerning the procedure for authorisation is available on the website of the FPS HFCSE.

<table>
<thead>
<tr>
<th>House cricket</th>
<th>Acheta domesticus</th>
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<tr>
<td>African migratory locust</td>
<td>Locusta migratoria migratorioides</td>
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<tr>
<td>Giant mealworm</td>
<td>Zophobas atratus morio</td>
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<tr>
<td>Mealworm</td>
<td>Tenebrio molitor</td>
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<tr>
<td>Buffalo worm</td>
<td>Alphitobius diaperinus</td>
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<td>Wax worm</td>
<td>Galleria mellonella</td>
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<tr>
<td>American desert locust</td>
<td>Schistocerca americana gregaria</td>
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<tr>
<td>Tropical house cricket/banded cricket</td>
<td>Gryllodes sigillatus</td>
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<tr>
<td>Lesser Wax Moth Worm</td>
<td>Achroia grisella</td>
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<tr>
<td>Silkworm</td>
<td>Bombyx mori</td>
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The FASFC has asked an advice of the Scientific Committee concerning the safety to use these insect species for human consumption. These national tolerances will be revised on the basis of the advice of the Scientific Committee, the publication of the new novel food regulation or a legal clarification of the current regulation.

### 3. Legislation


Royal decree 13/09/1999 referring to labelling of prepacked foodstuffs

4. Conditions for marketing

4.1. Registration of activities

The activity "breeding of insects" is inserted into the activity tree of the FASFC. The activity belongs to primary production; the direct sale of live animals by the producer is considered as an implicit activity of breeding. The operators, who breed insects, must be registered at the FASFC as mentioned under point 4.1.1. The sale of dead insects or the preparation and marketing of insect-based foodstuffs are activities which need to be registered or authorised by the FASFC. Depending on the exercised activities, registrations or authorisations associated with the codes-place-activity-product under points 4.1.2. to 4.1.4. apply. This is a non-exhaustive list with the most relevant activities. If insects are incorporated in special foodstuffs, other activities can apply. In this case, one refers to the activity tree of the FASFC.

4.1.1. Group of HOLDINGS WITH ANIMALS AND ANIMAL PRODUCTS/Registration

Place: PL42 Agricultural holding
Activity: AC28 Keeping
Product: PR220 Insects- other than bees/bumblebees

4.1.2. Group of RETAILERS/Registration

Place: PL29 RETAILER
Activity: AC94 Itinerant retail sale
Product: PR57 Pre-packed foodstuffs with a shelf life of at the latest 3 months at ambient temperature

Place: PL29 Retailer
Activity: AC94 Non itinerant retail sale
Product: PR57 Pre-packed foodstuffs with a shelf life of at the latest 3 months at ambient temperature

Place: PL29 Retailer
Activity: AC95 Retail sale as a complementary activity
Product: PR57 Pre-packed foodstuffs with a shelf life of at the latest 3 months at ambient temperature

4.1.3. Group of Hotel & catering/authorisation

1.1. Food retail trade

Place: PL88 Itinerant trade vehicle
Activity: AC66 Production and distribution
Product: PRI152 Meals
Place: PL92 Restaurant
Activity: AC66 Production and distribution
Product: PRI152 Meals
Place: PL83 Caterer
Activity: AC66 Production and distribution
Product: PRI152 Meals

4.1.4. Group of RETAILERS (sale of general foodstuffs without preparation)/authorisation
1.1. Food retail trade

Place: PL29 Retailer
Activity: AC68 Production and non itinerant retail trade
Product: PR55 Non pre-packed foodstuffs or pre-packed foodstuffs with a shelf life under 3 months or refrigerated foodstuffs

Place: PL29 Retailer
Activity: AC94 Itinerant retail sale
Product: PR55 Non pre-packed foodstuffs or pre-packed foodstuffs with a shelf life under 3 months or refrigerated foodstuffs

Place: PL29 Retailer
Activity: AC94 Non itinerant retail sale
Product: PR55 Non pre-packed foodstuffs or pre-packed foodstuffs with a shelf life under 3 months or refrigerated foodstuffs

Place: PL29 Retailer
Activity: AC95 Retail sale as a complementary activity
Product: PR55 Non pre-packed foodstuffs or pre-packed foodstuffs with a shelf life under 3 months or refrigerated foodstuffs

4.1.5. Group of WHOLESALERS (for foodstuffs)/authorisation 1.1. Food retail trade

Place: PL47 WHOLESALER
Activity: AC97 Wholesaling
Product: PR52 Foodstuffs

4.1.6. Group of PRODUCTION UNITS/authorisation 1.2. Establishments for the preparation, processing and putting on the market of foodstuffs

Place: PL43 Manufacturer
Activity: AC39 Manufacture
Product: PR114 Prepared dishes

Place: PL43 Manufacturer
Activity: AC39 Manufacture
4.2. Main principles of food legislation

For the activities 'breeding and placing on the market insects or insect-based foodstuff for human consumption', the general rules of food legislation are in force and inter alia, in particular the application of the good hygiene practices, the traceability, the obligatory notification, the labelling,... and the implementation of HACCP based self-checking system.

1. All operators of the food chain are subject to the 'General Food Law' (regulation EC No 178/2002) which lays down the general requirements of the food legislation. The article 17 of the current regulation specifies that the operators must verify compliance with the regulatory requirements during all levels of the food chain which are placed under their control.

2. The operators of the food sector who breed and market living insects for human consumption are subject to the requirements of the regulation (EC) No 852/2004 which apply to operators of the primary production.

3. The feed given to insects intended for human consumption is subject to the animal feed legislation and the general hygiene rules of animal feed as laid down in the regulation (EC) No 183/2005. Insects, which are raised for human consumption, are defined as breeding/farmed animals and more specifically as a 'food-producing animal'. Therefore, the feed rules for farmed animals such as swine, cattle and poultry do also apply for the insects mentioned in this current circular. More detailed information is available on the website of the FASFC: [http://www.favv-afsca.fgov.be/productionanimale/alimentation/](http://www.favv-afsca.fgov.be/productionanimale/alimentation/).

4. Operators who handle, prepare, process, store, expose and transport insects intended to be placed on the market for human consumption, must meet the requirements of the regulation (EC) No 852/2004 which applies for operators working in the food processing and food distribution chain.

5. There are no specific requirements for insects in the regulation (EC) No 853/2004.

6. Pre-packed foodstuffs labelling rules are imposed through the RD of 13 September 1999. From 13 December 2014, the rules laid down in the regulation (EU) No 1169/2011 about pre-packed and non pre-packed foodstuffs will apply.

4.3. Specific aspects linked to food safety which must be taken into account for the insects and the insect-based food for human consumption

With regard to the feeding of insect species mentioned in the table and intended for human consumption, the following rules are particularly relevant in view of the natural diets of theses species.

1. The feeding legislation authorises all feed materials for feedingstuffs, except if some of those are explicitly prohibited. The annex III of the above listed regulation (EC) No 767/2009, gives a list of prohibited materials, such as faecal matter, urine, wood which has been treated with wood preservatives, waste from waste water, solid urban waste, packagings and parts of packagings, etc.
2. Catering waste, food leftovers and non processed animal by-products cannot be used for feeding insects, and this based on the regulation (EC) No 1069/2009.

3. The legislation foresees also different restrictions with regard to the use of raw animal materials for feeding farmed animals. The main restriction concerns the prohibition to use animal proteins for feeding farmed animals such as specified in the regulation (EC) No 999/2001. A summary is available under: http://www.afsca.be/productionanimale/alimentation/produits/_documents/2013_11_Produits_animaux_autorises_et_non_autorises_999_2001_FR.pdf (column of des non-ruminants). Animal fats can be used provided to be processed according to the regulation (EC) No 1069/2009.

The specific 'risks' must be taken into consideration for the consumption of insects and insect-based foodstuffs.

1. A heating step may be needed as a germicidal treatment before the marketing of the product.

2. The products, which are placed on the market, must be tested periodically to detect pathogenic agents. For these periodical tests, one can, amongst others, rely on the criteria of food safety as laid down in the regulation (EC) No 2073/2005, for Salmonella in minced meat from species other than poultry, intended for consumption after being heated (not present in 10 grams). Furthermore, the criteria for Listeria monocytogenes in foodstuffs with/based on insects ready to be consumed (< 100 CFU colony-forming units/ g] is in force and therefore these products must meet the requirements of the regulation.

3. Considering the relatively long shelf life of dried or freeze-dried insects, the number of pathogenic agents which can develop in the product must also be taken into account until the end of life.

4. If the products are difficult to use without additional information, the user instructions must be placed on the label as well as the special conditions for storage and use.

5. It is necessary to take into account the fact that persons allergic to seafood and/or mite can have an allergic reaction after consuming insects.

5. Overview of revisions

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<tr>
<th>Version</th>
<th>Applicable from</th>
<th>Reasons et scope of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Date of publication</td>
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