Complete industry chain of security system insure aquatic food quality and safety

—— Record of Guolian Aquatic Shrimp Industry Development Method

ZHANJIANG GUOLIAN AQUATIC PRODUCTS CO., LTD.

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Guolian was established in 2001. It is a complete industry chain of modern agricultural enterprise groups which contained seedling, feeding, farming, processing, trade, scientific research and development.

Main products are frozen shrimp, Guolian no. 1 fry and aquatic feed.
2. **Industry Position**

   - Guolian is the largest Chinese shrimp export processing enterprise, Leading enterprise of national agricultural industrialization, High-tech enterprise, China’s demonstration corporation for agriculture products processing and export, National commerce department system advanced collective, National quality advanced collectivity.
- **2006-2009**, Exports aquatic product over $100,000,000 in 4 years, it is the best in domestic market;

- National vannamei processing technique sub-center, Guangdong aquatic products processing engineering center;

- Cooperate with Guangdong Ocean University to build (Ministry of Agriculture) Guangdong vannamei genetics and breeding center.
2004, “Zero Tariff” enterprise in the global frozen shrimp anti-dumping action;

January of 2004, Untied Stated has raised a lawsuit to against the anti-dumping duty order of 6 countries including Thailand, China, Brazil, Vietnam, Ecuador and India; 1st of December, U.S. Department of Commerce ruled that the average corporate tax rate of Chinese aquatic product is 55.23%, and no responding enterprises are 112.81%, Guolian 0.0676%.
2、The introduction of Guolian Vannamei business model

- **Business model of industrialization**

  Already established a complete chain for shrimp seeding, feeding, breeding, processing and sales network, mainly at processing which benefit for promoting correlative industries.
- **Bundled business model**

  Company was based on industrial management, it provided seeding, feed supply, breeding technology demonstration and adult shrimp recycling services which reduce the cost of intermediate circulation that benefit for farmer and reduce the risks of farming system, in order to ensure the quality and safety of processing of the raw materials, and guarantee the food quality and safety for customer.

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三、Guolian aquaculture shrimp industry chain development status

1、Milestone of Guolian’s shrimp industry chain development

- 2001-2005，single aquatic products processing and export trade；
- 2006，began to implement the complete industrial chain development strategy；
- 2007，shrimp seeding, feeding, breeding and other industries have been fully developed, with farmer to build the expanding scale of raw materials production base, already established Chinese perfect shrimp industry chain.
2、Guolian shrimp industry chain development status

2.1 Guolian shrimp seedling

- **January of 2007**, Xuwen Guolian seedling base is put into operation;

- **August of 2007**, Nansan Guolian shrimp high quality shrimp-fry base is put into operation, aquaculture research center was completed, together with Guangdong Ocean University to build (Ministry of Agriculture) Guangdong Vannamei white Shrimp genetic and breeding center which has been officially launched;

- Now, owns 6 high quality breeding base mainly located at Xunwen, Donghai, Zhuhai, Beihai, yearly produced SPF large size “Guolian No.1" fry more than 50 billion, larve more than 300.
Deputy Minister of Agriculture Niu Dun, Former Deputy Minister Qi Jinfa, Former Guangdong Provincial Oceanic and Fishery Bureau Secretary Li Zhujiang and Former Chinese academy of fishery sciences President Zhang Hecheng attended the cut ribbon activity for high quality seeding base is put into operation and the research center official launched.
2.2 Guolian Shrimp Seedling

- November 2006, Guolian Feed CO., Ltd was found;
- May 2007, Guolian feed production line was completed and tested;
- May 2008, Guolian feed production line was completed and tested;
2.3 Guolian Vannamei Breeding

Guolian standardization shrimp breeding demonstration farm work with famer to build the export aquatic product breeding base model:

- **August 2007**, Guolian standardization shrimp breeding demonstration farm was completed and put into production;
- **Until 2008**, Guolian has been working with private farmers to build 45000 acres vannamei breeding base, providing them with infrastructure such as breeding farm, office, feed warehouse, medicine warehouse, filing cabinet, medicine shelf and etc.
Location of Guolian Vannamei export raw materials breeding bases (Nansan town)

- 3107 Acres
- 3798 Acres
- 2954 Acres
- 4088 Acres
2.4 Proceeding of Guolian Shrimp

Proceeding capacity was more than 60,000 tons, cold storage capacity was more than 10,000 tons per year, and provide **6000 jobs**.

**100000 m²** proceeding workshop was the domestic largest standardization, informationization, highly robotization and professional shrimp proceeding base.

32 production lines, digital grading, flow process, non-touch cooked shrimp production, double spiral frozen machine, automatic packing machine and etc advanced proceeding devices and intellectualized
4. Base on the compete Vannamei industrial chain of Guolian food quality and safety security system

Guolian food quality and safety control system was based on the complete vannamei industrial chain, guarantee the original resource has safety quality and reliable supply by carrying out standardized production, conducting electronic monitoring, establishing national accreditation and certification testing center, and constructing scientific traceability system, which in order to raise the quality management ability of enterprise. Its strictly monitor and traceability product can recall product quickly.
1. **Impose standardized production technology system, ensure product quality and safety from the source**: 

   From the seedling to cultivation, from full implementation of standardized production to proceeding of Guolian that seedling field, cultivation field, proceeding plants all pass the ACC certification of BAP standard.

1.1 **Improvement of seedling**

   The shrimp breeding field is constructed by national aquatic breeding field standard which has perfect indoor breeding environment, high quality of water, virus inspection and testing system, and other infrastructure. The “Number 1 Guolian” shrimp seedling which parents are from American SIS company and its cultivation is using SPF industrialization breeding techniques. It has strong environmental adaptability, disease-resistant ability, high breeding success rate, fast grow and high quality and safety standard shrimp that not contain WSSV, TSV, IHHNV and the other specific viruses and drug residues of nitrofuran.

   Guolian shrimp breeding field is the first shrimp breeding field which pass the ACC certification of BAP standard.
- Indoor shrimp parents breeding and seedling breeding workshop
- Outdoor temporary breeding pond
1.2 Standardization of breeding

Through the breeding model of standardization of aquaculture breeding demonstration farm, technology, standardized administration and benefit of breeding to play a good demonstration role. The company have unified regulations for the shrimp breeding pool, quality of seedling, breeding technology, production management technologies and quality standard of the record base, assist farmers to create the documents of quality system, response farmer’s breeding, medicine using, technical advice of materials, daily superintendency; the procedure of breeding is strictly implemented by 《Shrimp breeding technical specification of pollution-free food》. Disease control is mainly regulated by microbial ecological agent. Production management actualize export aquatic breeding farms register records system, and follow the ministry of agriculture’s 《Aquaculture quality and safety regulations》 to set up breeding water monitoring regulation, production record regulation, medicine using regulation用药处方制度、medicine record regulation用药记录制度 and production label regulation; and products label制度等; Adults shrimp’s harvest must inspected is acceptable by enterprise and CIQ.

The Vannamei breeding bases are established by Guolian and farmers, which are passed CIQ record of aquatic resource breeding base, with 5476 acres were passed the agriculture product certification of pollution-free and its agriculture production was passed the certification of pollution-free. There are 12400 acres were passed BAP standard of ACC certification and the 6173 acres were registered vannamei breeding farm where supply living shrimp to Hong Kong.
- Breeding brine disposal system
- Breeding drainage processing system
- The official of Hong Kong FEHD was reviewing Guolian east lake breeding farm
- The official of American FDA is reviewing Guolian Nansan breeding farm
1.3 Proceeding normalization

Guolian Shrimp workshop is strictly followed Chinese 《Hygiene registered regulations for aquatic products processing enterprise》，American FDA aquatic HACCP regulation，the high standard design of European Union 91/493/EEC instruction，Proceeding is strictly followed 《Aquatic product HACCP regulation》 and 《SSOP health standard operation produce》.

Guolian shrimp source mill was the first factory which passed the BAP standard of ACC certification, passed the hygienic certification and registration of European Union, Korea, Russia, aquatic product HACCP verification for exporting to American, ISO9001 quality management system certificate, ISO14001 environmental management system certificate, product has passed BRC global food standard advanced certificated, is the special product of the delivery center of the state council是国务院精特产品配送中心特供产品，CPD、HOSO、CPDTO, HLSO has been awarded as Guangdong famous product, HLSO, frozen vannamei are the pollution-free agriculture product.
2. CIQ “2211” electronic visual monitoring system, promote enterprise quality management ability:

System Includes: electronic remote surveillance system, Quality data surveillance.

Established aquatic product quality surveillance and critical control point surveillance system by network technology, traditional analog technology, computer video technique, video, voice data compress and decompress technique, digital visual record (DVR) technique.
Flow chat of Guolian visual surveillance system

- Authorized clients
- Supervisory board
- 2211 surveillance center

Quality data surveillance system
- Seedling breeding
- Feed production
- Farming procedure

Production field video surveillance system
- Process
- CIQ inspection and customs clearance
2.1 Guolian“2211” electronic visual surveillance system:

- The Visual Surveillance System is installed in the Central Engine Room and Production Sites. There are more than 200 surveillance points, monitoring seedling, breeding pond, recipient of raw materials, processing of products, sterilized passages, inner and outer packaging, integrated testing, cargo shipment, raising production etc. all the important parts of our production chain.

- If there are any violation of the production regulations during the production process, report will be raised to our on site quality management staffs by voice, notice, walkie-talkie, phone and correct it immediately.

- With our authorizations, clients can access our surveillance system anytime, anywhere in the world to visit our production sites on "live". We can authorize the surveillance of the relevant production lines based on your orders, then you do not need to take any extra ride but monitor the whole production process in your office or at home.
The visual surveillance system on seedling
The visual surveillance system on breeding pond
The visual surveillance system on feed production
The visual surveillance system on production sites
2.2 Guolian“2211”eletronic quality monitor system:

- Quality Monitor System covers 6 areas:
- Breeding Management - seedling, raising, breeding, all the feed used from the beginning of farm to the harvest date, the use of medication
- Raw Material Management - supply source, batch number, quantity, residues of medication etc.
- Production Management - production batch number, production time, steam record, metal testing record
- Laboratory Management - products lab report, product medication residues report
- Inventory Management - Track the put in time
- Export Management – information of the lot that applied for inspection.
**Breeding Management**: seedling, raising, breeding, all the feed used from the beginning of farm to the harvest date, the use of medication.
Raw material management: supply source, batch number, quantity, the number of raw material certificate, residues of medication etc.
- Production management: production batch number, production time, product name, (raw material) medication residues report, steam record, metal testing record
- Laboratory management: products lab report, (product) medication residues report
Store Management: production batch number, number of product, spec, weight, loaded time, starting time of freezing
Export Management: batch number, name of product, weight, group batch number, batch time, cargo sequence number, export state and so on.
3、**Improve delectability and level, strictly quality control**: Guolian testing center was according to ISO/IEC17025 international standard to build and manage, had antibiotic rapid testing instruments CHARM II, LC/MS/MS, High performance liquid chromatography, gas chromatograph-mass spectrometer, atomic fluorescence spectrophotometer and etc international advanced analytic laboratory apparatus, can inspect and test scyllatoxin, heavy metal, microbe for the resource, semi-finished goods, finished goods quickly and precisely, its inspect ability and level was certificated by Guangdong CIQ and the laboratory of Chinese assessment.
4. Establish scientific and practical product traceability system & maximum protection of customer’s food quality and safety:

has implemented a strictly management of product lot number, established scientific, fast, practical electronic product quality traceability system.

Every product can be traced its customer, franchiser, transportation, storage, packing, proceeding, feeding, seedling, using of medicine and etc by electronic traceability system, and be recall precisely and quickly.

Contriving “Source can be traced, Process can be tracked, information can be checked” and maximum protect customer’s food quality and safety.
Flow chart of Guolian traceability system
The improvement of Food quality and safety ability

A complete industry chain insures quality safety and stabilizes supply of raw material; Electronic monitoring system effectively controls product quality; National approved inspection center effectually prevents unqualified RM from processing and guarantees each product that leaves the factory to be qualified; Scientific and practical product quality traceability system farthest protects customers on food safety issue. And hence, the company’s food safety control ability has been remarkably promoted; In 2007, 1394 lots were exported; in 2008, 1380 lots; in 2009, 1400 lots; all of which pass residues testing.
From 2003 to 2009, Guolian passed 11 plant inspections by FDA, EU Food & Veterinary Office, food regulatory authority of Korea and of Russia.
On 28th June 2007, FDA announced an import control, called a “countrywide import alert,” of all farm-raised catfish, basa, shrimp, dace and eel from China. Under this import alert, FDA can detain these products until each shipment is proven to be free of the residues that led to the import alert. From Sep 18, United State Department of Health and Human Services and FDA came twice for inspections on Guolian’s hatchery, farming base and processing plant, and removed Guolian from the detained list. Guolian became the first enterprise exempted from FDA import alert.
2. **Vastly expended the space of existence and development**

- **Nov, 2008**, Charles Redfield, Senior Vice President of Wal-Mart and his companions from Wal-Mart visited Guolian shrimp industry chain, the complete shrimp industry chain of Guolian and sophisticated food quality and safety control system greatly boost the Wal-Mart’s confidence in China shrimp products.
14th-15th 2009, The officials of HK Food and Environmental Hygiene Department visited Nansan Farming Base, On 17th, three of Guolian Farms are certificated to supply live shrimp to HK. Guolian was the first enterprise that directly supply live shrimp to HK.

The campaign of Guolian shrimp directly supplying to HK realized the “Breakthrough zero” of Chinese mainland live shrimp supplying to HK, and expended the new area of the company’s development of shrimp market, which transferred the business mode from ”Single frozen products” to “Frozen and live product” and market structure from “American market” to “American and HK markets” it also optimized the product structure and market structure.
International leading health Aquatic products supplier

Thanks