# ENSURING HIGH STANDARDS
## OF ANIMAL WELFARE IN INSECT PRODUCTION

With the world population expected to top **10 billion by 2050**[1], food production needs to increase by **70%** and demand for animal products is expected to **double**. Insects provide a solution to the demand for sustainable and high-quality protein to feed both this growing population and livestock.

Today the volume of production of insect protein in Europe is estimated at 5 **thousand** tonnes[2]. By 2025 we expect it to be at **over one million** tonnes.

As production initiatives flourish across Europe, in spite of the absence of EU legislation on insect welfare, we believe it's our role to encourage good practices for the ethical production of insects.

IPIFF, the International Platform of Insects for Food and Feed, and its members are taking animal welfare very seriously. We are committed to promoting good welfare practices in husbandry, transport and at the point of death, caring for insects' well-being.

## PROMOTING ANIMAL WELFARE STANDARDS FOR THE SECTOR IN EUROPE

We believe Brambell's 5 degrees of freedom[3] constitute a good basis for the establishment of good welfare practices provided that these take into account insect production specificities. We encourage all insect producers to embrace the following principles and commit by **2020** to:

### 1 | FREEDOM FROM HUNGER AND THIRST:

- Provide sufficient food and water during transport and housing[4].
- Provide adequate temperature and ventilation conditions.

### 2 | FREEDOM FROM DISCOMFORT:

- Respect the physiological needs of the insects, providing them with the most adequate environment to foster their optimal growth such as through climate control.
- Work towards optimal transport conditions; whenever possible, limiting transport time, and ensuring adequate temperature and ventilation during transport remains within the bandwidth of natural habitat.

### 3 | FREEDOM FROM PAIN, INJURY, OR DISEASE:

- Refrain from using materials that are likely to injure the insects.
- Limit cannibalism by managing optimal density and adequate space, in accordance with each species' needs.
- Only use killing methods that ensure the rapid death of the insect so as to reduce the potential pain risk.

### 4 | FREEDOM TO EXPRESS NORMAL BEHAVIOUR:

- Only use housing or husbandry practices that allow for a normal behavioural pattern providing optimal temperature, light, humidity and density levels according to each species' needs.

### 5 | FREEDOM FROM FEAR AND DISTRESS:

- Keep abreast of the latest science regarding the potential experiences of fear or distress in insects

[1] The future of food and agriculture, Trends and challenges, Food and Agriculture Organization of the United Nations, Rome, 2017.

[2] Based on IPIFF best estimate – February 2019

[3] Report of the Technical Committee to Enquire into the Welfare of Animals kept under Intensive Livestock Husbandry Systems, the Brambell Report, December 1965 (HMSO London, ISBN 0 10 850286 4).

[4] except at the time preceding the point of killing so as to ensure the digestive tracts of the insects are empty before they enter the EU market

## ANIMAL WELFARE RULES MUST ADAPT TO THE SPECIFIC REALITIES OF INSECT PRODUCTION

It's critical that welfare standards are adapted to the specificities of insect production. Vertebrates and invertebrates are fundamentally different and it's our mission to respect each species' physiological needs.

- Contrary to vertebrates, some insect species thrive when bred in a densely populated environment – growing conditions must be set for each specie individually, to provide them with the most adequate environment (e.g. temperature, light), close to their natural habitat.
- Insect producers have to overcome very specific challenges linked to some species' natural instincts, cannibalism being one of them – special attention is required to allow normal behavioural patterns while limiting injuries and unintended deaths.
- Exsanguination with prior sedation, stunning or anaesthetic, is often used to ensure the least suffering as possible during the killing process of animals. However, this is not applicable for insects for which other methods should be applied (e.g. freezing, heating or mincing) in order to ensure a quick death and reduce potential pain risk.

## FURTHER RESEARCH ACTIVITIES SHOULD BE DEVOTED TO THE SUBJECT OF INSECT WELFARE

Current scientific research suggests that insects do not feel pain because of their lack of a developed nervous system, notably a recent Research conducted by Wageningen University in 2013[5].

There are knowledge gaps on whether invertebrates experience well-being or pain, and whether those sensations apply to all insect species equally, and at which physiological stage. There are also common misconceptions related to the relation between nociception (the sensory nervous system's response to potentially harmful stimuli) and pain (an unpleasant sensory or emotional experience) which require a clear distinction.

The current lack of scientific evidence around invertebrate welfare makes it very difficult to develop science-based welfare rules for insect production.

IPIFF is therefore calling for more thorough investigations in this field.

## OUR CALL FOR ACTION

**IPIFF is calling for:**

1| All insect producers to abide by high standards of animal welfare and care for insect well-being;

2| Any new policy or legislation in this area to be science-based and take into account the specificities of insect species and the technical realities of insect industrial production;

3| More funding to be made available for research on insect welfare;

4| A continuous dialogue with EU decision-makers and non-institutional partners to maximise fair solutions for insect producers while promoting best practices in production activities.

[5] Hakman, A.; Peters, M.; Huis, A. van, Toelatingsprocedure voor insecten als mini-vee. Voor het plaatsen van nieuwe insectensoorten op de lijst voor productie te houden dieren, Wageningen : Laboratorium voor Entomologie WUR, Research report, 2013