



ProTerra Insecta Standard

Social Responsibility and Environmental Sustainability



For Producers of Insects as Food and Feed

Version 2.0 | November 2023



ProTerra Foundation is a non-for-profit organisation that envisages a world where all businesses contribute to the protection of biodiversity by switching to sustainable production, conserving natural resources and ensuring that workers and local communities are treated with dignity and respect. The ProTerra Foundation owns the ProTerra Insecta Certification Standard and related audit methodology.

More information www.proterrafoundation.org

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The ProTerra Foundation Mission and Vision Statement

The ProTerra Foundation's mission is to be a global network of businesses supporting more sustainable practices in the food and feed supply chains.

We envisage a world where all businesses contribute to the protection of biodiversity by switching to sustainable production, conserving natural resources and ensuring that local communities are treated with dignity and respect.

Businesses enterprises that support the ProTerra Foundation mission and vision must sign a membership declaration to commit to:

- Support the credibility of the ProTerra Certification Standards and their adaptability to the reality they operate in.
- Raising awareness about impact on biodiversity and climate change.
- Empowering and supporting farms and businesses throughout the food and feed supply chain, to become vectors of environmentally and socially responsible business practices.

ProTerra Foundation understands that there is an urgent need to find alternatives to conventional meat products as cattle raising is a relevant cause of anthropogenic-induced climate change. Sustainable diets based on the use of alternative protein sources are needed. In this respect, insects are an alternative and have traditionally been used as food and feed in several parts of the world. They are a much more sustainable source of protein as, among other aspects, their production requires a significantly smaller area of land (reducing the impact of land conversion and deforestation), and there is a reduced emission of greenhouse gases (associated with the enteric fermentation from cattle).

However, insect processing on an industrial scale should, to be fully sustainable, include an additional set of requirements related to human rights, workers' health and safety, relation with the community, control of the release of pollutants to the air and water among others. ProTerra has therefore developed the **ProTerra Insecta** Standard to address these sustainability issues within the insect food and feed supply chain and in this way contribute to empowering farms and businesses to become vectors of environmentally and socially responsible business practices.

The ProTerra Insecta Standard

The ProTerra Standard for Social Responsibility and Environmental Sustainability for Producers of Insects for Food and Feed, ProTerra Insecta, has four core aims:

- Foster good production practices associated with the insect industry.
- Secure the supply of sustainably produced that are fully traceable;
- Protect the environment, and
- Promote that workers and communities be treated with dignity and respect.

ProTerra Insecta should be used together with the valid version of the ProTerra Certification Protocol available on the ProTerra Foundation website.

For any comment or question regarding the ProTerra Insecta Standard, please contact info@proterrafoundation.org

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The ProTerra Insecta Standard is a voluntary standard, and it does not assume responsibility or liability for legal compliance.

The ProTerra Insecta Standard Principles

ProTerra Insecta is organised in principles, criteria, and indicators. These are the ProTerra Insecta Standard ten principles:

PRINCIPLE 1: Management system, Compliance with laws, the ProTerra Insecta Standard and Improvement

PRINCIPLE 2: Human rights and responsible labour policies and practices

PRINCIPLE 3: Responsible relations with workers and community

PRINCIPLE 4: Effective environmental management

PRINCIPLE 5: No use of Genetically Modified Organisms (GMOs)

PRINCIPLE 6: Pollution and waste management

PRINCIPLE 7: Water Management

PRINCIPLE 8: Greenhouse gases and energy management

PRINCIPLE 9: Adoption of good production practices

PRINCIPLE 10: Traceability and Chain of Custody

Organisations become certified by demonstrating adherence to each principle, criteria and indicators of the ProTerra Insecta Standard that are relevant to their business.

The ProTerra Labelling

The ProTerra product packaging label is the way by which brands can communicate the sustainability commitment directly to consumers and stakeholders. Final consumers can be assured that all products featuring the ProTerra label were produced in a sustainable and traceable manner and meet our non-GMO requirements.

The same rules defined in the Guidelines and Requirements for the Use of the ProTerra Logos and Seals apply to **ProTerra Insecta**.

1.1

Levels of Certification

ProTerra Insecta covers the production of insects destined for human or animal consumption and encompasses all production steps, from insect breeding, their feeding, killing and other processing steps, storage, transport or retail activities, to the final delivery of the product to consumers, feed manufacturers or farmers. As such, ProTerra Insecta is organised into different levels that may be certified independently or as part of a supply chain. The certification levels are:

- **Level I: Insect Production**
- **Level II: Transport, Storage, Traders and Dealers**
- **Level III: Industrial Processing**

In the context of this Standard, the following definitions apply.

- Insect Production (or insect farming) involves breeding, incubation, insect growth management, insect feed preparation and separation, and any other step necessary for insect production. The unit of certification includes the entire production site, including ancillary facilities and any activities ongoing on-site at the time of certification.
- Industrial processing refers to any operation that physically and chemically transforms the insect production output into a feed or food product or intermediary product.

When insect farm areas are verified as part of the supply chain of a Level III operator, they will be assessed against the requirements that are valid for ProTerra Level I.

The ProTerra Foundation shall receive a list of all verified suppliers during an audit cycle and this list must be included in the audit report with a summary of eventual non-compliance identified.

1.2

Raw materials, ingredients or multi-ingredient products

The ProTerra Insecta Certification can apply to raw materials, ingredients or multi-ingredient products. This may be accomplished using two basic approaches:

- Each actor in the food and feed supply chain can be certified in its own right against the relevant ProTerra Insecta Standard set of indicators; or
- Certified organisations that use inputs from actors that are not ProTerra certified in their own right shall implement management systems to control and monitor its supply chain(s) to ensure that the relevant ProTerra Insecta Standard indicators are met. In this case, the verification of this system will be considered as part of the user's own ProTerra certification responsibilities and verified by the Certification Body.

1.3

Principles, criteria and indicators

The ProTerra Insecta Certification Standard is organised in principles, criteria and indicators. Because of its broad scope and distinct levels of operations, not all of the indicators are applicable to all types of operations.

The standard indicates the applicability of each indicator to each of the three levels of operations within the food and feed production chain.

The ProTerra Insecta Standard distinguishes between core indicators and non-core indicators. To be ProTerra Insecta certified, organisations have to meet 80% of all indicators, in which all core indicators are included.

PRINCIPLE 1:

Management System, Compliance with laws, the ProTerra Insecta Standard and Improvement

International, national and local laws are in place to help protect human rights, ecosystems and promote sustainable business practices. This principle carries across all other principles in asking that organisations follow whichever provides the highest level of protection, ProTerra Insecta or local laws and regulations. Emphasis is given to the fact that ProTerra Insecta shall cover the applicable food and feed safety legislation.

1.1

Compliance with all applicable national and local laws and regulations

1.1.1

Levels I, II and III

CORE: Certified organisations shall implement procedures to ensure consistent compliance with the applicable legal requirements related to the topics covered by this ProTerra Insecta Standard and to food and feed safety legislation.

Guidance: Requirement for legal compliance applies to all Principles and their respective Criteria and Indicators. The most stringent rule shall always apply and where the ProTerra Insecta Standard exceeds national or local regulatory requirements, certified organisations shall adhere to the Standard. Organisations should be prepared to provide objective evidence of compliance with applicable regulations.

1.1.2

Levels I, II and III

CORE: Certified organisations shall document and retain records of compliance for at least 5 years or longer if required by local law.

1.1.3

Levels I, II
and III

CORE: Certified organisations shall ensure that suppliers of core inputs and services are compliant with the ProTerra Insecta Standard.

1.1.4

Levels I, II
and III

Certified organisations must obtain from non-core suppliers a formal and signed commitment that they comply with legal requirements, including those regulations associated with human rights, labour laws, environmental protection, and if applicable, food safety regulations.

1.2

Continuous improvement

1.2.1

Levels I, II
and III

CORE: Certified organisations shall demonstrate continuous improvement regarding the ProTerra Insecta Standard requirements and/or the topics covered by it.

Guidance: Improvement Indicator(s) shall be freely selected by the organisation to demonstrate compliance with this requirement. A baseline is established at the first certification under ProTerra Insecta Standard. Once an organisation is fully in compliance with ProTerra Insecta, it is expected to define improvement plans that exceed and go beyond the Standard.

1.3

Use of ProTerra logos, seals, trademark and certificates

1.3.1

Levels I, II
and III

CORE: ProTerra Insecta-certified materials and products shall be identified using correct claims, the ProTerra logos, seals, trustmarks and certificates, according to the Guidelines and Requirements for the Use of the ProTerra Logos and Seals.

1.4

Management System

1.4.1

Levels II
and III

Certified organisations must implement and maintain a Management System for its supply chain that includes risk assessment and mitigation approaches and measures.

PRINCIPLE 2:

Human rights and responsible labour policies and practices

All workers should be treated with dignity and respect. Responsible business practices help ensure the rights and general well-being of workers. This principle is strongly based on International Labour Organisation (ILO) Conventions and international standards to ensure that companies provide safe working environments and do not engage in the likes of forced labour, child labour, or harassment.

2.1

Absence of slave and forced labour, child labour, and coercive disciplinary or control methods

2.1.1

Levels I, II
and III

CORE: Certified organisations shall not use slave or trafficked labour, forced labour, indentured servants, and their equivalents.

Guidance: This applies also to all workers supplied by third parties and contracted labour, including migrant and seasonal workers. No recruitment fees shall apply to workers.

2.1.2

Levels I
and III

CORE: No worker will be required to lodge their identity documents with their employer or any third party. Workers' wages, benefits or other property shall, likewise, not be retained.

2.1.3

Levels I, II
and III

CORE: Child and youngster labour, except in contexts permitted within national law and the International Labour Organisation (ILO), whatever is more stringent, shall not be used in certified organisations.

2.1.4

Levels I, II
and III

CORE: Coercive disciplinary or control methods shall not be permitted. This includes corporal or mental coercion, confinement, threats of violence or other forms of physical, sexual, psychological, or verbal abuse/harassment.

2.2

Weekly working hours and overtime

2.2.1

Levels I
and III

CORE: The workweek shall be set according to local and national laws, shall be consistent with local industry standards, and shall, at maximum, not routinely exceed 48 hours per week (excluding overtime). Where agreement with trade unions exists related to weekly working hours and overtime, these will be respected.

2.2.2

Levels I
and III

CORE: Overtime shall be limited as specified in local and national law and shall not routinely exceed 12 hours per week.

Guidance: Overtime in excess of 12 hours shall only be permitted during exceptional, limited periods when there are constraints or risk of economic loss and when conditions regarding overtime in excess of 12 hours have been previously agreed upon between workers and management. Where agreement with trade unions exists related to excess overtime, these will be respected.

2.2.3

Levels I
and III

CORE: Overtime shall be compensated as required by law or according to collective agreement or agreement with the trade union or, in the lack of those, at a premium rate.

Guidance: Legal dispositions which allow the exchange of overtime hours for extra days off shall be taken into consideration.

2.2.4

Levels I
and III

CORE: All overtime work shall be voluntary.

2.2.5

Levels I
and III

In all cases, workers are entitled to at least one day off after 6 (six) consecutive days of work. Where agreement with trade unions exists related to days off/rest days, these will be respected.

2.2.6

Levels I, II
and III

Certified organisations shall have a system in place to monitor working hours and overtime.

2.3

Personnel Management Programme

2.3.1

Levels I
and III

Certified organisations shall develop, implement, and maintain a human resources management programme for its employees consistent with and proportional to the needs of the organisation.

2.4

Equal opportunities and treatment for workers

2.4.1

Levels I, II
and III

CORE: All workers and applicants shall have equal employment opportunities, equal opportunities at work, including promotion and access to training, equal remuneration for work of equal value, equal benefits, and equal treatment on the job. No discrimination shall be tolerated including: “any distinction, exclusion or preference made on the basis of race, colour, age, gender, sexual orientation, religion, political opinion, nationality or social origin.

Guidance: Any distinction, exclusion or preference in respect of a particular job based on the inherent requirements thereof shall be justified and shall not be deemed to be discrimination. (Ref: ILO Convention 111, Articles 1 and 2).

There shall be no differences in the working conditions of any workers due to employment status (e.g., permanent, temporary, or subcontracted workers). However, “equal opportunities” and/or “equal treatment” shall not necessarily prevent certain workers from receiving rewards based on merit or performance, such as paid bonuses or other enhancements that are above and beyond the basic compensation due to all workers in the operation.

2.5

Workers’ working conditions

2.5.1

Levels I, II
and III

CORE: All workers, regardless of age, gender, or other personal characteristics, shall enjoy appropriate, legally compliant working conditions, including a safe and healthy workplace, access to safe drinking water, basic sanitary facilities and protective equipment.

2.5.2

Levels I, II
and III

CORE: Sanitary facilities must be available to all workers. The sanitary area is equipped with sinks and toilets, has soap or cleaning solution and is supplied with running water.

2.6

Clear and comprehensive labour contracts and legal rights

2.6.1

Levels I, II
and III

CORE: All workers shall have an employment contract or an equivalent document, that is understandable by the worker and signed by the employer and employee or the employees’ labour representatives. Contracts shall have at least the following information: pay rate/salary, working hours, deductions, overtime conditions, vacation time, conditions for sick and parental leave, grounds for dismissal, and period of notice for work termination.

2.6.2

Levels I, II
and III

CORE: There shall be a signed labour agreement between the certified organisation and the subcontracted companies, that include clauses requiring compliance with labour and legal rights of employees. In those countries where there are no requirements for formal labour agreements between workers and employers, alternative documented evidence of a labour relationship must be present.

2.6.3

Levels I and
III

CORE: Certified organisations shall communicate legal rights, contracts and agreements details to their employees in simple language and style so that workers can easily understand and comply with.

Guidance: The operation shall designate one or more persons to be responsible for maintaining and updating such information and shall identify this person to the Certification Body.

2.6.4

Levels I, II
and III

The certified organisation shall maintain personnel records for each employee for at least 5 years, or longer if required by local law.

Guidance: Personnel records will include for each employee their contract, their current status and history, job title, salary, training, hours worked, and vacation time and sick or parental leave accrued.

2.7

Qualification, working experience and training of workers

2.7.1

Levels I and
III

CORE: Worker job descriptions, including necessary skills, legal requirements, and salary range shall be set in written form.

Guidance: All workers shall have the necessary qualifications, experience, meet legal requirements to perform their jobs.

2.7.2
Levels I, II
and III

CORE: An ongoing programme of job-related training, including regular refresher training, shall be provided to all workers to ensure that they are competent to conduct their work efficiently, effectively and safely. Additionally, certified organisations shall provide all employees with training regarding relevant topics, such as sustainability, their rights, tasks, roles and responsibilities.

2.7.3
Levels I and
III

Certified organisations shall maintain records for all training for a minimum of 5 years, or longer if specified by local regulations.

Guidance: These records shall include the following information: date, time, attendees, trainer, and content material used during training. Records are to be considered proportional to the time the facility holds its ProTerra Insecta certification up to the fifth year of certification.

2.8

Salaries, payments and benefits

2.8.1
Levels I, II
and III

CORE: All workers, regardless of age or gender, shall be paid a fair, locally representative wage or salary, which shall meet or exceed the Legal Minimum Wage established for the region and sector agreement. If no Legal Minimum Wage exists, compensation shall at least meet the typical salaries usually paid in that region for the equivalent function or job.

Guidance: The operation shall demonstrate to the Certification Body and its auditors how it has met this indicator.

2.8.2

Levels I
and III

CORE: Piece work shall be paid at a rate that assures workers will be capable of earning at least a Legal Minimum Wage established for the region/sector. If no Legal Minimum Wage exists, compensation shall at least meet the typical salaries usually paid in that region for the equivalent function or job.

2.8.3

Levels I and
III

CORE: Wages or salaries and hours worked shall be regularly and legally paid in the national currency, documented and recorded.

Guidance: Payment shall be made at least monthly unless workers or their representatives expressly agree that it can be less frequent if specified in writing and signed by all parties.

2.8.4

Levels I and
III

CORE: Employers shall not make deductions from wages for disciplinary purposes.

Guidance: Deductions for social security or other legally mandated programs are acceptable.

2.8.5

Levels I, II
and III

A social security plan shall be established for the workers in regions where such a plan is not required by law or regulation.

Guidance: The plan shall clearly inform age and other conditions. The impact of such a social security plan on regular workers' pay shall be specified in the plan description.

2.9

Safety and health of workers

2.9.1

Levels I
and III

CORE: Certified organisations shall conduct a risk assessment of their operation and use the results of this assessment to guide the mitigation of risks and the development of a health and safety programme. Additionally, it should develop and implement procedures and have the resources to deal with accident and emergency situations. Certified organisations and their employees demonstrate an awareness and understanding of health and safety matters.

Guidance: The scope and complexity of the programme shall be proportional to the scope and complexity of the certified organisation. The risk assessment shall be documented and clearly linked to the health and safety programme.

2.9.2

Levels I, II
and III

CORE: First aid shall be readily and quickly available if and when accidents or other emergencies occur on the worksite. The presence on site of emergency first aid kits should be considered where legally accepted.

2.9.3

Levels I and
III

Certified organisations shall monitor and ensure compliance with its worker safety and health programme and keep records of health and safety performance, including accident statistics for the operation.

Guidance: Accident statistics shall include at least: accidents per number of hours worked and accidents per employee.

2.9.4

Levels I, II
and III

CORE: Hazardous tasks shall only be conducted by qualified and properly trained workers, taking into consideration the worker's health condition and particularities. Workers who have been injured or are ill, shall not perform activities that are detrimental to their health and safety and that can affect other workers.

Guidance: The organisation shall maintain documentation identifying workers authorised for hazardous tasks and require subcontractors to do the same. For Level II, this is specifically applicable to storage facilities and transporters.

2.9.5
Levels I, II
and III

CORE: Certified organisations shall provide, and substitute when needed, all adequate and appropriated personal protective equipment (PPE) and clothing to workers. No fees shall be charged for PPEs.

Guidance: Training on the importance and correct usage of PPE is to be considered as part of this indicator. For Level II, this is specifically applicable to storage facilities and transporters.

2.9.6
Levels I and
III

CORE: Wearing of appropriate personal protective equipment (PPE) and adequate clothing is mandatory when conducting activities that, based on the risk assessment (2.9.1), have been deemed PPEs as necessary. There is a system of warnings followed by legally permitted sanctions for workers who do not apply safety requirements or do not use the required PPE.

2.10

Training in health and safety

2.10.1
Levels I, II
and III

CORE: Workers shall be trained in the health and safety aspects of their job, and particularly those engaged in hazardous tasks. All workers shall be aware of hygiene and basic food safety requirements.

Guidance: For Level II, this is specifically applicable to storage facilities and transporters.

2.10.2

Levels I, II
and III

Certified organisations shall maintain records of all health and safety training for a minimum of 5 years, or longer if specified by local regulations.

Guidance: The following information shall be included in these records: date, time, attendees, trainer, and content material used during training. For Level II, this is specifically applicable to storage facilities and transporters.

2.10.3

Levels I, II
and III

Certified organisations shall employ qualified personnel to instruct workers in safety and health on the job.

Guidance: Certified organisations shall ensure that instructors have the necessary technical knowledge and legal qualifications. For Level II, this is specifically applicable to storage facilities and transporters.

2.11

Parental leave

2.11.1

Levels I, II
and III

Certified organisations shall comply at least with national and local regulations regarding maternity and paternity leave.

2.11.2

Levels I
and III

Workers taking maternity/paternity leave have the right to resume their work under the same conditions existing before taking leave, without discrimination, deduction of wages or loss of seniority.

2.11.3

Levels I
and III

CORE: In locations where specific regulations do not cover maternity leave, certified organisations shall establish a reasonable leave period.

Guidance: As a reference, consider ILO Convention No. 183 provides for 14 weeks of paid maternity leave.

2.12

Freedom for workers to organise, join and form associations

2.12.1

Levels I
and III

CORE: All workers shall be allowed to form and join trade unions or other collective bargaining organisations of their choice and have the right to collective bargaining.

Guidance: Certified organisations must demonstrate that they respect the rights of all workers to form and join trade unions or other collective bargaining organisations in accordance with the law.

2.12.2

Levels I
and III

CORE: Certified organisations shall not impede the functions of collective bargaining organisations or workers' associations and their representatives shall have access to their members at the workplace.

2.12.3

Levels I
and III

CORE: There shall be no discrimination by management or workers between unrepresented workers and members of labour or trade unions, and there shall be no discrimination against workers representatives.

PRINCIPLE 3:

Responsible relations with workers and community

Respecting workers and local communities means listening and, as applicable, considering what they have to say. Workers can often feel that speaking on an issue might cost them their job or jeopardise their well-being. Certified organisations should provide means for the communication of grievances that respect and protect the grievant and ensure that their complaints are fairly assessed. This principle also aims at extending such a mechanism to the local community and economy.

3.1

Systems of communication and grievance mechanism

3.1.1 Levels I and III

CORE: Certified organisations shall deal with complaints and grievances from workers, neighbours, local communities and traditional land users in an appropriate manner. Complaints and grievances are effectively and timely investigated and responded to.

Guidance: This system shall function at the worksites and in the communities linked to certified organisations.

3.1.2 Levels I and III

CORE: Complaints and grievances, responsive actions, and outcomes shall be documented, and records maintained for 5 years, or more if required by local law.

3.1.3 Levels I and III

CORE: The communication and grievance system shall include a mechanism that allows workers and community members to make complaints anonymously to the management of the certified organisation (if they desire anonymity), yet also allows verification of the validity of the complaints.

3.2

Economic development and support to local economy¹

¹ For definition of local refer to Section III: Terms and Definitions.

3.2.1Levels I
and III

Certified organisations shall demonstrate support for local community development projects.

3.2.2Levels I
and III

Certified organisations shall contribute to the local economy by preferentially offering local businesses the opportunity to supply goods and services that meet the organisation's specifications.

3.2.3Levels I
and III

Job opportunities shall be offered first to qualified members of the local community.

3.2.4Levels I, II
and III

Certified organisations shall have a financial plan for their business to ensure long-term viability over time.

PRINCIPLE 4: **Effective environmental management**

One of the major environmental concerns related to insect breeding is the introduction of non-native insect species as soon as there is a chance that live insects are inadvertently released into the environment. As these non-native species potentially have no predators (they are not natives to that country or region), an intense proliferation can occur representing a menace to the environment and to the local community. By implementing this principle, businesses will protect natural ecosystems and local communities while adhering to governmental and international regulations. This Principle also addresses requirements related to social and environmental impact assessment and management plans for the insect rearing operations.

4.1**Maintenance and enrichment of biodiversity**

4.1.1

Levels I
and III

CORE: Certified organisations shall identify, maintain and protect valuable biodiversity within their areas and shall, with the support of an external expert, implement projects in these areas too, as applicable, restore areas of natural vegetation around water bodies and on steep slopes and hills, and other sensitive parts of the ecosystem. If necessary, certified organisations shall restore such areas. A biodiversity management plan shall be prepared.

Guidance: If restoration is not possible or feasible, legally approved compensatory measures should be implemented. This indicator is only applicable to sites located in rural areas.

4.1.2

Level I

CORE: The introduction of non-native insect species or the use of protected species in insect production must be authorised by the competent authorities.

4.1.3

Level I

Producers must have a contingency plan to ensure that they are prepared to act in the event of an unintended release (or escape) of live insects into the environment. All unintentional releases of non-native species should be reported to the authorities. All unintentional releases must be documented.

4.1.4

Level I

CORE: For the production of insects, the facility must have a plan and financial provisions for the eventual future decommissioning of its activities in order to ensure that insects do not become a threat to the environment and to the local community.

4.2

Social and environmental impact assessment and management plan

4.2.1

Levels I
and III

CORE: Certified organisations shall perform a comprehensive Environmental and Social Impact Assessment (ESIA) for any large expansion projects, including the construction of new production or processing sites, to identify and to define a Management Plan to address, minimise or mitigate negative impacts. External experts are to be involved.

Guidance: The ESIA must be commensurate with the scale of the operation and infrastructure. Guidance from government, academia or other recognised experts should be obtained, as applicable, to complete the ESIA. Where existing, national regulations related to such assessment must be complied with. A definition of ESIA is provided under Terms and Definitions.

4.2.2

Levels I
and III

Certified organisations that fall within the requirements of 4.2.1 shall carry out the Management Plan specified in that indicator and review it prior to the ProTerra Insecta audit, assessing progress, revising, and setting new objectives, as appropriate. This Management Plan shall be monitored regularly and updated as necessary. Certified organisations are required to make summaries of their management plans and ESIA publicly available on their website.

PRINCIPLE 5: No use of Genetically Modified Organisms (GMOs)

There is still a scientific debate about whether genetic engineering is harmless for animal and human health. Many consumers and producers are concerned about GMO ingredients and wish to make informed decisions about where their food comes from. This includes understanding the health and safety, social and environmental impacts of their choices. This principle aims to ensure that GMO insects are not present in the certified organisations and in this way minimise GMO risk.

5.1

GMOs and Genetically Engineered Organisms

5.1.1

Levels I, II
and III

CORE: Genetically modified organisms (GMOs) and their by-products shall not be used in the production of ProTerra Insecta certified products. This includes technology that can be used to edit genes within organisms such as CRISPR/Cas9. This indicator applies to insects.

Guidance: Level III organisations must demonstrate the non-GMO status of insects reared or used as part of a multi-ingredient product.

5.1.2

Levels I, II
and III

CORE: All certified organisations shall avoid contamination of certified products with GMOs from external sources and shall demonstrate that the non-GMO control system is set up to assure compliance with non-GMO requirements of their target market(s). This includes defining:

- The Targeted Threshold Tolerance Level – i.e., the level of acceptable GM contamination found in a specified product for a specified region (country), and
- The approved/non-approved GMOs.

Where the Targeted Threshold is not defined, it will be considered, 0.1% as “technically unavoidable” or “adventitious” up to 0.9% of approved GMOs per feed material/ingredient (feed/food). For claims on products, certified organisations shall refer to the document entitled Guidelines and Requirements for the Use of the ProTerra Logos and Seals.

5.1.3

Levels I, II
and III

CORE: Certified organisations may use certain substances, which are produced by GMOs, or which are from unknown genetic origin, if:

- The substances are not available on a continuous basis in non-GMO quality as defined in this standard (based on origin, production process, quantity and analysis);
- The substances cannot be replaced with alternative products or methods;
- The substances are necessary for insect health and protection reasons;
- The substances are necessary for the production of food or feed products, or
- The substances' used in food or animal feed are required by law or by regulation in the country or region where they are produced and/or consumed.

Guidance: Substances that are exempted according to this guideline include, but are not limited to, food additives, processing aids, flavours, amino acids, other micronutrients, vitamins, animal feed additives. Exemptions are only possible, according to the Recommendations of the Expert Group to the Austrian “platform GMO-free” or to the recommendations of the EU Commission, based on the labelling of organic food and will be approved by the Certification Body on a case-by-case basis. Such uses shall be documented by the organisation.

5.2

System of Identity Preservation and Segregation

Certified organisations shall have in place an adequate system of segregation for GMO insects, should they also be used. This is achieved by one of the following methods (note that GMO insects are not eligible for certification under ProTerra Insecta Standard):

- Use of dedicated sites, facilities, equipment, conveyances, handling equipment and/or related infrastructure;
- By inspecting, cleaning and/or flushing facilities, equipment and conveyances between use in contact with GMO material and non-GMO material;
- A combination of the above methods.

5.2.1

Levels I, II
and III

5.2.2

Levels I, II
and III

Certified organisations shall have procedures and records in place to ensure and demonstrate that segregation of ProTerra Insecta-certified materials is maintained. Procedures shall be developed, implemented and maintained and shall include GMO testing, records of flushing or cleaning for product change in non-dedicated sites and inspection checklist of trucks and other conveyances.

Guidance: Applicability of the evidence demonstrating that segregation is maintained should be proportional to the type and size of the operation. For example, at farm level in general, only a sampling plan and strip test procedures and records may be required. For industrial plants (Level III), additional PCR sampling and testing protocols and results will be required, linked to production periods and lots. Certified organisations should justify, and document the approach used. Certified organisations must follow the ProTerra Guidance on GMO testing and sampling. Certified organisations are expected to be able to demonstrate compliance with such Guidance.

PRINCIPLE 6: Pollution and waste management

All human activity generates waste material that potentially creates pollution. Minimising pollution and waste generation should be a focal point of sustainable business practices. This principle aims to support certified organisations in the use of waste storage, handling and disposal methods that do not harm the natural environment and local communities, while promoting waste minimisation.

6.1

Appropriate management of hazardous waste and pollutant materials

6.1.1

Levels I
and III

CORE: Certified organisations shall segregate, handle, store and dispose of hazardous waste in a way not to cause environmental pollution. Measures are taken to reduce or recycle waste as much as possible. In countries where there are no local laws and/or regulations concerning pollution and waste management, organisations should consider applying World Bank and IFC guidelines.

Guidance: Hazardous waste include but are not limited to used batteries, fluorescent lamps, tyres, used lubricant oil, sanitising agents among others. Management of hazardous waste shall at least comply with national laws relevant to the location of the certified operation, as stated in Principle 1 of this Standard.

6.1.2

Levels I
and III

CORE: Certified organisations shall segregate, handle, store and dispose of pollutant materials properly, having appropriate facilities to prevent soil and groundwater contamination. Measures are taken to reduce or recycle waste as much as possible. In countries where there are no local laws and/or regulations concerning pollution and waste management, organisations should consider applying World Bank and IFC guidelines.

Guidance: Pollutant materials include but are not limited to oil derivatives, fuels, sanitising and disinfecting products. Appropriate facilities include, for example, drum spill containment basins with oil-water separation systems, machinery/equipment washing stations built in a way to prevent untreated effluent to reach water bodies. Management of pollutant materials shall at least comply with national laws relevant to the location of the certified operation, as stated in Principle 1 of this Standard.

6.1.3

Levels I
and III

CORE: Certified organisations shall discharge sewage and/or industrial effluents to water bodies avoiding pollution and shall at least comply with national laws relevant to the location of the certified operation, as stated in Principle 1 of this Standard.

Guidance: In the absence of local regulations, organisations should consider that effluent generated from pen washing activity and boiling water from insect post-harvest, must meet the discharge limits to water bodies as follows²:

- pH: 6 – 9
- BOD: 30 mg/l
- COD: 125 mg/l
- Total nitrogen: 10mg/l
- Total phosphorus: 2 mg/l
- Oil and grease: 10 mg/l
- Total suspended solids: 50 mg/l
- Total coliform bacteria: 400 MPN/100 ml

Treated waste water can be used to irrigate areas should they have adequate quality demonstrated by monitoring results.

6.2

Management and appropriate disposal of non-hazardous wastes

6.2.1

Levels I
and III

CORE: Non-hazardous waste shall be segregated and, where appropriate, minimised, recycled or reused. If recycling or reuse is not possible, a legal means of treatment and final disposal shall be employed.

6.2.2

Levels I
and III

CORE: Certified organisations shall manage biological waste such as dead insects (before harvest), insect feed scraps, insect faeces (frass) and off-specification food/feed products, among others, appropriately. These must be stored in a way to avoid pollution and/or to prevent these from becoming a source of pathogenic contamination or pest harbouring.

² Based on IFC (International Finance Corporation) Environmental, Health, and Safety (EHS) Guidelines: GENERAL EHS GUIDELINES: ENVIRONMENTAL WASTEWATER AND AMBIENT WATER QUALITY

Guidance: Dead insects shall be stored in dedicated areas and collected periodically by an authorised company. It is recommended that dead insects are incinerated, when possible, to avoid the risk of potentially spreading disease to other pens. Food scraps should not be reused with another pen or batch of insects as there is a risk of disease transmission. Frass separated from live insects and feed residues can be collected and processed or packaged for other applications (such as fertiliser or feed for other animals) in a separate area from the rearing or cleaning room. Management of non-hazardous waste shall at least comply with national laws relevant to the location of the certified operation, as stated in Principle 1 of this Standard.

6.2.3

Levels I
and III

CORE: Waste shall not be incinerated or burned, except when required for phytosanitary purposes or in line with 6.2.2, or in cases when it is burned for energy or heating or used for biogas/oil production.

Guidance: Burning for the generation of biofuels, for energy production must comply with local and/or national regulations. In countries where there are no local laws and/or regulations, organisations should apply the World Bank and IFC guidelines.

6.3

Control of atmospheric pollution

6.3.1

Levels I
and III

CORE: Certified organisations shall implement systems and procedures to ensure that air emissions from stationary sources (emissions from pipes or chimneys and associated for example to boilers, ovens, incinerators, and electricity generators), do not exceed regulatory limits. In countries where there are no local laws and/or regulations, organisations should consider applying World Bank and IFC guidelines.

Guidance: Certified organisations shall monitor air emissions.

6.3.2
Levels I
and III

Insect exuviae are allergens and must be removed from the facility environment to prevent or reduce allergic reactions to personnel or to the population living near the production facility. Filters (or alternative solutions to reduce the impact of air circulation) must have a routine inspection and maintenance programme.

PRINCIPLE 7: Water management

Water is a scarce resource in many parts of the world. It is also a resource under constant threat of contamination and misuse. This principle aims to ensure responsible use of water. ProTerra Insecta requirements associated with water management involve the conservation of natural water resources (conserving quantity and quality) and implementing best practices for water management aiming at avoiding contamination of surface and groundwater.

7.1

Conservation of natural water resources

7.1.1
Levels I
and III

CORE: Certified organisations shall conserve the quantity and quality of existing natural water resources, such as lakes, rivers, artificial lakes, dams, water tables and aquifers around their facilities, including creating or aggravating water scarcity situations.

Guidance: This indicator includes identifying water resources potentially affected by its operations, including outside the management unit, in order to contribute as much as possible to its conservation.

7.1.2

Levels I
and III

CORE: Certified organisations shall implement best practices for water conservation and avoidance of contamination of surface and ground-water.

7.1.3

Levels I
and III

CORE: Any contamination of ground or surface water shall be reported to the local environmental authority and, if necessary, mitigated based on a plan agreed with such authority.

7.1.4

Level I

Water supplied to insects must meet potability guidelines.

PRINCIPLE 8: Greenhouse gases and energy management

Global warming has a significant impact on human activity and is certainly one of the greatest challenges our society will be facing in the next decades. This principle encourages organisations to minimise the use of non-renewable energy in favour of renewable sources, to use energy-efficient equipment and to measure and reduce greenhouse gas emissions.

8.1

Management of greenhouse gas emissions

8.1.1

Levels I, II
and III

CORE: Certified organisations should develop an inventory of their greenhouse gas emissions and develop a programme to reduce or compensate for greenhouse gases emissions.

Guidance: Examples of applicable materials for emission reduction associated with the use of alternative fuels are: reforestation wood, biofuels, wood chips in hot water supply boilers. The use of solar or wind-generated electricity should also be considered. Plans should identify timelines, methods, and proposed budget. Progress shall be documented or otherwise demonstrable.

8.1.2

Levels I
and III

CORE: Certified organisations must ensure that energy-efficient equipment is used and that these are free of CFC gases. This is especially relevant when room climatisation is needed/used.

Guidance: For CFCs, please consult the Montreal Protocol on Substances that Deplete the Ozone Layer.

8.1.3

Level III

Large industrial operations should develop a Heat Management Programme.

PRINCIPLE 9: Adoption of good production practices

Good production practices are fundamental to minimise the impact of rearing and insect processing activities on the environment and on the health of workers and neighbouring communities. This principle aims to support organisations in reducing their impact (e.g., by reducing and adequately managing toxic and polluting materials) and to ensure the consistent quality of their products. Several requirements under this principle are directly associated with food safety aspects such as the need to implement Hazard Analysis and Critical Control Points (HACCP) principles when applicable and to develop and maintain Good Hygiene Practices (GHP) within the company.

9.1

Systems of good practices

9.1.1

Levels I, II
and III

CORE: Hazard Analysis and Critical Control Points (HACCP) principles, must be implemented whenever applicable.

Guidance: Implementation should be proportional to the scale and complexity of the operations. Large industrial facilities should have inspection and certification of HACCP practices issued by independent and qualified third parties.

9.1.2

Levels I, II
and III

CORE: Organisations must develop and maintain Good Hygiene Practices (GHP) within the company, proportional to the scale and complexity of its operations.

9.1.3

Levels I, II
and III

CORE: Workers shall be trained in developing and maintaining the HACCP system and implementing GHP.

9.1.4

Levels I, II
and III

A system shall be in place to deal with products that are rejected by customers.

9.1.5

Levels I, II
and III

CORE: Production equipment and instruments must be maintained in a clean and hygienic condition in order to avoid pest and microbiological contamination.

9.2

Insect Feed Management

9.2.1

Level I

CORE: Materials that carry the risk of containing heavy metals or hazardous chemicals, such as newspaper or chemical containers, shall never be used as feed containers for insect rearing.

9.2.2

Level I

CORE: The insect feed used on the farm must be stored in a clean, dry and pest-secure location.

9.2.3

Level I

CORE: Cross-contamination with feed sources must be avoided. Producers must have controls in place to ensure that this requirement is met.

9.2.4

Level I

Uneaten feed should be completely removed from the rearing pens and replaced daily with fresh material, except if larvae live/grow in the feed. To avoid pathogenesis, fresh feed should not be placed over old feed.

9.2.5

Level I

CORE: Traceability of the substrates given to the insects must be ensured.

9.3

Biosecurity

9.3.1

Level I

CORE: Precautions should be taken to keep insects inside; for instance, all openings to the rearing area should be sealed or filtered to avoid nuisance to neighbours and the general public.

Guidance: Also refer to requirements associated with 4.1.2 and 4.1.3 in relation to respectively the contingency plan and any future decommissioning requirements.

9.3.2

Level I

Farmers introducing breeding stock from other farms should assess the health status of the farm from which new stock is being procured to ensure that insect stock is healthy and that pathogens will not be transferred to the receiving site.

Guidance: Prior to purchase, farmers should visit the potential source farm, paying particular attention to the quality of farm operations and the health of the insects.

9.3.3

Levels I
and III

Processing and packaging should be separated from rearing facilities.

9.3.4

Levels I
and III

Control of external visitors must be implemented to minimise the risks that human visitors may pose to the production of insects or food and feed products.

Guidance: One method is, for example, to install a footbath tray at the entrance to the breeding or rearing house. The footbath should be filled with a disinfection agent compatible with insect rearing activities.

9.3.5

Level I

Insect farmers must develop a health management programme for their farms. Such a programme entails at a minimum: monitoring insects for signs of disease, rapid removal of diseased insects from pens, destruction of diseased insects and disinfection of the pen before reuse.

Guidance: Special attention should be given to fungal and mite growth in the insect population. The pen and rearing environment in which the disease or suspected disease has occurred must be cleaned with approved chemical agents approved, by local authorities, for food and feed application. Chemicals must be used according to instructions. Any medicine used must be approved by a professional veterinarian.

9.4

Documentation of production

9.4.1

Levels I
and III

CORE: All essential records, as applicable to the different levels, should be kept for 5 years or longer if required by local regulations. Essential records are related to the production cycle; feed and water provided to insects; insect growth and diseases; yields; postharvest practices; and sales.

Guidance: In the first years of certification these records are expected to be available proportionally to the time of certification. Examples of records are indicated below.

Production cycle: Origin of insect eggs (i.e., where the eggs came from, where they were purchased or collected from on-farm production); number of egg bowls used per pen; date hatching began; dates of maturity and breeding; dates of egg collection; and of harvesting.

Feed: Type of commercial feed used; percentage of protein content; bags or kilograms of commercial feed used; and types of vegetables used; date vegetables were introduced.

Water: Water source used, quantities and test results of water quality.

Insect growth: Growth records should note weekly issues relating to the production cycle such as problems encountered and the health and vitality of the insects.

Disease: Associated with any disease issues or outbreaks on the farm. Where this has occurred, the management procedure used to control the disease should be registered. Special notes should be made of the date and type of disease, how the pens were cleaned and what chemicals were used.

Yields: Record the dates when pens were harvested, the volume of insects collected; the weight of harvested insects per pen and the total production figures for the farm.

Postharvest: Postharvest records should show what type of processing was used on the farm at harvest (if insects were washed in water or not, whether they were boiled or frozen, for example).

Sales records: When, where, how much and to whom products were sold.

9.5

Reduction of toxic and polluting materials

9.5.1

Levels I
and III

CORE: Certified organisations shall avoid or reduce the use of toxic or polluting materials and shall select chemical products having the least possible toxicity and environmental impact for the required application.

Guidance: Typically, at the farm level, it will be necessary to use some chemicals to maintain hygiene and to prevent disease outbreaks in the colonies (e.g., for cleaning and disinfecting agents). Where chemicals are used, farmers should only use chemicals that are approved for use in insect farming by the appropriate government authorities. Chemicals used to sterilise pens and equipment should only be used in accordance with the manufacturer's instructions and should be stored safely and responsibly when not in use. At the industry level, other chemicals are typically used in ancillary activities, such as equipment maintenance fluids and lubricants.

9.6

Management of chemicals and chemical residues

9.6.1

Levels I, II
and III

CORE: Chemical products shall be handled, stored, transported, and disposed of as per regulations or according to procedures documented to be superior.

Guidance: Chemicals shall be stored and transported in their original containers or in other appropriate containers that are clearly labelled to identify contents. Certified organisations shall follow the manufacturer's recommendations and legal requirements for disposing of chemical waste and empty containers. Certified organisations shall, when possible, return empty containers to the supplier. For Level II this is specifically applicable to storage facilities and transporters.

9.6.2

Levels I
and III

Certified organisations shall test products intended for commercialisation and maintain test records.

Guidance: Insect producers are responsible for demonstrating the safety of the products leaving their production facilities. Sampling procedures should be implemented. Such sampling obligations are typically associated with microbiological criteria/ targets (e.g., for processed insect proteins intended for animal feed use) and maximum limits for contaminants (food contaminants and undesirable substances and products for feed), as defined by regulations or by the importing country.

9.7

Insect welfare

9.7.1

Levels I
and III

The producer should implement insect welfare standards and practices in its operations, despite uncertainty as to whether insects may suffer.

Guidance: The animal production industry should aim for freedom from hunger, thirst, discomfort, pain, injury, disease, fear and distress, and the expression of normal behaviour. Insect-killing methods that would reduce suffering include freezing or instantaneous techniques such as shredding should be preferred.

PRINCIPLE 10: Traceability and Chain of Custody

Chain of Custody requirements apply to the different levels of operation considered under the **ProTerra Insecta Standard**, i.e. Levels I, II and III. This is because organisations pass their products on to another certified operator or receive materials for their processing. Traceability indicators are part of the Chain of Custody.

Fulfillment of the indicators outlined in this principle qualifies an economic operator to make a sustainability claim on final products offered to consumers, as well as on any intermediate product.

10.1

Traceability and Chain of Custody System

10.1.1

Levels I, II
and III

CORE: Certified organisations shall develop, implement and maintain a Chain of Custody System that enables traceability and clearly defines the model used (identity preserved, segregation or mass balance). ProTerra Logo, traceability system used by the organisation and lot number shall be present in all Chain of Custody documentation of ProTerra Insecta-certified materials or products. Clear and readily available information on the ProTerra contracted volumes shall be provided during the certification audit (refer to the ProTerra Certification Protocol in force). All records related to the Chain of Custody System shall be kept for 5 years or longer if required by local regulations.

Guidance: In the first years of certification these records are expected to be available proportionally to the time of certification. The Traceability model will be clearly identified in the ProTerra certificate. Additionally, the certified organisation shall have sufficient documentation and records to demonstrate traceability and the veracity of its chain of custody.

10.1.2

Levels I, II
and III

CORE: Certified organisations shall have clear rules to avoid double counting of certified material and shall be able to demonstrate the effectiveness of such a system.

10.1.3

Levels I, II
and III

CORE: Certified organisations shall assign lot numbers to each received or shipped raw material or product consignment, as well as processing lots and final product lots linked to the traceability information pertaining to the same. Lot numbers shall be present in the Chain of Custody document.

Guidance: Each new production batch of harvested insects must be properly catalogued in such a way that it can be traced back to the raw material used to feed and water that batch. This information should follow the insects through each of the subsequent steps taken during the production process, including the results of the quality controls to be implemented at each critical point of the system.

10.1.4

Levels I, II
and III

CORE: Certified organisations shall make information available related to ProTerra Insecta-certified contracted volumes: the volume of the purchased certified product and the output of certified sold product. Organisations shall provide evidence of data consistency during the certification process (refer to the ProTerra Certification Protocol in force). Carryover of certified volumes is only possible if the company's certified status is continuous. In contrary cases, the carry-over is not possible and the corresponding amount must be excluded from this balance sheet and from the certified volumes.

Guidance: Certified organisations may wish the issuance of Traceability Certificate of Compliance (TCC), specific to an individual transaction. Should that be the case, an agreement must be reached with the CB. TCCs must follow the ProTerra Certification Protocol in force and CB must control the volume of the consignments that are capped by the total ProTerra contracted volume under a valid certificate.

10.1.5

Levels I, II
and III

CORE: Certified organisations shall maintain a product balance for inputs and outputs, correlating the amounts of certified inputs with the amounts of certified outputs, taking into account conversion factors and losses.

10.1.6

Levels I, II
and III

CORE: When ProTerra Insecta-certified material is transported as a part-load together with other material, systems and procedures shall be in place to prevent mixing during loading, transport and unloading. Correct ProTerra Insecta-certified products shall be clearly identified and delivered to the customer.

10.1.7

Levels I, II
and III

CORE: Traders and dealers may merge or split received consignments of ProTerra Insecta-certified products. To each new merged or split consignment, a unique identification number must be assigned, and this should be registered and clearly traceable in the Chain of Custody System used by the organisation.

Guidance: This may consist of one production lot or parts of one or more production lots.

10.2

Mass Balance

10.2.1

Levels I, II
and III

CORE: In cases where a ProTerra Insecta-certified material is mixed with other non-certified material a mass balance shall be maintained to demonstrate that volumes of ProTerra Insecta-certified material received are equivalent to ProTerra Insecta-certified material dispatched. The non-certified material shall be tested for the absence of banned substances and evidence shall be provided that the non-ProTerra Insecta certified has not been produced using forced or child labour. Otherwise, the ProTerra certification status will not be granted.

Additionally, the final product shall not exceed the maximum residue levels of banned substances permitted in the country of import or use. This shall be confirmed by the certified organisation by providing the analytical results of representative multi-residue analyses of banned substances for each lot supplied

10.3

Segregation

10.3.1

Levels I, II
and III

CORE: When using Segregation CoC Model, the economic operator shall have and consistently apply, standard operating procedures for maintaining full segregation for each lot of ProTerra Insecta-certified product from non-certified materials from the point of receipt to the point of transfer to the next economic operator in the supply chain.

10.3.2

Levels I, II
and III

CORE: When using Segregation CoC Model, precautions, including physical labelling of facilities and conveyances, must be in place to prevent co-mingling of ProTerra Insecta-certified material with other material during transport and during loading and unloading activities.

Section III: Terms and Definitions

Abuse

Mistreat: treat badly; maltreatment: cruel or inhumane treatment either verbal or physical in nature.

Certification Body

An external and independent body, approved by the Standard owner, to conduct audits against its Standard.

Chain of Custody

A documented chain of economic operators through whose facilities a given lot of product has passed.

Consignment

Volume of a shipment of product changing custody or ownership in the supply chain, composed of one or more production lots, or split from a given lot. A consignment can be comprised of merged consignments and can be split into various consignments. Each consignment is assigned a unique identification number for traceability purposes and inventory control.

Core Indicator

Core indicators are those that are considered by the ProTerra Foundation as essential to mitigate sustainability negative impacts. All core indicators must be met by applicants to be granted the ProTerra Insecta certification. Furthermore, they shall be maintained throughout the entire certification period.

Core Service provider

Core service provider is a provider of essential services to the production system, such as outsourcing of cleaning activities.

Core Supplier

A supplier of a core input that is added as part of the formulation of the final product to be ProTerra Insecta certified.

Dedicated

Facilities, equipment or vehicles used only for the storage, handling, transport, distribution, production or processing of certified product.

Economic Operator

Organisation or individual with legal ownership or physical control of insect farming activities, derived products, or products made with them. Economic operators may be in any node of the supply chain. In the context of this Standard, a certified organisation means the same as a certified economic operator.

Environmental and Social Impact Assessment (ESIA)

A structured and science-based process for predicting and assessing the potential environmental and social impacts of a proposed project, and designing appropriate compensation, mitigation, management and monitoring measures to deal with negative impacts.

GM (Genetically Modified or Genetic Modification)

Products or processes employing gene splicing, gene modification, DNA editing, recombinant DNA technology, or transgenic technology. Also refers to products produced using one or more GM inputs or process elements. Cloned animals and their progeny are also considered GMOs under this Standard.

GMO (Genetically Modified Organism)

A plant, animal, or other organism whose genetic makeup has been modified using recombinant DNA (gene splicing) or DNA editing methods or food/feed products derived from such an organism. Refers to products derived from a species of which GM varieties have been commercialised somewhere in the global production system.

Greenhouse Gases or Emissions

Gases, such as carbon dioxide, nitrous oxide, and methane, which are transparent to solar radiation but opaque to longwave radiation.

Guidance

Each indicator that is accompanied by guidance expands on the specific topic and offers practical information about how to meet the indicator's requirements.

Identity Preservation/Identity Preserved (IP)

Use of segregation and traceability procedures to maintain the identity of specific lots of products or processed products throughout all stages of production, maintenance, transportation, storage and processing. IP is primarily used to preserve the authenticity of defined traits or characteristics of products, one of which is the ProTerra Insecta certified status of the product.

Indentured Servant

A labourer under contract to work for an employer for a specific amount of time to pay off a debt. Typically, in cases of indentured servitude, the employers provide little if any monetary remuneration; however, they are responsible for accommodation, food, other essentials, and training.

Inputs

Any material or substance that becomes a part of the final product, or a component of which becomes a part of the product.

These include, but are not limited, the following:

- Unprocessed agricultural products, such as vegetables, grains, fruit, greens, herbs, forage plants, vitamins, enzymes, minerals and other fresh insect feed etc.
- Manufacturing and processing inputs, including ingredients, flavourings, seasonings colourings, additives, and all other substances present in final, manufactured products, such as residues of processing aids.

Legal Minimum Wage

The lowest wage, determined by law or collective agreement that an employer has to pay to a worker for a specified job. This excludes overtime premium.

Local Community

A group of interacting people living in and sharing a specific environment and place, and sharing common concerns around local facilities, services, and environment and which may at times depart from traditional or State definitions. Such communities may attach a particular meaning to land and natural resources as sources of culture, customs, history, and identity, and/or depend on them to sustain their livelihoods, social organisation, culture, traditions, and beliefs. Local communities may be legally or cus-

tomarily known or designated using various terms, such as “traditional communities.” As indigenous peoples, they may use and manage land in accordance with customary tenure systems and associated rights and may depend on their land for cultural and physical survival.

Lot

The volume of product originated in agriculture or industrial processing is assigned a unique identification number linking that production volume to a given period.

Non-GMO or Non-GM

A plant, animal, or other organism or derivative of such an organism whose genetic structure has not been altered by gene splicing, gene modification, recombinant DNA technology, transgenic technology, DNA editing, or by a process or product whose production utilises GM processes or inputs.

PCR analyses

Biochemistry and molecular biology techniques for isolating and exponentially amplifying a fragment or sequence of interest of DNA, via polymerase replication, without using a living organism.

Piece work

Any type of employment in which a worker is paid a fixed piece rate for each unit produced or action performed, regardless of time.

Product

Materials or goods that are assessed as part of the ProTerra Insecta Standard certification process, which the certified organisation offers to the market, at whatever stage of the production chain (i.e., as a final consumer product, an ingredient for further manufacturing, a raw agricultural crop or commodity, etc.).

Segregation

The system of facilities, equipment, and procedures through which an Economic Operator keeps material bound to ProTerra Insecta certification physically separated from GMO material; and ProTerra Insecta certified product physically separated from non-ProTerra Insecta certified material from the point of receipt to the point of transfer to the next Economic Operator in the chain of custody.

Stakeholder

A party with an interest or concern in a given programme, event, supply chain or system.

Strip test

Immunologically based screen-testing strip devices, that analyse the protein expressed by the DNA, and are used as a rapid and on-site method for identification of GM seeds or crops.

Supplier

Any party from whom an input or service is obtained.

Traceability

The system of documentation that enables any economic operator in the supply chain to trace the product or raw material or a derivative thereof back through the supply chain.

Trade Unions

An organisation of individuals associated through type of employment, or labour. These organisations may be comprised of individual workers, professionals, former workers, or the unemployed. The most common, but by no means only, purpose of these organisations is “maintaining or improving the conditions of their employment.”

Worker

This term refers to direct employees of an organisation, subcontractors working at or for the organisation in its premises. It also includes all permanent and temporary members of the organisation’s labour force.

ANNEX A – QUALIFICATION OF CERTIFICATION BODY

Specific requirements are applicable for Certification Body staff involved in auditing ProTerra Insecta. The guidance provided herein is mandatory and adds to the requirement set forward in the **Approval and Operational Procedures for Certification Bodies**.

a) Qualifications of Scheme Manager, Auditors and Lead Auditor item 4.4 should read as follows:

4.4 Qualifications of Scheme Manager, Auditors and Lead Auditor

This section describes the minimum qualification requirements in terms of training and experience to ensure that auditors and scheme managers working for Certification Bodies recognised by ProTerra consistently possess the knowledge, skills and experience to consistently, comprehensively, and transparently implement the ProTerra Certification System and carry out evaluations against the ProTerra Insecta Standard.

4.4.1 Scheme Manager

The Scheme Manager is the person within the Certification Body that is responsible for:

- a) Implementation of the ProTerra requirements as specified in the ProTerra Certification Protocol;
- b) Ensuring and supervising that all auditors meet the qualification requirements of ProTerra and conduct the audits as specified in the ProTerra Certification Protocol;
- c) Making the final certification decision and ensuring that the final certification decision, certificate and audit report are handled according to the requirements as specified in the Protocol; and
- d) Attending ProTerra training when necessary and remaining up to date with ProTerra Certification System procedures, requirements, and documentation.

The Scheme Manager has to be competent in the auditing process of the ProTerra Insecta Standard. This includes the following minimum qualification requirements:

- a) Advanced post-high school education degree in the area of agriculture, chemical technology, or food-related disciplines;
- b) Successful completion of an ISO 9001/14001 Lead Auditor course or other training/experience deemed equivalent and acceptable by the ProTerra Foundation;

- c) Demonstrable knowledge and experience of food/feed production and processing systems including food/feed safety requirements: Hazard Analysis and Critical Control Points (HACCP) and good hygiene practices;
- d) Completion of the ProTerra training on the practical application of the ProTerra Standard, ProTerra Insecta and ProTerra Certification Protocol;
- e) Working language skills in English for verbal and written communication with ProTerra, and working language skills suitable for verbal and written communication with the auditee and the auditee's relevant stakeholder groups;
- f) The technical manager shall have audit skills and audit experience with certification in the food and feed industrial areas covering the following issues:
 - Labour Conditions and social aspects
 - Health and Safety;
 - Environmental protection and management;
 - Non-GMO production, if applicable;
 - Legal Framework for the production of the commodity being certified;
 - Traceability / Chain of Custody systems, and
 - Food/feed safety requirements: Hazard Analysis and Critical Control Points (HACCP) and good hygiene practices;

The proof of the qualification requirements for scheme managers shall be handled as part of the Certification Body approval process. Exceptions to any of these requirements must be approved and registered in advance by the ProTerra Standard and Certification Committee.

4.4.2 Auditor

The Auditor is the person within the Certification Body that performs the on-site audit. As such the Auditor is responsible for:

- a) Performing audits of producers and/or producer groups in compliance with the ProTerra Standard;
- b) Performing audits of organisations in compliance with the ProTerra Insecta;
- c) Producing accurate and timely audit reports as specified in the ProTerra Protocol;
- d) Keep up to date with the ProTerra Certification System procedures, requirements, and documentation.

The auditor shall to be competent to audit the ProTerra Standard and ProTerra Insecta. This includes the following minimum qualification requirements:

- a) Post high school education degree in the area of agriculture, chemical technology, or food/feed-related disciplines;
- b) Proof of participation and completion of the ProTerra auditor training, including ProTerra Insecta training, on the practical application of the ProTerra Standard and Certification Protocol;
- c) Working language skills in English for verbal and written communication with ProTerra, and working language skills suitable for verbal and written communication with the auditee and the auditee's relevant stakeholder groups;
- d) Demonstrable knowledge and experience of food/feed production and processing systems including aspects related to food safety and to the legal framework for the production of the commodity to be certified;
- e) Supervised period of training in practical auditing by a qualified lead auditor with at least 15 days' audit experience achieving a minimum of 2 (two) audits at different organisations;
- f) Have work experience and a sound knowledge of the reality of the country where the audit is to take place;
- g) Contract with a ProTerra approved Certification Body.

4.4.3 Lead Auditor

The Lead Auditor is the person within the Certification Body who is the leader of the audit team. The Lead Auditor shall be competent to audit of the ProTerra Standard, ProTerra Insecta and ProTerra Certification Protocol. In addition to the required qualification of an auditor (see Auditor section), the Lead Auditor fulfils the following extra requirements and qualifications:

- a) Demonstrable experience in the auditing processes operating with Mass Balance Tracking and Tracing;
- b) Successful completion of an ISO 9000/9001 Lead Auditor course;
- c) Food/feed safety requirements: Hazard Analysis and Critical Control Points (HACCP) and good hygiene practices;
- d) Non-GMO production, if applicable; and
- e) The Lead Auditor should have completed a minimum of 5 (five) audits as a team member and be witnessed in his position as a team leader by the Scheme Manager or another Lead Auditor of the Certification Body during a ProTerra audit before qualification as a Lead Auditor in the ProTerra scheme.

In addition to the above and in the understanding that not all of the above qualifications may be with one auditor, the audit team shall be a multi-disciplinary team composed under the responsibility of the lead auditor and approved by the Scheme Manager. The

team as a whole shall be qualified in each of the individual fields of experience as specified below. The audit team shall have audit skills and audit experience with certification in food and feed and/or industrial areas covering the following issues:

- Labour Conditions and social aspects;
- Health and Safety;
- Environmental protection and management;
- Non-GMO production, if applicable;
- Legal Frame for the production of the commodity being certified;
- Traceability / Chain of Custody systems, and
- Food/feed safety requirements including Hazard Analysis and Critical Control Points (HACCP) and good hygiene practices;

Exceptions to any of these requirements must be approved and registered in advance by the ProTerra Standard and Certification Committee.

Document Revision History

Name	Date	Pages	Type of changes
ProTerra Standard on Social Responsibility and Environmental Sustainability for Producers of Insects as Food and Feed - PROTERRA INSECTA – DRAFT	10 August 2021	1- 32	“Normative document and code of practice for the certification of responsible production of insects for food and feed - Initial version for public consultation CONTROLLED COPY.”
ProTerra Standard on Social Responsibility and Environmental Sustainability for Producers of Insects as Food and Feed - PROTERRA INSECTA Version 1.0	11 March 2022	1-37	“Normative document and code of practice for the certification of responsible production of insects for food and feed - CONTROLLED COPY.”
ProTerra Standard on Social Responsibility and Environmental Sustainability for Producers of Insects as Food and Feed - PROTERRA INSECTA Version 2.0	18 October 2023	1-54	“Normative document and code of practice for the certification of responsible production of insects for food and feed - CONTROLLED COPY.”