

Industrial Mass Production of Insects

Considerations and Logistics

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Economic and Feasibility Analyses

- Is Industrial Mass Production of Insects feasible?
 - From a market standpoint?
 - Has a Market analysis been completed?
 - From a production standpoint?
 - Has a feasibility analysis been completed?
 - Species selection?
 - Can the business be profitable?
 - Development and operating costs?
 - Who/what/where are my competitors?



Site Selection

- Availability of Infrastructure
 - Transportation/Roads/Utilities/Airports/Ports?
 - Are they in place for supplies and shipping?
- Access to feedstock supplies
- Environmental conditions
 - Will you need to create an artificial environment?
- Permitting/Zoning
 - Are you raising an indigenous spp?
 - Implications of escapement?
- Labor pool
 - Availability of general and scientific staff?

Facilities

- Design, size, number of buildings
- Air Quality Control/Ventilation
- Temperature/Humidity control
- Quality Control/Sanitation
 - Odor Control
- Drainage and Disposal
- Waste Management
- Pest Control
- Utilities
- Security



Feedstock

- Proximity
- Delivery/Pick-up
- Receiving
- Handling
- Processing
 - Industrial automation
 - Process control system(s)
 - Residuals and by-products – will they be used or disposed of?
- Quality Control
 - Food Safety Issues
- Distribution
- Storage



Mass Breeding

- Separate facility or integrated?
- Design and orientation
- Natural or artificial light?
- Environmentally controlled?
- Staging area – hatching
 - What conditions are needed?
- Rotation & Sanitation
- Access to wild broodstock?
 - Genetic selection



Mass Production

- Habitat design and scale
- Implement automation to enable large scale production
- Quality control management
 - Fungus, mold, bacteria, parasites, other invasive insects
- Is drainage required?
- Process control
 - Production flow
- Is the process scalable?



Harvesting and Packaging

- Efficiency
 - Self harvesting vs. Manual
 - Labor, Power, Space
- Processing
 - Cleaning and purging of insects
 - Other prep?
 - Food Safety issues (e.g. HACCP)
- Packaging
 - Live, frozen, dried, processed?
- Distribution
 - Local, ground, air, ocean freight?

