

Cricket Farming Policy and Practice Act 2023

Advancing the Future of Cricket Farming in Australia

2023

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This document represents a comprehensive guide and resource aimed at advancing the cricket farming industry across Australia. It is designed to support and empower cricket farmers by providing valuable insights, best practices, and guidelines to promote sustainability, animal welfare, and operational excellence. It is important to note that this document is not bound by legal obligations; rather, it serves as a proactive initiative to propel the industry towards a brighter and more prosperous future.

Through meticulous research, industry expertise, and collaboration with stakeholders, this document offers a range of policies, procedures, and recommendations specifically tailored to the unique challenges and opportunities faced by cricket farmers. It aspires to foster a culture of continuous improvement, innovation, and responsible practices within the industry.

By embracing the principles outlined in this document, cricket farmers can enhance their knowledge, optimise their operations, and contribute to the long-term growth and sustainability of the cricket farming sector. We encourage all stakeholders to leverage the insights and recommendations provided herein as we collectively strive towards a better future for the industry.

Please note that this document is intended as a living resource, subject to periodic updates and revisions based on emerging research, industry developments, and stakeholder feedback. We encourage cricket farmers to remain engaged and actively participate in the ongoing evolution of this document, as together we shape the future of cricket farming in Australia.

Schubugs remains committed to supporting and empowering cricket farmers, and we extend our gratitude to all stakeholders for their valuable contributions towards the advancement of the industry. Together, we can unlock the full potential of cricket farming, creating a sustainable and thriving sector for generations to come.

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Introduction

Welcome to Schubugs Cricket Farm, a pioneering venture founded in 2018 by Zachery Schubert with a vision to revolutionise protein production. Situated in the beautiful Riverland town of Loxton, our farm has evolved from humble beginnings in Zachery's garage to a thriving enterprise with the support of his father, Tim Schubert, on the family farm.

At Schubugs, we recognize the growing demand for alternative, sustainable food sources and have harnessed the potential of crickets as a protein-rich solution. Our mission is to provide high-quality cricket-based products while prioritising ethical and environmentally-friendly farming practices.

Initially starting small-scale in a garage, Zachery Schubert experimented with breeding crickets and refining the process to create his own protein powder. Witnessing the surge in interest for edible insects, he collaborated with his father to scale up production. Today, we operate out of specially designed shipping containers and are excitedly constructing a state-of-the-art facility capable of accommodating over 6 million crickets.

Why Crickets?

Crickets are a nutritional powerhouse, offering a sustainable source of protein that outperforms traditional livestock in terms of resource efficiency. They require significantly less water, land, and feed compared to conventional livestock while emitting fewer greenhouse gases. With a balanced nutritional profile containing essential amino acids, vitamins, and minerals, crickets have the potential to address global food security challenges while promoting a healthier, more sustainable future.

What Sets Schubugs Apart?

Quality Assurance: We maintain stringent quality standards throughout our farming process, ensuring the highest standards of cleanliness, nutrition, and well-being for our crickets. This commitment translates into premium-grade products for our valued customers. **Sustainable Farming:** Our farm prioritizes sustainability at every stage. By utilising innovative farming techniques and reducing our ecological footprint, we strive to minimise the environmental impact associated with food production. **Traceability and Transparency:** We believe in fostering trust and transparency with our customers. From sourcing the highest-quality ingredients to detailing our farming practices, we are committed to providing full traceability and transparency at every step. **Diverse Product Range:** Schubugs offers a diverse range of cricket-based products, including protein powder, energy bars, snacks, and more. Our delicious and nutritious offerings cater to health-conscious individuals, athletes, and anyone seeking sustainable protein alternatives.

Join the Schubugs Community:

At Schubugs, we invite you to be part of a community that values sustainable nutrition and supports forward-thinking farming practices. By choosing our cricket-based products, you contribute to a greener and healthier planet, one bite at a time.

Explore our website <https://schubugs.com.au/> to learn more about Schubugs Cricket Farm and the benefits of incorporating cricket protein into your diet. Together, let's nourish ourselves and the planet with a sustainable protein revolution.

Cricket Farming Policy

At Schubugs Cricket Farm, we are committed to sustainable and responsible practices in the farming of crickets. As a leading cricket farming enterprise, we recognise the importance of adhering to high standards to ensure the well-being of our crickets, protect the environment, and provide safe, quality cricket products. This Cricket Farming Policy serves as a guiding framework that outlines our commitment to environmental stewardship, animal welfare, product safety, and worker safety. By implementing and adhering to these policies, we aim to set a benchmark for excellence in cricket farming while contributing to a more sustainable and resilient agricultural industry. We continually strive to optimise our farming practices, reduce our ecological footprint, and meet the evolving needs of our customers and stakeholders. This policy underscores our dedication to transparency, compliance, and continuous improvement as we navigate the dynamic landscape of cricket farming.

Purpose and Scope

The purpose of this Cricket Farming Policy is to establish clear guidelines and standards for the farming operations at Schubugs Cricket Farm. It aims to ensure the responsible and sustainable production of crickets, while prioritizing environmental sustainability, animal welfare, product safety, and worker safety. The scope of this policy encompasses all aspects of the cricket farming operations, including facility management, rearing area practices, feed and water standards, hygiene and maintenance protocols, harvesting processes, and the sale and purchase of crickets. It also outlines guidelines for employee conduct, record-keeping, decision-making, and penalties to maintain compliance with legal and regulatory requirements.

Furthermore, the policy provides comprehensive guidance on continuous improvement efforts, stakeholder engagement, community relations, and effective communication and reporting practices. It highlights the company's commitment to ongoing evaluation, stakeholder involvement, and transparency to foster positive relationships and meet the evolving needs of customers, employees, regulatory authorities, and the wider community. By defining the purpose and scope of this policy, we aim to uphold the highest standards in cricket farming, promote sustainability, ensure the well-being of the crickets, and deliver safe and quality products to our customers. It serves as a framework to guide our farming practices, encourage responsible conduct, and create a positive impact on the environment, animal welfare, and the well-being of our employees and stakeholders.

Legal and Regulatory Compliance

Primary Industries Legislation

In Australia, cricket farming falls under the jurisdiction of various primary industries legislation, which may differ by state or territory. These legislations generally outline requirements related to animal welfare, biosecurity, food safety, and agricultural practices.

Animal Welfare Standards

The Australian Animal Welfare Standards and Guidelines - Land-Based Livestock, issued by the Department of Agriculture, Water, and the Environment, provides guidelines for the welfare of livestock, including farmed insects like crickets.

Food Safety Standards

The Australia New Zealand Food Standards Code includes regulations related to food safety, handling, and processing. It is important to comply with these standards when producing cricket products for human consumption.

Biosecurity

Biosecurity measures aim to prevent the introduction and spread of diseases, pests, and contaminants. Compliance with biosecurity requirements, such as record-keeping, disease management, and quarantine protocols, may be necessary for cricket farming operations.

Environmental Regulations

Environmental regulations regarding waste management, water usage, and land use may apply to cricket farming operations. Compliance with these regulations is crucial to ensure environmental sustainability and minimize the ecological impact.

Environmental Sustainability

At Schubugs Cricket Farm, we are deeply committed to environmental sustainability and recognise our responsibility to minimise the ecological impact of our operations. We prioritise sustainable practices throughout our farming processes to ensure a greener and more sustainable future.

Waste Management

We have implemented robust waste management systems to minimise the environmental footprint of our operations. This includes strategies such as recycling and composting organic waste, reducing non-recyclable waste through responsible procurement practices, and exploring innovative ways to repurpose or reuse by-products generated during the farming process.

Water Conservation

We understand the importance of water as a precious resource, and we actively implement water conservation measures. This includes optimising irrigation systems, employing water-saving technologies, and monitoring water usage to minimise wastage. Additionally, we explore water reuse strategies to ensure the efficient utilisation of this valuable resource.

Energy Efficiency

Reducing energy consumption and embracing energy-efficient technologies are key pillars of our environmental sustainability efforts. We continually assess and upgrade our equipment and facilities to improve energy efficiency. This includes utilising energy-efficient lighting systems, implementing smart automation technologies, and exploring renewable energy sources such as solar or wind power wherever feasible.

Pollution Prevention

We are committed to preventing pollution and minimising the release of harmful substances into the environment. Stringent protocols are in place to ensure responsible handling, storage, and disposal of chemicals and other potentially hazardous materials used in our farming operations. By adhering to strict pollution prevention measures, we aim to protect local ecosystems and contribute to a cleaner environment.

Biodiversity Conservation

Preserving and enhancing biodiversity is a core focus of our environmental sustainability efforts. We strive to create a farming environment that supports native flora and fauna, promoting biodiversity within and around our cricket farming facilities. This includes practices such as planting native vegetation, providing habitat enhancements, and actively monitoring and managing potential impacts on local ecosystems.

Continuous Improvement

We believe in a continuous improvement approach to environmental sustainability. We regularly review and assess our farming practices, seeking innovative solutions and staying informed about emerging technologies and best practices. By actively engaging with industry experts, researchers, and stakeholders, we aim to enhance our environmental performance and contribute to the development of sustainable farming practices.

By embracing these environmental sustainability measures, we are dedicated to minimising our ecological impact, conserving natural resources, and fostering a healthier and more sustainable future for generations to come.

Employee Conduct

"Employee Conduct: All employees are expected to exhibit professional and respectful behaviour at all times while representing our cricket farming operation. This includes adhering to the highest ethical standards, treating colleagues, customers, and partners with dignity, and following all relevant laws, regulations, and policies.

In more detail, employees are expected to:

- Maintain a positive and professional demeanour and communicate with others in a clear and respectful manner.
- Show respect for the diversity of individuals and perspectives within the workplace.
- Follow all relevant health and safety procedures to ensure a safe work environment.
- Adhere to all laws, regulations, and policies related to cricket farming, including those related to product quality and food safety.
- Refrain from engaging in any activity that may compromise the reputation of the cricket farming operation.
- Report any violations of this policy or any other relevant laws, regulations, or policies to their supervisor or the designated company representative.

By following these expectations, employees will contribute to a positive and productive workplace culture and help maintain the high quality of our cricket products."

Health and Safety

"Health and Safety: The health and safety of our employees, customers, and the environment is of utmost importance to our cricket farming operation. All employees are expected to follow established health and safety procedures and take any necessary precautions to minimize risk.

In particular, employees are expected to:

- Follow all safety procedures related to handling and caring for crickets, including proper use of personal protective equipment.
- Report any safety concerns or incidents immediately to their supervisor or the designated company representative.
- Participate in regular safety training and assessments to maintain and improve health and safety standards.
- Take an active role in maintaining a safe work environment, including reporting any hazards or potential risks.
- Adhere to all relevant laws, regulations, and policies related to health and safety in the workplace.

By prioritizing health and safety, we can ensure that our employees, customers, and the environment are protected and that our cricket farming operation is sustainable and responsible."

Quality Control

"Quality Control: Maintaining high standards of quality control is essential to the success of our cricket farming operation. Our customers, whether they are reptile breeders or people looking for human grade cricket powder, expect us to provide high quality products that meet their needs and expectations.

In order to meet these expectations, all employees are expected to:

- Follow established quality control procedures and protocols, including regular testing and certification of our products.
- Ensure that all crickets are raised in a clean and controlled environment, with proper nutrition, temperature, and humidity to maintain health and vitality.
- Take an active role in identifying and correcting any quality issues, such as detecting and addressing issues with the environment, feed, or water quality.
- Maintain accurate records of all testing and certification, as well as any other quality control measures.

By prioritising quality control, we can ensure that our products are of the highest quality and that our customers receive the best possible products for their needs. Whether it's live crickets for reptile breeders or human grade cricket powder for human consumption, we are committed to providing the highest quality products possible."

Record Keeping

"Record-Keeping: Accurate and up-to-date records are essential for tracking and managing our operations. Proper record-keeping helps us understand the life cycle of the crickets, identify any potential issues with the breeding environment, and make informed decisions about the management of our operation.

All employees are expected to:

- Record the date and time of when crickets are born, as well as when they die, to understand their life cycle and track any trends or patterns.
- Document the maintenance of the breeding environment, including when breeding soil is added to the breeding bins, when feed and water is changed, and any other important information related to the breeding environment.
- Maintain accurate records of all testing and certification, as well as any other quality control measures.

By maintaining accurate and up-to-date records, we can ensure that our operations are running smoothly and that we are providing high quality products to our customers. This information will also be helpful in making informed decisions about the future of our operation and in improving our processes over time."

Decision Making

"Decision-Making: Decisions related to our insect farming operation should be made in a fair, consistent, and transparent manner. Effective decision-making is critical to the success of our operation, and all employees play a role in this process.

All employees are expected to:

- Make decisions based on accurate information, including relevant data and up-to-date records.
- Follow established procedures, including those related to breeding, feeding, and maintaining the breeding environment.
- Consider the impact of their decisions on the health and safety of our employees, customers, and the environment.
- Collaborate with others, including other employees, contractors, and partners, to ensure that decisions are made in a fair, consistent, and transparent manner.

By making decisions based on accurate information and following established procedures, we can ensure that our operation runs smoothly and that we are providing high quality products to our customers. Furthermore, by making decisions in a fair, consistent, and transparent manner, we can maintain the trust and confidence of our employees, customers, and partners."

Penalties

"Penalties: Failure to follow this policy is taken seriously and may result in disciplinary action, up to and including termination of employment.

Disciplinary action may include:

- Verbal warnings

- Written warnings
- Suspension without pay
- Demotion
- Termination of employment

The type and severity of disciplinary action will depend on the nature and severity of the violation, as well as the employee's history of compliance with this policy and other relevant policies.

It's important to note that repeated violations of this policy may result in more severe disciplinary action, including termination of employment. All employees are expected to take responsibility for understanding and following this policy, and to report any violations they observe to their supervisor or another appropriate authority.

By enforcing this policy, we can ensure that all employees are held accountable for their actions, and that our operation remains compliant with all relevant laws, regulations, and policies."

Farming Practices and Standards

Facility

The success of a cricket farming facility relies on the proper maintenance of various crucial aspects that contribute to the production of high-quality crickets for live feed and human consumption. To ensure customer satisfaction, the following areas must be closely monitored and managed:

- **Quarantine Area:** Within the cricket facility serves a crucial function in ensuring the integrity of the breeding and production processes. By strictly enforcing a quarantine protocol, the facility ensures that external elements such as bacteria and contaminants are not introduced into the environment, maintaining the quality and safety of the end products for both live feed and human consumption.
- **Heating and Cooling:** Appropriate temperature control is necessary for the optimal growth and development of crickets.
- **Lighting:** Proper lighting conditions are essential for the well-being of crickets and must be closely monitored.
- **Safety Measures:** All necessary precautions must be taken to ensure the safety of employees, customers, and the environment.

By consistently following these guidelines, a cricket farming facility can provide its customers with the best possible end product.

Quarantine Area

The Quarantine Area at the cricket farm is a vital component of the operation that helps maintain the hygiene and quality of the cricket products. The facility follows strict protocols to prevent the introduction of external elements like bacteria, contaminants, and other insects that may bring disease into the environment. To achieve this, the quarantine area is equipped with facilities for employees to change and wash their hands and boots before entering the farm. This helps prevent the transfer of potential pathogens from the outside and maintains the cleanliness and health of the crickets within the facility. Regular checks and monitoring are also carried out to ensure the continued implementation of

the quarantine protocols, ensuring the safety and quality of the final products for both live feed and human consumption.

Heating and Cooling

The Heating and Cooling systems within the cricket facility play a crucial role in providing the optimal environment for the growth and development of crickets. A temperature range between 25°C to 30°C is crucial for the well-being and productivity of the crickets. This temperature range is essential for the crickets to function at their optimal level, as crickets are cold-blooded and their bodily functions are dependent on the temperature of their environment. Deviations from this temperature range, either too hot or too cold, can cause adverse effects such as overheating or slowing down, leading to reduced productivity and negatively impacting the quality of the end products. To maintain the optimal temperature, the Heating and Cooling systems must be maintained and monitored regularly to ensure proper functioning and efficient temperature control.

Mould

The optimal growth and development of crickets is dependent on appropriate temperature control within the cricket facility. Ideally, the environment should be maintained between 25-30°C to ensure the crickets are not subject to overheating or a reduced level of productivity due to low temperatures. As crickets are cold-blooded, this temperature range is crucial to their well-being.

However, it is important to note that if the facility is consistently maintained within this temperature range, there is a potential for mould growth on surfaces such as the floor, benches, roof, walls, containers, bins, food, and water. Mould growth can be detrimental to the crickets and potentially contaminate the end product. Therefore, it is imperative that regular cleaning practices are implemented to prevent mould build-up and ensure a healthy and hygienic environment for the crickets.

Lighting

Lighting plays a crucial role in the cricket breeding and production process as it impacts the overall health and productivity of the insects. Adequate lighting conditions are necessary to maintain a safe working environment, but also have a direct effect on the crickets' feeding habits. The presence of light can stimulate an eating response, leading to increased feed consumption, which contributes to their growth and development. Thus, it is important to closely monitor lighting conditions to ensure optimal conditions are maintained. It is also essential to implement regular cleaning and maintenance procedures to prevent any issues with lighting fixtures that could negatively impact the cricket population or result in safety hazards for employees.

Safety Measures

The implementation of effective safety measures within the cricket facility is a top priority. This includes conducting regular safety assessments, providing necessary personal protective equipment, promoting safe work practices, and ensuring that all employees are trained on and adhere to established safety procedures. Any incidents or safety concerns must be reported immediately to prevent further harm and to maintain a secure working environment for all. Additionally, the facility must adhere to all relevant laws, regulations, and industry standards to maintain the health and well-being of employees, customers, and the surrounding environment.

Environmental Standards

The cricket farming operation must adhere to stringent environmental regulations and standards to ensure responsible and sustainable practices. Firstly, it is crucial to ensure that the controlled environment meets all necessary regulatory requirements and permits for the farming operation. This includes compliance with local, regional, and national laws governing agricultural activities and environmental protection. Secondly, the implementation of measures to minimise the ecological impact is essential. This involves employing proper waste management techniques, such as recycling or responsibly disposing of waste materials generated during the farming process. Additionally, water conservation practices should be in place, such as efficient irrigation systems and water reuse strategies to minimise water consumption. Energy efficiency should also be prioritised by utilising energy-saving technologies, optimising lighting systems, and exploring renewable energy sources where feasible. Lastly, monitoring and controlling the air quality, temperature, humidity, and lighting conditions within the controlled environment are crucial. These factors directly impact the growth and welfare of crickets, ensuring optimal conditions for their well-being and productivity. Regular monitoring and adjustments are necessary to maintain a favourable environment that supports healthy cricket development. By upholding these environmental standards, the cricket farming operation can operate sustainably, minimise its ecological footprint, and contribute to a more environmentally responsible industry.

Virus Prevention

Cricket farming, like other forms of livestock farming, can be susceptible to a variety of diseases, including viral diseases. Some of these diseases can be devastating to cricket farms, causing high mortality rates and significant economic losses.

Here are some of the known viruses affecting crickets:

Cricket Paralysis Virus

(CrPV): CrPV is a member of the Dicistroviridae family. The virus has been known to cause rapid paralysis and death in cricket populations. The symptoms are quite sudden, with crickets becoming paralysed within a few hours of initial symptoms and death often occurring shortly thereafter.

Acheta domesticus Densovirus (AdDNV)

This virus is known to cause high mortality in house crickets, which are commonly farmed for both pet food and human consumption. Infected crickets usually die within 10-14 days of infection. The virus can remain in the environment for a long time and is resistant to many common disinfectants.

Cricket Iridescent Virus (CrIV)

CrIV, or Invertebrate iridescent virus 6 (IIV-6), is another virus that can infect and cause mortality in cricket populations. Infected crickets often display a shiny, iridescent appearance due to the virus.

Monitoring

Regular checks should be carried out to identify early signs of disease in the cricket population. Symptoms may vary depending on the virus, but can include changes in behaviour (like lack of movement), unusual mortality rates, or physical changes (like iridescence with CrIV).

Reporting

If a disease is suspected, it should be reported immediately to relevant authorities who can provide guidance and help contain the outbreak. Reporting also allows authorities to monitor disease prevalence and spread at a larger scale, and to provide timely information and support to other farms.

Disposal of Dead Crickets

Dead crickets should be disposed of safely to prevent the spread of disease. This usually involves collecting the dead crickets using equipment that can be easily disinfected, and then either incinerating or burying them. Dead crickets should never be left out, as they can attract pests or other animals that could spread the disease further.

Education and Training

It's important that all farm workers understand the signs of disease, the importance of biosecurity measures, and the procedures to follow in the event of an outbreak. Regular training sessions can help ensure that everyone is up-to-date on the latest information and techniques.

Good Farming Practices

Healthy crickets are more resistant to diseases. Ensuring crickets have a balanced diet, providing them with a clean and stress-free environment, and avoiding overcrowding can all help to enhance their overall health and immunity.

Biosecurity and Disease Prevention

At Schubugs Cricket Farm, we place the highest priority on biosecurity measures to safeguard the health and well-being of our crickets. Our comprehensive approach focuses on preventing the introduction and spread of diseases, pests, and contaminants within our farming operations. By adhering to strict biosecurity protocols, we mitigate potential risks and ensure a healthy and thriving cricket population.

Compliance with Biosecurity Requirements

We fully comply with all biosecurity requirements mandated by relevant UK and Australian authorities. This includes maintaining accurate and up-to-date records of all activities related to our cricket farming operations. By diligently recording information on movements, treatments, feed sources, and other relevant data, we contribute to traceability and effective disease management. Biosecurity measures are the first line of defence against diseases. This involves controlling the movement of people, equipment, and materials into and within the farm to prevent the introduction and spread of diseases. For example, disinfectant footbaths can be placed at farm entrances to disinfect the footwear of anyone entering. All tools and equipment should be regularly cleaned and disinfected, and protective clothing should be worn and regularly changed.

Disease Management

We understand the importance of proactive disease management in maintaining the health of our cricket population. Regular monitoring and surveillance are conducted to identify any signs of disease or illness promptly. In the event of a disease outbreak, we implement appropriate measures, such as isolation,

treatment, and, if necessary, culling, to prevent the spread of the disease and safeguard the overall health of our cricket farm.

Quarantine Protocols

Stringent quarantine protocols are in place to prevent the introduction of diseases and pests into our cricket farm. All incoming stock, including crickets and any associated materials, are subjected to thorough inspection and quarantine procedures. This helps to minimize the risk of introducing harmful pathogens or pests into our existing population. Quarantine areas are designed to facilitate proper monitoring, testing, and observation of new arrivals before their integration into the farm.

Rural Location Advantage

Our farm is strategically located in a rural area, providing inherent advantages for biosecurity and disease prevention. The isolation from high-traffic areas reduces the risk of exposure to potential contaminants and pests. This location also minimizes the likelihood of disease transmission from nearby farms or wildlife populations, allowing us to maintain a secure and biosecurity environment for our crickets.

Continuous Training and Education

We prioritize continuous training and education for our staff to ensure they are well-versed in biosecurity protocols and disease prevention strategies. This includes keeping them updated on the latest research, emerging diseases, and best practices in biosecurity. By fostering a culture of awareness and knowledge, we empower our team to actively participate in maintaining a robust biosecurity program.

By upholding stringent biosecurity measures, implementing effective disease management strategies, and strictly adhering to quarantine protocols, we demonstrate our commitment to the health and welfare of our cricket population. Our proactive approach to biosecurity and disease prevention safeguards the integrity of our farm and contributes to the sustainable and successful operation of Schubugs Cricket Farm.

Animal Welfare

At Schubugs Cricket Farm, we are deeply committed to upholding the highest standards of animal welfare. We recognise that providing suitable living conditions and ensuring the well-being of our crickets is paramount.

Living Conditions

We maintain optimal living conditions for our crickets, carefully controlling temperature, humidity, and other environmental factors. By creating a controlled and comfortable environment that mimics their natural habitat, we promote their overall well-being and enable them to thrive. Regular monitoring and adjustments are made to ensure that the conditions remain optimal for their growth and development.

Nutrition Requirements

We place great emphasis on meeting the nutritional needs of our crickets. Our team of experts formulates a balanced and nutritious diet, carefully considering their specific nutritional requirements at different stages of their life cycle. We ensure that their feed contains essential nutrients, vitamins, and minerals necessary for their health and vitality. By providing a well-rounded diet, we contribute to their overall welfare and robust growth.

Humane Handling

We are committed to handling our crickets with the utmost care and respect. Our staff members are trained in humane handling practices, ensuring that crickets are treated gently and without causing unnecessary stress or harm. During routine maintenance, inspections, and other farm activities, we take precautions to minimise any potential distress or injury to the crickets.

Harvesting and Processing

When it comes to harvesting and processing, we adhere to strict humane practices. We employ efficient and ethical methods that minimise stress and discomfort for the crickets. Swift and humane techniques are utilised to ensure a smooth transition from the farm to further stages of production or distribution. By prioritising their welfare during harvesting and processing, we uphold our commitment to their well-being.

Continuous Monitoring and Care

Regular monitoring and care are integral parts of our animal welfare practices. We conduct routine checks and observations to assess the health and behaviour of the crickets. Any signs of distress, illness, or abnormality are promptly identified, and appropriate measures are taken to address their needs. We prioritize their health and well-being by providing necessary veterinary care and treatment when required.

Continuous Improvement

We continuously seek opportunities for improvement and innovation in our animal welfare practices. We stay informed about the latest research, advancements, and industry standards related to cricket farming. By actively engaging with experts, stakeholders, and scientific developments, we enhance our understanding and implement best practices to further improve the welfare of our crickets.

By expressing our unwavering commitment to providing suitable living conditions, meeting their nutritional requirements, practicing humane handling, and ensuring ethical harvesting and processing practices, we strive to ensure the highest levels of animal welfare at Schubugs Cricket Farm. Our dedication to the well-being of our crickets is an integral part of our values and the foundation of our responsible farming practices.

Product Safety and Quality Control

At Schubugs Cricket Farm, we are committed to delivering safe and high-quality cricket products to our customers. We recognize the importance of ensuring the safety and integrity of our products throughout the entire production process. With stringent product safety and quality control measures in place, we strive to meet and exceed industry standards.

Testing for Pathogens and Contaminants

We prioritise the health and safety of our customers by implementing rigorous testing protocols to identify and mitigate any potential pathogens or contaminants in our cricket products. Our testing procedures include regular screenings for bacteria, viruses, fungi, and other harmful microorganisms. By partnering with accredited laboratories, we can ensure accurate and reliable results, enabling us to take prompt action if any issues are detected.

Quality Control Measures

Quality control is an integral part of our production process. We have established comprehensive quality control measures to monitor and maintain the highest standards throughout every stage of cricket production. This includes stringent inspections of raw materials, ensuring they meet our quality criteria before they are processed. Throughout the production process, we conduct regular checks and inspections to verify that our products meet our strict quality standards.

Traceability and Documentation

We prioritise traceability and documentation to ensure the transparency and accountability of our cricket products. We maintain detailed records at every step of the production process, including the origin of raw materials, processing methods, and quality control assessments. This allows us to trace and verify the journey of our products, ensuring their safety and quality.

Standard Operating Procedures (SOPs):

We have established robust standard operating procedures (SOPs) to guide our production processes and ensure consistency and uniformity in our cricket products. These SOPs cover various aspects, such as handling and processing techniques, storage conditions, and packaging requirements. By following standardised procedures, we can maintain product safety and quality control across our operations.

Compliance with Regulatory Standards

We adhere to all relevant regulatory standards and guidelines governing the production of cricket products. We stay up to date with industry regulations and work closely with regulatory authorities to ensure our practices align with the latest requirements. This allows us to provide our customers with products that meet or exceed safety and quality benchmarks.

Continuous Improvement

We are committed to continuous improvement in product safety and quality control. We regularly review and enhance our processes, incorporating new technologies, best practices, and customer feedback. By embracing a culture of continuous improvement, we aim to deliver the highest levels of safety and quality in our cricket products.

Work Safety

At Schubugs Cricket Farm, we prioritise the safety and well-being of our employees. We are committed to providing a safe working environment and ensuring that all workers have the necessary knowledge, skills, and resources to perform their duties safely. Our worker safety policies and practices are designed to comply with Australian regulations, promoting a culture of safety and preventing workplace accidents or injuries.

Safety Guidelines and Procedures

We have established comprehensive safety guidelines and procedures that outline the expected safety practices and protocols within our cricket farming facility. These guidelines cover various aspects, including machinery operation, chemical handling, manual lifting, and emergency procedures. All employees are expected to familiarise themselves with these guidelines and follow them diligently to maintain a safe working environment.

Training and Education

We believe in the importance of ongoing training and education to enhance worker safety. All employees receive initial safety training upon joining our company, which includes an overview of safety protocols, hazard identification, and emergency response procedures. Regular refresher training sessions are conducted to reinforce safety knowledge and update employees on any changes or new safety practices.

Personal Protective Equipment (PPE)

The use of appropriate Personal Protective Equipment (PPE) is essential in safeguarding the well-being of our workers. We provide necessary PPE, such as safety goggles, gloves, and protective clothing, to employees based on their job functions and potential hazards. It is mandatory for employees to wear the provided PPE whenever required, and they are responsible for maintaining their PPE in good condition.

Safety Inspections

Regular safety inspections are conducted to identify potential hazards and ensure compliance with safety regulations. Trained personnel perform these inspections, checking equipment, machinery, work areas, and storage areas for any safety concerns. Identified hazards are promptly addressed, and necessary corrective actions are taken to mitigate risks.

Reporting and Incident Response

We encourage all employees to report any safety concerns, near-miss incidents, or accidents promptly. An open communication channel is established to ensure that workers can easily report safety-related issues to their supervisors or the designated safety officer. Any reported incidents are thoroughly investigated, and appropriate corrective measures are implemented to prevent similar incidents in the future.

Health and Well-being

We recognise the importance of prioritising the health and well-being of our workers. This includes providing access to clean drinking water, rest areas, and appropriate facilities to address personal hygiene needs. Additionally, we promote a work-life balance and encourage employees to take breaks as needed, especially in a facility with a temperature of 30 degrees Celsius, ensuring they have time to rest and rehydrate.

Compliance with Australian Regulations

We are committed to complying with all relevant Australian safety regulations applicable to cricket farming operations. This includes adherence to the Work Health and Safety Act and other associated legislation. We regularly review and update our safety policies and procedures to align with any changes in regulations and industry best practices.

By prioritising worker safety through safety guidelines, training programmes, the provision of personal protective equipment, regular safety inspections, and compliance with regulations, we aim to create a safe working environment that protects the well-being of our employees at Schubugs Cricket Farm.

Machine Lift Operation

- A. All employees must receive proper training on the safe operation of the machine lift used for feeding the crickets.
- B. Only trained and authorised personnel should operate the machine lift.
- C. Prior to operation, the machine lift must undergo regular maintenance and inspections to ensure its safety and functionality.
- D. Safe operating procedures, including load capacity limits, proper positioning, and secure attachment of materials, must be followed at all times.

Ventilated Mask Usage

- A. When working in areas where there is a high concentration of frass (cricket waste) in the air, employees must wear properly fitted ventilated masks.
- B. Masks should meet the relevant Australian standards for respiratory protection, such as AS/NZS 1716:2012.
- C. Regular inspection and replacement of masks are necessary to ensure their effectiveness.
- D. Training should be provided on the proper fitting, use, and maintenance of ventilated masks.

Temperature and Hydration

- A. Given the facility's temperature of 30 degrees Celsius, employees must take regular breaks every 30 minutes to rest, hydrate, and spend time outside the facility to prevent heat-related health issues.
- B. Adequate supplies of potable water should be readily available for employees to maintain proper hydration.
- C. Employees should be educated on the signs and symptoms of heat-related illnesses, such as heat exhaustion and heatstroke, and the appropriate actions to take if such conditions arise.

General Workplace Safety

- A. Conduct regular risk assessments to identify potential hazards within the cricket farming facility and develop appropriate control measures.
- B. Maintain a clean and organised work environment to prevent slips, trips, and falls.
- C. Provide appropriate personal protective equipment (PPE), such as gloves, goggles, and protective clothing, when handling chemicals, cleaning agents, or equipment that may pose risks.
- D. Establish clear procedures for reporting and addressing workplace incidents, near misses, and hazards.
- E. Ensure employees receive proper training on emergency procedures, including evacuation routes, assembly points, and the use of firefighting equipment, if applicable.

Compliance with Australian Codes and Regulations

- A. Familiarise yourself with relevant codes and regulations specific to cricket farming operations in Australia, such as the Work Health and Safety Act 2011 and the Work Health and Safety Regulations 2011.
- B. Ensure that the facility and work practices align with the requirements outlined in these codes and regulations.

- C. Regularly review and update safety policies and procedures to maintain compliance with changing regulations.

By implementing these work safety measures, including proper operation of the machine lift, use of ventilated masks, temperature management, and adherence to Australian safety codes and regulations, we prioritise the well-being of our employees and create a safe working environment at our cricket farming facility.

Stakeholder Engagement and Community Relations

At Schubugs Cricket Farm, we recognise the importance of engaging with our stakeholders, including local communities, suppliers, customers, and regulatory authorities. We are committed to building and maintaining positive relationships with these stakeholders, fostering open communication, addressing concerns, and promoting transparency in our operations.

Community Engagement

We actively engage with the local community to foster a strong relationship built on mutual understanding and collaboration. This includes participating in community events, supporting local initiatives, and listening to community feedback and concerns. By maintaining an open dialogue, we strive to address any potential impacts of our cricket farming operations on the local community and work together to find mutually beneficial solutions.

Supplier Engagement

We value our suppliers and believe in building strong partnerships based on trust and collaboration. We maintain regular communication with our suppliers, ensuring that they are aware of our quality and sustainability requirements. We actively seek feedback from our suppliers, address any issues promptly, and work together to improve our supply chain processes.

Customer Engagement

Our customers are a vital part of our business, and we are committed to meeting their needs and maintaining their trust. We engage with our customers through various channels, such as surveys, feedback forms, and direct communication, to understand their expectations and preferences. We use this information to continually improve our products and services, ensuring customer satisfaction and loyalty.

Regulatory Authorities

We recognise the importance of compliance with relevant regulations and standards governing our cricket farming operations. We maintain open and transparent communication with regulatory authorities, promptly addressing any compliance issues and actively seeking guidance to ensure adherence to all necessary requirements. We strive to maintain a positive working relationship with regulatory authorities, actively participating in any relevant consultations or regulatory processes.

Transparency and Reporting

We are committed to transparency in our operations and reporting. We provide stakeholders with clear and accurate information about our farming practices, sustainability initiatives, and any relevant updates

or changes. We strive to be responsive to stakeholder enquiries and concerns, providing timely and transparent responses.

Continuous Improvement

We continuously seek opportunities for improvement in our stakeholder engagement and community relations practices. We value feedback from our stakeholders and use it to refine our approaches, ensuring that we are meeting their expectations and addressing any emerging concerns effectively.

By actively engaging with stakeholders, fostering positive relationships, addressing concerns, and promoting transparency, we aim to build trust, create shared value, and contribute positively to the communities in which we operate.

Communication and Reporting

At Schubugs Cricket Farm, we prioritise effective communication and reporting as essential components of our operations. We recognise the importance of transparent and open channels of communication both internally and externally. Our approach to communication and reporting ensures that our policies, standards, and procedures are effectively communicated, and that mechanisms are in place to address non-compliance or concerns.

Internal Communication

We foster a culture of effective internal communication, ensuring that all employees are informed and engaged in matters related to our policies. This includes regular meetings, training sessions, and informative materials to ensure a shared understanding of our expectations and requirements. We encourage open dialogue, feedback, and suggestions from our employees, creating an environment where everyone feels comfortable raising concerns or providing input.

External Communication

Externally, we are committed to maintaining open and transparent communication with our stakeholders, including customers, suppliers, regulatory authorities, and the local community. We provide clear and accessible information about our policies, practices, and performance, fostering trust and building strong relationships. We actively seek feedback and address concerns from external stakeholders, taking their perspectives into consideration as we continually improve our operations.

Reporting Mechanisms

To facilitate reporting and address non-compliance or concerns, we have established dedicated mechanisms and channels. These mechanisms allow employees, stakeholders, and members of the community to report any violations, potential risks, or issues related to our policies. We provide multiple avenues for reporting, dedicated email addresses, or direct communication with designated personnel. All reports are treated with utmost confidentiality, and appropriate actions are taken to investigate and address the reported matters.

Addressing Non-Compliance or Concerns

We are committed to promptly addressing non-compliance or concerns raised through our reporting mechanisms. Any reported issues are thoroughly investigated, and appropriate actions are taken based on the findings. We strive to ensure that all reported matters are resolved in a fair and transparent

manner, maintaining confidentiality and protecting the rights of individuals involved. We also take proactive measures to prevent recurrence and continuously improve our policies and practices based on the lessons learned from reported incidents or concerns.

Regular Communication and Updates

We believe in maintaining regular communication and providing updates to our stakeholders. This includes sharing information on our progress towards meeting our objectives, changes to policies or procedures, and relevant industry updates. We utilise various communication channels, such as newsletters, website announcements, and social media platforms, to keep our stakeholders informed and engaged in our sustainability efforts.

By prioritising effective communication and establishing robust reporting mechanisms, we aim to create an environment where individuals feel empowered to raise concerns, report non-compliance, and contribute to the continuous improvement of our cricket farming operations. We are committed to fostering a culture of transparency, accountability, and responsiveness, ensuring that communication flows effectively both internally and externally.

Schubugs Cricket Farming Process

Introduction to Cricket Farming

The journey into cricket farming can be a complex and detail-oriented process. However, it is the persistence and consistency of the process, often tailored to the specific needs of your farm or cricket species, that ultimately bear fruit. This guide will walk you through the intricacies of farming *Acheta Domestica*, based on the wealth of knowledge gained from hands-on experience at the Schubugs facility.

Cricket Life Cycle

Crickets go through a lifecycle spanning over ten weeks, consisting of the stages: Hatching, Pinhead, Small, Medium, and Large. Under optimal conditions, they spend approximately two weeks in each stage. Crickets are encased in an exoskeleton which they must shed seven times to reach maturity. During the early stages of their lifecycle, specifically the pinhead stage, maintaining optimal humidity is crucial. This is because pinheads are extremely susceptible to dehydration, which can lead to their death. Ideal conditions for pinheads are a temperature of 30 degrees Celsius and a humidity level of 80%. As they grow into small, medium, and large crickets, they become less susceptible to dehydration and the humidity level can be lowered to around 60%. The dimensions of crickets at different life stages are as follows:

Hatching egg - 0.2 cm (0 – 2 weeks)

Pinhead Crickets 0.2 – 0.5cm (2-4 weeks)

Small Crickets 0.5 – 1cm (4-6 weeks)

Medium Crickets 1cm – 2cm (6-8 weeks)

Large Crickets 2cm – 3cm (8-10 weeks)

The Breeding Cycle and Egg Production

Crickets enter their breeding phase at around 8-10 weeks, given the conditions are conducive. A single female has the potential to lay between 10 to 15 eggs daily over a span of 30 days. However, egg production tends to decline rapidly once the crickets surpass this 30-day window. While crickets are capable of breeding in various soil types, they demonstrate a preference for coconut coir. The moisture in the coir not only prevents the eggs from drying out but also acts as an initial moisture source for the pinhead crickets. Coconut coir is usually purchased dry, with water being added to create the perfect egg-laying conditions. An ideal way to test this is through the squeeze test - a handful of wet coir is taken and squeezed. Water should seep out slowly, leaving the coir damp but not overly wet. The typical ratio to achieve this consistency is 1L of water for every 1kg of coconut coir. Crickets are not picky when it comes to their egg-laying schedule. As long as the moistened coir is accessible, they will breed at their convenience.

Watch this full video on the Schubugs for more detail and a visual

Nymph Rearing

The rearing process for nymphs, or juvenile crickets, is one that requires diligent attention. From the moment they hatch to the time they reach maturity, it's important to maintain optimal conditions for their growth. Nymphs have specific nutritional requirements that necessitate a high-protein diet. Commercial cricket feed, combined with fruits and vegetables for additional nutrients and hydration, is typically ideal. It's essential to maintain feeding consistency for steady growth. Furthermore, the environmental conditions should be carefully regulated. For nymphs, maintain a temperature around 30 degrees Celsius and a humidity level of 80%. These conditions prevent them from drying out and promote healthy development.

Adult Rearing

Caring for adult crickets within a farming facility requires regular monitoring and maintenance. Adult crickets continue to need a high-protein diet, supplemented with fruits and vegetables for added nutrition and hydration. Proper watering techniques are essential; crickets can easily drown in open water dishes. Therefore, water should be provided using sponges or water crystals. Maintaining a clean and controlled environment is paramount for adult cricket care. Regular cleaning of cricket containers, ensuring proper ventilation, and avoiding overcrowding can significantly contribute to cricket health and longevity.

Harvesting

Harvesting crickets requires an understanding of their lifecycle and a careful approach to ensure humane handling. Typically, crickets are harvested at their nymph stage right before their last molt. This is when they possess the highest protein content and are most tender. A popular harvesting method involves cooling the crickets in a refrigerator to slow them down, making them easier to handle. Afterward, they should be thoroughly rinsed and cooked to kill any potential pathogens. Timing the harvest is crucial. It's important to monitor the crickets closely and harvest them when they've reached the desired size and quality.

Waste Management

Effective waste management in cricket farming, including handling of frass (cricket droppings) and uneaten feed, is vital to maintaining a hygienic environment and minimising environmental impact. Composting is an effective way to recycle cricket waste, transforming it into a rich soil amendment. Regular cleaning schedules should be implemented to remove waste and prevent the development of diseases.

Automation and Technology

Integrating automation and technology can streamline the cricket farming process, improving efficiency and productivity. Automated feeding systems can provide consistent nutrition, while climate control systems can help maintain optimal environmental conditions. Monitoring devices can offer real-time data on conditions within the farm, aiding in early detection of any potential issues. The use of such technology can not only save time but also enhance the precision of farming operations.

Quality Control and Monitoring

Quality control measures are vital to ensure the health and viability of the cricket population. Regular monitoring of environmental conditions, nutrition, and growth rates can assist in maintaining high standards. Any health issues or abnormalities should be quickly identified and addressed. Regular health checks, combined with proper feeding and housing, play a crucial role in maintaining quality.

Maintenance

Maintenance is a crucial aspect of cricket farming. Keeping the farming infrastructure, equipment, and cricket habitats in optimal condition not only ensures a healthy environment for the crickets but also maximises efficiency and productivity.

Policy: Regular inspections should be scheduled to assess and maintain the equipment and infrastructure. Minor issues or wear and tear should be addressed promptly to prevent them from escalating into larger, costly problems. Replacement parts for essential equipment should be kept in stock to minimise downtime in the event of equipment failure.

Facility Maintenance

Keeping the facility clean and hygienic is critical to preventing the spread of diseases and maintaining the overall health and wellbeing of the crickets.

Policy: A detailed cleaning schedule should be established and followed, with regular deep-cleaning of cricket bins, feeding and watering equipment, and other tools. Any waste or spilled feed should be promptly removed. Biosecurity measures should be implemented, including disinfection protocols for anyone entering or exiting the facility.

Heating, Cooling, and Infrastructure

Proper temperature and humidity control are crucial for cricket health and productivity, making the heating and cooling systems vital components of the infrastructure.

Policy: Heating and cooling systems should be regularly inspected, maintained, and serviced to ensure they are functioning efficiently and maintaining the desired environmental conditions. Backup systems

should be in place in case of failure. The building's insulation should be kept in good condition to assist with temperature regulation and energy efficiency.

Quality Control and Monitoring

Routine monitoring of cricket health, growth rates, and overall quality is essential to ensuring the success of a cricket farming operation.

Policy: A systematic approach should be established to regularly evaluate the health and quality of the crickets, including checking for any signs of disease or stress. Any issues identified should be promptly addressed. Data should be collected and analysed regularly to track productivity and to inform decisions about potential changes to practices.

Automation and Technology

Incorporating automation and technology into cricket farming can streamline processes, increase accuracy and efficiency, and improve overall productivity.

Policy: Where feasible, automated systems should be implemented for feeding, watering, and climate control. Technology should be used to monitor conditions in real-time and provide data for analysis. Regular maintenance and updates of these systems are essential to ensure they are functioning correctly and efficiently.

By implementing these policies, cricket farming operations can maintain high standards of cleanliness and quality, optimise productivity, and ensure the wellbeing of the crickets. As always, these policies should be tailored to the specific needs and circumstances of the operation and should comply with all relevant local and national regulations.

Cleaning and Hygiene

Regular cleaning and maintaining high standards of hygiene are crucial for preventing disease outbreaks and ensuring the production of healthy crickets safe for human consumption. Cleaning schedules should be adhered to, with daily checks for cleanliness being mandatory.

Chemicals and Cleaning Products

All cleaning products and chemicals used in the facility should be non-toxic, bio-degradable, and safe for use around crickets. Any cleaning product or chemical must be approved by a designated authority within the organization before usage. The Material Safety Data Sheets (MSDS) for all chemicals should be readily available and well understood by all staff members.

Cleaning Cricket Bins

Cricket bins should be cleaned regularly to prevent the build-up of waste and bacteria. All bins should be emptied, cleaned with approved cleaning products, and thoroughly dried before reintroducing crickets. Cleaning frequency may vary depending on the size and population of the bins.

Wall and Floors Cleaning policy

Walls and floors of the facility should be cleaned and disinfected regularly to minimise the spread of pathogens. The frequency of cleaning should be increased during periods of high humidity or in the event of disease outbreaks.

Packing area

The packing area should be cleaned at the end of each day, ensuring all surfaces are sanitised and all equipment is properly cleaned and stored. All packing materials should be stored in clean, dry areas to prevent contamination.

Cleaning Bay

The cleaning bay should be regularly maintained to ensure all cleaning equipment is in optimal condition. Regular checks should be conducted to ensure there's no build-up of grime or bacteria on cleaning tools. All equipment should be cleaned and disinfected after use.

Feed and Watering Systems

Feeders and water dispensers should be cleaned and disinfected daily to prevent mold growth and bacterial contamination. Unused feed should be removed daily, and water sources should be refreshed regularly.

Mould control

Areas prone to high humidity levels should be monitored closely for signs of mould growth. Regular inspections should be conducted to identify and promptly address any mould issues. In case of mould infestation, the contaminated materials should be discarded, and the area thoroughly cleaned and dried before reuse. Remember, these policies are meant to ensure the production of safe, high-quality crickets for human consumption. Strict adherence is required from all staff members, with regular checks and updates necessary to maintain optimal farming conditions.

Harvesting Process

Harvesting Crickets for Live Sales

When preparing crickets for live sales, often to pet owners for feeding reptiles, the method of harvesting will largely depend on the design of the cricket bins. Components such as egg cartons, feeders, breeding soils, and hydration sources will need to be carefully removed to allow for efficient harvesting.

After these components are extracted, a critical step is to separate the crickets from their frass (excrement). Utilising a filtering or sieving process can expediently accomplish this task. Utmost care must be taken during this process to prevent any harm or stress to the crickets, as their wellbeing directly impacts their suitability for sale.

Packaging Live Crickets

Packaging live crickets demands meticulous attention, as they must arrive at the customer's location alive and in good health. Many reptiles will reject dead or unhealthy prey, and a high mortality rate can lead to the development of mold within the packaging, further affecting the health of surviving crickets. Consequently, several factors should be taken into account to ensure successful transit:

Posting Boxes

The use of sturdy, ventilated cardboard boxes is advised for transporting crickets. Factors such as ventilation, space (facilitated by egg cartons), hydration, and feed should be adjusted based on the number of crickets and estimated transit duration. Crickets should ideally not be in transit for longer than five days given the considerations below.

Ventilation

Adequate ventilation is crucial for maintaining a supply of fresh air for the crickets during transit. This can be facilitated by punching small holes in the box or creating larger openings covered with mesh to prevent escape while still promoting air circulation.

Egg Cartons

Including egg cartons within the transportation box helps to maximize the usable space for crickets, providing ample room for them to move and minimizing stress and damage during transit.

Hydration and Nutrition

Including fruits such as oranges and carrots can serve as a source of both hydration and nutrition for the crickets during transit. Select fruits that have a longer freshness period and can withstand the transit duration without spoiling. It's vital to respect biosecurity regulations of your area when selecting which fruits to include. Some places will use water gels but these can be an extra cost for your business.

Through adherence to these guidelines, one can maximize the likelihood of crickets arriving to their destination alive and in optimal condition, thereby maintaining customer satisfaction and the reputation of your cricket farming operation.

Harvesting Crickets for Human Consumption

Crickets destined for human consumption must be harvested at the peak of their health, typically between 10 and 12 weeks of age. At this life stage, crickets are fully grown and female crickets are abundant with eggs, thereby enhancing the nutritional profile of the harvest, specifically in terms of protein, vitamin, and mineral content.

Prior to harvest, crickets should undergo a "purging" process. This entails a 24-hour period during which crickets are left without food, water, or cardboard in their bins. This process allows crickets to eliminate all their frass, which not only improves the hygienic quality but also enhances the flavour profile for human consumption.

After purging, crickets are sieved to separate them from any remaining frass, then placed into containers or bags and moved to a freezer for 24 hours. Freezing serves as a humane method of euthanasia and preserves the crickets until further processing.

Roasting Crickets for Human Consumption

Following freezing, crickets can be processed into a culinary ingredient through roasting. Before roasting, it's recommended to wash crickets in clean water and blanch them briefly in boiling water. This helps to further ensure their cleanliness.

Cricket is then roasted at a temperature of around 200 degrees Celsius (around 400 degrees Fahrenheit) for approximately 10-20 minutes, or until they reach a crisp texture. The exact timing may vary depending on oven variations and cricket size.

Roasting can be performed in various ways. Crickets can be roasted plain or with a coating of oil and seasonings for added flavor. Different roasting techniques might impart different flavor profiles, making them suitable for various culinary applications.

Turning Roasted Crickets into Cricket Powder

After roasting, crickets can be ground into a fine powder. This process involves drying the roasted crickets, if not done already during roasting, and then milling them using a food-grade grinder. The resulting cricket powder should be fine and consistent, similar to flour.

Cricket powder is highly versatile and can be incorporated into various recipes. This nutrient-dense ingredient can be used in protein bars, baked goods (like bread, muffins, and cookies), smoothies, and even in protein shakes. It can also be used as a supplement, sprinkled over foods for an added nutritional boost.

It's important to note that all stages of the cricket harvest, processing, and storage should adhere to the highest standards of food safety and hygiene to ensure a quality, safe product for human consumption. All processes should be carried out in accordance with local food regulations and any relevant certifications should be obtained.

Step by Step Process for Making Cricket Powder

Detailed step-by-step process for harvesting, freezing, washing, boiling, roasting crickets, and transforming them into cricket powder:

1. Harvesting Crickets

- i. Allow crickets to reach peak maturity, which is typically around 10-12 weeks.
- ii. Begin the "purging" process 24 hours before harvest. This involves removing all food, water, and cardboard from the bins to allow crickets to naturally expel any remaining waste (frass) from their system.

2. Freezing Crickets

- i. After the 24-hour purge, separate the crickets from any remaining frass by sieving.
- ii. Collect the crickets and transfer them into clean, food-grade containers or bags.
- iii. Place the containers in a freezer set to -18 degrees Celsius (0 degrees Fahrenheit) for at least 24 hours. This ensures the crickets are humanely euthanized and preserves them for further processing.

3. Washing Crickets

- i. After freezing, remove crickets from the freezer and let them thaw at room temperature.
- ii. Rinse wash the thawed crickets in clean water to remove any residual frass or debris.

4. Blanching Crickets

- i. Boil a pot of clean water.
- ii. Once the water is boiling, immerse the crickets for 2-3 minutes. This helps ensure any potential surface contaminants are removed and further enhances the cleanliness of the crickets.
- iii. After blanching, remove crickets from the pot and drain excess water.

5. Roasting Crickets

- i. Preheat your oven to 200 degrees Celsius (around 400 degrees Fahrenheit).
- ii. Spread the drained crickets out evenly on a baking tray. You may opt to toss them lightly in oil and seasonings for flavour.
- iii. Place the tray in the oven and roast the crickets for 10-20 minutes, checking regularly. The crickets should be done when they're dry and crispy.

6. Transforming Roasted Crickets into Powder

- i. Allow the roasted crickets to cool down.
- ii. Place cooled crickets in a high-powered blender or food processor and grind until they reach a fine, flour-like consistency.
- iii. Sieve the ground crickets to remove any larger pieces that didn't get pulverized. You may need to grind the cricket flour a few times to achieve the desired consistency.
- iv. Store the cricket flour in an airtight container in a cool, dry place.

Please remember, every operation and procedure involved in the processing of crickets should comply with the local food safety regulations to ensure the end product is safe for consumption. Be sure to regularly clean and sanitise your tools and equipment. And of course, the quality of your crickets will impact the quality of your final product, so make sure you are starting with healthy, well-raised crickets.

Quality Control

Our facility aims to consistently produce high-quality crickets. Regular testing for pathogens and contaminants will be conducted. All activities will comply with local and national regulations concerning insect farming, animal welfare, and food safety. We will also maintain documentation of our operations, providing transparency and traceability.

Entering the Facility

All personnel and visitors must adhere to strict biosecurity protocols when entering the facility to minimise the risk of introducing contaminants or pathogens. This includes wearing appropriate protective clothing, using disinfectant foot baths, and washing hands thoroughly. Visitors should be kept to a minimum and supervised at all times.

Exiting the Facility

Upon exiting the facility, all personnel must remove and dispose of protective clothing properly and wash their hands to prevent the potential spread of pathogens outside the farm. Any equipment or containers leaving the site should be thoroughly cleaned and disinfected.

Selling Crickets

Crickets should be sold in accordance with all relevant regulations and standards, ensuring that they are healthy, clean, and properly cared for. We will accurately represent our products to customers and maintain transparency regarding our farming practices. Packaging should provide sufficient ventilation and space to ensure cricket welfare during transport.

Buying Crickets

When purchasing crickets, whether as a starting population or to diversify our stock, we will ensure they come from reputable sources that adhere to high standards of quality and biosecurity. Any new arrivals will be quarantined and screened for diseases before being introduced to our main population.

Feed

Crickets will be provided with a balanced diet of high-quality feed designed for insect growth. The feed should be stored properly to prevent contamination, and the quality should be checked regularly. Feeding protocols will be in place to ensure that crickets receive appropriate nutrition at each stage of their life cycle.

Water

Access to clean, fresh water is essential for cricket health. Watering systems should be checked daily for functionality and cleanliness. Measures should be taken to avoid creating overly damp conditions which could encourage the growth of mould or harmful bacteria.

Continuous Improvement

At Schubugs Cricket Farm, we are dedicated to the concept of continuous improvement. We understand that achieving excellence requires constant evaluation, monitoring, and refinement of our farming practices, environmental performance, animal welfare standards, and worker safety measures. Our commitment to continuous improvement is driven by the desire to enhance the sustainability, efficiency, and overall quality of our operations.

Evaluation and Monitoring

We regularly evaluate and monitor various aspects of our cricket farming processes to identify areas for improvement. This includes conducting internal audits, inspections, and assessments to assess compliance with our policies and standards. We also encourage feedback from our employees, stakeholders, and customers to gain valuable insights and perspectives for enhancing our practices.

Farming Practices

Continuous improvement extends to our farming practices, where we strive to adopt innovative techniques and technologies that promote efficiency, productivity, and sustainability. We stay abreast of the latest research and industry developments to identify best practices and implement them within our

operations. By regularly reviewing and adjusting our farming practices, we aim to optimise the growth and well-being of our crickets while minimising any potential environmental impact.

Environmental Performance

We are committed to minimising our environmental footprint and promoting sustainable practices. Continuous improvement in our environmental performance involves monitoring resource usage, waste management, energy efficiency, and water conservation. We actively seek opportunities to reduce waste generation, implement recycling programmes, and explore renewable energy options. Regular assessments of our environmental impact enable us to identify areas where further improvements can be made.

Animal Welfare Standards

Ensuring the welfare of our crickets is of utmost importance to us. We continuously review and enhance our animal welfare standards to provide suitable living conditions and care for our crickets. This includes monitoring temperature, humidity, nutrition, and handling practices. We regularly assess and update our protocols based on scientific research, industry guidelines, and advancements in animal welfare practices.

Worker Safety

The safety and well-being of our employees are paramount. We continuously evaluate our worker safety practices and protocols to identify and mitigate potential risks. This involves conducting regular safety audits, providing relevant training and education, and fostering a culture of safety awareness. By encouraging employee participation and feedback, we aim to continuously improve our worker safety measures and create a safe working environment for all.

Implementing Improvement Initiatives

Identifying improvement opportunities is only the first step; we are committed to taking proactive action. We establish improvement initiatives and action plans based on the findings of evaluations, audits, and feedback. These initiatives involve setting specific goals, assigning responsibilities, and allocating resources to drive meaningful change and track progress over time.

Through our unwavering commitment to continuous improvement, we strive to enhance the sustainability, efficiency, and overall quality of our cricket farming operations. By regularly evaluating, monitoring, and refining our practices, we aim to achieve the highest standards of performance while embracing innovation and advancing the well-being of our crickets, the environment, and our workforce.