

## **Work Package 5: Pro-Insect Platform in Europe**

### **Deliverable 5.1 – Review Report**

*with regard to current Legislation & Regulation: Europe and Africa & China*

#### **Executive Summary**

PROteINSECT ([www.proteinsect.eu](http://www.proteinsect.eu)) is investigating the use of insects, particularly the larvae of the domestic housefly (*Musca domestica*) and black soldier fly (*Hermetia illucens*), as a source of protein for use in animal feed production, specifically for pigs, poultry and fish. This report reviews existing legislation and regulation relevant to the use of PAP (processed animal protein) from insects in animal feed, primarily from a European perspective but also in Ghana, Mali, and China where PROteINSECT partners are located.

#### **Background points:**

- In response to food security concerns, there is increased global interest in the use of PAP developed from insects as alternative food and animal feed.
- Insects are currently rarely utilised as a protein source in Europe for either human or livestock food applications; attributable largely to cultural reservations.
- The use of insects for human and livestock feed has been practised for hundreds of years in countries outside of Europe.
- Where PAP from insects is being produced it is largely limited to small-scale operations.
- It is known that production is currently underway in China, South Africa and the USA.
- It is essential that large-scale insect production methodologies are developed if insects are to ever become a significant component of animal feed and human food.
- The absence of a clear and permissive regulatory framework across Europe currently represents a major barrier which the research group PROteINSECT is working to overcome.

#### **Key points from the Report:**

- PAP has a significantly higher feed conversion rate than livestock animals which means that they are much more efficient at converting feed into body mass.
- Insects have a smaller environmental impact than other sources of protein in terms of land use, water use, and greenhouse gas emissions.

- The environmental impact of insect rearing and the possibility of accidental release must be taken into account, specifically regulation concerning biodiversity.
- Use of insects for direct human consumption within the European Union must comply with general EU food laws regarding safety and appropriate labelling.
- European regulation has recently been relaxed (EC 56/2013) to permit the inclusion of insect protein in aquaculture feed and it is likely that this will also be extended to include pig and poultry feed by 2015.
- The use of insects for direct human consumption in Europe is governed by the novel food regulation which is being redrafted to address interpretation inconsistencies between member states.
- It is likely that insects will not require a pre-market safety assessment in Europe as many countries (such as Thailand) have demonstrated a history of safe use.
- International standards require food and feed to be safe and free of undesirable substances; these standards are yet to be extended to insect protein.
- Although it would be economically and environmentally desirable to rear insects on organic waste substrates such as manure and catering waste, this is currently not permissible under EU law due to safety concerns.
- At present, there is no continent-wide African legislation concerning the production of insect protein and its inclusion in animal feed. Neither Ghana nor Mali has legislation that addresses this area.
- In China, insects and processed insect products may be used in animal feed provided they do not affect animal or public health, and that the insect species is clearly indicated.

**Concluding point:**

- Efforts need to be made by pro-insect groups and researchers such as those involved in PROteINSECT to deliver the scientific, economic, and ethical evidence that production of insect protein is feasible, acceptable, profitable, and safe when reared on organic substrates. Legislation needs to be extended and adapted where appropriate to include the use of PAP from insect protein in animal feed, based on insect protein being shown to meet quality, safety and biodiversity regulations.

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