



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.

House cricket	<i>Acheta domesticus</i>
African migratory locust	<i>Locusta migratoria migratorioides</i>
Giant mealworm	<i>Zophobas atratus morio</i>
Mealworm	<i>Tenebrio molitor</i>
Buffalo worm	<i>Alphitobius diaperinus</i>
Wax worm	<i>Galleria mellonella</i>
American desert locust	<i>Schistocerca americana gregaria</i>
Tropical house cricket/banded cricket	<i>Grylloides sigillatus</i>
Lesser Wax Moth Worm	<i>Achroia grisella</i>
Silkworm	<i>Bombyx mori</i>

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

Regulation (EC) No 258/1997 of the European Parliament and of the Council of 27 January 1997 concerning novel foods and novel food ingredients

Regulation (EC) No 999/2001 of the European Parliament and of the Council of 22 May 2001 laying down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies

Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety

Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs

Regulation (EC) No 183/2005 of the European Parliament and of the Council of 12 January 2005 laying down requirements for feed hygiene

Regulation (EC) No 767/2009 of the European Parliament and of the Council of 13 July 2009 on the placing on the market and use of feed, amending European Parliament and Council Regulation (EC) No 1831/2003 and repealing Council Directive 79/373/EEC, Commission Directive 80/511/EEC, Council Directives 82/471/EEC, 83/228/EEC, 93/74/EEC, 93/113/EC and 96/25/EC and Commission Decision 2004/217/EC

Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)

Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004

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

Product: PR26 Other foodstuffs

Place: PL43 Manufacturer

Activity: AC39 Manufacture

Product: PR42 Chocolate, confectionery

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 1831/2003. 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/>.
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 these 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

Overview of revisions of the circular		
Version	Applicable from	Reasons et scope of revision
1	Date of publication	Original version