

Feihe (Gannan) Dairy Co., Ltd. Company Profile

I. Company and plant overview

Founded in 1962, China Feihe started in Zhao Guang farm and developed in Qiqihar city, which is one of the earliest milk powder enterprises in China. The company has been focusing on the research of Chinese baby's health and breast milk nutrition for 60 years, leading the industry to create a variety of technologies, formulas and processes to improve the adaptability of milk powder to the Chinese body. It is the relentless pursuit of Feihe to develop high quality milk powder that is "fresher and more suitable". Feihe has 600,000 acres of exclusive farms, cultivating nutritional rations for cows, with a stock of more than 80,000 cows, creating a new model of ecological dairy production in northern China.

Feihe (Gannan) Dairy Co., Ltd. is one of the production plants under the Production Division of Feihe Group, mainly engaged in the production of infant formula. Feihe Gannan plant is currently one of the largest single infant formula production plants in the world.

Feihe (Gannan) Dairy Co., Ltd. covers an area of 300,000 square meters and started production in 2007. The plant adopts the general manager responsible system and has production department, technical engineering department, quality department, finance department, HR department, administration department, inventory and transportation department, EHS, TPM and process R&D department. The products of the plant are mainly infant formula powder, and the main processes including: milk collection, pasteurization, dosing, homogenization, concentration, drying and packaging. The main products of the plant are Super-Premium Astrobaby, Astrobaby A2, Organic Super-Premium Astrobaby, Organic Astrobaby A2 and Premium Zhenai Beihu. The plant decided to implement TPM activities to pursue the best quality, highest efficiency and lowest cost in response to the rapid changes in the market and in the industry.

II. Milestones in the process of conducting TPM activities

The milestones events in the journey of TPM activities are divided into the following four phases.

- 1) In the preparation stage: TPM activities were introduced on September 1, 2017, and the TPM steering committee was established. We carried out the collection of data related to OEE, dry matter utilization rate, moisture,

water consumption per ton powder, electricity consumption per ton powder, steam consumption per ton powder, loss rate of package materials, etc.

- 2) In the pilot phase: we selected the packaging line 28 as the pilot line. Significant line performance was achieved with the full involvement of our manager and operators. We also learned very well the TPM analysis techniques and improvement tools. Then we proceeded to conduct plant wide OEE and the major losses identification.
- 3) In the expansion phase: in April 2018, we successfully held the TPM change management kick-off meeting. We have introduced the six pillars of FI, AM, PM, QM, E&T and EHS. A TPM training room was built. Meanwhile, AM and PM activities entered the full expansion phase, while strengthening the education and training of multi-talented workers and maintenance skills staff in cooperation with E&T, laying the cornerstone for solid TPM results.
- 4) In the stabilization phase: the activities of each pillar are carried out in order, and we always adhere to the concept of continuous improvement and the pursuit of excellence, establishing data collection, setting up an information system, and continuously improving the progression loop and daily control loop.

III. Benefits gained from conducting TPM activities

The TPM activities have brought significant improvements to the plant's performance and created a positive corporate culture.

The plant has established an 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. A good working method has been adopted by the employees at all levels of the plant and the employees are empowered.

The achievement of excellent results has greatly improved the overall morale of the team, and gradually formed the cooperation among pillars and functional departments, continuously promoted the enterprise culture of pursuing excellence, which has provided the momentum for the continuous development of the company.

IV. The key to carry out TPM activities

TPM activities have been carried out in Feihe (Gannan) Dairy Co., Ltd for more than 5 years and the key to carry out TPM activities are:

- a) Strong support from the company's senior leadership.
- b) The in-depth use of TPM tools and analytical techniques helped the employees to solve problem efficiently and changed their way of working.
- c) The employees' full involvement. Employees at the production line have a sense of ownership, manage their own machine, consistently promote loss reduction activities.
- d) Effective pillar activities: AM and PM Pillars made efforts to restore and improve the basic condition of the equipment and establish preventive system.