



Guidance

S9.41 - Insects in feed

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1. Introduction

This document was drawn up following the increasing use of insects in feed. Since the use of insects in feed is applied to an increasing extent, this also invokes more questions. This document answers these questions, but also provides information about the position of GMP+ International regarding the use of insects in feed and what GMP+ Feed Certification Scheme requirements apply thereto.

This support document only addresses the Questions & Answers that apply to the production of insects and insect products intended to be fed to food producing animals and pets. These type of products are considered feed materials.

The requirements for the production of insects and insect products for human consumption are **not** discussed here, because this falls outside the scope of the GMP+ Feed Certification Scheme. The farming/breeding of the "mother insects" (see 4.1) is also out the scope of this document. These type of insects are considered food producing animals for which different requirements apply.

Please, note that this document is **not** applicable to activities connected to other terrestrial invertebrates different to insects (e.g. earthworms).

If you have any questions that are not answered in this list, please contact GMP+ International via the [contact form](#) or via info@gmpplus.org.

2. Use of insects in GMP+ Scheme

2.1. What is the position of GMP+ International on the use of insects in feed?

GMP+ International supports the use of insects and insect products in feed, provided that the safety is ensured. Within the GMP+ Scheme it is only allowed to use feed materials which are on the GMP+ Product list (GMP+ FC scheme R1.0 7.1.5 management of suppliers). The GMP+ Product list contains all feed materials that may be produced and traded within the GMP+ chain. This includes feed materials originated from insects. These listed products can be safely produced and the risks are manageable and therefore approved. The list is drawn up in collaboration with independent experts present in Technical committee FSP and is updated several times per year. By using only approved feed materials, we ensure the feed safety in the entire chain. See 2.3 for more information about the Product list.

The GMP+ Scheme is implemented worldwide, therefore, different feed legislations are applicable. Insect and insect products have been authorized in different countries as feed materials in the last years. Because this is a new market, the restrictions on using those products as well as the legal requirements are quite different worldwide. GMP+ International has adopted the European legislation with respect to restrictions on production, feed for insects, authorized species, etc. For more information see § 4.

2.2. Are insects food producing animals?

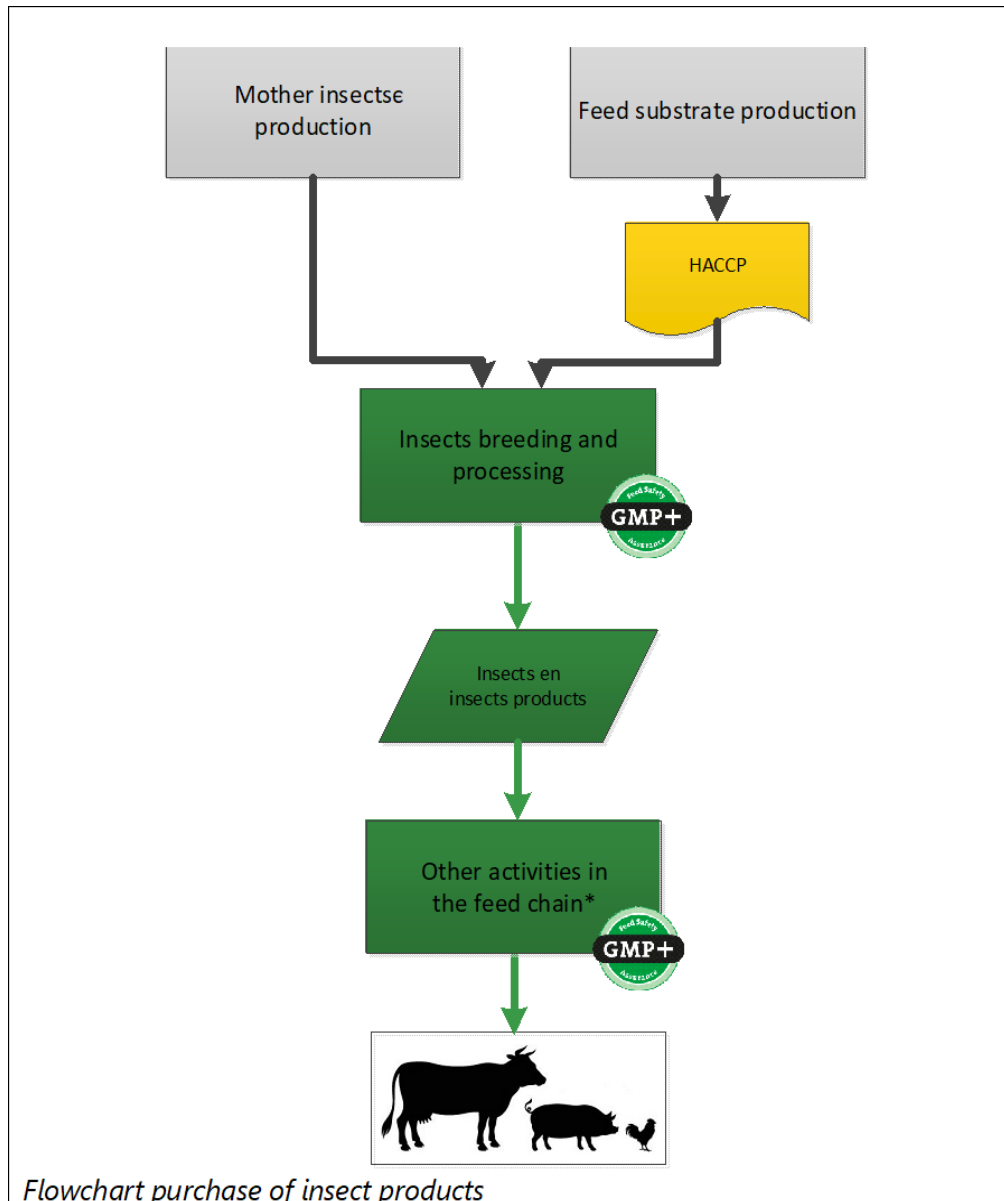
Yes, insects and insect products are classified as food producing animals, therefore, they can be produced/traded as foodstuffs (intended for human consumption). In addition, they can also be produced/traded as feed materials (intended for feeding animals). The production / trade is under the scope of GMP+ FC scheme certification. See document F0.2 Definition list for extra information on terminology. This is in line with the EU legislation.

3. Certification

3.1. Where does GMP+ certification start?

The below is a simplified diagram of an example of the production chain of insects and insect products with the destination feed.

Different activities are mentioned here. The activities that must be certified within the framework of GMP+ FSA are shown in green.



*This can be companies involved, among others, on the following activities:

- Trade
- Storage and transshipment
- Road transport

3.2. What are the GMP+ requirements for certification of activities on insects?

Requirements which GMP+ certified companies must comply within the GMP+ Feed Certification scheme are available on the [GMP+ International website](#).

In addition to those requirements and derived from the particularities on the insect sector, the following remarks should be considered:

- No requirements are defined for the production of the 'mother insect'; this activity falls outside the scope of the GMP+ FC scheme. The production of the "mother insect" needs to be ensured by the buyer which is GMP+ certified. The possibilities of risks due to transfer from mothers to larvae must be taken into account.(e.g., avoid the use of contaminated feed materials to feed mother insects).

The production of 'feed substrates' falls outside the scope of the GMP+ FC scheme. The GMP+ certified company using the soils/feed substrates must ensure that the soils are safe. This assurance can be done on the basis of the HACCP analysis

3.3. How can the GMP+ activities be certified?

The companies have to comply with the applicable requirements stated in the relevant scheme documents. The relevant scheme documents for the production of insect and insect products considered feed materials are stated in § 2.2 of the F 0.3 Scope for certification. The Certification Bodies accepted by GMP+ International for the relevant scope can certify. For more detailed information about the Certification Process you can contact a Certification Body.

4. Relation GMP+ FC scheme and feed legislation

Every company that is active in the feed industry must comply with the relevant feed safety legislation. The stakeholders of GMP+ International acknowledge the ultimate requirements that are set out in feed-related EU legislation. The most important elements of those regulations, are already incorporated in the GMP+ FC scheme and must therefore be respected by all GMP+ certified companies. See § 4.1 for more information about the applicable legislation for insect and insect products.

If national feed related legislation is stricter than the GMP+ FSA certification requirements, the GMP+ certified companies must respect the requirements of those national feed legislation. In all other cases (less strict or no national legislation) the GMP+ certified company must comply with the GMP+ requirements, regardless of where the company is located and which market it serves.

It remains the responsibility of every GMP+ certified company to make sure that it complies with the relevant feed legislation. This is stated in the GMP+ FC scheme R1.0 Feed Safety Management Systems Requirements, § 4.1.

In the following paragraphs you will find an overview of different European Regulations applicable for the production and/or trade of insect and insect products.

5. Applicable European Legislation

[Regulation\(EU\) No 142/2011](#) includes the following authorized insect species to be used in feed:

- black soldier fly (*Hermetia illucens*),
- common housefly (*Musca domestica*),
- yellow mealworm (*Tenebrio molitor*),
- lesser mealworm (*Alphitobius diaperinus*),
- house cricket (*Acheta domesticus*),
- banded cricket (*Gryllodes sigillatus*) and
- field cricket (*Gryllus assimilis*)
- silkworm (*Bombyx mori*)

Authorized insects species can be different in other countries outside EU.

5.1. Which are the target animals for the different insect products in EU?

The table below contains an overview of the possible application of insects and insect products in accordance with the EU legislation.

Keep in mind that these products are only allowed within the GMP+ chain when the products are on the Product List, see § 2.3

Target animal → Insect products ↓	Pets	Ruminants farmed animals	Poultry and Pigs	Aqua culture animals	EU catalogue of feed materials
(Processed) animal proteins of insects	Yes	No	Yes	Yes	9.4.1
Oil/fat of insects	Yes	Yes	Yes	Yes	9.2.1
Larvae insects live (under scope of "terrestrial invertebrates, live")	Yes	No	Yes	Yes	9.16.1
Whole insects, dead (untreated or treated- for instance Freeze drying) (under scope of "terrestrial invertebrates, dead")	Yes	No	No	No	9.16.2
Hydrolyzed insect proteins (under scope of "hydrolyzed animal proteins")	Yes	Yes	Yes	Yes	9.6.1

5.2. What substrates can be used as feed for insects in EU?

In European Union, insects are considered “farmed animals”, consequently their production must meet the corresponding regulation on animal production and has restrictions on the allowed substrates used for feeding insects. GMP+ International adopts also this criterions and currently allows only the use of eligible material from vegetal origin.

5.3. Where can I find the applicable legislation?

GMP+ International provides information on animal feed legislation via the website of [feedlegislation.org](https://www.feedlegislation.org). The website is available via the URL: <https://www.feedlegislation.org>

On this website you will find an overview of the applicable European Legislation. This legislation is available in various languages. On a monthly base the website will be updated.

Changes in (EU) legislation can be followed via the newsletter “Feedlegislation.org”. Subscription to Feed Legislation Newsletter is [available here](#).

However, it is, at all times, the responsibility of the GMP+ participant to comply with the relevant feed legislation of both the country of production and the country where the product will be marketed.

On the website of IPIFF, you can also find information about Law and legislation about insects. The website is available via the URL: <https://ipiff.org>

6. Other interesting Links/articles

- [*Scheme and Product List*](#)
- [*Regulations on insects as food and feed: a global comparison \(2020\)*](#)
- [*https://ipiff.org*](https://ipiff.org)
- [*https://feedlegislation.org/*](https://feedlegislation.org/)
- Europa legislation (Eur-lex.): [*Regulation \(EU\) 2017/893 of 24 May 2017v*](#)
- [*Edible insects: the science of novel food evaluations*](#)
- [*Insects in food and feed – allergenicity risk assessment and analytical detection*](#)
- [*Risk profile related to production and consumption of insects as food and feed*](#)
- [*EU Commission- Approval of third insect as a Novel Food -FAQ*](#)
- [*Feedipedia.org - Insect meals as animal feed*](#)
- [*Use of insects for food and feed : Scientific overview of the present knowledge on insect rearing, use of residual streams as substrates, and safety aspects*](#)

We enable every company in the
feed chain to take responsibility for
safe and sustainable feed.

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