

# HeiLongjiang Feihe Dairy Co., Ltd

## Company Profile

### 1. Company and plants Profile

Feihe Group is a national agricultural industrialization leading enterprise. Feihe located in the 47 degrees north latitude (gold milk source belt). It has built the first whole industrial chain of Chinese infant formula milk powder industry with more than 10 years. It has realized a controllable process from the pasture planting, large-scale dairy cow breeding, production, logistics and warehousing, channel management and even after-sales service, forming the unique whole industrial chain model of Feihe Dairy. Sales revenue exceeded 20 billion yuan in 2022, ranking first in infant milk powder industry in China.

Feihe now has 9 modern core plants with annual processing volume of 210,000 tons. It has 20 exclusive cooperative ranches, including 9 cow ranches, 10 sheep ranches and 1 for sight-seeing; 4 exclusive cooperative agricultural companies and 9 supporting companies.

In 2001, Heilongjiang Feihe Dairy Co., Ltd is founded. There are 3 powder production lines, 6 automatic packaging production lines, 4 liquid milk production line and 1 utilities (water/electricity/gas/steam etc.) area.

The company's main products are the Classic 1962 adult milk powder, Zhichun organic infant formula milk powder, Zhuori series infant formula milk powder, and the student milk of various tastes.

The plant adopts the manager responsibility system of 1 Manager, 1 Project Manager, 1 Production Deputy Manager; 5 direct departments (HR, Administration, EHS, Transportation and Finance Department). At present, the total number of employees in the plant is 495.

### 2. Milestone on the Journey of Manufacturing Excellence

Due to the fierce industrial competition, increasing of raw material cost and insufficient professional ability of personnel, we decided to fully implement the TPM to improve the quality of products, increase the efficiency of the manufacturing process, reduce cost, constantly meet the needs of consumer and improve the comprehensive competitiveness of products. In TPM activity, the big events are divided into the following five stages:

- a) **Preparation phase:** In 2016 we introduced the TPM activities, set up TPM steering committee, started training system. We built data collection in terms of OEE losses, raw/packaging material losses, quality losses and energy losses etc.
- b) **Pilot phase:** Selected production line 10 as the pilot production line. We had mastered the analysis methods and improvement tools of professional Total Productive Maintenance (TPM) through the development of various loss reduction projects on

the model line. We have initiated an investigation into the OEE16 major losses and are collecting losses throughout the entire factory16 big losses and collect losses in the whole plant.

- c) **In expansion phase:** in April 2016, we successfully held a TPM expansion workshop and started to launch pillars. We launched FI, AM, PM, E&T, EHS and QM. A TPM training room was built. Meanwhile, AM and PM activities entered a comprehensive expansion phase, while strengthening the education and training of multi-talented workers and maintenance skill sergeants in cooperation with E&T, laying the cornerstone for solid TPM results.
- d) **In 1<sup>st</sup> TPM award application phase:** we successfully applied and passed two round assessments of TPM Award in 2019 and achieved TPM Excellent Award-category B in Feb 2020.
- e) **In stabilization phase:** we launched EEM and TPM office to support plant business development continuously; the activities of each pillar have advanced in order. The TPM concept has integrated into the daily management of our plant as the pillars running effectively. We have forged a new culture of continuous improvement and pursuit of sustainable excellence.

### 3. Benefits Achieved

Through the development of TPM activities, the performance of the plant has been significantly improved and a positive corporate culture has been built, which is reflected in the following two aspects as below,

**Tangible results:** In 2022, the plant's revenue increased significantly, the cumulative improvement income reached 43.15 million yuan; the grave customer complaint rate was always zero; the market sampling was 100% qualified; the customer complaint rate dropped by 58%; the timely delivery rate keep 100%; the delivery time was reduced from 30 days to 7 days; the OEE of the production workshop increased by 24%; the breakdown decreased more than 90%; grave accidents and lost time accident event always kept as zero.

**Intangible results:** The company has established a operation management system across pillars and functional departments, strengthened the loss data collection system and the operation review mechanism and performance appraisal system at all levels and formed a good scientific PDCA thinking for solving problems.

The achievement of excellent tangible performance has greatly improved the overall morale of the team, and gradually formed the cooperation between each pillar/functional department, continuously promoted the continuous reduction of losses, and the enterprise culture of pursuing excellence, which has provided the basic operation guarantee for the continuous development of the company.

### 4. Key of our Manufacturing Excellence

The TPM activity has been carried out in Heilongjiang Feihe Dairy Co., Ltd. for more

than seven years. The key to the TPM activities is:

- a) Strong support from the company's senior leadership. The management is the key personnel of TPM success. The directors and managers must visit the site to conduct high-level diagnosis.
- b) The rational use of TPM three major tools and analytical techniques, overlapped small group activities, Gemba activity boards, OPL, WHY-WHY analysis, PM analysis has become a feature of our activities.
- c) The staff understand and is fully-involved. Workers at the production line have a sense of ownership, manage their own machine, consistently promote loss reduction activities.

1) AM and PM Pillars pay attention to the restoration and improvement of the basic condition of the equipment, the improvement the skill level of the operators and establishment and improvement of the equipment prediction and prevention system. FI focuses on 16 big losses analysis and achieves production efficiency limit by improving teams. FI set up the related loss reduction project team to achieve the efficiency limit of production and continuously reduced the quality defect mode of the product, to reduced customer complaint rate and improved customer satisfaction by internal defective products reduction. E&T combined with the needs of the development of the company's business team building ability to plan and supervise the implementation of development, support the development of the ability of each pillar skills transfer progress of the AM-4, in particular, the capacity gap cutting subject and paying attention to the polish of multi-skill and maintenance specialists, constantly excavate the potential of team and reserve management and technical personnel, to build up echelon building for the development of the company. Through routine inspections and safety hazard investigations, SHE prevents accidents from recurring, aiming to create a comfortable working environment with zero accidents, zero injuries and zero pollution. **EEM** avoided all the potential losses by all phases activities, for all the new equipment or new production lines, included design, implement and vertical ramp up phases; ensure all the best practice transferred to MP (maintenance prevention) system and applied in new production lines. **Office-TPM** focused to optimize the working flow losses reduction between departments and various departments. And now all the departments use TPM way to eliminate losses use pillar methodology and keep good result with PCS (performance control system) in various shop floor group as routine work. New TPM atmosphere foster young talent team with high morale and achieve company sustainable business target continuously.