Draft IFOAM Standard
for the production of organic terrestrial invertebrates

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7. PRODUCTION OF TERRESTRIAL INVERTEBRATES

This chapter applies to:

- production of invertebrates and products derived from them which are marketed as certified organic for human food, animal feed or for any other purpose in organic supply chains;
- insects and other terrestrial invertebrates such as annelids and terrestrial snails.

This chapter does not apply to:

- aquatic invertebrates (e.g. crustaceans, mollusks, cephalopods) which are covered in the aquaculture chapter of this standard.
- management of invertebrates present on organic farms or used as organic inputs (worms for vermicompost, beneficial insects for bio-control) unless they are being marketed as certified organic
- bees which are covered in the beekeeping chapter of this standard.

7.1. Management of terrestrial invertebrates

General Principle

In the context of this chapter, organic terrestrial invertebrate production provides ingredients and proteins for use in organic food and feed as well non-food products. It is based on a resource efficient production system that complies with the four principles of organic agriculture which respects both the physiological and behavioral needs of the species concerned and minimizes any negative environmental impact.

Requirements:

7.1.1 Invertebrates may be reared entirely indoors in controlled environments, except for snails, which must have access to pasture.

7.1.2. The operator shall ensure that the environment, the facilities, stocking density and the population size provide for the behavioral needs of the invertebrates.

7.1.3. In particular, the operator shall ensure the following animal welfare conditions:

a. sufficient free movement and opportunity to express normal patterns of behavior,

b. sufficient fresh air, water, feed (except in the purging phase), thermal and humidity comfort and photoperiod, as needed to satisfy the natural needs of the invertebrates;

c. minimizing stress and pain;

d. provision of suitable substrate and feeding materials for exploratory and foraging behaviors;

e. sufficiently structured habitat to provide hiding places and places of retreat

f. contact with conspecifics, for gregarious species

g. in addition to these general welfare conditions for all invertebrate categories, provisions for specific invertebrate groups also have to be taken into account, such as light requirements, stocking density, prevention of cannibalism.

7.1.4. In facilities with a controlled environment, temperature, humidity, concentration of CO_2 and other damaging gases must be regularly monitored and appropriate measures must be taken to improve environmental conditions, when needed. Monitoring and measures taken must be recorded.

7.1.5. The maximum number of hours of artificial light used to prolong natural day length shall reflect the natural photoperiod of the species and stage of development and not adversely affect the natural behavior, and general health of the invertebrates. Lighting shall not produce a stroboscopic effect (e.g. fluorescent light).

7.1.6. Construction material, equipment, structural or furnishing elements, bedding materials, and substrate that come into contact with the invertebrates shall meet the following requirements:

a. materials or substances consumed by the invertebrates shall meet the invertebrate nutrition requirements in section 7.3;
b. materials or substances that are regularly disposed of (such as substrate) shall be composed of substances allowed in Appendix 2 of this standard and may also be paper/wood products not containing contaminants such as toxic glues or glossy or colored inks, synthetic fungicide, preservative, fumigant, or nanomaterials;
c. materials or structural elements which are re-used and not usually disposed of must not be made from materials with toxic or potentially toxic effects on the species raised or on human health. They should consist of natural or food grade materials.

7.1.7 Operators shall manage pests and diseases in invertebrate housing using only the following methods:

a. regular inspection of batches and production unit(s) to ensure early detection of sanitary issues;

b. regular cleaning and disinfection between batches of the facility and equipment using only methods and substances permitted in this standard;

c. preventive actions such as disruption, proper elimination of contaminated material, removal of individuals or batches, habitat management and impeding access to facilities;

d. mechanical, physical and biological methods, including UV treatment;

e. substances (other than pesticides) used in traps;

f. substances permitted for pest management in bees and in the Appendices of this standard.

Regional or other exception

Other products may be used if required by law for the control of notifiable diseases.

7.1.8. Synthetic allopathic veterinary drugs, antibiotics, hormones and pupation inhibitors are prohibited in organic invertebrates' production. Only substances listed in the Appendices and requirement 5.8.7 of this standard, as well as phyto-therapeutic and homeopathic treatments, are permitted in the management of pests and diseases on the organic invertebrates' unit of production.

7.1.9. The operator shall ensure that:

a. invertebrates are protected from predation by wild and feral animals.

b. invertebrates are regularly monitored.

c. when welfare and health problems occur, appropriate management adjustments are implemented.

7.1.10. The management, facilities and accommodation facilities shall be designed to prevent the escape of living invertebrates at any stage of development into local natural habitats.

7.1.11. Mutilations of living invertebrates such as the trimming of wings or removing of legs are prohibited.

7.1.12. Extraction of slime from live snails shall be done through non-invasive methods that do not harm the snails.

7.1.13. The method of killing shall ensure rapid death and minimize animal suffering.

7.1.14. Cannibalism shall be minimized by appropriate measures.

7.1.15. Waste, including organisms, from organic invertebrate production units shall be handled and disposed of in a way that does not negatively impact the environment.

7.1.16. Species being produced outdoors must move or forage only in organic or untreated land. The natural movement of the species must be evaluated, and the potential area where the species potentially moves or forages must be only organic or untreated land.

7.2. Origin and Conversion periods

General Principle

Organic invertebrates are born and raised on organic production units. Production systems that change from conventional to organic production require a conversion period.

Requirements:

7.2.1. All invertebrate requirements in this standard shall be met for the duration of the conversion period before the resulting product can be considered as organic. Where invertebrates are raised on living plants or soil, the plants shall be organic and the land shall comply with land conversion requirements.

7.2.2. Invertebrates and products derived from them are considered organic only if the parental generation has been organically managed prior to the beginning of its reproductive stage.

7.2.3 Parallel production of invertebrates is allowed only when organic and non-organic units are physically, financially and operationally separated.

7.3. Invertebrate nutrition

General Principle

Organic invertebrates receive their nutritional needs from organic feed.

Requirements:

7.3.1. Organic invertebrates shall be fed organic feed unless the radius of movement of the species is such that the individuals collected can be assured to have foraged on organic land or on land that has not been treated or contaminated by prohibited substances (cf. 7.1.16). Organic invertebrates may be fed with vitamins, trace elements and supplements only from natural sources.

7.3.2 The invertebrates shall be offered a diet that provides all of the nutritional needs of the animals at the various stages of their development, in a form allowing them to exhibit their natural feeding and digestive behavior.

7.3.3 The feed shall predominantly come from regional sources.

Regional exception

Exceptions may be permitted if the operator can demonstrate that the feed is not available locally in sufficient quantity or quality.

7.3.4 The following feed and feed ingredients are prohibited:

a. Invertebrates or invertebrate by-products of the same species offered as a component of the feed regime.

7.3.5 Additives and processing aids listed in this standard are permitted.