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#### China Modern Dairy Holdings Ltd.

中國現代牧業控股有限公司 (Incorporated in the Cayman Islands with limited liability) (將曼昂島莊殿立之有度公司) Stock Code 段份代號:1117

# 2024

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

# Contents

CEO's Statement	01
About This Report	03

# About Modern Dairy

0	Corporate Culture Panorama	07
0	Vision, Mission and Strategy for Sustainable Development	09
0	Highlights of Modern Dairy's Sustainability Management	11
0	Annual ESG Performance Highlights	13

# Constructing **O1** Responsibility **O1** Management

C Sustainable Development Management	19
C Compliance and Risk Control	23
C Business Ethics	25
C Protecting IPR	32

# Pursuin9 Excellent 02 Quality

0	Leadership in Quality	35
0	High-Quality Breeding	40
0	Optimal Cattle	43
0	Premium Milk	56

# Practicin<sup>9</sup> Green OPerations

0	Response to Climate Change	63
0	Sustainable Operations	71
0	Biodiversity Protection	90

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# Protectin9 Employee Well-Bein9

0	Talent Attraction and Retention	97
0	Talent Development and Promotion	101
0	Safety and Health	109
0	Employee Care	113

# Workin9 To9ether with 05 the Society

0	Sustainable Procurement	121	0 }
0	Community Development	128	in

# CEO's Statement

Looking back to 2024, Modern Dairy has risen to the challenges with resolve. Guided by the enterprise spirit of "born to be strong and go beyond ourselves" and the national call to "optimise and upgrade the industrial and supply chains", we have continuously accelerated the transformation and upgrading process, improved the efficiency of the industrial chain, and developed new quality productive forces to identify new development opportunities in the midst of the "cold winter". With unwavering belief and fearless determination, every member of Modern Dairy remains true to the mission and forges ahead. Together, we have written a shining chapter in the development of the dairy industry.

Driven by innovation, we are pioneering the wave of industry transformation. With innovation as our driving force, we have forged ahead to overcome technical challenges. Our feed conversion rate has risen to 1.65, a year-on-year increase of 0.02, leading the industry; the average number of days with empty pregnant period has decreased to 104.7 days, a year-on-year decrease of 5.2%; and the calving interval has shortened to 379 days, a year-on-year decrease of 1.6%, reflecting our industry-leading performance. We have filled the gap in the field with our self-developed automatic feed pusher and traditional Chinese medicine powder additive, Halofuginone. In addition, the technology we participated in the R&D process was honoured on the list of Major New Achievements in Agricultural and Rural Technologies in China in 2024, marking a significant breakthrough in the industry. Each innovation reflects the extraordinary wisdom of the members of Modern Dairy, illuminating the development of the dairy industry as bright stars, and providing the impetus for the industry to make breakthroughs and forge ahead.

Empowered by digital and intelligent transformation, we create a new paradigm of smart farming. We are proactively embracing digital and intelligent transformation to empower farming with technology. The SAP-based integrated business-finance system achieves the deep integration of business and financial operations; the data-driven intelligent supply chain builds an efficient decision-making mechanism

and operation mode; the establishment of the financial sharing centre expedites financial transformation; and the Al Cattle Expert Platform provides accurate and intelligent support for farming management with its extensive 100 billion-parameter large model and a free knowledge base of millions of words, offering precise and intelligent support for the farming management. IoT. image recognition and other advanced technologies are being applied innovatively in the farms, positioning us as the industry leader in the digital and intellectual farming sector.

With quality and safety as the foundation, we strengthen the lifeline of quality development. At Modern Dairy, we recognise quality and safety as the foundation of our business and uphold the philosophy of "health for both customers and cows, premium milk". We recorded a 14.3% reduction in the Employee and Contractor Lost Time Injury Frequency Rate (LTIFR), an 23.6% reduction in the Employee and Contractor New Occupational Disease Incidence Rate, zero fatalities and zero environmental incidents, achieving the excellent goal of "two reductions and one zero". We have won the World Dairy Innovation Awards (Golden Award), the Monde Selection (Golden Award) for 11 consecutive years, and released the Q-PEAK Peak Quality Management System. By delivering outstanding quality, we have outperformed our peers and earned the trust and praise of the market and our customers.



With the brand shaping our identity, we have highlighted our new role in green development. We proactively embrace social responsibility, with a focus on environmentally sustainable and low-carbon development, continuously enhancing our brand influence. We have released the first sustainable development strategy for China's farming and the industry's first White Paper on Low Carbon in China's Dairy Industry, demonstrating our commitment as an industry leader. In addition, we have been awarded the first Triple S certification by Cargill China and selected for the Report on the Green Transformation Practice of Chinese Enterprises 2024. Several of our farms have been recognised as China's first low-carbon demonstration farms in the dairy industry. For two consecutive years, we have been honoured with the DEI Employer Awards, being the only player in the dairy industry to achieve this. These honours have again demonstrated our strength as a leading player in China's dairy farming industry in terms of sustainable and high-quality development.

By increasing management efficiency, we build a new paradigm of operational excellence. We have made efforts to promote management innovation and built a "6+1" management policy, which has raised per capita efficiency by 11%. We have established a comprehensive budget management system to achieve efficient resource allocation; conducted a four-level benchmarking management to aim high and strive for the industry leadership; strengthened the five management points to improve the efficiency

Working Together Appendix

of organisational operations and cultivate business mindset among management personnel; reinforced lean management and established a completely intelligent full-process SOP. which has won a number of industry benchmarking awards and copyright certifications. Such scientific and efficient management system builds a solid foundation for the steady development of Modern Dairy. This enables us to navigate the complex and volatile market and progress towards success.

We move forward with unwavering determination to take responsibility despite the challenges that lie ahead. The beginning of 2025 signals a new chapter in Modern Dairy's development. Guided by innovation, with digital and intelligence as the tools, we move forward on the path of quality and safety; led by the brand, with management as the steering wheel, we are committed to creating a brighter future in the dairy industry. Together, we will forge a new chapter in the development of Modern Dairy, contributing to the growth and success of China's dairy industry.

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CEO of Modern Dairy Sun Yugang 25 March 2025

## About This Report

This Report aims to present the view, significant progress and achievements of Modern Dairy (Group) Co., Ltd. (stock code 1117, together with its subsidiaries collectively referred to as "Modern Dairy", the "Company", the "Group", or "we") objectively and fairly in respect of annual Environmental, Social and Governance (ESG) work. We will focus on each of the relevant aspects in this Report, in particular, those ESG issues that may have a material impact on the sustainability of the Company's business operations and those arouse concerns of our stakeholders. Based on the revenue composition of the Company for the fiscal year 2024, we determine that this Report focuses on the Company and its subsidiaries, and covers the Company's major revenue businesses of raw milk business, offline feed business and digital intelligence platform business according to the principle of materiality. All our farms are covered in this Report. The reporting period of this Report is from January 1, 2024 to December 31, 2024. This Report may include matters beyond the period to maintain the continuity of information.

#### **Reporting Principle** ਨ

In preparing this Report, we defined the contents of this Report and how the information is presented in line following the principles of "Materiality", "Quantification", "Balance" and "Consistency".

Materiality: In preparing this Report, we identified key stakeholders and key ESG issues of their concern, and made targeted disclosure according to the materiality of these issues. Details of the materiality assessment process are set out in the "Stakeholder Engagement" and "Identification of Material Issues" sections below.

Quantification: In this Report, the key performance indicators (KPIs) concerning environment and society are shown in the form of quantitative data. And the measurement standards, methods, hypothesis and/or calculation tools, and source of conversion coefficient for the KPIs are explained in their respective places.

Balance: In this Report, the Company's positive and negative ESG information and performance are reported in a transparent and objective manner, covering five areas: Future, Responsibility, Environment, Society and Health.

Consistency: In this Report, the data is disclosed based on the same statistical methodology as in previous years, with certain changes clarified to ensure consistency.

## Preparation Basis

This report is prepared in compliance with the requirements of Appendix C2 Environmental, Social and Governance Reporting Code ("ESG Reporting Code") to the Main Board Listing Rules ("Listing Rules") of the Stock Exchange of Hong Kong Ltd. ("SEHK"), and with reference to the GRI Sustainability Reporting Standards issued by the Global Sustainability Standards Board (GSSB).

#### **(☆)** Source of Data

The information, data and cases set out in this Report are adopted from the Group's official documents, statistical reports, financial reports or public documents, as well as information on ESG practices summarized by the Group's various functional departments. The Board of Directors is responsible for the authenticity, accuracy and completeness of the contents of the Report. This Report is published in both Chinese and English. In case of any inconsistency between the two, the Chinese version shall prevail.

#### $(\downarrow)$ Access to This Report

An electronic version of this Report is accessible on the Group's official website (www.moderndairyir.com) and the SEHK website (www.hkex.com.hk).

## About Modern Dairy

The Company was listed on the Main Board of the Hong Kong Stock Exchange in 2010 under the stock code 1117, with its principal operating entity being Modern Farming (Group) Co., Ltd.. As a leading enterprise in China's dairy farming industry, Modern Dairy relies on digital intelligence innovation to build a whole industry chain "from a blade of grass to a glass of good milk". We work with our strategic shareholder Mengniu Dairy to achieve synergy and win-win results.

Modern Dairy actively innovates and extends the chain to strengthen the chain, pioneering in large-scale farming of 10,000 pastures. In Mainland China, we have invested in and operate 47 dairy farms across 13 provinces and autonomous regions, with 491,169 dairy cows and an annual milk production of 3.005 million tonnes. Our business spans the entire dairy industry value chain, encompassing dairy farming, feed production, forage cultivation, seed genetics, and a digital intelligence platform for the industrial chain. This comprehensive vertical integration has established a solid foundation for the Group's sustainable and stable development.

At Modern Dairy, we put quality in the first priority, always pursue excellence, and strive to create first-class quality and brand. Modern Dairy was awarded the "National Key Leading Enterprise of Agricultural Industrialization", becoming the first company in China to win the gold medal of the World Food Quality Evaluation Conference for 11 consecutive years, and the first animal farming group in China to pass the "Quality Milk Project - Accredited Milk" acceptance. Modern Dairy actively fulfills its responsibilities and demonstrates its commitment. We continue to lead the industry in sustainable development by launching the "FRESH Sustainable Development Strategy", which focuses on the five pillars of Future, Responsibility, Environment, Society, and Health. We have published ESG reports for eleven consecutive years, set industry-leading two goals of carbon peaking and carbon neutrality, and joined the United Nations Global Compact (UNGC). We are vigorously promoting green transformation of the industry chain and providing regular assistance in rural revitalization, education support and other areas. We are dedicated to public welfare activities and promoting common prosperity.

Adhering to the enterprise spirit of "Born to be strong and go beyond ourselves", Modern Dairy, successfully launched the "65 555 11 plan", continued to pay attention to the country, society, win-win partners, employees, shareholders and technology at six levels, deeply focusing on five major businesses, including dairy farming strengthening, forage expanding, platform efficiency, fine breeding and deep processing value-added. Make every effort to realize the "555 goal" and achieve the grand blueprint of first-class technology & talent tree and industry-leading top notch. Under the main tone of adhering to the "demonstration of the construction of Party working style and clean government, the unified procurement and entering and the unified performance management as a model, and the organizational performance management as a benchmark", we focus on profits and quality upgrading, fully implement the "44621" action program, and create a striving system toward the top. In the future, Modern Dairy will continue to seek potential and increase efficiency, strengthen digital intelligence innovation, expand the industrial chain, and create high-quality brands, realizing the grand vision of "being a global dairy farming leader", and comprehensively help China's dairy industry to achieve stability and long-term development.

Enterprise

## **Corporate Culture Panorama**



Working Together Appendix

# Born to be stron9 and 90 beyond ourselves

#### Vision, Mission and Strategy for Sustainable Development



# Vision

#### Green Leadership and harmonious CoexistenCe

Modern Dairy upholds the concept of harmonious coexistence. We create long-lasting value for stakeholders through the sustainable operation and management across the industry chain and the development model of circular agriculture and animal husbandry, thereby achieving the harmony between man and nature.



Creating a better and healthy future with quality and responsibilities

Modern Dairy is committed to protecting human health by providing the community with nutritious products and services of the best quality. We also continue to enhance the well-being of our employees, farmers and herdsmen, and actively contribute to the rural revitalization, fulfilling our social responsibilities for a better future.

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#### The FRESH Sustainable Development Strategy of Modern Dairy

Modern Dairy takes "Green leadership and harmonious coexistence" as the vision of sustainable development and "creating a better and healthy future with quality and responsibilities" as the mission. Modern Dairy has launched the "FRESH Sustainable Development Strategy", which consists of 5 strategic pillars and 15 major topics corresponding to 20 material issues, taking into account its own business and the United Nations Sustainable Development Goals. In 2024, our Sustainability Committee continued to implement the FRESH Strategy in collaboration with the ESG Working Group, subsidiaries and various ESG functional departments.

Working Together Appendix

## Highlights of Modern Dairy's Sustainability Management

In 2024, Modern Dairy integrated its sustainability strategy into corporate vision and released the first Modern Dairy Sustainable Development Strategy. By setting sustainability targets and regularly evaluating the progress status, we have ensured the steady advancement of the sustainability strategy. Meanwhile, we have integrated sustainability management into the existing organizational framework to guarantee management engagement and supervision, thereby further fostering a culture of collaboration and accountability across all business units. In addition, we have developed comprehensive mechanisms for rules and regulations, supervision and evaluation, and budget management. Such mechanisms provide robust support for the strategy implementation, setting a benchmark and example for sustainable development across the industry.

## Further Upgrade of the Management System

Strate9y release	We launched the first "FRESH Sustainable Development Strategy", consisting of 5 strategic pillars and 15 major topics, for the establishment of a sustainability management system. By enhancing organizational and mechanical safeguards, we are gradually realizing our commitment and vision for sustainability. We are continuously leading the industry's sustainable development with a more resilient industrial chain and innovative model.
Structure up9rade	We established the Sustainability Executive Committee and the Sustainability Working Group, optimised the corporate sustainability governance structure with the Sustainability Committee under the Board as the decision-making level, the Sustainability Executive Committee as the management level, the Sustainability Working Group as the executive level and the Public Affairs Department as the secretariat of the Sustainability Executive Committee.
	We link ESG performance to the compensation of the CEO, Executive directors, Vice presidents,
	and departmental managers. We have set quantitative and qualitative ESG performance targets, with a weight of no less than 5% given to total compensation. In 2024, we incorporated sustainability performance targets in the performance appraisal of mid-level management and the sustainability evaluation dimension in the Group's annual recognition of excellence.
Mechanism development	We integrate the concerns of internal and external stakeholders to create a batch of annual sustainability key work items, building a benchmarking program for sustainable development in the animal husbandry industry. In addition, we establish the coordination mechanism and work objectives of the departments to continuously follow up and evaluate the effectiveness of the objectives.
	We systematically promote sustainability management integration in all departments of the entire Group by developing and releasing the <i>Modern Dairy's Sustainability Management Policy</i> .
Empowerment	We adopt a dual-meeting mechanism of the semi-annual all-employee empowerment meeting and the annual ESG special meeting for executives and directors. Under this mechanism, we annually review and summarize the effectiveness of the Company's sustainability efforts, thereby improving the long-term mechanism for sustainable development.
ennancement	We regularly invite external experts to conduct professional training, facilitate consensus on sustainability management, accurately analyze the changes in ESG policy trends to align with the management level of leading industry players.
	sustainability management, accurately analyze the changes in ESG policy trends to the management level of leading industry players.

### Stron9 Leadership in Sustainability Practices





#### ESG Honors



- ★ Awarded "Low-carbon Pasture Innovation Demonstration Base" by Beijing Low-carbon Agriculture Association
- Won the "National Epidemic Free Community"
- Won the "May 1 Labor Medal and the Advanced Collective in Labor Competition" in Anhui Province
- ✤ Won the "ESG Model Enterprise Award" at the 14th Philanthropy Festival
- ★ Selected for the S&P Global Sustainability Yearbook (China Edition) 2024, demonstrating our excellent ESG practices and global influence
- Won the "2024 Digital Intelligence Innovation Leadership Award" at the 13th China Finance Summit (2024)
- ★ Won the "ESG Model Enterprise Award" at the 3rd International Green Zero-Carbon Festival
- ★ Won the DEI Employer® Awards (China) in a row
- ★ Selected for the "Top 10 Most Respected Employer Brands in Action Education 2024"
- Selected for the List of Major New Agricultural and Rural Technologies in China 2024
- ★ Listed in the "ESG Pioneer 100 Index of Centrallyadministered SOE" for two consecutive years



#### Received the certificate for Low Carbon Farmin9



- The National Livestock and Poultry Farming grain Saving and Emission Reduction Innovation Alliance, the National Dairy industry Technology System, Beijing Jingwa Agricultural Science and Technology Innovation Center identified Modern Dairy (Shanghe) Co., LTD., Modern Dairy (Baoji) Co., LTD., Modern Dairy (Hefei) Co., Ltd. as the low-carbon demonstration ranch of China's dairy industry
- Modern Dairy (Shanghe) Co., Ltd. was identified as the project demonstration base by the project team of the national "14th Five-Year Plan" key research and development Plan "Modern Ranch Key Technology Integration Demonstration", and was identified as the graduate practice base of the College of Animal Science and Technology by China Agricultural University
- ★ Our case "Leading the Green Revolution Building Industry Models for Lifecycle Low-Carbon Dairy Farming" was selected for the Report on the Green Transformation Practice of Chinese Enterprises 2024
- Won the 2024 China Top 500 Agricultural Enterprises (70th)
- ✦ Honored with the "Annual ESG Pioneer Company Award" and "Trader of the Year" at the 2024 NetEase New Energy Dairy Industry Selection
- ★ Awarded the title of 2024 "Leader" Enterprise of China's Industrial Carbon Peaking as the only farming enterprise

## **Annual ESG Performance Highlights**

#### Constructing Responsibility Management Pursuing Excellent Quality



#### Sustainable Development Management -----

- Established the Sustainability Executive Committee and the Sustainability Working Group, optimised the corporate sustainability governance structure with the Sustainability Committee under the Board as the decision-making level, the Sustainability Executive Committee as the management level, the Sustainability Working Group as the executive level and the Public Affairs Department as the secretariat of the Sustainability Executive Committee
- Incorporated sustainability performance targets in the performance appraisal of mid-level management and the sustainability evaluation dimension in the Group's annual recognition of excellence

#### Business Ethics

- Established a business ethics management structure composed of the Sustainability Committee under the Board and the Business Ethics Group
- Provided business ethics training for over 5,600 hours,covering 100% of Modern Dairy employees, organized online and offline business ethics training for all our suppliers, including typical case briefings and supplier conferences, for a total of 550 hours
- 100% of our suppliers in the pool signed the *Commitment* Letter for Sustainable Procurement Management Guidelines, the Sustainable Procurement Management Agreement and the Sunshine Agreement
- Obtained the ISO 37001:2016 Anti-bribery Management System Certification and the ISO 37301:2021 Compliance Management System Certification, covering 100% of the Company's business scope



#### Leadership in Quality -

- Aim to achieve a 100% rate of premium-grade raw milk. On this basis, we have developed a full-process quality management system based on the concept of "highquality breeding, optimal cattle and premium milk production"
- Devote continuous efforts to quality management system certification, having been certified to the *Organic Standard (GB/T 19630-2019)*, the Ecocert Organic Standard, the China GAP, the National Quality Milk Project, and the Farm Animal Welfare Product Certification; during the reporting period, **36** of our dairy farming companies obtained the ISO 9001 Quality Management System Certificate.

#### High-Quality Breeding \_\_\_\_

- Developed a database containing the phenotypes and genotypes of 30,000 dairy cows
- Successfully developed the first commercialized cow genome chip in China "Modern No. 1" together with China Agricultural University, biotechnology research institutes and other scientific research units
- Completed the independent breeding of the first batch of breeding bulls in Tongliao Farm. 15 high-genetic-value breeding bulls have been successfully bred, and two of these have reached an industry-leading level in terms of value. Currently, 9 high-genetic-value breeding bulls have been put into production, with a cumulative total of 70,000 doses of frozen semen produced

#### Optimal Cattle

- Built innovative smart platforms such as Yunyangniu, Al Cattle Expert and Mu'anyun through cutting-edge technologies including IoT, big data, and AI, promoting the transformation of farm management from experience-driven to data-driven
- Built a specialized scientific research system, established the Jingwa Dairy Nutrition Research Institute and the NJAU-Modern Dairy Institute for Dairy Industry Research
- Launched a smart collar initiative, deploying these devices on 60,000 cows
- The feed conversion rate for lactating cows reached 1.66%, contributing to a reduction of 45,000 tonnes of corn and 50,000 tonnes of soybean meal consumption

#### Premium Milk -

- 6 Modern Dairy farms, including Baoji, Hongya, Yunnan, Bengbu, Hefei, and Shanghe, passed the re-evaluation for the "Quality Milk Project Special-Grade Raw Milk Farm" certification
- Conducted a satisfaction survey of 100% raw milk customers, with the customer satisfaction rate reaching 100%
- Received the Student Milk Source Base Certification

#### **Practicin9 Green Operations**



#### Address Climate Chan9e

- Established a climate risk governance structure, with the Sustainability Committee under the Board as the highest level of decision-making, and clearly defined climate risk responsibilities for management personnel at each level based on a top-down approach
- Had put 4 electric milk tankers into operation
- Achieved the cumulative grid-connected capacity of photovoltaic projects of 18.5 MW
- The amount of biogas produced was 193.79 million cubic meters, with biogas power generation reaching 107,082 MWh
- Expanded its planting area to 66 thousand mu, and planted 788 mu of trees on vacant land at 19 farms, further enhancing carbon sequestration capacity
- Reduced enteric fermentation emissions by approximately
   1.3% and manure management linkage emissions by approximately
   2.7% compared to 2023, by improving digestibility, which in turn reduced CO<sub>2</sub> emissions from the herd by approximately
   24,000 tonnes
- Expected to reduce carbon emissions by 0.28 tonne annually per lactating cow by replacing traditional fertilizers with biogas slurry for land application

#### Sustainable Operations

- 100% self-built farms in operation had obtained ISO 14001 Environmental Management System Certification
- Continuously upgrade our manure fermentation production technology, reducing the amount of water entering the manure management system, which in turn can save 15% of the electricity consumption for fermentation treatment
- Newly installed 13,872 energy-saving fans in 10 farms, completed the renovation with solar streetlights at 17 farms, purchased 16 sets of air energy equipment for heating and hot water supply, gradually replaced boilers at 8 farms, put 4 electric milk tankers into operation, and replaced 18 diesel forklifts and 6 diesel loaders with electric ones
- Maintain the daily water consumption per cow below 110kg
- The precise spraying system had been deployed in over **35%** of Modern Dairy's farms

<sup>1</sup> Feed conversion rate refers to the amount of weight gained by an animal per unit of feed consumed.

- Reduced the use of chemical reagents. This move resulted in a 78.05% decrease in chemical waste liquid generation compared to 2023; we also adopt preventive measures to minimize the occurrence of diseases and medication usage in cattle herds, and achieved over 10% reduction in medical waste generation per cow compared to 2023; the Company's waste oil recycling volume increased by 10.34% compared to 2023
- The coverage rate of water resource audits for suppliers reached **100%**
- Reused approximately **1.32** million cubic meters of biogas slurry and manure water, saving fresh water use

#### Biodiversity Protection \_\_\_\_\_

- Referring to the four-step methodology of Locate, Evaluate, Assess, Prepare (LEAP) suggested by the Taskforce on Nature-related Financial Disclosures (TNFD), we assess the biodiversity risks and opportunities in dairy farming, forage planting, and forage processing stages
- Saibei Farm reached an agreement with China Agricultural University and China Grassland Industry Association regarding the project cooperation intention to restore degraded mowing and grazing grassland. Approximately 10 cubic meters of biogas fertilizer was applied per mu of grassland. The fertilized forage reached a height of 25 cm. The total yield of the fertilized grassland increased by about 40%

#### Protectin9 Employee Well-Bein9



#### Talent Attraction and Retention

- Coverage rate for employee training on human rights reached **100%**
- Proportion of female employees reached 32.39%
- Proportion of female employees in management reached 24.55%
- Won again the DEI Employer Awards (China) and were also rated as a "Top 10 Respected Employer Brand" by Shanghai Action Education, a management training services provider

#### Talent Development and Promotion -----

- Conducted talent reviews to comprehensively evaluate 178 mid-level management and core technical professionals, covering 97.5% of our employees at level three and four. The proportion of highly competent and potential employees increased to 35% from 30% of 2023
- The proportion of vacancies filled with internal candidates increased to 80% from 59% of 2023
- Granted a total of **79,042,000** restricted shares to middle and senior management
- Overall employee satisfaction reached 4.82 out of 5, with employee engagement level for the year being **90.52%**
- Organized 3,756 training sessions, with a total duration of 241,800 hours, or 26.84 hours per person, covering all employees

#### Safety and Health \_\_\_\_\_

- As of December 31, 2024, all the farms that have been constructed and put into operation passed ISO 45001 certification for occupational health and safety management systems, accounting for 100% of the total
- Lost Time Injury Frequency Rate (LTIFR) among employees and contractors = 0.42 per million working hours
- Occupational disease incidence rate among employees and contractors = 0.68%
- **100%** of employees and contractors received health and safety training
- Average health and safety training hours of employee and contractor every year = 16 hours

#### Employee Care \_\_\_\_\_

- Organized over **1,500** events for employees in 2024
- Invested over RMB7.3 million

#### Workin9 To9ether with the Society



#### Sustainable Procurement ----

- Increased the scoring weight of ESG performance in the Supplier Comprehensive Evaluation Form from 6% to 25%. In particular, the scoring weight of labor management indicator is 15%
- Provided suppliers with 5 ESG training sessions on topics such as sustainable procurement, labor management, performance management, zero-deforestation, low carbon and energy saving, and methane reduction, covering 100% of our suppliers. Our supplier capacity enhancement program covered 56 suppliers, including quality enhancement communication meetings with beet pulp suppliers
- Conducted a 100% ESG audit on a total of 461 Tier 1 suppliers. In addition, we conducted ESG audit on 98 important Tier 3 suppliers of raw materials, and requested each Tier 3 supplier to carry out corrective actions based on the audit results
- In May 2024, COFCO International delivered 50,000 tonnes of Brazilian soybeans free of deforestation and vegetation destruction issues to Modern Dairy
- Cooperated with Cargill on China's first soybean delivery with "zero-deforestation", obtaining China's first Triple S zero-deforestation certification



#### Community Development -



- Donated over RMB2.33 million worth of funds and gifts to external charitable causes, organized 67 public welfare activities and contributed more than RMB25 million in financial aids over the past five years
- The number of our village-enterprise cooperation projects increased from 187 in 2023 to 254, creating jobs for 1,226 people. Our school-enterprise cooperation projects provided 367 new jobs
- Guided farming households around the ranch to develop silage corn planting according to local conditions with the order model of "company + farming household + cooperative", helping farming households and herdsmen to increase their income and get rich. Now, the total amount of silage purchased annually exceeds 4 million tonnes, the annual silage loan distribution amounted to RMB460 million, and the industrial chain drives farmers to increase their employment and income by more than 1.2 million people
- Continued to carry out the Green Seedling program in the past three years, signed cooperation with 45 colleges and universities, and set up "Modern Dairy Industry College" to train animal husbandry talents; received more than 1,000 interns from agricultural colleges for job trial, and achieve 100% job retention
- Employed nearly 200 veterans

# **Constructing** Responsibility Mana9ement

Modern Dairy makes continuous efforts to strengthen its capabilities for sustainability governance and improve its performance in ESG issue management and responsibilities. We comply with the Company Law of the People's Republic of China, the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited and other relevant laws and regulations, and make sure all our operations are lawful. To clarify the division of responsibilities for corporate governance, we have established a comprehensive ESG governance structure to ensure governance effectiveness. This move demonstrates our commitment to and enthusiasm for sustainable development.

Modern Dairy has adopted a systematic approach to building a responsibility network from ESG governance structure to legal compliance practice, and from risk prevention and control to ethical value promotion. This approach has enabled the organic integration of compliance operation and strategic upgrading, and transformed institutional advantages into sustainable competitiveness, setting a governance benchmark for the industry to advance from basic compliance to value creation.

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#### Sustainable Development Management

- Sestablished the Sustainability Executive Committee and the Sustainability Working Group, optimised the corporate sustainability governance structure with the Sustainability Committee under the Board as the decision-making level, the Sustainability Executive Committee as the management level, the Sustainability Working Group as the executive level and the Public Affairs Department as the secretariat of the Sustainability Executive Committee
- S Incorporated sustainability performance targets in the performance appraisal of mid-level management and the sustainability evaluation dimension in the Group's annual recognition of excellence

#### Business Ethics

- 6 Established a business ethics management structure composed of the Sustainability Committee under the Board and the Business Ethics Group
- Provided business ethics training for over 5,600 hours, covering 100% of Modern Dairy employees. Organized online and offline business ethics training for all our suppliers, including typical case briefings and supplier conferences, for a total of 550 hours
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- S Obtained the ISO 37001:2016 Anti-bribery Management System Certification and the ISO 37301:2021 Compliance Management System Certification, covering 100% of the Company's business scope





## Sustainable Development Management

According to our business characteristics and development needs, Modern Dairy has developed an ESG three-level governance structure to ensure the accurate landing of the "FRESH Sustainable Development Strategy". The Company responds to ESG priorities through stakeholder communication and substantive issue identification to promote sustainable, high-quality development of the Company.

#### **Sustainable Development Governance Framework**

Our ESG governance structure consists of decision-making, management and executive levels. It is responsible for guiding, overseeing and managing our sustainability efforts and ensuring the effective implementation of our ESG strategies. We respond promptly to stakeholders' concerns through a regular and multi-channel communication mechanism. We have formed a materiality matrix covering issues that have material impact on our sustainable development and draw the most concern from our stakeholders, helping us better identify and manage ESG risks and opportunities, and ensuring ESG factors are fully considered in our operations.



The Sustainability Committee under the Board is the ultimate owner of responsibilities and decision-making in respect of ESG issues. It reviews the "FRESH Sustainable Development Strategy" goals and policies, identifies and monitors our ESG risks, opportunities, actions and plans, and regularly evaluates the progress and results of our ESG efforts. The Sustainability Committee is regularly briefed on ESG work and oversees ESG implementation to advise on our sustainable development. In 2024, the Sustainability Committee attended 1 ESG work report meeting. At the meeting, it listened to the latest ESG news, the achievements of ESG management and disclosure in the previous years, the ESG work plan for the next year and other important issues. It also gave suggestions for our ESG management and information disclosure.

The nanagement level

At the management level, we have a Sustainability Executive Committee covering many ESGrelated functions of our headquarters, farms and subsidiaries. The committee, made up of our key executives, is responsible for sustainable management and progress in implementing the "FRESH Sustainable Development Strategy", setting goals and policies, monitoring implementation of relevant strategies and sustainable development progress, and providing guidance and coordinating resources. It meets semi-annually to review progress in sustainability efforts and regularly reports on ESG work results to the Sustainability Committee.

he executive

The sustainability officers and sustainability liaison staff from ESG-related functions at our headquarters, farms and subsidiaries form the Sustainability Working Group to implement the "FRESH Sustainable Development Strategy" goals and policies and sustainability special projects. The group reports regularly on ESG issues to and operates under the supervision and guidance of the Sustainability Executive Committee.

Secretariat

A Secretariat is established under the Sustainability Executive Committee. It is coordinated by the Public Affairs Department and supported by all business units. The Secretariat of the Sustainability Executive Committee develops and coordinates sustainable development strategies and implementation paths, builds management systems and structures, promotes special issues and enhances sustainable influence, and organizes regular sustainability working meetings to facilitate communication.



#### **ESG Management Policy and Strategy**

Modern Dairy assesses the materiality of ESG issues on a regular basis. The assessment process and results are detailed in the "Stakeholder Engagement" and "Identification of Material Issues" sections of this Report, and are reviewed by the Sustainability Committee. Our Board of Directors has identified material ESG risks associated with our operations, concerning risks to product quality, energy conservation and carbon reduction, sustainable sourcing, biodiversity, etc. We also require the relevant ESG functional departments to take countermeasures in operation and management.

#### Linking Sustainability Performance to Compensation

The Company links ESG performance to the compensation of the CEO, Executive directors, Vice presidents, and departmental managers. We have set quantitative and qualitative ESG performance targets, with a weight of no less than 5% given to total compensation. ESG performance mainly involves carbon emission reduction management, water use efficiency management, biodiversity protection, safety and health management, community relations management and impact assessment, community economic development assistance, human rights protection management, supplier ESG risk assessment and management, and business ethics management. In 2024, we incorporated sustainability performance targets in the performance appraisal of midlevel management and the sustainability evaluation dimension in the Group's annual recognition of excellence.

The Company annually rates the achievement of the above objectives of the management personnel, and the results of the rating will affect their performance compensation. In the event of a significant ESG risk emergency, the compensation performance score of the person responsible for the risk will be deducted according to the level of the event.

#### **Review of ESG Goals**

Our Sustainability Committee reviews and assesses whether the ESG goals for the year are reached and discusses the goals for the next year. The Sustainability Committee received a special presentation from management on the achievement of environmental and social goals for the year, gaining an understanding of the phased targets for energy conservation and emissions reduction, water saving and waste reduction, health and safety, and human rights protection had been achieved. In addition, given our ESG management status, the Sustainability Committee learnt about and reviewed the setting of 2025 targets.

This Report, reviewed and approved by the Board of Directors on March 25, 2025, also discloses the aforementioned environmental, social and governance issues in detail

Secretariat of the Sustainability Executive Committee

## **Stakeholder Engagement**

Stakeholders	Expectations and Demands	Communication Mode	Our Responses
Shareholders/ Investors	<ul> <li>Safeguard the rights and interests of shareholders</li> <li>Outstanding performance</li> <li>Sustained and steady increase of return on investment</li> <li>Honest and transparent operation</li> </ul>	<ul> <li>General meeting of shareholders</li> <li>Regular information disclosure</li> <li>Websites of SEHK/ Company</li> <li>Investor conference and roadshow</li> </ul>	<ul> <li>Transparent and open information disclosure</li> <li>Enhance investment management</li> <li>Strengthen enterprise risk management</li> <li>Continuously improve the ability to create value</li> </ul>
Government/ Regulatory agency	<ul> <li>Compliance operation</li> <li>Strict internal control and risk management</li> <li>Promote economic development</li> <li>Extraordinary contribution to the society</li> <li>Safe operation</li> </ul>	<ul> <li>Information submission</li> <li>Compliance report</li> <li>Attending meeting/ seminar</li> <li>Special inquiry/ inspection</li> <li>Submission of documents</li> </ul>	<ul> <li>Strengthen compliance operation</li> <li>Strengthen safety management</li> <li>Pay taxes according to law</li> </ul>
Clients	<ul> <li>Product quality and safety</li> <li>Superior service experience</li> <li>Nutritious, healthy and diversified product choices</li> </ul>	<ul> <li>Official website of the Company</li> <li>Customer service hotline</li> <li>Customer satisfaction survey</li> </ul>	<ul> <li>Safeguard consumers' rights</li> <li>Product quality guarantee</li> <li>Open and transparent production</li> </ul>
Employees	<ul> <li>Safeguard the rights and interests of employees</li> <li>Occupational health and safety</li> <li>Improve employee benefits</li> <li>Equal employment opportunities and diversified developments</li> </ul>	<ul> <li>Employment contract</li> <li>Information platform</li> <li>Hotline and email</li> <li>Monthly internal newsletter</li> <li>Online complaint platform</li> <li>Offline training exchange</li> </ul>	<ul> <li>Insist on equal recruitment</li> <li>Carry out training for employees</li> <li>Optimize career development channel</li> <li>Carry out employee activities</li> <li>Fully listen to all opinions of employees</li> </ul>
Suppliers/Partners	<ul> <li>Establish a long-term business relationship</li> <li>Fair procurement and honest performance</li> <li>Product quality assurance</li> </ul>	<ul> <li>Evaluation of suppliers</li> <li>On-site visit</li> <li>Regular supplier meeting</li> </ul>	<ul> <li>Strict supply chain management</li> <li>Insist on fair and open procurement</li> </ul>
Environment	<ul> <li>Insist on the green operation</li> <li>Minimize environmental impact</li> <li>Address climate change</li> <li>Protect biodiversity</li> </ul>	<ul> <li>Environment inspection</li> <li>Environment information disclosure</li> <li>Advocate the idea of environmental protection</li> <li>Insist on sustainable development</li> </ul>	<ul> <li>Strengthen environmental and ecological protection</li> <li>Insist on the path of sustainable development</li> <li>Create circular and smart farms</li> <li>Innovate the agricultural recycling model</li> </ul>
Community	<ul> <li>Carry out public benefit activities</li> <li>Promote community development</li> </ul>	<ul> <li>Understand community needs</li> <li>Formulate community service plan</li> </ul>	<ul> <li>Carry out public benefit activities</li> <li>Carry out community service</li> <li>Promote local employment</li> </ul>

## Identification of Material Issues

Based on the expectations from internal and external stakeholders as well as the business characteristics, Modern Dairy identified, evaluated and sorted out material issues, and disseminated them to stakeholders for questionnaire survey. Based on the questionnaire results, we analyzed and verified ESG issues that were relevant and significant to our business. We screened the issues and created a materiality matrix, which serves as the basis for the Company's ESG priority and disclosure.



## Compliance and Risk Control

Modern Dairy insists on law-abiding and compliant operations. In addition to building the compliance culture that "starting from the top, all employees take the initiative to comply, and compliance creates value", we also pursue the compliance concept of "compliance first, all-hands compliance, proactive compliance and strict accountability". Modern Dairy effectively monitors, evaluates responds and monitors to all kinds of potential risks. We protect internal and external data and privacy rights, and defend our own intellectual property rights while avoiding infringing on others.

#### **Building a Comprehensive Risk Management System**

To ensure the business compliance and a sound operation, Modern Dairy has formulated internal policies such as the Compliance Risk Management Policy and the Intellectual Property Compliance Management Policy in accordance with COSO (The Committee of Sponsoring Organizations of the Treadway Commission) Enterprise Risk Management Framework, ISO 37301:2021 Compliance Management Systems - Requirements with Guidance for Use and other laws and regulations. This establishes a compliance risk management system that covers the entire process of risk identification, assessment, response, monitoring and reporting, ensuring lawful and compliant business operations.

The Company adopts a "three lines of defense" management model for compliance risk management. The first line of defense is the business units and functional departments, responsible for the daily compliance management of their own business areas; the second line of defense is the Compliance Management Department, responsible for the coordination of compliance risk management; and the third line of defense is the Internal Audit and Discipline Inspection Departments, responsible for audit and violation investigations. This aims to realize the collaborative management of risks.

#### Managing and Controlling Major Risks

Modern Dairy clearly defines, precisely measures, prudently evaluates, and actively manages various substantial risks encountered in daily operations. We have developed targeted management and response measures for different types of risks, including ESG risks such as guality, safety, environmental protection and occupational health risks. The Company adopts a multi-level and multi-dimensional risk assessment model to identify significant corporate-level risks. Each business unit and functional department, the Compliance Management Department, and the Compliance Risk Management Committee are respectively responsible for identifying and assessing business-related risks, formulating countermeasures and monitoring them regularly. This is to ensure that major risks are guantified and traceable, safeguarding the Company's sustainable development.

#### **Maintaining Information Security**

Modern Dairy places a high value on the security and confidentiality of customer information. We continually strengthen confidentiality policies and preventive measures to guard against the leakage of customer privacy information. The Company strictly adheres to the Cyber Security Law of the People's Republic of China, the Data Security Law of the People's Republic of China, the Personal Information Protection Law of the People's Republic of China, and other relevant national standards. We have formulated internal policies including the Modern Dairy Information Security Management Policy covering security red lines. office security, foundational security, and security management. Basic rules are clarified for all employees in information security management, and the IT equipment is managed according to the principle of "whoever uses it is responsible for it".

Our vice president for information security management is responsible for decision-making and supervision of major information security issues. The Information Technology Department, as the main responsible department, carries out information security supervision and information system maintenance in daily operation. This year, we made noted progress in network security management. We regularly carried out comprehensive audits on information security management, and promoted the data leakage prevention system<sup>2</sup>. We organized the network security protection drills<sup>3</sup> from July to September, to monitor the effectiveness of our management systems.

<sup>2</sup> The data leakage prevention (DLP) system is a strategy that, through certain technical means, prevents transferring specified data or information assets of an enterprise outside of the enterprise in violation of security policies.

<sup>3</sup>A network security protection drill, also known as a live network attack and defense exercise or HW operation, is an exercise that simulates attack and defense behaviors in a real network environment, aiming to improve network security protection and emergency response capabilities.



The Company achieves multi-faceted monitoring of information leakage risks through account login permission restrictions, terminal data control and centralized management of corporate information on our systems. Additionally, we have improved the emergency response mechanism for network and information security incidents and established the emergency plan for cyber and information security incidents to standardize the workflow for dealing with these incidents. Based on the tiered incident management system, a full-chain security control process and reporting mechanism covering monitoring and early warning, emergency response, investigation and evaluation, and cause reporting has been established.



During the year, the Information Technology Department and the Compliance Management Department jointly issued the Modern Dairy Data Security Management Policy and established the data security and compliance supervision and audit mechanism. They worked together to conduct a data asset survey to count our data assets and complete the data asset information. We conducted a comprehensive investigation of our hidden information security risks, with corrective actions taken based on the risks. This move has further strengthened our information security management.

The Company attaches high importance to cultivating employees' awareness of information security and requests the employees at the key posts to sign the Confidentiality Agreement. For any behavior that violates the information security management policy, the Company will impose penalties in accordance with the Modern Dairy Employee Reward and Punishment System depending on the severity of the circumstances. In addition, the Company regularly conducts information security knowledge training in the form of online conferences to cultivate awareness of information security protection for all employees.

We classify network and information security incidents into four levels: red (tremendous), orange (serious), yellow (major) and blue (general). The Information Technology Department organizes the monitoring of network security threats to the Company, and monitors network security threats such as vulnerabilities, viruses, and network attacks through various channels. We monitor the security of our networks and information systems, and promptly dispose of any threats that have been identified. The Information Technology Department conducts analysis on the monitoring

In response to network security emergencies, we take technical measures and controls to limit the spread of the incidents based on the response level and the specific response plans.

We organize investigations, handling and summary assessments, and regularly report the results

# **Business** Ethics

Modern Dairy has established and follows the code of business ethics. We have clear policies and procedures for business ethics in place to avoid business ethical risks. We collaborate with related parties to implement the code of ethics and provide training for employees, directors, suppliers and contractors, so as to convey the code and awareness of business ethics, and promote the sustainable development of the Company.

We comply with the United Nations Convention against Corruption, the Company Law of the People's Republic of China, the Civil Code of the People's Republic of China, the Interim Provisions on Banning Commercial Bribery of the State Administration of Industry and Commerce, and other laws, regulations and international initiatives. We have developed the Modern Dairy Code of Ethics, the Modern Dairy Anti-Bribery and Anti-Corruption Policy, the Modern Dairy Whistleblower Protection Policy and other policies. We require all employees, security personnel, security contract suppliers (if any), contractors, directors, senior management and third parties acting on behalf of the Company to abide by the provisions of the Modern Dairy Anti-Bribery and Anti-Corruption Policy. We strive to create a system in which all employees "do not have the audacity, opportunity or desire to practice corruption". We organize regular business ethics compliance evaluation and audit. Moreover, we maintain smooth whistle-blowing channels and severely punish violations of the law.

#### **Development of a Business Ethics Management System**

The Company has a business ethics management system composed of the Sustainability Committee and the Business Ethics Working Group. The working group is composed of the Discipline Inspection Committee Office, the Audit Department, the Compliance Management Department and the Human Resources Department. The Sustainability Committee under the Board is the highest ethical management body which supervises the handling of corruption cases and monitors the compliance with the code of business ethics. The Business Ethics Working Group manages our business ethics, formulates and improves relevant systems, accepts and handles whistleblowing tips, coordinates, supervises and guides our implementation of business ethics, and conducts business ethics audits.



**Business Ethics Governance Structure of Modern Dairy** 

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#### Strictly Investigating Violations of Disciplines and Regulations

The Business Ethics Working Group verifies the tips received for violations of disciplines and regulations. If the situation is true after verification, we will follow the rules and regulations to deal with the relevant personnel and transfer them to the judicial authorities if necessary. We will also report the relevant violations within the Company as a warning. As of the end of the reporting period, the Group has not engaged in any actions that violate business ethics, such as corruption, bribery, discrimination, harassment, disclosure of customer privacy, conflicts of interest, money laundering, or insider trading, and there have been no lawsuits resulting from corruption. Through internal investigation, economic losses of RMB1.59 million were recovered.

#### **Smoothing the Report Handling Process**



The Company has formulated the Management Regulations on the Disposal of Letters and Visits and Clues, the Regulations on the Clarification of Letters and Visits and *Reports* and other whistleblowing policies and rules to regulate the handling of complaints and reports. To improve the report handling mechanism, the Business Ethics Working Group is responsible for the overall management over report tips from all channels by analyzing and classifying tips, verifying tips through investigation, issuing reports, determining results, and notifying punishments.

We are committed to providing a convenient and efficient way for whistleblowers to report. We have posted whistleblowing phone numbers, email addresses, and mailing addresses in prominent positions at our farms and offices, and have included complaint channels for suppliers in their Sunshine Agreements or procurement documents. We conduct quarterly surveys of our customers and employees through online questionnaires, telephone interviews, and in-person interviews to gather evidence of corruption.



#### Improving whistleblower protection mechanism

We have laid down the Whistleblower Protection Policy, which includes provisions on the scope of reporting, the reporting process and the whistleblower protection mechanism. We allow internal and external personnel to report anonymously, keep the whistleblower's information strictly confidential, and strongly discourage retaliation. For retaliation, the Company will deal with it seriously in accordance with the policy, of which constituting a crime, the relevant case will be transferred to the judicial organ.

#### **Building a Clean Supply Chain**

The Company has established a transparent, fair and honest supply chain system, ensuring legal and compliant business transactions. We have also formulated the Modern Dairy Supplier Code of Conduct to manage suppliers in the full life cycle, mainly including the following measures:



#### Supplier development and certification stage

The Company has clarified supply and procurement requirements, standardized and integrated procurement product lists, opened up the self-owned procurement platform system, built an integrated platform for the supply chain, and realized data sharing between the procurement department and suppliers. This helps prevent illegal accounting and duplicated procurement from occurring.



#### Supplier access and review stage

In accordance with the Supplier Audit Form, we include suppliers' business ethics management performance in their onboarding review as a key assessment indicator. We have established policies and procedures for honest operations and compliance management, and conducted reviews of anti-corruption, anti-bribery, and conflict of interest prevention practices. We require all our suppliers to sign the Commitment Letter for Sustainable Procurement Management Guidelines, clearly defining the code of conduct regarding integrity and honesty that suppliers should adhere to.



#### Supplier engagement and cooperation stage

The Company selects suitable candidates from the supplier pool for cooperation and signs the Sustainable Procurement Management Agreement and the Sunshine Agreement with all the suppliers. We prohibit all suppliers from engaging in any form of bribery, corruption, fraud, or unfair competition in bidding, price comparison, negotiation and cooperation.



#### Supplier review stage

We carry out regular or irregular audits on business ethics management of our Tier 1, Tier 2 and Tier 3 suppliers, by means of document audits, on-site inspection, unannounced inspection and questionnaire. In addition, we regularly assess our supplier's performance in terms of business ethics in the Supplier Comprehensive Evaluation Form,

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In 2024, 100% of our suppliers in the pool signed the Commitment Letter for Sustainable Procurement Management Guidelines, the Sustainable Procurement Management Agreement and the Sunshine Agreement.

#### **Carrying out Special Supervision and Audit**

To effectively monitor our compliance with business ethics, the Business Ethics Working Group conducts business ethics supervision, audit and enforcement of accountability for our business ethics management system and all business processes following the Modern Dairy Anti-Bribery and Anti-Corruption Policy. It carries out business ethics audits on all our operations and subsidiaries every three years. The audits cover anti-corruption, ethical, integrity, and anti-bribery practices.

#### Internal Control Self-assessment

In 2024, to effectively monitor our farms' compliance with business ethics, we required all the farms to perform internal control self-assessment following the standards and requirements in the Modern Dairy Internal Control Self-Assessment Standards and List. We have built assessment frameworks for all the business units of our farms, which contain business ethics related indicators for organizational structure, budget management and procurement management. The farms are required to prepare assessment reports following the assessment standards and submit them to our Audit Department for review.

#### Active correction

The farms are required to submit correction summary form summarizing their violations of business ethics as presented in the assessment reports, and take corrective actions based on the form. They are also required to report on their monthly correction progress and evidence for that to the Group's Audit Department till all violations are corrected



During the year, our internal control self-assessment covered

100% our farms

#### Passive correction

The Audit Department identifies possible business ethical risks by reviewing the internal control selfassessment reports submitted by the farms. If a matter with high business ethical risk is found in the review, the Audit Department will transfer it to our Discipline Inspection Committee Office for further treatment. In 2024, the Discipline Inspection Committee Office required the farms to take effective corrective measures according to the audit results identified in the internal control self-assessment.

and

our business operations

#### **Carrying out Special Audits**

We organize management and economic responsibility audits. Specifically, we audit the management of product quality, work safety, environmental protection, employee rights and interests, cooperation with suppliers and business ethics through planning and preparing for and carrying out the audits, issuing audit reports, and taking corrective measures based on the audit reports. 32 audit projects have been completed, including those on procurement planning and supplier management, contract and settlement management, and quality management.





By December 31, 2024, noted achievement was attained in correcting problems identified in the audits, with a completion rate of 90% and economic losses of RMB1,419,500 recovered. Economic penalties of RMB4,500 were imposed.



## **Comprehensive Business Ethics Training**

We focus on improving our business ethics, and provide targeted business ethics training for employees at different levels and in different positions. Our regular training, online learning platform and case analysis help our management and employees better understand and comply with business ethics. This contributes to a fair and sustainable business environment.

### **Business Ethics Training for All Employees**

We attach great importance to the continuing education and enhancement of the business ethics of all employees (including all full-time employees, and we had no outsourced, dispatched or part-time employees during the reporting period), striving to build a team of high-caliber employees with high ethical performance. We provide business ethics training for all employees in a variety of ways. The training courses cover laws and company policies regarding conflicts of interest, corruption, honesty and transparency, and respect of diverse values, in a bid to cultivate employees' awareness of business ethics and sense of responsibility.

We are seeking more forms of business ethics training. During the year, we uploaded integrity training videos to our internal training platform, with content covering integrity knowledge empowerment and typical case warning education. The videos are available to all our employees. Before the Spring Festival, May Day, Mid-Autumn Festival, National Day, and other high integrity risk events, we pushed an integrity reminder through our internal system to all employees to prevent corruption. In 2024, we organized 1 Party Anti-Corruption Conference, 12 integrity training sessions, 1 tour to warning education base, and 3 group integrity talks.

In 2024, we provided business ethics training for over 5.600 hours covering of our employees

Modern Dairy's "Integrity Month" for All Employees Case

During the year, Modern Dairy conducted the "Integrity Month" activity on the theme of "establish duty with integrity, achieve enterprise with honesty" to strengthen the integrity culture and improve employees' integrity awareness and professional integrity. This activity education guided Party cadres and managers to build a strong line of defense of "don't want to rot" from the ideology. This activity covered all employees, successfully disseminating integrity information to them and raising their integrity awareness.



Party Anti-Corruption Conference of Modern Dairy



#### **Business Ethics Training for Directors**

Every year, the Company, by the means of providing special training for directors, reporting to the Board of Directors, and delivering materials of board honesty and integrity education, enhances the directors' awareness of business ethics and fosters an atmosphere of clean corporate governance. This year, all directors attended the business ethics training and the number of participants was 9.



This year, Modern Dairy carried out a special offline training on business ethics for directors, and put forward specific requirements for the anti-corruption work of Modern Dairy. The training clearly stated that the Company adopted a "zero tolerance" attitude toward the problems of eating, taking, card, and requiring that seriously damaged the Company's integrity ecology, and put forward the requirements for improving the business ethics management system and risk prevention, as well as the responsibilities and discipline requirements of managers. All our directors participated in the training.

#### **Business Ethics Training for Suppliers and Contractors**

We regularly organize business ethics training for suppliers. In the year, we sent A Letter to the Supplier to all suppliers to inform them of our code of business ethics. We organized online and offline business ethics training for all our suppliers, including typical case briefings and supplier conferences, for a total of 550 hours.



#### Supplier Business Ethics Special Training

This year, we carried out the supplier integrity awareness meeting with the theme of "Inheriting the integrity culture of Niu ren and creating a clean and positive environment". The training was carried out in three dimensions of "Obeying politics, keeping the bottom line, and strengthening ideas", and through warning cases, the importance of clean cooperation was conveyed to suppliers, and the responsibilities and obligations of both parties in clean compliance were clarified. We hope to build a clean and transparent cooperative relationship with suppliers through this publicity meeting and promote the healthy development of the industry. This training covers 100% of our suppliers.



Promote Business Ethics Capacity Building of Suppliers

This year, we communicated our business ethical requirements for suppliers at the supplier conference on the theme of "Join Hands for Common Development and a Win-Win Future". We required our suppliers to perform effective anti-corruption and anti-bribery management according to their agreements with us, properly deal with conflicts of interest, and maintain integrity in operations. This training covered 100% of our suppliers. In addition, we continue to promote all suppliers to establish and improve the company's internal anti-bribery and anticorruption related systems. At the conference, we carried out a survey on the construction of all suppliers' business ethics system.



Modern Dairy Key Partners Sustainable Procurement Sharing Meeting

# Protecting IPR

We are committed to protecting our IPR by improving the IPR management system in a bid to protect our innovation achievements. Meanwhile, we respect the IPR of others and abide by industry rules, to maintain compliance in our innovation practices.

Modern Dairy strictly abides by the Patent Law of the People's Republic of China, the Trademark Law of the People's Republic of China and the Implementation Rules for the Patent Law of the People's Republic of China. We have formulated the Intellectual Property Compliance Management Policy, the Patent Management Measures, the Trademark Management Measures, the Business Secret Management Measures, and the Copyright Management Measures. These internal policies help us effectively improve the internal IPR management system, regulate IRP management, and prevent infringements.

We work to further improve our IPR compliance governance, with the core principle of "put rules in place and act in line with rules". Our aim is to have "simple and scientific process" in place and realize "fast and accurate execution". We have a "coordinated and tiered" IPR management system in place. A Chief Compliance Officer is appointed and a Compliance Management Department is set up for the overall management and oversight of our intellectual property rights. In addition, compliance management specialists are appointed at our functional departments, operation centers and subsidiaries for IPR compliance risk management.

We have developed and constantly improve the application process of intellectual property rights, so as to protect products, technologies and other intellectual property innovation achievements timely. When signing contracts with suppliers, we stipulate that they are not allowed to use any unauthorized intellectual property works. We actively carry out intellectual property training to popularize the knowledge of patents and trademarks among our employees, strengthen the awareness of infringement in each department, and avoid the reputation risk and economic loss caused by infringement. This year, 3 issues of IPR publicity were released to our employees and 5 training sessions on IPR and trade secrets were conducted.



# 02 Pursuin9 Excellent Quality

Adhering to the corporate mission of "raise healthy cows and safeguard every drop of milk", Modern Dairy continuously enhances its quality management system and fosters a culture of excellence. Anchored in the principle of "high-qualty breeding, optimal cattie and premium milk production", the Company is dedicated to delivering premium-quality products by embedding "high quality and high standard" management philosophy into various processes, including breeding, feeding, and milk production processes. We are committed to animal welfare and apply refined, precision-based management to our dairy herds. In addition, Modern Dairy is accelerating the digital transformation of its farms, building intelligent, tech-enabled operations that modernize traditional livestock practices. Through responsible innovation, we aim to safeguard public nutrition and contribute to the sustainable development of the agricultural sector.



#### Leadership in Quality

- Aim to achieve a 100% rate of premium-grade raw milk. On this basis, we have developed a full-process guality management system based on the concept of "high-guality breeding, optimal cattle and premium milk production"
- Organic Standard (GB/T 19630-2019), the Ecocert Organic Standard, the China GAP, the National Quality Milk Project, and the Farm Animal Welfare Product Certification; during the reporting period, 36 of our dairy farming companies obtained the ISO 9001 Quality Management System Certificate.

#### High-Quality Breeding

- Developed a database containing the phenotypes and genotypes of 30,000 dairy cows
- China Agricultural University, biotechnology research institutes and other scientific research units
- S Completed the independent breeding of the first batch of breeding bulls in Tongliao Farm. 15 high-genetic-value breeding bulls have been successfully bred, and two of these have reached an industry-leading level in terms of value. Currently, nine high-genetic-value breeding bulls have been put into production, with a cumulative total of 70,000 doses of frozen semen produced

#### Optimal Cattle

- 8 Built innovative smart platforms such as Yunyangniu, AI Cattle Expert and Mu'anyun through cutting-edge technologies including IoT, big data, and AI, promoting the transformation of farm management from experience-driven to data-driven
- 8 Built a specialized scientific research system, established the Jingwa Dairy Nutrition Research Institute and the NJAU-Modern Dairy Institute for Dairy Industry Research
- Launched a smart collar initiative, deploying these devices on 60,000 cows
- The feed conversion rate for lactating cows reached 1.66%, contributing to a reduction of 45,000 tonnes of corn and 50,000 tonnes of soybean meal consumption

#### Premium Milk

- 🕭 Six Modern Dairy farms, including Baoji, Hongya, Yunnan, Bengbu, Hefei, and Shanghe, passed the re-evaluation for the "Quality Milk Project Special-Grade Raw Milk Farm" certification
- Conducted a satisfaction survey of 100% raw milk customers, with the customer satisfaction rate reaching 100%
- Received the Student Milk Source Base Certification



• Devotes continuous efforts to quality management system certification, having been certified to the

Successfully developed the first commercialized cow genome chip in China - "Modern No. 1" together with





# Leadership in Quality

Modern Dairy strictly abides by laws and regulations such as the *Food Safety Law of the People's Republic of China* and the *Regulation on the Supervision and Administration of Dairy Product Quality and Safety.* We have established internal systems related to quality management, such as the *Quality and Safety Management Policy*, the *Sample Collection and Testing Method*, the *Inspection Benchmarking Management*, and the *Quality Performance and Evaluation Management Policy*. We aim to achieve a 100% rate of premium-grade raw milk<sup>4</sup>. On this basis, we have developed a full-process quality management system based on the concept of "high-quality breeding, optimal cattle and premium milk production".



<sup>4</sup> Percentage of premium-grade raw milk: Total weight of qualified raw milk / Total weight of delivered raw milk. 15 standards for qualified raw milk: Lead ≤0.02 ppb; freezing point ≥-0.5600°C and <-0.5150°C; acidity ≥12.5° and ≤15.5°; somatic cell count ≤250,000 cell/mL; total microbial count ≤100,000 CFU/ mL; psychrotrophs ≤10,000 CFU/mL; thermophilic aerobic spores <10 CFU/mL; lipase activity <300 U/100mL; protease activity <1,400 U/100mL (including acid, neutral, and alkaline protease); phosphate negative; alcohol test (2:1 ratio) negative; post-stasis heat shock test negative; heat-resistant spores ≤10; mastitic milk negative; odor characteristic of fresh milk aroma under high-pressure conditions.

## **Quality Performance Management**

We have established a quality performance management mechanism to promote our quality goal and ensure the industryleading quality of raw milk. This year, Modern Dairy has formulated the *Quality Performance and Evaluation Management Policy*. According to the policy, we assess the quality performance of all our farms and reward or punish them based on the assessment results. In addition, we have developed a quality performance-linked compensation mechanism through which powers and responsibilities are clearly defined and relevant personnel are held accountable. This is to encourage our farms to constantly improve product quality.

The quality performance management process:



To maintain the fairness and objectivity of the performance assessment, and to boost the enthusiasm and creativity of employees for quality management, we organize monthly, quarterly and annual quality appraisals at the farm, regional and headquarters levels. The appraisals assess quality target management, process quality management and control, and quality system and culture building. This encourages our employees and teams to do better in quality management. During the year, we organized quality benchmark farm appraisal, with 5 farms awarded.

To stimulate employees' enthusiasm for quality improvement and ensure the realization of the quality goal, we have included quality performance in the quality related personnel's performance assessment. For key quality management personnel, quality performance accounts for over 80% of their total performance.



We also value suppliers' quality management. In 2025, we plan to conduct quality assessment and tiered management of 100% of our raw and auxiliary materials suppliers. We will strengthen our support for and oversight of suppliers with low ratings in quality performance.





Depending on the impact and nature of quality problems, we trace them back to the responsible department or individual for correction, to avoid buckpassing. By doing so, we aim to ensure that quality problems are resolved quickly and effectively and prevent the recurrence of similar

Modern Dairy devotes continuous efforts to quality management system certification, having been certified to the ISO 9001 Quality Management System, the Organic Standard (GB/T 19630-2019), the Ecocert Organic Standard, the China GAP, the National Quality Milk Project, and the Farm Animal Welfare Product Certification. During the reporting period, 36 of our dairy farming companies obtained the ISO 9001 Quality Management System Certificate.

#### During the reporting period,

36 of our dairy farming companies obtained the

ISO 9001 **Quality Management System Certificate** 



## **Quality Capability Cultivation**

2024 is the "quality enhancement year" of Modern Dairy. To improve product quality, we make continuous efforts to cultivate quality culture. We keep promoting testing technology sharing and regularly organize quality and safety training, enhancing the professional skills of our employees. In 2024, we implemented major training projects including "ELISA Test<sup>5</sup>" and "Mastitis Bacteria Identification", training 100% of the employees in product quality positions.

#### **ELISA** Test Training

In order to improve the test operating skills of our testing personnel, Modern Dairy and the technical center of IDEXX (China) jointly held the ELISA standard operation training. The training was provided both online and offline and explained the standard operating procedure of the ELISA test to our testing personnel.



ELISA Standard Operation Training of Modern Dairy

<sup>5</sup> ELISA testing is an immunological detection method commonly used for measuring antibodies or antigens in biological samples, including proteins or glycoproteins.

#### Mastitis Bacteria Identification Training

In order to help the testing personnel become more proficient in the testing methods and to reduce the likelihood of errors and omissions, Modern Dairy invited experts from a veterinary medicine company to provide two-day training on Mastitis Bacterial Identification for the quality control testing personnel in July 2024. The training included the pathogenesis of common mastitiscausing bacteria, details of testing procedures, and interpretation of biochemical test results.



Mastitis Bacteria Identification Training of Modern Dairy

#### The offline breeding training under the "Technologies 100 Special Class" of Modern Dairy

In 2024, we conducted the offline breeding training under the "Technologies 100 Special Class". We invited internal and external experts to give lectures such as the "In-depth Analysis and Application of Reproductive Hormones" and the "Innovation and Practice of Estrus Synchronization Techniques", enriching participants' theoretical knowledge. Furthermore, we arranged for trainees to engage in breeding practice at farms. Through in-depth discussions and operations on the technical processes and specifications involved in on-site management, we helped the trainees gain practical experience. The training covered 32 breeding technicians from 22 farms.



The Second Offline Breeding Training under the "Technologies 100 Trainees Learning Breeding Practice at the Farm Special Class"



# **High-Quality Breeding**

We have formulated systems related to breeding quality management, including the In Vitro Embryo Production and Management System for Dairy Cows, the In Vivo Embryo Production and Management System for Dairy Cows, the Embryo Transfer System for Dairy Cows, and the Core Breeding Farm Declaration and Management System for Dairy Cows, improving breeding quality through technological innovation. We have established a proprietary and controllable dairy breeding system, overcoming technical bottlenecks in genetic breeding and proprietary breeding bull breeding. These efforts continuously improve guality and efficiency of dairy breeding.

Modern Dairy takes breeding R&D as a key to raising cow genetic improvement and ensuring the supply of high-guality milk sources. We are committed to overcoming the technical bottlenecks of dairy genetics breeding in China, such as the dependence on imported germplasm resources and the limitation of core breeding technology. We are building a genetic evaluation system and a germplasm source autonomy system with independent intellectual property rights. Through independent research and development and close cooperation with external research institutes, Modern Dairy has made many breakthroughs in genomic breeding, rapid embryo propagation technology, core breeding bull breeding, etc., and has continuously improved dairy breeding efficiency and cow genetic performance.

### **Genomic Breeding Innovations for Cows**

Modern Dairy promotes the research and application of genomic breeding technology for cow genetic breeding. The aim is to improve the accuracy of genetic evaluation, accelerate the selection process of high-quality breeding cows, and optimize the overall production performance of the herd. While traditional breeding methods rely on phenotypic data (e.g., external traits, such as body conformation, milk yield, and health status) for genetic evaluation, genomic breeding uses genetic (e.g., genetic information, such as gene sequences, genetic markers) testing to predict the genetic potential of cows at a young age, thereby improving selection efficiency, shortening the breeding cycle, and reducing breeding costs.

To enhance the science and precision of genomic breeding, we have developed a database containing the phenotypes and genotypes of 30,000 dairy cows. Based on genetic parameter estimation, data analysis modeling and gene selection optimization, we have built a genetic evaluation model covering key traits such as milk production, reproduction, health, and body conformation. By doing so, we aim to realize the precision and efficiency of dairy cow breeding.

We have a clear roadmap for developing our own breeding chips and gradually upgrading the entire breeding system of the Group:



In the medium

Promote proprietary breeding chips across the Group, perform genome testing on newborn calves, accumulate genotype data and provide scientific calf culling recommendations based on genetic evaluation results;

Establish systematic herd genetic profiles and use big data analytics technology and genotype data to optimize breeding cattle selection, realize precise nutrition supply, and improve health management;



Archive and cover the Group's entire herd genotype data, perform comprehensive genome matching, and use genetic data to develop precise breeding plans and longterm breeding strategies, to improve the cow performance, health and environmental adaptability.

Together with China Agricultural University, biotechnology research institutes and other scientific research units, Modern Dairy has successfully developed the first commercialized cow genome chip in China - "Modern No. 1". The chip can be used to construct the reference population for cow genome selection and for genetic evaluation and precise selection of breeding cows. The chip can identify the loci of gene mutations and genetic defects as well as paternity test information by testing hair or blood samples from cows. It predicts the genetic quality and production potential of cows at the calf stage, optimizing cow breeding and improving breeding efficiency.

Based on the advanced liquid phase hybridization capture technology, the "Modern No. 1" chip uses specific probes in the liquid phase for hybridization capture with target DNA sequences, and then conducts high-throughput sequencing. The technology, with its high flexibility and accuracy, can detect more SNP<sup>6</sup> loci and structural variations, covering gene loci affecting critical characters of cows, including milking performance, health status and reproductive ability. It provides scientific bases for genomic selection and helps the farms optimize genetic improvement strategies for dairy cows and improve cow population quality and milking performance. It can effectively improve the accuracy of genetic evaluation.

In 2025, the Company plans to establish in-depth cooperation with well-known universities and authoritative biological research institutes to study the phenotype-related heat stressresistant gene loci. Through genomic selection breeding, we aim to breed heat stress-resistant breeding bulls. Additionally, we will continue to carry out genomic testing, DHI testing<sup>7</sup>, and linear appraisal of dairy cow conformation<sup>8</sup>. We will make ongoing efforts to expand the database scale to precisely screen gene loci related to cow reproductive capacity, recessive genetic diseases, feed conversion efficiency (e.g., the efficiency of converting feed into milk), and stress response to the cold environment.

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We have created an accurate genetic evaluation model to improve the accuracy of genetic selection by integrating genomic data. With the model, we can optimize the breeding cow selection strategy and improve cow production performance, health status and adaptability, providing strong data support for cow genome selection and genetic improvement.

<sup>6</sup> SNP (Single Nucleotide Polymorphism) refers to the variation of a single nucleotide in the genome, commonly used for genetic studies and genome analvsis.

<sup>7</sup> DHI (Dairy Herd Improvement) is known as milking performance evaluation system. The major indicators include daily milk yield, milk fat rate, milk protein rate, days of lactation, etc.

<sup>8</sup> Linear appraisal of dairy cow body conformation is the criteria for evaluating each trait that are of great economic and physiological functional value based on the biological characteristics of dairy cows. Linear scores for the traits are measured on a 1-9 scale from one extreme to the other, and then converted to functional scores. Weighting coefficients are assigned to each trait based on the correlation between the trait and the production performance. Functional scores are summed up to an overall score on a 100-point scale based on the weighting coefficients, which determines the cow's body conformation classification

## **Building a Proprietary Breeding Bull Breeding System**

To build a proprietary breeding bull<sup>9</sup> breeding system, we have carried out R&D and overcome key bottlenecks in breeding embryo, sex-controlled embryo and breeding frozen sperm selection and matching technologies. Specifically, we have optimized the in vitro oocyte maturation, fertilization and cultivation system, improving the development rate of embryos. We have increased the application precision of sex-controlled embryos and made the transmission of high-guality bull genetic genes more targeted using the gene screening technique. Meanwhile, our breakthroughs in high-survival frozen embryo technology have significantly raised the survival rate of frozen embryos in vitro and guaranteed the success rate of fertilization after transplantation.

Based on these technological breakthroughs, we have initially established a complete proprietary breeding system for breeding bulls, thereby reducing our long-term dependence on imported frozen sperms and ensuring adequate proprietary germplasm sources. This year, Modern Dairy has completed the independent breeding of the first batch of breeding bulls in Tongliao Farm. 15 high-genetic-value breeding bulls have been successfully bred, and two of these have reached an industry-leading level in terms of value. Currently, nine high-genetic-value breeding bulls have been put into production, with a cumulative total of 70,000 doses of frozen semen produced. This further enhances the Company's independent capability in quality germplasm supply and genetic improvement. It is expected that by 2030, the Company will realize independent frozen sperm production to fully meet its own breeding and production needs.

#### Significant progress has been made in the construction and management of key breeding sites:

Modern Dairy Tongliao Farm is awarded the "National Key Dairy Cows Breeding Farm" title; Modern Dairy Shanghe Farm is awarded the title of "Shandong Key Dairy Cows Breeding Farm"



At present, the Company has built a laboratory with an annual capacity of 50,000 embryos. The operation of this laboratory has greatly enhanced the Group's ability to expand improved variety propagation and for independent breeding, and promote the industrial application of breeding research achievements. In 2025, the Company plans to transfer more than 9,000 embryos in 11 farms, including Saihan Farm, Hefei Farm, Bengbu Farm, Sugian Farm and Maanshan Farm, to improve the genetic quality of breeding bulls. Currently, the Company's embryo laboratory has obtained the gualification of embryo sales. This will further promote the commercialization of sex-controlled embryos for high-yielding dairy cows and contribute to the continuous optimization of dairy cow genetics in China.

In addition, the Company has set up the production system of OPU<sup>10</sup>-IVF<sup>11</sup>-ET<sup>12</sup> embryos for breeding and sex-controlled embryos for high-yielding dairy cows. Moving forward, the Company will continue to deepen its research and application of relevant technologies to achieve live oocyte collection from juvenile cows, accelerate genetic improvement process, enhance the breeding efficiency of high-quality breeding bulls, and further strengthen its independent breeding system.

- population.
- <sup>10</sup> OPU (Ovum Pick-Up) refers to live oocyte collection, which is the technique for extracting oocytes from the ovaries of live animals.
- <sup>11</sup> IVF (In Vitro Fertilization) is a process in which an oocyte and sperm are combined under laboratory conditions to form a fertilized egg.
- <sup>12</sup> ET (Embryo Transfer) is a technique in which an embryo is transferred from an in vitro culture into the uterus of a recipient female animal to allow it to continue growing.



Tongliao Farm Laboratory of Modern Dairy

<sup>9</sup> Breeding bulls are high-quality bulls that have been rigorously screened and genetically evaluated for the purpose of optimizing the genetic traits of the

# **Optimal Cattle**

Amidst the global dairy industry's shift toward intelligence, refinement, and efficiency, Modern Dairy is firmly advancing its digital transformation through cutting-edge technologies including IoT, big data, and AI. On this basis, the Company builds innovative smart platforms such as Yunyangniu, Al Cattle Expert and Mu'anyun, promoting the transformation of farm management from experience-driven to data-driven. These platforms enable precise monitoring, intelligent decision-making and efficient operation of dairy cow breeding. We continuously deepen the layout of informatization, digitization, and intelligentization, innovating in environmental monitoring, precision feeding, and cattle health management. In this way, we contribute to a sustainable and intelligent new future for China's dairy industry.

#### **Digital Farm Management**

Digital transformation is a key driver of high-quality growth in the pastoral sector. The introduction of IoT, big data, AI, and other cutting-edge technologies, together with innovative smart platforms such as Yunyangniu and Al Cattle Expert, has enabled us to achieve precise monitoring and data analysis of the full dairy cow breeding process.

#### Strategy for Smart Farm

Since 2021, Modern Dairy has been implementing a three-phase strategic roadmap of informatization, digitalization, and intelligentization to drive its operational transformation. In the informatization phase, data systems such as automated feeding systems, and weighing room systems were deployed to establish foundational business informatization. In the digitalization phase, big data platforms such as Yunyangniu and Mu'anyun were introduced to refine management precision and boost informatization. In the intelligentization phase, IoT<sup>13</sup> and big data technologies will be fully integrated to achieve intelligent coverage across all farm operations.

In 2024, Modern Dairy entered the smart farm construction phase. During the Dairy Conference of China, Modern Dairy signed a strategic partnership agreement with the National Engineering Research Center for Information Technology in Agriculture. This collaboration focuses on farm data acquisition technologies, smart equipment innovation, and integrated farming solutions, aiming to build a robust "new quality productive force" for intelligent farming.

<sup>13</sup> IoT (abbreviation for Internet of Things) refers to a system where any object is connected to a network via information-sensing devices under agreed protocols, enabling intelligent identification, positioning, tracking, and monitoring through data exchange and communication.





Size (head of cattle, total production, farms)

#### Modern Dairy's Three-Phase Strategy for Smart Farm Construction

#### **Three Innovative Smart Platforms**

Our smart farms primarily rely on Yunyangniu, AI Cattle Expert and other online platforms, which cover herd health monitoring, smart feeding, environmental control, and service support. These platforms enhance data-driven analysis of cattle breeding metrics, enable integrated precision management of the breeding chain, and improve overall operational efficiency.



Practicing

Protecting

#### The "Yunyangniu" digital management platform

The "Yunyangniu" digital management platform integrates smart collars, body condition sensors, and other IoT devices to collect real-time behavioral and operational data from millions of cattle. By building a comprehensive behavioral database and big data management analytics models, it automates milk yield measurement, optimizes feeding schedules, manages breeding cycles, and monitors diseases. This system accelerates the transition from "experiencebased" to "data-driven" cattle breeding practices.



Yunyangniu Platform

#### The AI Cattle Expert platform

The AI Cattle Expert platform is the industry's first application powered by a generative AI large model. Leveraging deep learning and natural language processing (NLP) technologies, it provides instant solutions to operational challenges, such as scientific recommendations for feeding strategy and feed formula adjustments. This innovation has boosted breeding management efficiency by 10%-20%.

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AI Cattle Expert Platform

# **Mu'anyun platform**

In response to risk prevention and safety management in pastures, the Company has established an intelligent safety management system through the "Mu'anyun" platform, leveraging Al-based detection technologies. The platform enables automated and accurate identification of various risks, real-time dynamic monitoring, and early warning capabilities. It also offers comprehensive training resources and efficient emergency response solutions, supports a dual-layer defense mechanism combining risk-tiered management and hazard identification and mitigation, and utilizes big data analytics to facilitate data-driven safety decisionmaking.

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Mu'anvun Platform

#### **Smart Application for Breeding Management**

The widespread application of digital and intelligent technology has injected new momentum into the traditional dairy cow breeding management model. It drives the farms to transform and upgrade their dairy cow breeding from traditional to efficient approached and from extensive to precise practices.

#### Support for precision feeding

#### Optimal feed formula identification

Modern Dairy deploys 3D vision-based body sensors in milking parlors and feeding lanes to monitor cow feeding behavior in a stress-free environment. The "Tiger" body condition scoring model analyzes multidimensional data (e.g., breed, age, weight, and health status) for nutritionists to customize feed formulas, ensuring optimal nutritional intakes for all cattle groups.

#### Precision feed delivery

To address feed waste caused by traditional feeding method that relies on experience and manual operations. Modern Dairy utilizes robotic feed pushers across farms. which can push feed to cows quickly and precisely based on actual demands. This ensures that cows have 24/7 access to fresh feed, providing strong support for the refined management and sustainability of farms.

#### Support for real-time monitoring

In 2024, Modern Dairy launched a smart collar initiative, deploying these devices on 60,000 cows. The smart collar integrates multiple advanced technologies to collect and analyze real-time health data, which is then uploaded to the Yunyangniu platform for precise breeding decision-making. To standardize the use and management of smart collars, Modern Dairy issued the Smart Collar Management Procedures, clarifying operational responsibilities across departments to ensure efficient deployment and iterative optimization of the technology.

20 Modern Dairy farms have replaced traditional estrus detection methods (e.g., chalk marking and visual observation) with real-time smart collar monitoring. The system automatically detects estrus signals and sends alerts to help identify optimal insemination windows. Integrated with intelligent grouping management technology, the system automatically separates cows in estrus and directs them to designated areas instead of picking out them from cowsheds manually, thus reducing their stress response while improving breeding accuracy and operational efficiency. The smart collar tracks 24/7 behavioral metrics such as feeding, rumination, and resting patterns. By analyzing this data, we can detect diseases earlier, preventing delayed diagnoses and effectively reducing mortality rates of dairy cows.



Body Condition Scoring System



Smart Collar Monitoring System



Estrus Alert Interface

#### **Smart Applications for Farm Environmental Management**



Embracing the Five Freedoms Principles for Animal Welfare<sup>14</sup>, Modern Dairy is dedicated to ensuring that every cow enjoys the freedom from hunger and thirst, freedom from discomfort, freedom from pain, injury or disease, freedom from fear and distress, freedom from express normal behavior. We are committed to developing a livestock industry that is resource-efficient, environmentally friendly, quality-assured, and sustainably productive, integrating advanced welfare farming technologies to enhance competitiveness from the source.

Modern Dairy have developed policies including the Dairy Cow Comfort Management Policy, the Feed Trough Management Policy, the Biological Asset Management Policy, and the Calf Management Policy. We have established a standardized farm governance system focusing on the living and behavior welfare, physiological and psychological welfare, and health and safety welfare. We have been continuously optimizing the breeding environment, improving production conditions, and strengthening epidemic prevention measures. We provide healthy diet, comfortable cowshed, disease prevention, meticulous care and detailed management for cattle. In addition to enhancing animal welfare, these efforts have effectively increased milk yield and product quality. Modern Dairy (Shanghe) Co., Ltd. has obtained Farm Animal Welfare Product Certification.



Farm Animal Welfare Product Certification of Modern Dairy (Shanghe) Co., Ltd.

<sup>14</sup> The Five Freedoms Principles for Animal Welfare (Five Freedoms) was proposed by the International Council for Farm Animal Welfare (ICFAW): Firstly, freedom from hunger and thirst, ensuring that animals are provided with the food and water they need to maintain good health and energy; Secondly, freedom from discomfort, providing appropriate housing or shelter so that animals can sleep and rest comfortably; Thirdly, freedom from pain, injury and disease, ensuring that animals are free from additional pain, preventing disease and providing timely treatment for sick animals; Fourthly, freedom to express normal behavior, providing with adequate space, appropriate facilities and company of their own kind: Fifthly, freedom from fear and distress. guaranteeing conditions and dispositions that avoid mental suffering for animals.

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#### **Environmental and Behavioral Welfare**

Adhering to the principle of creating a better life for cows, Modern Dairy constantly refines the scene of cows' life. We improve the welfare measures in terms of the environment of the cowshed, the activity space, and the safety of the calves, so as to take care of the growth and health of the cows.

#### **Creating Comfortable Cowsheds**

We adhere to international dairy cow welfare principles, insisting on providing dairy cows with comfortable shelters and rest areas. We maintain clean and warm cowsheds to ensure the dairy cows have a comfortable living environment.



#### **Optimizing the Environment of Farms**

To minimize harm and restraint for the cattle, the farm ensures that no tethering practices are employed, allowing the cattle full freedom to express their natural behaviors. In addition, to guarantee that the cows have adequate rest and exercise, the farms of Modern Dairy take into account the spatial needs of cattle at different stages of growth for lying down, standing, and feeding. Each lactating cow has at least 8 square meters of lying space and a minimum activity space of 10 to 25 square meters. Outdoor exercise areas for dairy cows are thoughtfully planned and provided, ensuring that the activity area is at least 120% of the lying area, to offer cows a more natural, relaxed, and healthy living environment. Farm staff are responsible for keeping the exercise areas dry and pliable at all times and for promptly clearing and draining the areas during rainy weather to prevent conditions such as limb diseases<sup>15</sup> or mastitis<sup>16</sup>, which can arise from prolonged exposure to wet and muddy grounds.

<sup>15</sup> Limb diseases is a general term for diseases of the limbs and hooves of dairy cows. In dairy cattle breeding, common types of lameness in cattle include wear and inflammation of the fetlock joint, interdigital dermatitis (commonly known as foot rot), and sole ulcers. These conditions are more prevalent during the humid and rainy summer and autumn seasons in dairy farming environments.

<sup>16</sup> Mastitis generally refers to an infection caused by the invasion of infectious bacteria into the udder of dairy cows.

The farms strictly control the quality of the bedding material, using eco-friendly materials that meet environmental protection standards for bedding. We regularly clean up manure and water trough, and check the fluffiness and wear of the bedding materials, promptly refilling and replacing the bedding

The farms optimize the interior layout, using natural lighting supplemented by artificial lighting to ensure that lactating cows receive no less than 8 hours of light exposure each day. The indoor lighting level is not less than 180 lx under the cows' visual level, ensuring that the cows receive ample light.

The cowshed controls the ventilation speed throughout the year, and the concentration of ammonia in the indoor air is strictly controlled to be within the standard of <5ppm. The farms also strictly regulate the cowshed's air temperature, humidity, harmful gases, and total suspended particulates. Management personnel conduct regular checks to ensure that the air quality in the cowshed is always

The farms are equipped with mechanical ventilation, spray sprinklers, and other cooling devices to help cattle in the summer dissipate heat and regulate their body temperature in a timely manner. In the winter, the cowshed provides heating lamps, warm air blowers, and windbreak walls among other heating facilities to help the dairy cows stay warm and protected from the cold, ensuring that the

#### **Ensuring Calves' Welfare**

Modern Dairy has formulated the Calf Management System, the Operation and Management Manual for Changing Seasons of Calves, the Cold Prevention and Warmth Guidance Plan, the Management Plan for Heat Stress, and other internal policies. By doing so, we standardize calf feeding management operations, improve the welfare management level of calf feeding, and pay attention to the physical and mental health of calves throughout their growth from calf breeding to new birth and transition.

We care about the welfare of newborn calves and take care of their health. For the offspring of core cows, such as those from embryo transfer and breeding selection, to prevent late assistance during delivery, we have set up separate calving pens for the expectant cows. The calving staff monitor the whole process to ensure that the newborn calves are separated from their mothers immediately after birth, thereby ensuring the health of the newly born calves to the maximum extent possible. Considering the low immunity of newborn calves, and to prevent diseases, the farm has set up special calf islands<sup>17</sup> with separate calf waiting pens and newborn calf temporary storage pens<sup>18</sup>. The calves' living areas and common equipment are sterilized by the farm staff in an all-round way. After the calves are born, the staff uniformly collect the placenta or stillborn calves, which may harbor bacterial parasites, and conduct harmless treatment to prevent bacterial growth. Calves born in winter need to be kept separately in the maternity pen for three days before being transferred to the calf island, where they will be fed individually using milk bottles. In addition, to reduce the heat and cold stress responses of calves, the farm provides them with protective jackets against the cold, installs heat curtains and warm air blowers indoor, adjusts the orientation of the calf island in time during the change of seasons, and uses thermal insulation materials to cover the calf pens to protect them from cold wind, rain and snow. In the summer, the farm installs shade nets to help calves stay cool and avoid heatstroke.

We pay attention to the physical and mental development and healthy growth of calves by strictly regulating calf feeding operations, implementing gradual weaning, and transferring and grouping management.



The farms standardize the calf feeding operation before weaning, strictly control the sampling and storage requirements of pasteurized milk<sup>19</sup>, and have established a specialized department to be responsible for assisting in the inspection of bacterial colony indicators to ensure the quality of milk fed. We standardize the cleaning procedures from the selection of feeding buckets to the cleaning of pasteurizer, to avoid interruptions in the normal development and healthy growth of calves due to irregular feeding operations.



To avoid weaning transition stress<sup>20</sup> during calf growth, we adopt a gradual weaning method during feeding, using custom-formulated milk replacer powder<sup>21</sup> to gradually replace breast milk feeding, and gradually increasing the proportion of solid feed as the calves grow to help them complete the weaning transition. After weaning, the calves will continue to be raised in the calf island for one week to prevent stress reactions and allow the calves to fully adapt to solid feed.



Due to the strong adaptability of the calf groups and the low weaning stress after the transfer, once weaning is confirmed, the farms will transfer calves into groups<sup>22</sup> and feed them in small pens, with an average of 10 to 12 heads per pen, to promote calf socialization and reduce calf weaning stress. After the calves grow up, the farms will carry out group management according to growth indicators and body size to provide each dairy cow with a larger and more comfortable living space and to better meet the nutritional needs of cows.

- <sup>17</sup> Calf island is a single-block cowshed facility for outdoor individual calf rearing, consisting of a box calf cowshed and fencing, with a "waiting pen" for cows that show signs of labor.
- <sup>18</sup> Newborn calf temporary storage pens are used to store newborn calves, and the breeding staff takes care of the calves in the temporary storage pen, such as colostrum feeding and coat drving.
- <sup>19</sup> Pasteurized milk refers to milk processed from fresh milk using the pasteurization method, which is a low-temperature sterilization process at about 72 to 85°C that kills the harmful bacteria in the milk while preserving the nutrients and pure taste.
- <sup>20</sup> Weaning transition stress refers to a series of physiological and behavioral difficulties of calves that may be triggered by incomplete development of the digestive, endocrine and immune systems, such as disorder of immune system activity and insufficient feed intake, during the transition from breastfeeding to independent living.
- <sup>21</sup> The milk replacer powder has ingredients similar to that of breast milk, and is rich in lactose, which can help weaned calves to compensate for the lack of lactose from breast milk and insufficient gastric acid secretion, thus protecting the intestinal tract of calves, and helping them to relieve weaning stress.
- <sup>22</sup> Transfer calves into groups refers to the process of transferring calves from a single pen in the calf island to a whole group in the weaning barn after the transition from the lactation stage to the weaning stage.

#### Physiological and Psychological Well-being

Modern Dairy always adheres to the welfare principle of "Caring for Animals" and strictly implements the relevant requirements of the Production Operation Management System of the Veterinary Department. Through scientific breeding methods, customized nutritional formulations, and precise feed delivery. Modern Dairy pays great attention to the physical and mental health of the animals, and takes care of the emotional state of the animals while helping them to thrive, striving to provide both the physiological and psychological welfare for dairy cows.

#### **Balancing Dietary Nutrition**

Modern Dairy focuses on dairy cow nutrition solutions. We balance feed taste and nutritional energy to increase the appetite and feed intake of dairy cows and meet the nutritional needs of dairy cows at each growth stage.

We use AMTS dairy cow formula management software, the latest pasture nutrition model software developed based on Cornell's net carbohydrate and net protein system (CNCPS6.5), to conduct chemical analysis based on feed ingredients, plant cellular components, and ruminant digestion to diagnose the dietary energy-nitrogen balance<sup>23</sup>, reduce the excretion of nitrogen and phosphorus by dairy cows, and scientifically customize a balanced nutritional formula that is more conducive to animal health

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We assign dairy nutritionists in each farm. On the basis of the formula issued by the Nutrition Department, the nutritionist takes into full consideration the differences in the basic conditions and nutritional requirements of various types of dairy cows at different stages, in different regions, in different breeds, and in different physiological conditions, proportions the ingredient list according to the growth characteristics of cows, and reasonably mixes the concentrate and roughage to give full play to the nutrient combining effect of different raw materials, to balance feed palatability<sup>24</sup> and nutrition, and to create a delicious, healthy and nutritionally balanced Total Mixed Ration (TMR)<sup>25</sup>, thus ensuring that the ingredients contained in the formula meet the needs of cows at various stages of growth.



The farms strictly implement the feeding process, and ensure uniform mixing, no agglomeration, no foreign matter and no mildew. We use mechanical mixer trucks to mix uniforms all together and transport the daily feed down to each farm. The farms specify the feeding time of the Feeding Department to each farm, and stipulate that the feeding time range of lactating cows and non-lactating cows should be within 20 to 30 minutes, to ensure that the daily feed is precisely delivered on a punctual and timely basis. In addition, the farms rigorously control feeding duration, feed distribution points, and the width of the feeding passage for the herd to improve feeding efficiency and the feeding experience of dairy cows.



We have established emergency water sources on the farm to ensure 24-hour availability of adequate water supply. The water temperature is consistently maintained at above 15°C, and we regularly assess water guality according to human drinking water standards to ensure that the cows have access to clean and safe drinking water.

- appropriate ratio of energy and protein required for optimal growth, production and health of ruminants.
- <sup>24</sup> Feed palatability is a combination of factors, including flavor and texture characteristics, which is a comprehensive response of animals' visual, olfactory, tactile and gustatory senses to the feed or ration in the process of foraging, locating and feeding. Palatability determines the extent to which the feed is accepted by the animal. It is closely related to feed intake but challenging to quantify, as it influences the amount of feed intake by affecting the animals' appetite
- <sup>25</sup> Total Mixed Ration (TMR) is a roughage that provides dairy cows with sufficient nutrients to meet their needs. It involves blending roughage, concentrates, minerals, vitamins, and other additives into a single balanced diet.

<sup>&</sup>lt;sup>23</sup> Dietary energy-nitrogen balance refers to the equilibrium between energy and nitrogen (a component of protein) in an animal's diet, which is the

#### **Protecting Physical and Mental Health**

Modern Dairy adheres to the welfare principle of "freeing animals from pain and fear", and has formulated and issued the Production Operation Management System of the Veterinary Department to ensure that employees maintain gentle operations during milking and feeding, and prohibit any malicious harm such as forcing the cattle to stand up quickly or shouting loudly which may cause fear in the cattle. For actions that violate the care for animals, the farm will punish according to the relevant policies and regulations.

In aspects involving contact with animals, to help employees better practice the concept of animal welfare, the farm regularly conducts animal welfare training for breeding staff. All employees in contact with the dairy cows in the farms must strictly follow standard procedures and receive professional training, such as training on milking operation procedures, detection of mastitis<sup>26</sup> and detection of other abnormal nipples to ensure the ability to promptly identify animal welfare risks, master relevant emergency response capabilities, understand the physiological and psychological habits of dairy cows, thereby achieving minimal stress breeding of dairy cows.

**Conducting Employee Skill Training to Improve Cow Happiness Index** 

In 2024, Modern Dairy continued to conduct a total of seven training sessions under "Technologies 100 Special Class", covering veterinary medicine, breeding, equipment, and nutrients. The training sessions continuously upgraded the professional skills of the technicians, so as to enhance the comfort level, increase the feed intake, and ensure the healthy growth of dairy cows.



Modern Dairy "Technologies 100 Special Class" - Nutrient Training



In the aspect of animal transport. to minimize animal transport fatigue as much as possible, we require that transport vehicles maintain a steady speed of less than

kilometers per hour to avoid emergency braking



we appoint onboard supervisors for each vehicle or a group of vehicles traveling together to check on the dairy cows for any signs of slipping every



vehicles with ventilation systems to ensure a minimum airflow of 60 cubic meters per kilotonne of effective load per hour. This device can operate independently for at

transportation, we equip

During cattle



The vehicles are also equipped with temperature monitoring devices and alarms to alleviate the discomfort that cattle may endure under transport conditions

<sup>26</sup> Detection of mastitis refers to the detection and verification of cow mastitis through standardized milk testing, DHI report, hidden mastitis detection, which is helpful for confirmed cows to get timely treatment.

least 4 hours

#### **Health and Safety Welfare**

Modern Dairy adheres to the epidemic prevention concept of "prevention first, prevention is more important than cure", and continuously improves the Management System on Epidemic Prevention, the Biosafety Treatment Regulations for Diseased Animals and Diseased Animal Products and other related internal policies. While realizing the intensive and large-scale development of the dairy farming industry, we promote the standardization and systematization of dairy cattle epidemic prevention.

#### **Dairy Cow Safety and Epidemic Prevention**

In Modern Dairy, before selling cattle from the farms, there must be a withdrawal period during which the animals are not treated with medication. The farm must also declare guarantine to the local animal health supervision agency to ensure compliance before allowing the cattle to leave. For deceased cattle or those with unknown causes of death, if they are found to carry diseases through examination by animal inspection agencies, the farm strictly follows environmental assessment requirements to carry out harmless disposal.



All farms are required to formulate immunization plans for zoonotic diseases, foot-and-mouth diseases, bovine epidemic diseases and other epidemic diseases on a regular basis every year according to the conditions of their regions.



The farm regularly conducts monthly initial vaccination<sup>27</sup> for calves up to 4 months of age and revaccination<sup>28</sup> for calves up to 5 months of age, and 3 times a year for whole herds of over 6 months of age (avoid immunizations in June, July and August when heat stress occurs).



We assign veterinarians to conduct daily inspection and care for the health of dairy cows in each farm, and conduct routine inspections such as patrolling, care of newly born cows, mastitis treatment and disease treatment. The lameness rate and the mastitis incidence rate are strictly monitored to be below 10%, so as to ensure the health of dairy cows.



The farms have developed the Bio-safety Handling Procedures for Diseased Animals and Diseased Animal Products to deal with sick and dead cattle in a compliant manner, and adopt humanitarian euthanasia for cattle in serious conditions, to minimize the pain and anxiety experienced by the animals before they lose consciousness. Animal carcasses and related animal products are incinerated in a non-hazardous treatment plant recognized and regulated by the local government.



We have formulated the internal emergency plans and policies for major dairy cow epidemics, which have established a sound management mechanism in response to sudden epidemics, and clarified responsibilities and disposal procedures. For cows that die during the sale, the Company will immediately recall and carry out harmless and compliant treatment to effectively control the expansion of the risks and maintain public health and safety.

During the reporting period, Modern Dairy consistently strengthened its epidemic prevention efforts, upgraded technological capabilities, reduced the risk of cattle diseases, and improved the overall health status of dairy cows.

<sup>27</sup> Newborn calves need to be vaccinated twice to develop sufficient antibodies to prevent disease. The initial vaccination is the first vaccination given to

calves at 4 months of age

<sup>&</sup>lt;sup>28</sup> Newborn calves need to be vaccinated twice to develop sufficient antibodies to prevent disease. The re-vaccination is the second dose of the same vaccine given to calves at 5 months of age.

#### **Control of Antibiotic Use**

Modern Dairy has formulated the Management System on Disease Diagnosis and Treatment. This system aims to avoid antibiotic use to the maximum extent possible and set clear guidelines for the use of antibiotics. It strictly regulates that antibiotics can only be used for the therapeutic purposes of diseased cattle and ensures strict supervision over veterinary medication, recording and tracking antibiotic use data. We have also taken active measures to prevent epidemics by strengthening vaccination and health monitoring of cattle to reduce the likelihood of the need for antibiotics due to disease in cattle. During the reporting period, the antibiotic use rate<sup>29</sup> of Modern Dairy was 5%.

For cattle treated with antibiotics, we manage sick cattle individually and strictly implement antibiotic residue testing to confirm that there are no antibiotic residues in recovered cattle. At the same time, we strive to conduct research and testing of antimicrobial-free medicines, and develop antibiotic alternatives to reduce our reliance on antibiotics. In addition, we continue to improve feed quality by increasing probiotic intake and reducing stocking density<sup>30</sup> to enhance the natural immunity of cattle, effectively reduce the occurrence of diseases, and reduce the potential demand for antibiotics.

In 2024, Modern Dairy was awarded the

honor of "Demonstration Farm for the

**Promotion of Veterinary Antimicrobial** 

Drug Reduction Technology" by the Shaanxi Provincial Center for Animal

Disease Prevention and Control and the

title of "Veterinary Antimicrobial Drug Reduction Standard Farm" by Anhui Provincial Department of Agriculture and



#### **Animal Welfare Key Performances**

Indicators	Unit	2024
Lameness rate <sup>31</sup>	%	0.45
Mastitis incidence rate <sup>32</sup>	%	1.32
Culled cattle quarantine rate <sup>33</sup>	%	100
Foot-and-mouth disease vaccination coverage in dairy cows <sup>34</sup>	%	100

Rural Affairs.

- <sup>29</sup> The formula for antibiotic use rate is total number of cows treated with antibiotics / total number of cows.
- <sup>30</sup> Stocking density is the number of cows per pen as a percentage of the number of cows bedded.
- <sup>31</sup> The formula for lameness rate is the total number of adult cows with lameness / total number of adult cows.
- <sup>32</sup> The formula for mastitis incidence rate is total number of adult cows with mastitis / total number of adult cows.
- <sup>33</sup> The formula for culled cattle guarantine rate is the number of cull cows actually guarantined / the number of cull cows that should be guarantined.
- <sup>34</sup> The formula for foot-and-mouth disease vaccination coverage in dairy cows is the total number of cows vaccinated against foot-and-mouth disease / the total number of cows

110

### **Promoting Sustainable Breeding**

Modern Dairy steadfastly upholds its corporate mission of "nurturing healthy cow to safeguard every drop of quality milk", deeply integrating cow nutrition and health, milk quality enhancement, and sustainable development principles. The Company is dedicated to constructing a fully traceable, high-quality dairy system that spans the entire journey from pasture to table. The Company has established the Raw Materials and Additives Management System, the Feeding Evaluation System and other policies, which defines management requirements for both milk source nutrition and feed nutrition. By optimizing nutritional strategies, improving feeding precision, and strengthening process control and R&D innovation, we ensure stable and controllable milk quality while driving the sustainable development of dairy cow breeding.

#### **Optimizing Feed Nutrition System**

In order to ensure feed quality, we have formulated the Planting Management System, the Material Quality Standard System, the Fertilization Management Requirement, the Plant Protection Management Requirement and other policies and requirements to carry out the whole process management of forage planting and feed procurement.



#### **Planting Quality Management**

When planting forage, we monitor the quality of forage in terms of land preparation, planting, irrigation, plant protection, harvesting, storage, transportation, etc., and select suitable crop seeds and plant them according to the climate characteristics and land nature of the planting site. We rigorously control the crop protection process, select low-toxicity, low-residue, and easily degradable plant protection products to avoid soil contamination incidents

We check the quality of the purchased feed, and check the feed quality through sensory detection, health index detection and physicochemical indicators<sup>35</sup>, etc., to ensure the health and scientific feeding of cattle.

<sup>35</sup> Physicochemical indicators refer to the physical and chemical properties of a substance, including its appearance, color, flowability, odor and particle size. <sup>36</sup> Feed self-sufficiency refers to the proportion of self-produced feed by the breeding enterprise or farm to the total feed requirement. <sup>37</sup> Digestibility refers to the percentage of nutrients that can be broken down and absorbed by the animal from the feed consumed in relation to the total intake

#### **Procurement Quality Management**



#### Feed Resource Management

The Company focuses on optimizing the development and utilization of local feed resources by selecting forage varieties suited to local climate and soil conditions to improve feed self-sufficiency<sup>36</sup> and nutritional value. To achieve scientific and standardized management, the Company has established a feed database that integrates nutritional components, digestibility<sup>37</sup>, and optimal blending parameters of various feed raw materials. Leveraging data analytics, the Company optimizes feed formulas to ensure precise alignment of nutritional supply with dairy cows' growth requirements, driving the standardized and scientific management of feed formulas.



Case

We actively participate in developing industry standards for feed quality, covering cow feeding practices, feed formulas, and health monitoring, to promote sector-wide standardization. In 2024, we led or contributed to the formulation of several standards, including the national standard of Vitamins and Minerals Premix for Dairy Cattle, the agricultural industry standards of Calf Starter Feed and the Cow Peripartum Management Procedures, and the regional standard of Adult Dairy Cattle Management in Agro-Pastoral Zones in the Inner Mongolia Autonomous Region

Independent research and development and cooperation with other institutes

Modern Dairy engages in independent research and development and cooperation with other institutes to build a specialized scientific research system. We have established the Jingwa Dairy Nutrition Research Institute and the NJAU-Modern Dairy Institute for Dairy Industry Research. By partnering with authoritative institutions such as the National Dairy Industry and Technology System and the Chinese Academy of Agricultural Sciences, Modern Dairy conducts in-depth research on core areas including milk source nutrition, feeding management, and health monitoring. The Company has carried out research on the application of Halofuginone in calf feed. By adding the Chinese medicinal powder additive Halofuginone to the feed, it can effectively prevent and control the Cryptosporidium infections in calves, enhancing targeted disease prevention capabilities. Meanwhile, we are focusing on key areas including smart feeding and environmental control, health monitoring equipment innovation, soybean meal-reduced diet optimization, amino acid balancing technology, non-protein nitrogen product development, and local feed resource utilization. Our goal is to enhance automation in breeding, precision in dairy cow health management, and efficiency in feed resource utilization. By doing so, we aim to improve the nutritional quality of milk sources and advance sustainable development.

In addition, Modern Dairy has developed a digital cultivation management platform that integrates satellite remote sensing, drone monitoring, and soil sensor technologies. This platform precisely monitors soil nutrient content, moisture conditions<sup>38</sup>, water use efficiency<sup>39</sup>, and crop growth status in pasturelands. Based on the collected data, the system automatically analyzes soil health, predicts forage growth trends, and provides scientific decision-making support for precision fertilization, rational irrigation, and pest control. This approach enhances land use efficiency, reduces fertilizer and pesticide inputs, and minimizes environmental impact.

We adhere to the green development philosophy, focusing on enhancing feed self-sufficiency, improving forage quality, and promoting sustainable agricultural practices. We actively explore scientific cultivation techniques, adopting fertilizers containing trace elements and humic acid to replenish essential nutrients for crop growth, optimize soil structure, and ensure healthy plant growth. By utilizing active microbial agents and algal-based fertilizers, we enhance forage regeneration capacity and yield, while improving protein, mineral, and other nutritional content in forage to ensure balanced nutrient intake for dairy cows.

#### Technology-Driven Innovation for Grain Conservation

Modern Dairy promotes a fully integrated "Feed-Farming-Recycling" system guided by precision, intelligence, and ecological sustainability. Focusing on improving feed conversion efficiency, the Company has implemented initiatives including efficient utilization of forage resources, precision nutrition, standardized process development, herd health management, genetic improvement, and comprehensive multi-dimensional stress control technologies. These efforts aim to reduce costs and enhance operational efficiency at scale. As of the end of the reporting period, the feed conversion rate<sup>40</sup> for lactating cows reached 1.66%, contributing to a reduction of 45,000 tonnes of corn and 50,000 tonnes of soybean meal consumption.



<sup>38</sup> Moisture condition refers to the amount of water held and its distribution within the soil. It reflects the degree of moistness of the soil and is crucial for plant growth and agricultural production.

<sup>30</sup> Water use efficiency is the amount of organic matter produced per unit of water consumed by a plant during its growth. It reflects the plant's efficiency in utilizing water resources.

<sup>40</sup> Feed conversion rate refers to the amount of weight gained by an animal per unit of feed consumed.

#### **Building Organic Farming System**

Modern Dairy upholds the philosophy of sustainable development and promotes the organic and green growth of dairy farming. Modern Dairy implements the "Two Concentrations and Six Unifications" management model, ensuring closed-loop control across the organic industry chain to enhance production efficiency and resource utilization. Under this model, the "Two Concentrations" refer to centralized manure treatment and centralized entry and exit of dairy cows, ensuring compliance with organic farming standards. Meanwhile, the "Six Unifications" involve unified planting, unified feed, unified service, unified testing, unified digital intelligence technologies, and unified epidemic prevention measures. These practices guarantee standardized and traceable operations in forage cultivation, feed processing, cow feeding, and health management. Additionally, the Company cultivates organic forage in desert regions to optimize resource allocation, achieve sustainable farm operations, and provide stable, high-quality milk sources for premium organic dairy production.

## Premium Milk

As one of the first practitioners in the Quality Milk Project, Modern Dairy has established and improved the whole process quality management and control system of raw milk, actively advancing its quality improvement. The Company places significant emphasis on customer service. To that end, it has established a comprehensive customer feedback mechanism and emergency response system to ensure 100% customer satisfaction. We drive the research and development through scientific and technological innovation. On this basis, we promote diary product innovation, research and develop specialty milk sources with high nutritional value, aiming to meet the nutritional needs of different groups.

#### **Raw Milk Quality Management**

Modern Dairy strictly abides by the laws and regulations such as the Food Safety Law of the People's Republic of China and the Regulations on the Supervision and Management of the Quality and Safety of Dairy Product. We have established internal standards and policies such as the Quality and Safety Management Policy, the Sampling and Inspection Method and the Inspection Benchmarking Management. We have also established and improved the quality management system and conducted allaround management for the quality and safety of raw milk. We firmly uphold the brand philosophy of "good cows naturally produce good milk". We strictly control the quality of raw milk products, aiming for a 100% rate of premium-grade raw milk. To guarantee the quality of raw milk, we require each farm to strictly monitor the production, processing, transport and storage of raw milk.

#### Our raw milk quality management mechanism is as follows.

#### Milking Process Management

We carry out the raw milk production process according to the internal established standard operating procedure such as the Production Process Management System and the Raw Materials and Additives Management System, which guarantees a pollution free environment for raw milk production. Moreover, we clean the raw milk production equipment and verify the cleaning effectiveness in accordance with the annual raw milk testing plan to avoid contamination of the production equipment. During the milking process, we adhere to standardized operational procedures by applying the "Yunyangniu" platform to monitor the production practices, and conduct rigorous disinfection measures to reduce the risk of mastitis in dairy cows. We also conduct regular training for milking personnel to ensure their familiarity with proper milking techniques and hygiene requirements.

Case





<sup>&</sup>lt;sup>41</sup> The pass rate of our raw milk received by diary plants is calculated as the total weight of tested raw milk that has left the farm and meets the quality standard/the total weight of raw milk that has left the farm.

#### **Raw Milk Indicator Management**

We have established internal control indicators for raw milk quality, including tests for acidity, somatic cells, microorganisms, psychrotrophs, and mastitis milk, to ensure stability of raw milk quality. Additionally, we have established a raw milk quality control framework, including 28 indicators monitored by delivery quality inspection, such as protein and fat; 24 indicators monitored by routine inspection, such as Zeranol and Rifaximin: and over 200 indicators monitored by annual third-party inspection, such as heavy metals and pesticide residues.



We have established a raw milk quality testing workstation to perform intelligent ELISA testing and automated workflows, reducing human intervention and the associated detection biases. A FOSS milk composition analyzer has been introduced, which utilizes infrared spectroscopy to achieve higher-precision analysis of milk components, thereby enhancing detection accuracy and sensitivity.

We have deployed centralized monitoring dashboards across all farm control centers, enabling real-time visualization of raw milk physicochemical indicators. This enables staff to promptly monitor and assess milk guality status, ensuring compliance with established quality standards. In addition, Modern Dairy plans to partner with third parties to deploy vacuum pulsation detection system and milking machine failure alerts system, enabling real-time health tracking of cows. This reduces somatic cell counts and mitigates losses from milk yield decline, quality degradation, and health risks caused by equipment malfunctions. Through comprehensive technological innovation and operational optimization, Modern Dairy continuously pursues more scientific and more precise cow breeding, driving sustainable enterprise development.



#### 'National Quality Milk Project<sup>42</sup>" Certification

Modern Dairy, as a first-batch practitioner of the "National Quality Milk Project", pioneered in implementing related projects under this initiative in 2014. This year, six additional Modern Dairy farms, including Baoji, Hongya, Yunnan, Bengbu, Hefei, and Shanghe, passed the re-evaluation for the "Quality Milk Project Special-Grade Raw Milk Farm" certification. Modern Dairy's longstanding participation in the "National Quality Milk Project" certification has effectively driven improvements in Chinese milk quality standards and technological innovation.



Evaluation Review Meeting for National Quality Milk Project Special-Grade Raw Milk Farm

<sup>42</sup> National Quality Milk Project is a specialized research initiative authorized by the Ministry of Agriculture and Rural Affairs of the People's Republic of China to the "Dairy Innovation Team of the Institute of Animal Sciences of CAAS" to promote sustainable development in China's dairy industry.

#### Raw milk transportation management

The Company has established the Milk Truck Inspection Regulation to regulate the entry and annual inspections of trunk hygiene licenses, compartment cleanliness, and refrigeration equipment, aiming to prevent quality and safety risks during logistical transportation and storage. We have implemented in-house standards for raw milk transportation stricter than national standards, utilizing electronic seals with unique codes to record opening times, locations, and other data of milk trunks. This ensures traceability and compliance verification during transportation.

Milk trucks are equipped with GPS and sensors to monitor parameters like location, temperature in real time ensuring that the refrigeration systems automatically maintain milk temperature within the safe range of 2 - 6°C. The monitoring system also enables data tracking and risk alerts, ensuring transparency and safety throughout transportation. Based on production timestamps recorded by electronic seals, the Company rigorously monitors the storage duration of raw milk before it is placed in the warehouse, ensuring that all its indicators meet the required standards for acceptance.

#### **Excellent Customer Service**

Modern Dairy has established internal policies such as the Product Complaints and Replenishment Management Measures and the Modern Dairy Raw Milk Recall Management Policy to regulate the product recall process. These policies ensure service quality during raw milk sales and enhance customer satisfaction. This year, we revised the Raw Milk Sales Management System to clarify raw milk recovery procedures and responsibility allocation mechanisms. If raw milk fails to meet customer acceptance standards, the farm, as the primary responsible entity, must complete rectification within a specified timeline and bear losses caused by product quality issues. The Company will deduct the farm's performance evaluation score in accordance with the Quality Performance and Evaluation Management Policy.

The Modern Dairy Raw Milk Recall Management Policy stipulates raw milk recall procedures and recall record management process. We have established an emergency response mechanism for product recalls. In the event of a recall, the Company's Raw Milk Safety Team will form a temporary Recall Command Group. This group, comprising department heads, deputy general managers, farm managers, and regional general managers, will coordinate risk assessment, recall execution, corrective actions, and regulatory reporting to ensure rapid and efficient resolution of customer concerns and minimize impact. During the reporting period, Modern Dairy did not experience any recalls related to product quality.

We continuously strengthen our comprehensive logistics management capabilities, requiring all farms to implement whole process, all-around and real-time monitoring and tracking of logistics transportation. To avoid unexpected events during transportation, we have developed emergency plans for accidents such as heavy rain and snowstorms, ensuring safe and timely delivery of raw milk.

Modern Dairy values customer feedback and suggestions. We regularly conduct satisfaction surveys to collect feedback from customers regarding product quality, logistics management and customer complaint handling processes in raw milk sales, and make improvements based on the issues raised by customers. This year, we conducted a satisfaction survey of 100% raw milk customers, and the customer satisfaction rate was 100%<sup>43</sup>. During the reporting period, the Company did not receive any raw milk quality or raw milk sales service complaints<sup>44</sup>.



- survey among the total number of participating customers.
- sales service

<sup>43</sup> The "Raw Milk Customer Satisfaction" refers to the proportion of customers who chose "Satisfied" and "Somewhat Satisfied" in the customer satisfaction 44 Raw milk quality or raw milk sales service complaints refer to written complaints sent by clients to Modern Dairy regarding raw milk quality or raw milk

#### Modern Dairy Raw Milk Safety Management

Modern Dairy strictly complies with the *Product Quality Law of the People's Republic of China*, the *Food Safety Law* of the People's Republic of China, and the Special Provisions of the State Council on Strengthening the Supervision and Administration of the Safety of Food and Other Products to enhance raw milk safety controls and ensure secure delivery of raw milk to customers.

The Company has established a Raw Milk Safety Team to oversee raw milk safety and product quality management. We focus on the critical control points of raw milk safety in the farms and identify and prevent risks in line with our quality and safety control processes. We conduct raw milk safety reviews across various aspects, including supplier management, raw materials, veterinary drugs, raw milk production, and raw milk dispatch. This approach helps to improve the key links in the quality management of the farms. Issues identified are assessed based on the severity of their impact on raw milk safety and herd health, and recurrence frequency, with corresponding deductions applied to the farms' annual performance scores. Farms are required to complete rectification within specified timelines and undergo follow-up audits to verify effectiveness. During the reporting period, Modern Dairy had no raw milk safety incidents.

#### **Enhancing the Nutritional Value of Dairy Products**

We constantly optimize and expand the types of milk, driving R&D of diversified raw milk proteins and functional specialty milk. We aim to meet consumer demand for high-quality, nutritious and diversified dairy products. Currently, the raw milk produced by the Company is enriched with 13 kinds of protein ingredients<sup>45</sup>. The Company continuously enhances dairy cows' protein metabolism efficiency and milk protein synthesis capacity to ensure the stable quality of raw milk.



<sup>45</sup> The 13 protein ingredients in Modern Dairy's raw milk production include: alfalfa grass, soybean meal, puffed soybeans, rumen bean meal, double-low rapeseed meal, DDGS, brewers' spent grain, sesame meal, spray-on corn husk, pomace meal, rumen methionine, cotton meal and non-protein nitrogen.
<sup>46</sup> Milk composition refers to the main nutrients in milk, including milk protein, milk fat, lactose, minerals and water.



#### A2 Milk

The Company has formulated and issued the *Management Measures for A2 Milk*<sup>47</sup> *Production Process*, which has set out systematic and standardized requirements for key processes, including genetic screening, feeding methods and milking of A2 herds. We have implemented herd-wide A2 gene screening across all dairy farms and established A2-specific breeding zones at Shanghe Farm, adopting dedicated breeding protocols and customized nutritional feeding programs to guarantee the purity and superior nutritional value of A2 milk. This year, Modern Dairy Shanghe Farm Corporation obtained the A2β-Casein Dairy Certification, providing assurance for high-quality development of the Company's specialty milk. This year, the Company launched the A2 milk initiative at Zhengyuan Farm, advancing A2 gene screening and dedicated breeding programs tailored to the farm's conditions. By implementing customized nutritional feeding programs, the project aims to expand the A2 dairy herd and enhance the supply capacity of specialty milk sources, solidifying the foundation for sustainable growth in the A2 milk business.

#### **Student Milk**

Modern Dairy actively responds to the national student milk program, collaborating with the China Dairy Association to advance Student Milk Certification initiatives. The National "Student Milk Program" Promotion and Management Measures mandate that student milk products must comply with quality standards such as the Student Milk - Pure Milk, the Student Milk - Sterilized Flavored Milk, the Student Milk - Pasteurized Milk, and the Student Milk - Fermented Milk, with strict requirements on raw milk quality, production processes, and packaging and labeling to ensure food safety and nutritional balance. As of the end of the reporting period, over ten of our farms had obtained Student Milk Certification. This certification underscores our dedication to providing safe, high-quality, and nutrient-rich student milk products for adolescents and children, supporting their healthy development.

#### **Organic Milk**

The Company has developed annual planning for organic and organic feeding operating procedures. The Company implemented an input traceability system and adopted herbal h prevention mechanisms in dairy cow management. By repla antibiotics with these natural alternatives, we enhance the c immunity and reduce reliance on chemical drugs, thereby advar green farming practices. As of the end of the reporting period of our farms had obtained EU Organic Certification and C National Organic Product Certification, and continuously particip in annual audits to ensure the validity of the product certificat These certifications further reinforce Modern Dairy's leadersh the premium organic milk sector.

 $^{\rm 47}$  A2 milk is a kind of raw milk with A2 $\beta$ -case n type in animal milk.





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# 03 Practicin9 **Green** Operations

Modern Dairy has always adhered to the core concept of practicing green development, focusing on areas such as climate change, biodiversity conservation, and sustainable operations. We have established and improved the governance structure for climate change, perfected the disclosure of information on climate strategies, indicators, and targets, identified the potential impacts of climate-related risks and opportunities, and conducted climate scenario analyses to continuously enhance our climate change management. At the same time, we have implemented a number of biodiversity conservation measures, formulated a biodiversity strategy, and established a sound management system for risks and impacts to help maintain ecological balance. Moreover, we have continuously deepened our green construction efforts, improved the management and supervision of emissions, waste, and water resources, and regularly conducted training sessions to enhance employees' awareness of green operations, truly practicing our responsibility for green operations.



#### Address Climate Change

- highest level of decision-making, and clearly defined climate risk responsibilities for management personnel at each level based on a top-down approach
- Had put 4 electric milk tankers into operation
- Achieved the cumulative grid-connected capacity of photovoltaic projects of 18.5 MW
- The amount of biogas produced was 193.79 million cubic meters, with biogas power generation reaching 107,082 MWh
- enhancing carbon sequestration capacity
- by approximately 2.7% compared to 2023, by improving digestibility, which in turn reduced CO<sub>2</sub> emissions from the herd by approximately 24,000 tonnes
- Expected to reduce carbon emissions by 0.28 tonne annually per lactating cow by replacing traditional fertilizers with biogas slurry for land application

#### Sustainable Operations

- All self-built farms in operation had obtained ISO 14001 Environmental Management System Certification
- Continuously upgrade our manure fermentation production technology, reducing the amount of water entering the manure management system, which in turn can save 15% of the electricity consumption for fermentation treatment
- farms, purchased 16 sets of air energy equipment for heating and hot water supply, gradually replaced boilers at 8 farms, put 4 electric milk tankers into operation, and replaced 18 diesel forklifts and 6 diesel loaders with electric ones
- Maintain the daily water consumption per cow below 110kg
- The precise spraying system had been deployed in over 35% of Modern Dairy's farms
- Reduced the use of chemical reagents. This move resulted in a 78.05% decrease in chemical waste liquid generation compared to 2023; we also adopt preventive measures to minimize the occurrence of diseases and medication usage in cattle herds, and achieved over 10% reduction in medical waste generation per cow compared to 2023; the Company's waste oil recycling volume increased by 10.34% compared to 2023
- The coverage rate of water resource audits for suppliers reached 100%
- Reused approximately 1.32 million cubic meters of biogas slurry and manure water, saving fresh water use

#### Biodiversity Protection

- Referring to the four-step methodology of Locate, Evaluate, Assess, Prepare (LEAP) suggested by the Taskforce on Nature-related Financial Disclosures (TNFD), we assess the biodiversity risks and opportunities in dairy farming, forage planting, and forage processing stages
- Saibei Farm reached an agreement with China Agricultural University and China Grassland Industry Association regarding the project cooperation intention to restore degraded mowing and grazing grassland. Approximately 10 cubic meters of biogas fertilizer was applied per mu of grassland. The fertilized forage reached a height of 25 cm. The total yield of the fertilized grassland increased by about 40%



SEstablished a climate risk governance structure, with the Sustainability Committee under the Board as the

A Expanded its planting area to 66 thousand mu, and planted 788 mu of trees on vacant land at 19 farms, further

• Reduced enteric fermentation emissions by approximately 1.3% and manure management linkage emissions

• Newly installed 13,872 energy-saving fans in 10 farms, completed the renovation with solar streetlights at 17



# **Response to Climate Change**

Modern Dairy is fully aware that addressing climate change is a common mission for all mankind. As a leading national dairy cow husbandry operator and raw milk producer, Modern Dairy actively undertakes social responsibility by addressing climate change. On this basis, the Company continuously explores and pilots green and low-carbon initiatives in business operations, carries out daily work centering on the framework recommended by the Task Force on Climate-Related Financial Disclosure (TCFD). In this way, we effectively put the dual-carbon strategy into practice and scientifically advance low-carbon emission reduction.

#### **Climate-related Governance**

To improve the corporate climate management and the ability to identify and respond to climate risks, Modern Dairy has incorporated the assessment and management of climate risks into the Company's overall risk management processes and systems. We have established a climate risk governance structure, with the Sustainability Committee under the Board as the highest level of governance, and clearly defined climate risk responsibilities for management personnel at each level based on a top-down approach.

#### Sustainability Committee of the Board of Directors

• The Committee is responsible for coordinating and supervising the Company's sustainable development issues, regularly receiving the management's report on climate change and dual-carbon issues and providing recommendations accordingly, and overseeing the management of the Company's climate risks. This ensures the effective implementation and operation of the Company's climate risk management and internal control systems.

#### **Sustainability Executive Committee**

· As an essential bridge connecting the Board of Directors and the executive team, the Committee is composed of the Vice presidents in charge of the Company's various business units. It is responsible for the overall deployment and systematic promotion of the Company's climate-related work. On this basis, it formulates policies and strategic plans for climate-related issues, and clarifies the authority, responsibilities and objectives of the climate change departments of each division. Through these efforts, it monitors the performance and progress of sustainable development, and leads the executive team to manage the delivery and implementation of the FRESH sustainable development strategy.

#### Sustainability Working Group

#### (Composed of the heads of sustainability and the contact persons of the relevant business departments of Modern Dairy)

• The Working Group enforces the Group's strategies and execute the Group's dual-carbon actions. All relevant departments formulate the dual-carbon strategy plan and related management documents based on their departmental responsibilities. For example, each department breaks down major strategic objectives into specific initiatives such as carbon reduction, emissions reduction and climate risk defense, quantifies the effect of emission reduction, and reports to the Sustainability Committee under the Board on the effectiveness of the carbon reduction efforts and the progress of related projects.

In addition, we have engaged the independent professional service organization to provide expert input and advice on assessing and managing the Group's climate-related risks and opportunities, ensuring that we stay current with the latest regulatory requirements and industry practices in external markets. The Sustainability Committee under the Board receives training on ESG and climate-related issues at least once a year to ensure that they possess the relevant knowledge and skills. This enables the Committee to effectively oversee and manage the Company's strategies in respond to climate risks and opportunities, fully consider and assess the potential impact of climate-related risks and opportunities on the Company, and identify the Company's anticipated exposure and tolerance thresholds for climate-related risk levels when making major transaction decisions.

### **Climate-related Strategy**

#### Climate-related risks and opportunities, business model and value chain

Modern Dairy continuously strengthens and refines its specific efforts to address climate change. Based on the latest industry dynamics and industry-leading practices, it systematically reviews and evaluates the material climate risks and opportunities in its own operations and important parts of its value chain. During the reporting period, we consulted external industry experts and scholars based on our overall business development plan. By doing so, we further sorted out and clarified the potential impact of various material climate risks and opportunities on the Company's business model and value chain under different impact cycles.

#### **Climate-related risks**

Physical risk	Category	Potential impact	Impact cycle <sup>48</sup>	Major countermeasures
Increased frequency	Acute physical risk	• Extreme weather events such as heavy rains, floods and typhoons may cause damage to cowsheds and other infrastructure; they may also disrupt the supply and distribution of materials needed for production and operations, affecting the efficiency of raw milk order delivery.	Short-	• Establish a standardized emergency management system to address extreme weather disasters. This includes ensuring an adequate supply of all types of emergency materials and promptly notifying relevant operating sites to take precautions before extreme weather strikes; planning the transportation routes for supplies and raw milk, and reporting, communicating and coordinating with traffic management departments in advance to ensure the efficiency of supply and distribution.
of extreme weather events (e.g. heavy rain, typhoons, extreme heat and cold)		• The increase in extreme hot/cold weather days may cause heat stress in cattle, which in turn affects their feed intake, reproduction and health. This may reduce milk production, and increase the risk of disease and mortality.	Short-, medium- and long-term	<ul> <li>Strengthen the management of temperature and humidity control in the daily operation and management of cowsheds. For example, add sunshades, sprinklers, fans, and other facilities at operating sites prone to extreme heat, and take insulation measures (e.g., hanging cotton curtains, providing heated water in the sink, etc.) at operating sites prone to extreme cold.</li> <li>Actively research nutritional solutions (e.g., using yeast solutions to alleviate heat stress in cattle, or rationally adjusting the feed energy concentration to ensure effective energy intake by cattle) to further safeguard animal welfare of cattle.</li> </ul>
;ċ:⊖≣ Rising mean temperatures	Chronic physical risk	<ul> <li>Ongoing high temperatures may result in increased operating costs for daily cattle health management and temperature control for raw milk storage or transportation.</li> <li>Additionally, it may present challenges in raw material procurement management (e.g., effectively controlling purchase prices while procuring high-quality raw materials).</li> </ul>	Medium- and long-term	<ul> <li>Install the necessary monitoring equipment to follow the health of dairy cows in real time, actively research and develop intelligent technologies and equipment for early disease diagnosis, and regularly test and make comparative analysis of medicines, establishing a sound cattle health maintenance and management plan.</li> <li>Standardize temperature control requirements and optimize temperature management measures by equipping advanced refrigeration facilities, enhancing operational efficiency of cooling/transport equipment, and implementing modern cold chain logistics systems, thereby strengthening the foundational safeguards for temperature-controlled logistics.</li> <li>Gradually implement and build a diversified feed supply system. For example, actively cooperate with various major suppliers, and research and deploy alternative new raw materials for key feeds, thereby effectively responding to potential fluctuations in purchase prices caused by shortages in the supply of certain raw materials.</li> </ul>

<sup>48</sup> Based on extensive external information references and the Company's business operations, we have set the time scale for the impact of climate risks and opportunities to within 1 year, including 1 year (short term) after the end of the reporting period, 1 to 5 years, including 5 years (medium term) after the end of the reporting period, and more than 5 years after the end of the reporting period (long term)

Transition risk	Category	Potential impact	Impact cycle	Major countermeasures
Tightening requirements for low-carbon emission reduction and climate-related information disclosure	Policy and legal risks	<ul> <li>The successive introduction of low-carbon emission reduction policies has led to an ongoing tightening of energy saving and carbon reduction requirements for corporate production and operations. This may result in higher costs for measuring and managing carbon emissions, requiring the timely deployment of feasible carbon reduction measures.</li> </ul>	Medium- and long-term	<ul> <li>Systematically review and understand the energy saving and consumption reduction requirements of all operating locations. Continuously carry out carbon inventory and third-party certification to improve the accuracy and recognition of carbon data. Continue to promote the implementation of the "dual-carbon strategy" project, effectively contributing to the process of reducing low- carbon consumption.</li> </ul>
		<ul> <li>With the tightening of climate- related information disclosure policies, failure to establish the capacity to timely manage and disclose climate-related risks and opportunities may lead to compliance and disclosure risks.</li> </ul>	Medium- and long-term	• Actively form and allocate professional teams to continuously track and understand the development of climate-related information disclosure standards, and enhance the Company's climate risk management and opportunity identification capabilities, steadily improving the professional capabilities and management levels of personnel at all levels to respond to climate change.

#### **Climate-related opportunities**

Opportunity	Category	Potential impact	Impact cycle	Opportunity capturing
New energy promotion and carbon emission reduction	Energy source	<ul> <li>Optimize the structure of energy use, promote renewable energy sources, and expand the development and construction of renewable energy projects in the course of production and operation.</li> </ul>	Short-, medium- and long-term	<ul> <li>Explore the applicability of new energy projects at their own operating sites, and proactively collaborate with partners to develop innovative green technologies and low-carbon production models.</li> </ul>
Product and service upgrades and model innovation	Product and service	• The government continues to advocate the sustainable consumption concept, and Chinese consumers are gradually developing and increasing their willingness to purchase sustainable products and services.	Medium- and long-term	<ul> <li>Gradually improve the construction of the Yunyangniu Digital Intelligence Cloud Platform of the farms, and join hands with the Company's business partners to create a digitalized business model for the whole value chain, enhancing the understanding and recognition of the market and the Group's sustainable practices (e.g., animal welfare protection, low-carbon green operations).</li> </ul>

#### Financial position, financial performance and cash flow

This year, we sorted out the potential financial impacts of various material climate-related physical risks<sup>49</sup>. The potential asset losses (e.g., repair and maintenance of cowsheds) and operating costs (e.g., materials, transportation and scheduling) did not result in significant financial impacts during the period. Given the Group's stable and standardized business operating model and the implementation of regular preventive and responsive measures for material climate-related risks, we expect no significant financial impact.

<sup>49</sup> We will keep track of and evaluate climate-related opportunities dynamically and gradually establish a scientifically sound model for financial impact analysis.

#### **Climate resilience**

During the reporting period, we joined hands with external professional institutions and fully communicated with relevant internal departments. By comprehensively evaluating various factors such as the availability of authoritative external scenario parameters and the maturity of internal business forecast data, we conducted a resilience assessment of material climaterelated risks and opportunities.

We have prioritized two potentially wide-ranging climate physical risks for climate scenario analysis, taking into account the degree and scope of the impact of material climate-related risks and opportunities on our operations and key links in the value chain.



- SSP1-2.6 and SSP5-8.5 climate scenarios from the United Nations Intergovernmental Panel on Climate Change (IPCC).
- IPCC SSP1-2.6: In this scenario, greenhouse gas emissions decrease to net zero by around 2075, and become negative afterwards.
- IPCC SSP5-8.5: In this scenario, greenhouse gas emissions rise steadily, doubling by 2050 and more than tripling by the end of the century.

G Time scale	
• 2025, 2030, 2050	

We prioritize the two material climate physical risks and evaluate their risk levels under each climate scenario over different time scales. The specific analysis results are as follows:

Diaka overview	Category	Potential risk -	IPCC SSP1-2.6			IPCC SSP5-8.5		
RISKS OVEIVIEW			2025	2030	2050	2025	2030	2050
Increased frequency of extreme weather events (e.g. heavy rain, typhoons, extreme heat and cold)	Acute physical risk	Extreme weather events such as heavy rains, floods and typhoons may cause damage to infrastructure such as cowsheds	Low	Low	Low	Low	Low	Relatively low
Rising mean temperatures	Chronic physical risk	Ongoing high temperatures may result in increased operating costs for daily cattle health management	Low	Low	Low	Low	Low	Relatively low
High Moderate Low Relatively low								

In addition, we fully understand and recognize the uncertainty in the frequency and intensity of physical risks on future time scale. We have therefore set up a process for the regular evaluation of publicly available authoritative external information to further optimize the climate scenario analysis model. In this way, we can provide better decision-making input for the daily management and operations of Modern Dairy.

### **Climate-related Risk and Opportunity Management**

At Modern Dairy, we recognize the significance of climate-related risks and opportunities. A comprehensive process for identifying, assessing, prioritizing, and monitoring these risks and opportunities has therefore been established. We identify and update material climate-related risks and opportunities annually, based on a comprehensive approach that includes industry analysis, internal workshops and expert consultations. For the risks and opportunities identified, we use the internal risk assessment tool to evaluate the likelihood of occurrence, impact on the business model and value chain, and relevance to business development based on the findings of the climate scenario analysis. This enables us to prioritize the significance of climate risks and opportunities.

Additionally, this year marked the first time the Company identified the impact of two material physical risks under different climate scenarios through climate change scenario analysis. The results of the analysis have been used as a reference for evaluating and developing future management plans.

## **Climate-related Indicators and Targets**

Modern Dairy is committed to reducing greenhouse gas emissions from its production processes by setting specific carbon and methane emission targets. This target is consistent with the Paris Agreement's objective of limiting the temperature increase to 1.5°C above pre-industrial levels. This will mitigate the adverse effects of global climate change and reduce the greenhouse effect on the global climate system. Meanwhile, by upgrading energy-using facilities and enhancing the energy mix, we can improve energy efficiency, reduce production costs, and lessen our reliance on traditional energy sources, thus promoting sustainable development. By reducing calving intervals and increasing the proportion of milkable cows, Modern Dairy optimizes the cattle herd structure and enhances the adaptability and stress resistance of the cattle herd. This ensures the stability of production efficiency and product quality in the face of climate change. Additionally, the Company improves its manure management practices. By reducing greenhouse gas emissions during manure management, resource use efficiency is improved, thereby reducing the potential risks posed by climate change.



#### **Climate-related Indicator**

#### Greenhouse gas (GHG) emissions<sup>50, 51</sup>

Indicator	Unit	2024	2023	2022
Total GHG emissions	tCO <sub>2</sub> e	2,601,971.62	2,309,311.62	2,064,837.92
Emissions of greenhouse gas per RMB million revenue	tCO2e/RMB million	196.31	171.59	167.94
Emissions of greenhouse gas (scope 1)	tCO <sub>2</sub> e	2,227,502.95	1,946,733.20	1,654,588.91
Emissions of greenhouse gas (scope 2)	tCO <sub>2</sub> e	374,468.67	362,578.42	410,249.01
Emissions of greenhouse gas (scope 3)	tCO <sub>2</sub> e	288,995.00	261,287.00	1
Upstream transport and distribution	tCO <sub>2</sub> e	223,572.00	182,513.13	/
Waste from operations	tCO <sub>2</sub> e	58,134.00	68,449.70	/
Business travel	tCO <sub>2</sub> e	1,320.00	1,299.57	/
Employee commuting	tCO <sub>2</sub> e	5,969.00	9,024.34	/
Carbon emission intensity per kilogram of FPCM (including scope 1 and scope 2)	CO <sub>2</sub> e/FPCM	0.87	0.89	0.90

<sup>50</sup> The Group's main greenhouse gas inventories include carbon dioxide, methane and nitrous oxide. The GHG accounting is presented on a carbon dioxide equivalent basis and is based on the 2021 Baseline Emission Factors for Regional Power Grids in China published by the Ministry of Ecology and Environment of the People's Republic of China and the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories published by IPCC, the Greenhouse Gas Protocol: Corporate Accounting and Reporting Standard (2004) and the Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011).

<sup>51</sup> The operational control approach is applied to define the greenhouse gas emission accounting boundaries. We determine that this Report focuses on the Company and its subsidiaries, and covers the Company's major revenue businesses of raw milk business, offline feed business and digital intelligence platform business according to the principle of materiality. All our farms are covered in this Report.
## **Climate-related Targets**

#### Carbon emission per kilogram of FPCM in 2021 (base year): 0.91 kg CO<sub>2</sub>e/kg FPCM

Taking 2021 as the base year, by the end of 2025, the Group's carbon emission per kilogram of FPCM will be reduced by **7%**, to 0.85 kg CO<sub>2</sub>e/kg FPCM;

Taking 2021 as the base year, by the end of 2030, the Group's carbon emission per kilogram of FPCM will be reduced by **15%**, to 0.77 kg CO<sub>2</sub>e/kg FPCM;

#### Among them, by the end of 2025,

Achieve a 3% reduction in carbon emission per kilogram of FPCM by enhancing digestibility to intestinal fermentation and manure management;

Achieve a **1%** reduction in carbon emission per kilogram of FPCM by optimizing the cattle herd structure, reducing calving intervals, and increasing the proportion of milkable cows:

Achieve a 1.5% reduction in carbon emission per kilogram of FPCM by upgrading energy facilities, implementing energysaving measures, enhancing energy utilization efficiency, optimizing energy structure, and increasing the proportion of green energy sources;

Achieve a 1.5% reduction in carbon emission per kilogram of FPCM by optimizing manure management practices.

Taking 2021 as the base year,

by the end of 2035, the Group's

carbon emission per kilogram of

0.73 kg CO<sub>2</sub>e/kg FPCM.

FPCM will be reduced by 20%, to

#### Methane emission per kilogram of FPCM in 2021 (base year): 0.67 kg CO<sub>2</sub>e/kg FPCM

Taking 2021 as the base year, by the end of 2025, the target is to reduce the methane emission intensity per unit of FPCM by **5.8%**.

#### Among them, by the end of 2025,

Achieve a **3%** reduction in methane emission intensity per kilogram of FPCM by improving digestibility to reduce methane emissions from intestinal fermentation by 2.6% and from manure management by 5.2%;

Achieve a 1% reduction in methane emission intensity per kilogram of FPCM by optimizing the cattle herd structure, reducing calving intervals, and increasing the proportion of milkable cows;

Achieve a **1.8%** reduction in methane emission intensity per kilogram of FPCM by optimizing manure management practices to reduce methane emissions by 7.9%.



This year, Modern Dairy's greenhouse gas emissions per kilogram of FPCM (0.87 kg CO<sub>2</sub>e/kg FPCM) decreased by 4.8% compared to 2021.

Progress: This year, Modern Dairy's methane emission per kilogram of FPCM (0.64 kg CO<sub>2</sub>e/kg FPCM) decreased by 4.8% compared to 2021.



increase to exceed 10.

2024.

By 2025, the installed capacity of photovoltaic power generation will reach 100 MW;

By 2028, the installed capacity of photovoltaic power generation will reach 200 MW;

By 2028, the total power generation capacity will exceed 500 million kWh through photovoltaic and biogas power generation, and the amount of bedding material from biogas residues dried by renewable energy and waste heat will reach 2.4 million cubic meters.

# Sustainable Operations

Modern Dairy has always adhered to the concept of "Co-existence and Common Prosperity between Mankind and Nature", and is committed to building a sustainable and low-carbon system. The Company observes relevant laws and regulations such as the Environmental Protection Law of the People's Republic of China, the Atmospheric Pollution Prevention and Control Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, the Water Pollution Prevention and Control Law of the People's Republic of China, the Law of the People's Republic of China on Energy Conservation, and the Management Measures for the Transfer of Hazardous Wastes, Building on established internal management systems such as the Environmental Protection Management System, the Self-monitoring and Management Procedures. and the Solid Waste Management System, the Company has further refined management documents including the Modern Dairy Compilation of Environmental Management Policies and Standards, the Special Action Plan for Resource-based Manure Utilization. the Energy System Management Policy, the Fuel Management Policy, and the Photovoltaic Project Development Process. We actively promote the reduction of greenhouse gas emissions by monitoring pollutant discharge, waste treatment, and water utilization throughout the entire production and operation process. Regular training will be conducted to enhance employees' environmental awareness, aiming to establish a systematic and standardized environmental management framework for the Company.



In order to continuously monitor the use of resources and further strengthen the level of resources management, the Company sets targets for hazardous waste reduction, water consumption reduction and energy conservation, and regularly monitors the progress towards these targets.

#### Hazardous waste reduction targets

Taking 2020 as the benchmark, by the end of 2025, reduce the total amount of waste generated by quality control and testing of raw materials and raw milk by 10%; In Pro9ress

by the end of 2030, reduce the total amount of waste generated by guality control and testing of raw materials and raw milk by 25%;

#### Water reduction target



Based on the year 2022, the water intensity



per unit of raw milk production and operation will be reduced by 10% by 2030.

In addition, in compliance with the Law of the People's Republic of China on Environmental Impact Assessment and other regulatory documents, and requirements of central inspection on eco-environmental protection, we utilized third-party expertise to fully diagnose the environmental challenges faced by the Company. This year, we engaged the South China Institute of Environmental Sciences under the Ministry of Ecology and Environment to conduct a systematic assessment of environmental management practices across all production and operation processes of our farms. The initiative included the development of three key reports: the Report on Analysis of Environmental Protection Status and Research of Good Management Practices for Farms, the Technical Specification for Self-Monitoring of Ecological Environment at Modern Dairy Farms, and the Diagnostic Report on Hazardous Waste at Modern Dairy Farms. These documents clarify the current status of environmental management, identify waste categories and environmental risk points at the farms, and develop countermeasures, so as to achieve high-guality development.

As of the end of the reporting period, all self-built farms in operation had obtained ISO14001 Environmental Management System Certification

## **Green and Low-Carbon Development**

Modern Dairy has established multiple emission reduction pathways, focusing on three key dimensions: intestinal fermentation mitigation, manure resource utilization, and equipment energy conservation and adoption of clean energy. Through continuous innovation and technological optimization, Modern Dairy reduces GHG emissions across the entire production chain and builds more green milk production bases.

## **Optimized Feed Management for Intestinal Fermentation Mitigation**

The Company improves the digestibility and utilization efficiency of feed by means of refinement of feeding and improvement of feed quality, thus reducing carbon emissions from intestinal digestion of cattle. According to factors like stage of growth, breed, gender, productivity and environmental conditions of cattle, the Company regularly adjusts the feed formula scientifically and precisely optimizes the nutritional supply. This ensures effective energy and nutrient absorption, and reduces waste and manure output.

#### Fatty Acid Optimization to Reduce Ruminal Methane Emissions

Methane is produced during ruminal fermentation. By adjusting fatty acid composition in feed and optimizing rumen microbial communities, Modern Dairy improves fermentation efficiency and reduces methane emissions. Additionally, the Company modifies feed structures by increasing concentrate ratios or applying specialized feed additives to suppress methane generation.

## Optimized Feeding with Low-Protein Diet to Reduce Urinary Nitrogen Emissions

In active response to the Opinions on Implementing the Grain-Saving Initiative in the Breeding Industry issued by the Ministry of Agriculture and Rural Affairs, the Company adopts precision feeding management, promotes the low-protein diet technology, optimizes feed formulas, reduces the crude protein level and properly supplements synthetic amino acids. In this way, the Company ensures adequate animal nutrition while enhancing nutrient absorption by cattle herds, thereby avoiding excess nitrogen emissions. In addition, the low-protein diet reduces nitrogen content in urine, mitigating emissions of greenhouse gases such as nitrous oxide (N<sub>2</sub>O) during urine decomposition. This year, the Company reduced soybean meal usage by 30 thousand tonnes, estimated to reduce greenhouse gas emissions by around 5 thousand tonnes.

## **Resource-Oriented Manure Management to Promote Low-Carbon Circular Development**

Modern Dairy is committed to establishing a resource-based manure utilization system. Through measures such as manure collection, anaerobic fermentation, power generation with biogas, and microbial fertilizers returned to fields, we have reduced greenhouse gas emissions from manure management.

#### This year, the Company reduced

enteric fermentation emissions by approximately

manure management linkage emissions by approximately

1.3% compared to 2023 2.7% compared to 2023

which in turn reduced CO<sub>2</sub> emissions from the herd by approximately

24.000 tonnes

#### Application of Energy-Saving Equipment and Clean Energy

The Company has implemented a three-tier energy consumption management system to precisely measure and manage energy use. We conduct real-time monitoring of energy consumption, perform data analysis, and make dynamic adjustments as needed. Additionally, we regard energy-saving technological transformations and the utilization of clean energy as long-term pathways to achieve energy conservation and consumption reduction, thereby enhancing our energy utilization technology level. We have established energy usage targets and incorporated the achievement of these targets into the performance evaluation of senior executives. We have also clarified the allocation of responsibilities to ensure that energy management measures are effectively implemented.

#### **Energy Saving at Source**

In order to improve the efficiency of energy use and achieve the goal of reducing consumption, the Company proactively carries out energy audit at all operating locations, continuously explores more effective energy-saving methods and technologies, and puts energy conservation measures into action.

#### Energy audit



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#### Overall energy audit: overall monitoring and planning

We analyze the Company's overall electricity consumption to refine energy management targets and strategies. By installing smart meters and energy consumption management systems, we collect and analyze total electricity consumption data in real time to identify major energy-intensive areas.

#### Farm energy audit: farms and departments

We monitor electricity consumption of all farms. By installing meters at critical nodes, we collect electricity consumption data of all farms in real time, enabling comparative energy consumption analysis. This helps identify areas with abnormal energy consumption and implement targeted countermeasures.

#### Equipment energy audit: equipment and terminals

We focus on energy consumption analysis for critical equipment and terminal energy-consuming units. By installing smart sensors and meters at equipment terminals, we monitor the operational status and electricity consumption data of equipment in real time. This allows timely detection of abnormal energy consumption and facilitates optimization and adjustments.

This year, we completed internal audits for 44 farms, where we identified and optimized areas with inefficient energy usage, thereby reducing energy waste.

#### Intelligent energy-saving system

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Use of intelligent control system

Negative pressure fans equipped with intelligent control system are installed in the cowsheds of each farm to collect data on temperature, air quality, humidity, etc., within the cowshed for automatic analysis. The analysis results are promptly fed back to the intelligent control module. The system then automatically regulates the proportion of fans activated to continuously maintain the temperature-humidity index (THI) standards. This year, all farms were gradually renovating with induction fans, which can save 60%-80% of electricity in spring and fall after the renovation. In 2024, Modern Dairy newly installed 13,872 energy-saving fans in 10 farms.



#### Intelligent stacking robot

Intelligent stacking robots enable intelligent and fully automated stacking operations, significantly reducing energy consumption of the process.

#### Equipment upgrade

#### Use of automatic switches

Various control switches such as liquid level float switch, time control switch and remote control switch, that automatically initiate and sever the power supply based on actual production needs, are installed to avoid excessive power consumption.

#### Use of permanent magnet motors

We conducted technical renovation for cowshed in each farm with permanent magnet motors. We replaced the original three-phase asynchronous motors used in the cowshed fan with KM-90S-1500 type 1.1kW rare earth permanent magnet energy-saving motors. At the same speed, the permanent magnet energy-saving motors can save 37% of power consumption. We renovated smaller power fans and pump motors of all farms with permanent magnet motors, which can save 20% of the electricity used by conventional motors at the same speed.

#### Use of energy-saving lighting equipment

To reduce resource wastes, we intelligently transform the constant lights in the office areas and each farm, and install infrared and photosensitive switches. In 2024, 17 farms of Modern Dairy completed the renovation with solar streetlights.

#### **Optimized production processes**

#### Adjusting production processes

By adjusting the storage position of raw materials and the order of the feeds at each farm, the driving distance of the vehicle at the mixing station and the frequency of material spreading in the cowshed can be reduced to effectively save fuel consumption. In addition, we adopt cogeneration to fully utilize the energy of fuels, improving the overall energy efficiency.

#### Reducing energy input

We equipped a manure channel scraper for four farms and replaced the loaders and forklifts with leftover feed collection vehicles for cleaning residual feeds in feeding lanes, thereby reducing the number of vehicles deployed. **Regularly calibrating equipment** 

We regularly check the fuel injector and fuel pump of vehicles within the farm area and adjust them to the standard fuel injection volume.

#### Upgrade production technology

We continuously upgrade our manure fermentation production technology, reducing the amount of water entering the manure management system, which in turn can save 15% of the electricity consumption for fermentation treatment.



#### Gas-to-electricity transformation

#### Using electric heating stoves

Due to heat loss and incomplete combustion during operation, LPG stoves exhibit 30%-40% lower heating efficiency compared to electric heating stoves. We have replaced some LPG stoves in farm canteens with electric heating stoves to improve energy utilization efficiency, therefore reducing energy consumption and carbon emissions.

#### Utilizing electric pasteurizers

Calf's original milk pasteurizers have been converted to electric pasteurizers, and heating method is replaced by electricity instead of coal-burning at each farm, so that zero coal is used in the milk sterilization process.

#### Regulated Energy Use Standards

#### Monitoring energy consumption dynamically

Each farm provides heating to the living areas according to the air temperature, and automatically adjusts the reclaimed water temperature of the heating exchange unit through the intelligent final control system and sets the temperature for the cowshed at 18-23°C , so as to reduce energy waste.

#### Promoting green office

We stipulate the electricity standards for all employees in the office and assign special personnel to check the closing of office equipment after getting off work.

#### Utilize clean energy

Modern Dairy vigorously promotes the use of clean energy and new energy equipment, and reduces consumption of traditional fossil fuels, effectively decreasing overall carbon emissions.





Increased Use of Electric Forklifts

#### **Energy Use KPIs of Modern Dairy**

Indicator	Unit	2024	2023	2022
Total energy consumption <sup>52</sup>	Tonne of standard coal	218,659.66	198,388.92	159,645.20
Total energy consumption per RMB million revenue	Tonne of standard coal/ RMB million	16.50	14.74	12.98
Fuel coal consumption	Tonne	0	0	141
Natural gas consumption	Ten thousand m <sup>3</sup>	1.77	64.48	68.08
Diesel consumption	Ten thousand liters	1,413.22	1,224.71	1,089.14
Gasoline consumption	Liter	18,123.75	16,459.21	14,574.90
Biogas consumption	Ten thousand m <sup>3</sup>	18,071.11	17,521.45	12,035.26
Total amount of purchased electricity consumption	Ten thousand kWh	57,896.49	44,738.69	40,313.47
Total amount of purchased steam consumption <sup>53</sup>	Tonne	9,708.00	21,440.43	/

<sup>52</sup> Total energy consumption is calculated based on the total purchased electricity and the conversion factors in the National Standards General Principles for Calculation of the Comprehensive Energy Consumption (GB/T 2589--2020).

<sup>53</sup> In 2024, Modern Dairy increased the proportion of clean energy usage, with the steam mainly generated from the biogas produced by the manure treatment system, thereby reducing the consumption of purchased steam

10 MW Photovoltaic Power Generation Project at Bengbu Farm in Grid-connected Operation

## Adoption of A Low-carbon Farming Model to Create A Sustainable, Green Dairy **Industry Chain**

Modern Dairy has formulated a lifecycle action plan of "Low-carbon Dairy Cow Breeding", collaborating with upstream and downstream players along the supply chain to promote the low-carbon breeding model.

#### In terms of upstream forage planting

leveraging over 1.3 million mu of forage planting bases near the farms, the Company has optimized the supply chain layout. This effectively shortens the average feed transportation distance and reduces carbon emissions from transportation. Additionally, we proactively implement a zero-distance feed transportation model by establishing feed mills within the farms, further reducing carbon footprints associated with long-distance feed delivery.

#### In terms of downstream waste management

The Company prioritizes resource-based manure utilization and chemical fertilizer substitution. This includes constructing 915 km manure transportation pipelines, promoting the use of over 8 million tonnes of biomass fertilizer, and reducing the use of chemical fertilizer by 66 thousand tonnes. By replacing traditional fertilizers with biogas slurry for land application, the Company is expected to reduce carbon emissions by 0.28 tonne annually per lactating cow.

We will continue to enhance low-carbon supply chain management and collaborate with partners to build a green, efficient, and sustainable dairy ecosystem.

At the same time, Modern Dairy actively advances carbon sink reserves. Adhering to the concept of planting and rearing integration, we constantly expand the space of carbon sink by improving grassland and expanding artificial forage planting to minimize greenhouse gas emissions and facilitate carbon neutrality in the farming and animal husbandry system. At the same time, Modern Dairy is actively promoting the construction of carbon sink reserves. We adhere to the concept of integrated breeding and planting, and continuously expand carbon sink space through means such as improving grasslands and expanding the planting of artificial forage, so as to minimize greenhouse gas emissions and help the agricultural and pastoral system move towards carbon neutrality. Moving forward, the Company plans to further expand carbon sequestration projects and promote more ranches to carry out ecological greening and grassland restoration. Meanwhile, we will increase the application of microbial fertilizers, reduce the use of chemical fertilizers, enhance soil organic matter, optimize the living environment of microorganisms, and increase the yield of forage from virgin grasslands through mechanized means, in order to reduce carbon emissions and enhance the soil's carbon sequestration capacity.

In 2024, the Company expanded its planting to 66 thousand mu, further enhancing carbon sequestration capacity. For carbon sequestration with tree planting, the Company planted 788 mu of trees on vacant land at 19 farms, including pine, willow, elm, and poplar. These trees absorb carbon dioxide and release oxygen through photosynthesis, effectively increasing carbon sink reserves.



Baoji Farm Carbon Sequestration with Tree Planting

In terms of low-yield fields and sandy land reclamation, the Company adopted a perennial grassland establishment model for artificial alfalfa fields at the farms (such as Helin Farm). By virtue of substantial aboveground and underground biomass and long lifecycle characteristics, the carbon sequestration capacity of soil has been greatly improved.

Modern Dairy will determine non-CO<sub>2</sub> greenhouse gas emission factors under intensive dairy farming conditions through the measured data. The Company will also continue to optimize the Scope III carbon emission accounting system and dynamically assess the carbon emissions of domestic large-scale farms. We will continue to conduct strategic cooperation with the industry's leading technical institutions, and promote the process of low-carbon development of the entire industry based on its distinctive breeding model

## **Emissions and Waste Management**

The Company employs scientific planning, technological upgrade, and systematic design to implement a management strategy of "source identification, source control, process emission reduction, and terminal treatment". This approach through full-process management and real-time monitoring to ensure that waste disposal processes and measures are carried out in a standardized manner. This helps to avoid resource waste and ecological damage. Additionally, there is a particular focus on promoting the resourceful utilization of manure.

## **Exhaust Gas Treatment**

According to the Special Control Program for Air Pollution Prevention and Control, the Company conducts comprehensive identification and control of organized and fugitive emission sources across sites. We continuously update the special file for air pollution prevention and control and establish a grid-based and hierarchical management system for exhaust gas sources.

#### Source Control to Prevent Exhaust Gas Emissions

Source identification and control are critical measures in reducing exhaust gas emissions. The Company addresses exhaust gas emissions at source by optimizing cattle breeding processes and upgrading production equipment to effectively reduce exhaust gas generation.



We precisely determine the feed amount and schedule based on factors such as cow age, weight, and production stage to prevent harmful gases caused by feed spoilage. Additionally, we properly adjust the proportions of protein, carbohydrates, fats, and probiotics in feeds to reduce ammonia and other gases generated during digestion.

We provide cows with sufficient and clean water. This not only supports their normal metabolic function but also enhances nutrient absorption, thereby reducing the excretion of unabsorbed nutrients that would otherwise increase gas emissions.

We maintain optimal temperature and humidity levels in farms to prevent excessive microbial proliferation and heightened metabolic activity due to high temperature and

The Company proactively replaces outdated and high-emission equipment. For instance, biomass boilers have been upgraded to air-source heat pumps, achieving

#### **Terminal Treatment to Reduce Exhaust Gas Escape**

Terminal treatment is an essential measure to prevent exhaust gas escape and mitigate air pollution. The Company has optimized the terminal exhaust gas treatment process by introducing advanced exhaust gas treatment technologies and efficient purification equipment, thereby mitigating the environmental impact of exhaust gas emissions.

#### Desulphurization and denitrification

We employ ozone oxidation denitrification and sodium-alkali desulphurization purification technologies to treat sulfur- and nitrogen-containing flue gas generated by biogas, natural gas, or biomass boilers before discharge. These technologies achieve removal rates exceeding 90% for  $NO_x$  and  $SO_2$ .

#### Deodorization

The Company scientifically locates farms with appropriate buffer zones and requires farms to keep strict sealing of biogas slurry fermentation tanks. We adopt the dry manure cleaning method in cowsheds, coupled with increased manure cleaning frequency and installation of exhaust fans to enhance ventilation. Besides, we spray plant-derived or biological deodorants regularly across plant areas, and expand green spaces to reduce malodorous gas emissions.

#### Dust suppression

During feed transportation & storage, and construction projects, enclosing and spray measures are applied to feed transport vehicles, storage areas, and construction sites to prevent dust from spilled feed or construction dust escape. In feed processing, we install pulse-jet bag filters on equipment to minimize dust emissions.



#### **Waste Management**

To minimize the impact of production activities on the environment, Modern Dairy attaches great importance to the management of waste generated from the production and operation. We strictly abide by the *Management Measures for the Transfer of Hazardous Wastes* and other laws and regulations, and continuously implement the *Waste Oil Recycling Management System*, the *Equipment Management System* and other internal management policies. Moreover, a detailed waste management plan is developed to standardize the classification, separation and recycling of all kinds of wastes. We have established ledgers for all kinds of wastes and file reports on disposal to the environmental protection administration. Wastes are transported to qualified recycling units for centralized treatment.

#### **Hazardous Waste**

Hazardous waste of the Company mainly includes medical waste, laboratory waste liquid, and waste machine lubricant. In compliance with the *Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes*, we develop a plan and ledger for hazardous waste management, and set up a separate space for disposal or storage. We also enter into hazardous waste transfer and disposal contracts with qualified third parties to ensure compliant and proper treatment.



#### Medical Waste and Chemical Waste Liquid

Stringently observing the requirements of laws and regulations including the *Technical Specification for Centralized Treatment of Medical Waste (Trial)*, we stipulate the storage standards for internal medical waste and reagent bottles used in laboratories to avoid the environmental pollution caused by the medical waste. We also optimize the quality of laboratory chemicals, preferring high-purity laboratory chemicals to minimize the amount of laboratory waste liquid generated.

This year, we upgraded the silage quality inspection process from traditional chemical testing to infrared physical testing, reducing the use of chemical reagents. This move resulted in a 78.05% decrease in chemical waste liquid generation compared to 2023. We also adopt preventive measures to minimize the occurrence of diseases and medication usage in cattle herds, and achieved over 10% reduction in medical waste generation per cow compared to 2023.

#### Waste Machine Lubricant

Our farms are required to regularly overhaul their vehicle equipment and ancillary facilities to avoid running, emitting, dripping and leaking of waste oil from equipment pipes and containers. We recycle the waste oil during farm production and operation for various purposes, such as lubricating vehicle or equipment gears, applying to cowshed dung scraping systems for anti-corrosion, and treating diseases by topical application on cattle's tail roots. Any remaining waste oil not recycled is safely transferred to and disposed of by gualified third parties. In 2024, the Company's waste oil recycling volume increased by 10.34% compared to 2023.



the Company's waste oil recycling volume increased by

10.34% compared to 2023

Xinyuan Farm Recognized as a Benchmark for Hazardous Waste Management

Xinvuan Farm of Modern Dairy actively responds to the national call of green development, and consistently promotes green, low-carbon, and sustainable practices. In accordance with the Group's lean management standards and standard operating procedures (SOPs), Xinyuan Farm has developed a comprehensive hazardous waste management policies and operational procedures, ensuring standardized and refined management of hazardous waste.

#### Building a Compliant Hazardous Waste Storage Facility

We strictly follow the GB 18597-2023 Standard for Pollution Control on Hazardous Waste Storage and the Group's Solid Waste Management System to build the hazardous waste storage facility. The facility features anti-leakage measures on the floor and skirting base to prevent leakage or corrosion, with a drainage channel and collection pool designed. It is equipped with a ventilation system and panoramic surveillance to ensure clear and accurate documentation of the storage conditions.



Xinyuan Farm's Hazardous Waste Storage Facility

#### Strict Hazardous Waste Closed-Loop Management

For the inbound, transport and outbound of hazardous waste, professional personnel carry out daily inspections on hazardous waste upon arrival to ensure precise weighing and detailed records, thereby maintaining control at the source. During transportation for disposal, only licensed vehicles with hazardous waste permits are used, equipped with GPS monitoring for real-time tracking. This ensures seamless coordination with professional disposal units and implements a closed-loop management from waste generation to final disposal.

#### Software-Driven Digital Supervision

Xinyuan Farm leverages a solid waste monitoring platform for "centralized network management", and fully complies with the local hazardous waste information management system for online registration and transfer manifests. It uses electronic QR codes to track waste at its source, with both electronic and paper-based records maintained for comprehensive tracking and management throughout the process.

#### Standardized Archive Management

From the identification and filing of hazardous waste to its collection and disposal, Xinyuan Farm ensures accurate, complete, and authentic records at every stage and all documentation is retained for a minimum of five years.

#### **General Solid Waste**

General solid waste generated by the Company primarily includes manure, blogas residues, diseased and dead animals and domestic garbage in farms. Following the principle of "maximizing utilization and implementing full-process control", we ensure proper recycling and disposal of all wastes.

#### **General Solid Waste Disposal Process**



#### Livestock Manure Recycling and Utilization

We clarify the management measures for manure generated from breeding in the Solid Waste Management System to reduce the amount and control the discharge of manure at the source, thereby reducing the pressure of manure treatment and utilization. While ensuring animals' production performance, the Company optimizes the feed formula and structure of all farms and selects high-nutrition raw materials that are easy for animals to digest and absorb, so as to reduce the total cow dung in farms. The Company has pioneered an industry-leading a green circular industry chain of "Forage Planting - Cow Breeding - Manure Treatment - Soil Fertilization with Organic Waste", which achieves efficient resource utilization through effective waste transformation. Our farms are equipped with manure anaerobic fermentation treatment facilities, which mainly involve fermentation systems, biogas purification systems, biogas utilization systems, and post-treatment systems. We've developed diverse manure recycling 0Q0 As of the end of the reporting period, models that harness the organic matter, nitrogen, phosphorus, potassium, our Company has achieved and trace elements in manure to enhance soil fertility. This has resulted in unique circular economy models such as "Cow-Biogas-Grass," "Cow-Biogasfull utilization of Tea," "Cow-Biogas-Vegetables," and "Cow-Biogas-Fruit," thus fostering a sustainable and circular industry. Furthermore, all biogas residues derived self-produced manure. from manure fermentation are utilized as cowshed bedding material. With the characteristics of dryness, looseness and suitable temperature, biogas and the second se residues can improve the bedding condition and comfort of the cowshed.



**Manure Treatment Flow** 

Entrusting qualified entities to dispose

Recording and filing





#### Manure Management KPIs of Modern Dairy

Indicator	Unit	2024	2023	2022
Biogas generation from manure treatment system	Ten thousand cubic meters	19,379	18,900	16,800
Electricity generation from Biogas generated from manure treatment system	MWh	107,082	115,130	107,550
Biogas steam from manure treatment systems	Ten thousand Tonnes	44	49	46

#### **Diseased and Dead Animals in Farms**

We strictly comply with the requirements of laws and regulations such as the Animal Prevention and Epidemic Law of the People's Republic of China, the Measures for Disposal of Diseased and Dead Animals with Unknown Causes of Death (for Trial Implementation), the Technical Specifications for Harmless Disposal of Diseased and Dead Animals, and the Regulations on the Prevention and Control of Pollution from Large-scale Livestock and Poultry Breeding. The disposal methods adopted by our farms for diseased and dead cattle mainly include commissioning a qualified unit for harmless treatment, harmless disposal in designated pits, so as to prevent them from posing any hazards to the environment.

We continue to improve the health of our cows and are committed to reducing the number of dead and diseased cows on our farms at source, and to avoid the generation of dead and diseased cattle waste while improving the quality of raw milk. In 2024. the total number of dead and diseased cattle subjected to harmless treatment was 17,580 and the total weight was 8,032.8 tonnes.

#### **Other Solid Waste**

The Company has implemented a series of measures to reduce other solid waste:

- We perform precision feeding to avoid overfeeding, thereby minimizing leftover feed and waste generation.
- Leveraging the natural durability of rice husk in maintaining ventilation, insulation, and moisture absorption, we reasonably reduce the replacement frequency of rice husk bedding material for cows. This approach lowers production cost while conserving biomass resources.
- To address soil contamination caused by traditional thin mulch films that are easily fragmented and difficult to recycle, we utilize thicker mulch films that are in line with national standards.During the recovery of plastic mulch film, it is possible to effectively reduce the damage and residues in the soil, and decrease the area of film-covered cultivation, mitigating white pollution.
- We purchase seeds, chemical fertilizers, and microbial fertilizers packaged in large and tonne bags and tonne containers to minimize per-unit packaging material consumption and reduce packaging waste. We also set up package recycling stations at farms and sales outlets to encourage employees, farmers, and customers to sort, collect, and return used packaging materials.

The domestic garbage of the Company is collected and stored by prescribed categories and then sent to local sanitation departments or third-party recyclers for treatment.



Sorting & Disposal Management

#### Wastewater Management

Modern Dairy continues to pay attention to wastewater treatment. We rigorously comply with laws and regulations such as the Water Pollution Prevention and Control Law of the People's Republic of China and the Regulations on the Prevention and Control of Pollution from Large-scale Livestock and Poultry Breeding. We classify and treat wastewater according to different production scenarios and water conditions, ensuring comprehensive utilization of wastewater and normal operation of harmless treatment facilities at our farms. By gradually improving the efficiency of wastewater treatment, we aim to minimize the impacts of production and operation activities on the ecological environment.

The wastewater generated from the operations of our group mainly includes water used for cowshed sprinkling, effluent from the milking parlor cleaning, digestate produced after manure treatment, and domestic wastewater. After being treated by the manure fermentation system, it is used for fertilization and irrigation of farmland. We carry out analysis and testing of the generated wastewater on a regular basis to ensure that the wastewater treatment and reuse processes comply with environmental protection and public health requirements.

The Company implements rainwater and sewage diversion and reuse initiatives, and reasonably designs the drainage system to avoid pollutants carried by rainwater from entering the treatment system. Our farms utilize covered ditches or pipelines to transport liquid manure and silage leachate, with manholes set along the pipelines to prevent rainwater backflow. There are rainwater collection ponds in the farms. Some of the collected rainwater is used for irrigation of surrounding land, which can effectively avoid the overflow of sewage caused by a large amount of rainwater entering into the sewage tank during heavy rainfall. Furthermore, we standardize cowshed construction by replacing open-sided cowshed roofs with enclosed structures to avoid rainwater ingress and mixing of rainwater and sewage.

In 2024, all wastewater generated by the Group's operations was fully repurposed in a resource-based manner, achieving zero discharge.

#### Noise Management

The Company also constantly pays attention to noise control during project construction and daily operation. We strictly follow related laws and regulations, including the Law of the People's Republic of China on the Prevention and Control of Noise Pollution, the Environmental Noise Emission Standard for Construction Site Boundary (GB12523-2011) and the Noise Limits for Construction Site Boundary (GB12523-90). We use advanced low-noise equipment, install vibration damping pads, enhance equipment maintenance, strictly control the operational time and ensure standardized construction to minimize noise pollution to the surrounding environment.

#### Waste Emissions Key Performance Indicators of Modern Dairy<sup>54</sup>

Indicator	Unit	2024	2023	2022
Disposal of major hazardous wastes	Tonne	368.499	427.68	267.24
Disposal of major hazardous wastes per RMB million revenue	kg/RMB million	27.80	31.78	21.74
Production of non-hazardous wastes	Tonne	517.05	576.42	462.15
Production of non-hazardous wastes per RMB million revenue	kg/RMB million	39.01	42.83	37.59
Packaging material use	Tonne	735.74	988.15	719.04
NO <sub>x</sub> emissions in exhaust gas	Tonne	42.81	34.59	114.28
$SO_2$ emissions in exhaust gas	Tonne	17.38	12.39	46.26
Soot emissions in exhaust gas	Tonne	12.31	1.36	0.02

<sup>54</sup> In the current year, in order to enhance the granularity and completeness of the data, we also included NO<sub>x</sub>, SO<sub>2</sub> and soot emissions statistics of certain equipment. As a result, the data have increased year-on-year.

## Water Resources Management

Modern Dairy actively conducts water stress risk assessments, promote water conservation practices, and increase the utilization ratio of alternative water sources, effectively improving the ecological environment.

The Company has established the Indicator Comprehensive Evaluation Management System. We set a target to maintain the daily water consumption per cow below 110kg, which has been included into the departmental performance assessment indicators, thus pushing the development of water-saving enterprise from performance management and process transformation. In addition, the Company continues to improve production processes in daily operations, such as animal breeding and feed cultivation, and fully utilizes alternative and circulating water resources, realizing sustainable and efficient utilization of water resources.

#### Water Stress Risk Assessment

Modern Dairy keeps a watchful eye on the water stress risk and changes at all operating sites. Referring to official documents such as the 2023 China Water Resources Bulletin and the 2023 China Environmental Status Bulletin, and based on regional characteristics, impact of water consumption, local regulatory requirements, water resources characteristics, and the actual conditions, the Company has applied the WRI water risk map model to assess risks of water resources scarcity and water quality during the production process, and drawn the water pressure assessment map. The Company tracks water resource risks in the operating areas in a timely manner based on the water pressure map and has developed targeted prevention and control measures to guide the planning and layout of the project.



#### Water-saving Practices

The water usage types of Modern Dairy mainly include drinking water for cattle and milk parlor cleaning water. The Company takes multiple water-saving measures for different businesses, including transforming water-consuming equipment, introducing water-saving technologies and raising the proportion of alternative water sources, so as to reduce water consumption.

#### **Reducing Water Consumption**

The Company actively improves water using technologies applied in breeding, feed cultivation and other main operation and production processes, and cuts down water consumption to increase water efficiency. In 2024, Modern Dairy's fresh water consumption per RMB million revenue was 1,500 cubic meters per RMB million.





#### Installation of precise spraying equipment

As the first livestock enterprise to widely implement precise spraying technology in cowshed, Modern Dairy utilizes intelligent precise spraying equipment to monitor environmental parameters inside cowsheds such as temperature and humidity in real time, and automatically adjust spray water volume based on data. This technology has reduced water usage by 39% for the farms compared to before the installation. As of the end of 2024, the precise spraying system had been deployed in over 35% of Modern Dairy's farms.

## Optimization of pre-milking udder hygiene

We have introduced detergents containing enzymes and plant extracts for cleaning and wiping the towels used on the udders. This innovative detergent combines strong cleaning efficacy with low foam production, avoiding extensive water rinsing and saving approximately 90 thousand cubic meters of water annually.



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We adopt the dry manure cleaning method to replace the rinsing method. This prevents the mixing of manure and urine into highconcentration wastewater, and reduces water consumption at the source.

#### Water-consuming equipment inspection

The farms conduct regular inspections to identify running, emitting, dripping and leaking issues in water-consuming equipment, and replace damaged hot water tanks and other equipment promptly to prevent water waste



Modern Dairy precise spraying equipment

2024 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



#### Water for feed cultivation



#### Use of smart water valves

We use smart water valves across all grasslands and utilize the valve's automatic pressure stabilizer to precisely regulate the supply of water and fertilizers. Additionally, the smart valve device can promptly detect and report malfunctions, preventing unnecessary water waste due to prolonged irrigation system failures. Compared with the traditional irrigation method, this smart device helps to reduced water consumption by 25%-30% per mu of land.



#### Innovative irrigation technology

The Company introduces the shallow-buried drip irrigation technology, so that water is directly supplied to plant roots, reducing water and nutrient waste caused by surface transpiration. The water-saving efficiency is improved by over 55% compared with the traditional irrigation mode. The Company also uses pointer sprinkler irrigation to simulate natural rainfall, saving approximately 40% of water compared with traditional irrigation mode.



#### Soil moisture retention

We conduct soil deep-loosening operations using machinery to improve soil permeability. We also remove weeds from the fields through mechanical inter-tillage to prevent competition for water between weeds and crops, while simultaneously disrupting the soil capillary structure to reduce water evaporation. Additionally, we enhance the soil's water retention capacity, prevent water loss, and improve water resource utilization efficiency by increasing the application of microbial fertilizers and using microbial agents appropriately.



#### Controlling water consumption by water suspension to harden the seedlings

According to the meteorological information and the growth and development characteristics of the forage material, all pastures of the Company carry out periodic water suspension to harden the seedlings in a timely manner to reasonably avoid water waste during irrigation.



#### Improving forage grass varieties

Farms of the Company select and breed excellent forage grass varieties with strong drought resistance, high water efficiency and strong local climate adaptability to reduce irrigation demands.

#### **Using Alternative Water Sources**

resources in production, such as reclaimed water and rainwater.



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# bedding material and fertilizer respectively.

slurry and manure water.

#### Recycling

- water with circulating water for cooling to reduce water waste.
- Cooling water utilization: To ensure the freshness and guality of milk, the Company uses an air-cooled system for cooling down, achieving the recycling of water resources.

#### **Supplier Water Management**

To enhance water resource management and promote sustainable development among suppliers, we incorporate water resource management as a critical criterion in supplier access and routine management assessment. Such assessment covers the adoption of water-saving technologies, the operational status of wastewater treatment facilities and source control measures, the establishment of water recycling systems, and the implementation of monitoring and evaluation systems. This year, the coverage rate of water resource audits for suppliers reached 100%. The Company also encourages suppliers to share water saving practices and achievements. We collect best practice cases of water management from suppliers, and organize water-saving publicity campaigns according to the actual situation to foster experience sharing and collaboration. By doing so, we collectively advance efficient water utilization and conservation.

#### Water Resource Management KPIs of Modern Dairy

Indicator	Unit	2024	2023	2022
Fresh water consumption <sup>55</sup>	10,000 cubic meters	1,964.26	1,682.72	1,579.27
Fresh water consumption per RMB million revenue	10,000 cubic meters/ RMB million	0.15	0.13	0.13
Fresh water withdrawal	10,000 cubic meters	1,964.26	1,682.72	1,579.27
Fresh water withdrawal per RMB million revenue	10,000 cubic meters/ RMB million	0.15	0.13	0.13

<sup>55</sup> In 2024, we further optimized the scope of water resource data statistics. The key performance indicators related to water resource management of our group now cover both the ranches and feed production bases.

#### To reduce reliance on and consumption of surface water and natural resources, the Company gives priority to alternative water

• Cleaning water for backwash: We reuse the cleaning water from milking machines in milk parlors. Approximately 10 million cubic meters of cleaning water is reused annually for flushing waiting areas and manure transport pipelines. Wastewater from rinsing and precise spraying is collected with manure into fermentation tanks for biogas production. Post-fermentation solids and liquids are repurposed as

• Biogas slurry and manure water for backwash and field application: Biogas slurry and manure water generated by all farms are reused to backwash the cowshed manure channel or applied to farmland as biogas fertilizer. This year, the Company reused approximately 1.32 million m<sup>3</sup> of biogas

• Circulating water utilization: The closed-type cowshed water curtain of the Company replaces fresh

chiller and a two-stage plate heat exchanger for milk refrigeration. In the pre-cooling stage, tap water below 18°C first passes through the pre-cooling section of the plate heat exchanger to exchange heat with high-temperature milk to cool it down before returning to the water pit. The recycling water then is naturally cooled and reused for future pre-cooling. In the deep cooling stage, chilled water below 2°C from the aircooled chiller fully exchanges heat with the pre-cooled milk before recirculating back to the chilled water

## **Green Awareness**

Aiming to enhance the environmental awareness among all employees and advocate a green and healthy work and life style, we actively carry out various environmental protection activities. In 2024, we participated in environmental protection activities such as World Environment Day and Earth Hour.

#### **Advocating Green Practices**

We attach great importance to promotion of green operation. Reminder signs of "water saving" "electricity saving" and "The Clean Plate Campaign" were posted in the offices and farms, cultivating our employees' awareness of green operation and resource conservation. In addition, we are active in conveying the concept of environmental protection. Through a series of publicity activities, we aim to increase the awareness and participation in environmental issues among our employees, customers and the community.



Posters at a Farm



Environmental Campaign in Community

On the World Environment Day, we launched the environmental protection campaigns in communities to promote the concept of ecological civilization and tell China's environmental protection stories. At the same time, the "World Environment Day" environmental cartoon drawing event was organized.

#### **Environmental Protection Training**

We provide environmental protection training for our employees on the importance of waste discharge reduction and proper disposal, as well as our reduction policies and practices. For example, we train employees on the proper use and maintenance of the drinking water system and cleaning equipment to ensure that the equipment operates efficiently and does not generate wastewater due to improper operation. We provide incentives such as awards and bonuses for employees who have made outstanding contributions to reducing waste discharge, to motivate them.



**Environmental Protection Training at Farms** 

# **Biodiversity Protection**

As a leading dairy livestock operator and raw milk producer, Modern Dairy understands the importance of rational land use and biodiversity conservation. In view of this, we plan and utilize land resources in a scientific and rational manner, and actively carry out biodiversity conservation initiatives to maintain the ecological balance and promote the sustainable development of the industry. In addition, we make efforts jointly with the upstream and downstream companies to manage ESG performance and design systematic solutions for recycling farms, striving to build a "Zero-deforestation" green recycling industry chain. Biodiversity conservation is not only of great significance to the building of ecological civilization system, but also a key to the sustainable development of enterprises as well as the whole society.

The Company publicly released the Modern Dairy Biodiversity Policy, committing to protect and restore biodiversity. The policy applies to all of our operating areas and suppliers. The ESG Committee of the Board supervises the progress of biodiversity conservation work, and all business units should be cooperative in relevant conservation work.

## **Biodiversity Strategy**

Referring to the four-step methodology of Locate, Evaluate, Assess, Prepare (LEAP) suggested by the Taskforce on Naturerelated Financial Disclosures (TNFD), we assess the biodiversity risks and opportunities in dairy farming, forage planting, and forage processing stages. This includes identifying the dependencies and impacts at each stage, evaluating how these factors affect the value chain, summarizing the potential risks and opportunities faced in each business segment, and developing corresponding response measures based on biodiversity conservation strategies of "avoid, minimize, restore and offset".



· Identify the distance and degree of overlap between the operation sites and ecologically

• Identify the correlation of dependencies and impacts of each link in the value chain, and

· Analyze the potential impact of operation sites on the surrounding ecosystem and assess the

• Summarize physical risks, transition risks, and opportunities, and formulate related strategies

#### Locate - Identification Results of Ecologically Sensitive Areas

We used Biodiversity Impact Assessment Tool<sup>56</sup> (BIA) and Integrated Biodiversity Assessment Tool<sup>57</sup> (IBAT) to identify and assess the ecological sensitivity of all our sites (including all farms, pastures, and forage processing plants). These tools can be used to obtain the number of protected areas (PA) and key biodiversity areas<sup>58</sup> (KBA) within a radius of 10 km and 50 km of our sites. We also included species listed in the IUCN Red List of threatened species and those protected by the Wild Animal Conservation Law of the People's Republic of China, in the threatened species statistics, and incorporated sites near national and provincial nature reserves into the protected area statistics to assess the potential impact of our operations on surrounding ecosystems.

#### **Evaluate - Materiality Evaluation for Dependencies and Impacts**

We used the Explore Natural Capital Opportunities, Risks, and Exposure (ENCORE) tool<sup>59</sup> to identify the biodiversity dependencies and impact factors related to our operations and upstream value chain. Additionally, we utilized the Biodiversity Risk Filter (BRF)<sup>60</sup> developed by the World Wide Fund for Nature (WWF) to assess biodiversity dependencies and impacts across all our sites. Combining the analysis results from ENCORE, BRF, and the practical aspects of Modern Dairy's business, we comprehensively evaluated the biodiversity dependencies and impacts across the value chain. Based on the materiality evaluation results, we will prioritize the dependencies and impact factors ranked as "Very High (VH)" and analyze the interactions between these factors and our business. The evaluation results of the value chain's dependencies and impacts on biodiversity are set out in the Advanced Analysis Report on Biodiversity Risks.

#### Assess and Prepare - Assessment on and Response to Biodiversity Risk and Opportunity

Based on the analysis of dependencies and impacts mentioned above, we further assessed the types of biodiversity-related risks and opportunities in the short, medium, and long term. Referring to the risk and opportunity classification framework recommended by TNFD, we summarized the potential impacts on our business and integrated biodiversity protection strategies such as avoiding, minimizing, restoring and offsetting. We have developed corresponding responses to ensure effective management of biodiversity-related risks and to support the long-term stable development of our business. The results of the assessment and response to biodiversity risk and opportunity are set out in the Advanced Analysis Report on Biodiversity Risks.

<sup>56</sup> A tool developed by the Shanshui Conservation Center and the Peking University Center of Nature and Society to assess biodiversity impacts.

- <sup>57</sup> Developed by the IBAT Alliance (including Bird Life International, Conservation International, IUCN, and UNEP-WCMC). It provides access to data from three major global biodiversity databases to assess the proximity between project sites and important conservation areas for endangered species.
- <sup>58</sup> The International Union for Conservation of Nature defines "Protected Area" as: "A clearly defined geographical space, recognized, dedicated, and managed through legal or other effective means, to achieve the long-term conservation of nature, with associated ecosystem services and cultural values." "Key Biodiversity Areas" are regions that make a sustained and significant contribution to global biodiversity.
- <sup>59</sup> The ENCORE tool, developed by the Natural Capital Finance Alliance, is an online, interactive tool that assesses the biodiversity dependencies and impacts of various industries. It covers 167 sub-industries and 21 ecosystem services and is widely used for evaluating biodiversity-related risk exposures.
- <sup>60</sup> The BRF tool, developed by WWF, is an online tool that helps enterprises identify biodiversity-related risks in their operations, value chains, and investments, and take appropriate mitigation actions.

## **Biodiversity Risk and Impact Management**

All sites of Modern Dairy are conducting identification and surveys of nature reserves, ecological protection zones, and rare plant and animal species. We clarify the ecological sensitivity and biological resource conditions of those areas and identify potential adverse impacts on surrounding areas during the development and operation of dairy farming, forage planting, and forage processing. Modern Dairy integrates the four major biodiversity protection measures of "avoid, minimize, restore and offset" throughout the entire operation process, including the design, development, operation and decommissioning of livestock and planting projects and support biodiversity restoration and governance after project termination.

#### **Protection on Ecologically Sensitive Sites**

#### **Scientific Site Selection**

When formulating the internal management methods such as the Environmental Impact Assessment Report for Construction Projects and the Checklist for Pre-construction Procedures for Farm Construction, we have incorporated our requirements on site selection, land use, resource use and waste management, supplier ecological protection measures, and ecological restoration to ensure that the disruption of our operations to the ecosystem is minimized through diversification initiatives.

We have established clear regulations regarding the safe distance for pasture site selection, to ensure that they are far away from highly polluted areas, water sources, ecological protection areas, high-value conservation areas, areas rich in natural resources, residential areas, scenic spots and other environmentally sensitive locations. In addition, we are highly concerned about the soil environment around the sites. Within 20 km around a selected site, there should be sufficient space and capacity for the safe and effective treatment of feces, urine, and sewage, ensuring that the biogas slurry can be reused as microbial fertilizers and returned to the fields.



#### **Appropriate Layout**

The Company obtains the approval of the local land use permit and the relevant departments for the record of large-scale livestock breeding and other approval documents. In the case of land contracting and transfer, relevant agreements must be signed with the villagers in the relevant communities to clarify the rights and obligations of both parties. We respect and protect the rights of local relevant residents, and avoid disputes.

We always plan land use in a scientific way. On the whole, we follow the guiding principle of "reasonable layout, economical land use and appropriate reserved room for development" for the general layout. The construction is carried out based on the upper and lower wind directions, the separation of rain and sewage, and the separation of clean water and sewage, to ensure that each functional area is relatively independent with the production area and the living area isolated from each other. In addition, we increase non-polluting or less polluting advanced technologies and equipment to control ecological damage at the source. We design farm infrastructure based on a principle of "Zero Interference in the Ecology and Community Environment", and build underground pipelines to transport the liquid separated from solids to biogas slurry pool. It is applied to the farmland as liquid fertilizer after treatment.

Additionally, crop planting and feed storage may inadvertently attract birds into operational areas. Strictly adhering to wild animal conservation laws and regulations, we prohibit any hunting or poaching within operational areas. We also actively create a green ecological circle at our sites and gradually improve bird identification and monitoring capabilities. For sites where bird incursions are frequent, we will properly guide the birds to a safe area to minimize human impacts on bird species diversity. If protected bird species are found within the operational area, the farm will promptly contact animal conservation organizations or rescue agencies to ensure the birds are treated appropriately.

We are also working closely with local governments to lease saline-alkali land for farm construction and improve such land in farm and forage industrial parks.



93

#### Modern Dairy's Practice of Saline-Alkali Land Improvement and Ecological Restoration

At our Shuangcheng Farm, we have divided the responsibility areas according to the division in the saline alkali area and continued to try to plant various salt-resistant crops. Additionally, we are encouraging surrounding residents to grow silage corn with strong drought-resistant and salt-resistant abilities, promoting soil improvement in saline-alkali areas.

The comprehensive improvement project for saline-alkali land in the Modern Grassland Industry Forage Park of Tuoketuo County focuses on solving issues such as low crop emergence rates and low yields. The project increases soil organic matter and porosity, and gradually reduces the salinity and alkalinity of the land through measures such as digging alkalidrainage ditches, spreading composted cow manure, applying microbial fertilizers, acidic fertilizers, and microbial fertilizers.

In 2024, Saibei Farm reached an agreement with China Agricultural University and China Grassland Industry Association regarding the project cooperation intention. Under the project, biogas fertilizer was used to restore degraded mowing and grazing grassland in Heichengzi Natural Grassland in Zhenglan Banner, which is 20 km away from the farm. Approximately 10m<sup>3</sup> of biogas fertilizer was applied per mu of grassland. After the application, the regreening of the fertilized grassland was about one week earlier than that of the non-fertilized plot, with the fertilized forage reaching a height of 25 cm. The total yield of the fertilized grassland increased by about 40%.



Effectiveness of biogas fertilizer applied to grassland

In terms of upstream biodiversity protection in the value chain, we continue to focus on forest conservation and actively monitor and manage dairy cows and soybean meal products involved in forest development risks within the industry chain. We are committed to achieving "zero deforestation" by 2030 and working to eliminate forest development risks in our supply chain, to make contribution to forest protection. For further information on our zero-deforestation initiatives and progress, please refer to the Modern Dairy Forest Protection Policy.

## **Recovery, Reclamation and Restoration Initiatives in Disturbed Areas**

All construction projects are equipped with reclamation deposits, planning for land reclamation after project termination. These deposits are paid and deposited in third-party bank-controlled accounts to ensure public safety, environmental protection, and land use after the project ends. We also enhance green spaces around our plants and its surroundings according to the actual operation conditions, which facilitates ecological restoration, prevents soil erosion, and improves air quality.

We commit that all sites where land use changes occur will be restored to their original state after the project ends, ensuring the land's condition and the ecological habitats of plants and animals are fully restored. Looking ahead, we will persist in exploring the development of farm and grassland construction projects on reclaimed lands, such as reclaimed mining land and salinealkali land. We are committed to planting indigenous vegetation at all reclamation sites, actively contributing to the restoration and rehabilitation of disturbed lands and providing native wildlife with a green and healthy habitat.

The Company is continuously investigating novel strategies for the ecological restoration of disturbed land. In collaboration with a mining company, we implemented the Xinyuan Farm mining reclamation project. To create a green industry that combines planting and breeding with circular resource usage, this project entails constructing organic forage bases and premium dairy farms on former mining sites. We seek to address the difficulties the mining industry faces in ecological recovery while restoring ecosystems affected by mining operations, including biodiversity, soil quality, and water quality, through contemporary, sustainable methods.





The Company's organic raw material production does not use chemical fertilizers or pesticides. It relies on crop rotation, green manure, composting, biological pest control, and other management measures to maintain soil fertility and control pests and weeds, aiming to promote ecological balance, protect the environment, and improve the quality and safety of agricultural products. In 2024, approximately 315,000 tonnes of organic agricultural raw materials were purchased, requiring 263,000 mu of organic cultivation bases, including:



alfalfa

10.000 tonnes of oats

30.000

tonnes of corn



Xinyuan Farm mining reclamation project

20.000 tonnes of other raw materials

requiring about 300,000 mu of cultivation base

10.000 tonnes of straw

requiring about 26.000 mu of cultivation base

# Protectin9 **Employee Well-Bein9**

Modern Dairy attaches great importance to the growth of every employee, and always strives to build a team of quality talents. In addition to sound career development paths, we continue to improve compensation and incentive and training systems to help employees enhance their capabilities and realize their personal values. We care for their safety and health by providing them with more benefits and a healthy and harmonious workplace.



#### Talent Attraction and Retention

- Coverage rate for employee training on human rights reached 100%
- Proportion of female employees reached 32.39%
- Proportion of female employees in management reached 24.55%
- Won again the DEI Employer Awards (China) and were also rated as a "Top 10 Respected Employer Brand" by Shanghai Action Education, a management training services provider

#### Talent Development and Promotion

- 6 Conducted talent reviews to comprehensively evaluate 178 mid-level management and core technical professionals, covering 97.5% of our employees at level three and four. The proportion of highly competent and potential employees increased to 35% from 30% of 2023
- The proportion of vacancies filled with internal candidates increased to 80% from 59% of 2023
- 6 Granted a total of 79,042,000 restricted shares to middle and senior management
- Overall employee satisfaction reached 4.82 out of 5, with employee engagement level for the year being 90.52%
- Conducted 3,756 training sessions, with a total of 241,800 class hours, averaging 26.84 class hours per person, covering all employees

#### Safety and Health

- As of December 31, 2024, all the farms that have been constructed and put into operation passed ISO 45001 certification for occupational health and safety management systems, accounting for 100% of the total
- ♦ Lost Time Injury Frequency Rate (LTIFR) for employees and contractors = 0.42 per million working hours
- Occupational disease incidence rate for employees and contractors = 0.68%
- Proportion of employees and contractors receiving health and safety training = 100%
- Average health and safety training hours of employee and contractor every year= 16 hours

## Employee Care

- Organized over 1,500 events for employees in 2024
- Invested over RMB7.3 million









# Talent Attraction and Retention

To create a diversified, equal, and positive career environment, we reserve talents for the Company's development by adhering to the recruitment principle of "openness, fairness, anti-discrimination and inclusiveness". To this end, we also safeguard the rights and interests of the employees and improve the remuneration and benefits system.

## **Recruitment and Employee Rights**

As a responsible employer, Modern Dairy strictly abides by relevant laws and regulations such as the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China, the United Nations Universal Declaration of Human Rights, and the International Covenants on Human Rights. Based on the aforesaid laws and regulations, we have formulated internal policies such as the Modern Dairy Human Rights Protection Policy, the Recruitment Management Policy, the Labor Contract Management Policy, and the Employee Entry Management Policy. In the course of our business operations, supply chain management and community engagement, we fully respect and protect human rights, under these laws, regulations and policies.

#### **Human Rights Protection**

During recruitment, the signing, alteration, renewal and termination of employment contracts are carried out in accordance with relevant laws and regulations. We insist on diversity, fairness and inclusiveness in hiring, and ensure that no applicant is discriminated against in terms of gender, age, nationality, race, or religious beliefs. To avoid the use of child labor, we verify the age of all applicants. Any violations of the above principles will be addressed in accordance with relevant laws and regulations and our internal policies. Since the establishment of Modern Dairy, no illegal employment practices such as child labor or forced labor have been found.

We have "Zero Tolerance" for workplace harassment, discrimination, violence and other conducts violating employees' human rights. We protect employees' liberty and privacy and respect their freedom of association and right of collective bargaining. We require our suppliers, contractors and partners to participate in our human rights training on a regular basis and to comply with our human rights policies.

We provide human rights training for all employees, explaining our human rights governance principles and practices, to strengthen their self-protection awareness. The training is videoed and uploaded to our "Niurenhui" learning platform for employees to view and study at any time. Meanwhile, we communicate human rights protection requirements, notes and violations of these requirements through newsletters or postings.



Training on Human Rights

In 2024, we set targets for human rights incident number, training and satisfaction to drive human rights management and provide employees with an equal, healthy and inclusive workplace. As of the end of the reporting period, we achieved our targets related to human rights in 2024. In 2025, we will continue to adopt these targets and take appropriate measures to protect human rights.

#### Tar9ets in 2024

The number of human rights incidents

Forced labor: 0

Child labor: 0

Handling rate of human rights complaints: 100%

Human rights training

Employee coverage: 100%

**Employee satisfaction** 

Coverage of business units: 100%

Employees' satisfaction with human rights training: ≥90%

Employees' agreement with Modern Dairy's human rights policy: ≥90%

Employees' familiarity with human rights knowledge: ≥90%

**Community human rights protection** 

Response (incl. acceptance, investigation and resolution) rate of community's human rights complaints related to our operations: 100%

Community violence caused by our employees: 0

Pro9ress in 2	024	Tar9ets in 2025
0	Q	Forced labor: 0
0	Q	Child labor: 0
100%	Q	Handling rate of human rights complaints: 100%
100%	Q	Employee coverage: 100%
100%	Q	Coverage of business units: 100%
99.8%	Q	Employees' satisfaction with human rights training: ≥90%
99.7%	Q	Employees' agreement with Modern Dairy's human rights policy: ≥90%
99.7%	Q	Employees' familiarity with human rights knowledge: ≥90%
100%	S	Response (incl. acceptance, investigation and resolution) rate of community's human rights complaints related to our operations: 100%
0	Q	Community violence caused by our employees: 0

Each year, we identify and assess human rights risks in our business operations through due diligence, focusing on key issues such as labor rights, occupational health and safety, and human rights in the supply chain, to prevent and mitigate their adverse impacts. We regularly audit the implementation of the Human Rights Protection Policy, to monitor the implementation effect. Based on the audit results, we promptly update our policy provisions and human rights management tools and targets, to maintain the effectiveness of human rights management measures. In addition, we actively communicate with our stakeholders to help them better understand the protection of human rights.

We respond promptly and effectively to all allegations of human rights abuses. Whistleblowers can file a complaint or report by phone, e-mail or other means. We make every effort to protect the rights and safety of each whistleblower, and keep whistleblower's information confidential, and take the necessary measures to prevent any form of retaliation. If the complaint is confirmed to be true, we will take disciplinary action against the employees involved, such as warning, demerit, demotion, and termination of employment. At the same time, we will provide the victim with the necessary support and assistance, such as psychological counselling, medical care and legal aid.

We maintain an inclusive and open stance, welcoming talent from diverse backgrounds to join our team and work with us to drive the Company's development and progress. In 2024, our sustained efforts and outstanding performance in human rights management won us become the only enterprise in the industry to win the DEI Employer Awards (China) in the DEI (Diversity, Equity, Inclusion) Employer Brand Competition hosted by the Employer Branding Institute for two consecutive years. We were also rated as a "Top 10 Respected Employer Brand" by Shanghai Action Education, a management training services provider.



The only enterprise in the industry to win the DEI Employer Award for two consecutive years

To expand our talent acquisition channels, we track the latest recruitment trends and have developed a detailed recruitment plan. On this basis, we provide our team of interviewers with systematic training and guidance to help them accurately identify and select outstanding candidates who meet our needs. Meanwhile, we streamline the recruitment process and make it more open and transparent through the use of online recruitment platforms and other intelligent systems. We also work to promote village-enterprise cooperation, realize the localization of talent cultivation and drive local economic development. During the year, the number of our village-enterprise cooperation projects increased from 187 in 2023 to 254, creating jobs for 1,226 people. We also strengthened cooperation with local colleges and universities, providing employment opportunities for graduates. Our collegeenterprise cooperation projects provided 367 new jobs.

As of December 31, 2024, we had 9,007 employees in total. Of them, 32.39% were female. Female employees accounted for 24.55% of our management.

During the year, the number of our villageenterprise cooperation projects increased from 187 in 2023 to 254 187-254 creating jobs for Our school-enterprise cooperation projects 367 new jobs

## **Talent Remuneration**

Modern Dairy continues to optimize the Remuneration Management System, and modify the Remuneration Management System and other internal policies to specify the remuneration management process and evaluate employee performance impartially and transparently to better motivate employees. We calculate employees remuneration according to their positions, level and responsibilities, creating a fair and competitive remuneration environment.

Our remuneration matrix is divided into seven sequences, i.e., farm technology, feed sales, supply chain, farm production, safety quality and engineering, functional support, and administrative and party work, with a differentiated Broadbanding Salary Structure<sup>61</sup> established. Meanwhile, we have set up multiple remuneration ranges for each position and level in the corresponding Broadbanding Salary Structure to realize the differentiated remuneration for different positions in the same sequence and the same level.

We focus on the remuneration of technical staff and frontline employees. To better attract key technical talents, we offer salaries above the average level of similar positions in the market to employees in the "farm technology" sequence. We also provide additional night shift allowance for grass-roots employees of the farm production, so as to show our care and enhance their work enthusiasm and sense of belonging.

We have also established a mechanism for employees' appeal of remuneration to protect the rights and interests of our employees. Employees who have questions about their pay can complain to the Human Resources Department by writing. telephone or e-mail within five days after the monthly pay day. Upon receipt of a complaint, the Human Resources Department will check the case and provide a clear response to the employee within three working days. This is designed to maintain fairness and impartiality of remuneration management, thereby enhancing employee confidence in the Company.

<sup>61</sup> The Broadbanding Salary Structure is a remuneration management model built up on the basis of the evaluation of position value and reasonable remuneration strategy. Each level has a payment standard with a certain span. Employees' salary is determined and adjusted within the range based on their performance and ability.



# Talent Development and Promotion

Modern Dairy attaches great importance to talent cultivation. We make constant efforts to establish and improve the mechanism of talent development and promotion, build a fair and transparent performance appraisal process and incentive mechanism, and lay emphasis on staff training, so as to fully support the career development of employees. We conduct an annual talent review among employees to identify the structure and level of our human resources. We optimize the promotion and incentive mechanism, and develop training measures based on the results of our annual talent review to ensure the professional, efficient and long-term operation of the Company's talent mechanism. This year, we conducted a comprehensive evaluation on 178 mid-level management and core technical professionals, assessing their values. leadership, and performance. With the talent review covering 97.5% of our employees at level three and four, we ensured most suitable personnel for critical positions.



## **Talent Promotion**

Modern Dairy continuously strengthens the management level of talent promotion and establishes and improves the performance management system. We have improved internal policies such as the Talent Development and Training Management Policy and the Cadre Rotation Management Policy. We continue to optimize diversified incentive mechanisms to effectively reduce employee turnover.

Modern Dairy has built up the talent development system of "two channels, one foundation". The "two channels" refer to the development channels for management positions and professional positions. The "one foundation" indicates that the talent development system was maintained on the basis of the "four-wheel leadership"62 and the "diamond-shaped professional force"63 models. We have promotion evaluation methods tailored for each path to support career development.

We raised the proportion of individual performance appraisal in the promotion evaluation of the management development channel and added the dimension of corporate culture.

mana9ement development channel

In the process of qualification assessment and promotion of the professional development channel, we have improved the Qualification Standards Manual based on the "diamondshaped" professional force model and established four major sequences, i.e., veterinary medicine, nutrition, breeding and equipment. We have also specified the promotion conditions for different sequences to ensure the standardized promotion channel for employees.

• Professional development Channel

<sup>62</sup> The "four-wheel" leadership model refers to the team management model built by Modern Dairy according to the business model of animal husbandry and the logic of farm operation. The "four-wheel" leadership model is a set of key capabilities that Modern Dairy leaders need to have in order to achieve better performance, so as to "characterize" excellent leaders in Modern Dairy and effectively guide the training and development of managers at all levels. The "four wheels" symbolizes the cow's limbs, which means the momentum and speed of running forward of Modern Dairy managers, providing inexhaustible power for the development of the organization.

<sup>63</sup> The "diamond-shaped" professional force model refers to the Modern Dairy qualification model built according to the characteristics of the industry and the actual technical scene of the pasture. The "diamond-shaped" professional force model adopts the three-dimensional evaluation dimension of "qualification as the threshold, knowledge as the initial assessment, behavior as the assessment, and ability as the extension" to identify whether the employees are competent for technical posts in the farm. It then develops the training mode and curriculum resources for all technical personnel, forming a technical personnel training system of training, evaluation, appointment and re-evaluation.

We, with full reference to the promotion results of both channels, take the assessment results and information of the "twochannels" talent development system both into consideration to promote talents better serving business needs. In 2024, we refined our promotion mechanism, particularly the promotion standards and process.

#### Promotion standards

We focus on performance and leadership in the annual talent review of management positions. We considered annual talent review results, organizational performance. and individual performance in the promotion standards for the professional positions. These adjustments to promotion standards help us select better talent;

After the above optimization measures were taken, the promotion ratio of our employees significantly increased in 2024. According to the results of the talent review, the proportion of highly competent and potential employees increased to 35% from 30% of 2023, and the proportion of vacancies filled with internal candidates increased to 80% from 59% of 2023. It indicated that we have offered our top talents broader career paths.

## **Talent Performance and Incentive**

To achieve our goal of "stimulating business growth by performance", we take various performance and incentive measures to motivate employees' working enthusiasm.

#### **Performance System**

During the year, we built a "two-aspect, five-dimension" performance evaluation system. Specifically, we evaluate organizational and operation performance from five dimensions, i.e. the organizational performance, adult cow health, reserve cattle health, high quality and power grid evaluation systems.

We use key performance indicators (KPIs) and other methods within the organizational performance evaluation system to conduct a comprehensive assessment of the organization's overall performance. We assess the growth and development of cows through the cow health evaluation system and the heifer health evaluation system, and use the health status of cows to measure the operational performance of the organization. Furthermore, guided by a high-quality assessment system, we evaluate the organization's performance across multiple dimensions, including environmental, social, and governance (ESG) factors. We also leverage the power grid evaluation system to assess the low-carbon, reliability, and economic performance of the organization's operational processes. This provides strong support for building an exceptional and resilient system for the Group.



Performance Management System of Modern Dairy

#### **Promotion process**

We refined the Leader Selection and Appointment Policy and the Qualification Management Policy, and simplified the selection and promotion process, so as to improve the efficiency of talent selection.

#### **Incentive Mechanisms**

To encourage employees to meet performance goals, the Company has introduced three competitive tracks focused on performance, skills, and innovation. Incentive mechanisms such as the Cost Breakthrough Incentive Program, the PK Challenge Mechanism, and the Honor-Driven Framework have been implemented. By aligning short- and long-term incentives, integrating material rewards with recognition-based motivation, and balancing routine and targeted incentives, the Company continues to foster sustained employee engagement and drive.



In terms of long-term incentives, we grant employees incentive shares under the Restricted Share Incentive Plan. This ties employees' long-term performance with our strategic development goals to form a community of interests. In 2024, we further expanded the scope of employees covered by the equity incentive plan, and granted a total of 79,042,000 restricted shares to middle and senior management.



As part of its short-term incentive strategy, the Company offers semi-annual and annual performance awards that recognize achievements across multiple dimensions, including business contribution, breakthrough initiatives, and skills development. In the mid-year 2024 review, 47 units were recognized. Annual awards featured nine individual categories with 179 employees honored, and 24 team awards covering 111 teams-ensuring full participation across all business units and staff.



In terms of innovative and spiritual incentives, we offer cash bonus and honorary titles to motivate our departments to achieve their performance targets. We have a star employee evaluation system. In accordance with the system, we grant outstanding employees honors, bonuses and allowances to boost them for performance improvement and skill inheritance. In 2024, after providing systematic training and guidance, we selected a total of 500 "star craftsmen" out of our employees. This helps employees master efficient business operation processes and quality control methods and achieve their performance targets.



#### **Performance Analysis and Results Application**

Under the GROW Model<sup>64</sup> of coaching and mentoring, the employee's direct supervisor coaches employees on performance and help them to effectively set up performance goals and carry out work accordingly. We have established different performance analysis methods for different businesses and position levels:

We evaluate the performance of our business departments by their business outcomes, the timeliness and quality of their project deliverables, and other performances so as to comprehensively measure their performances in production, management and sustainable development;

For functional departments, we issue a "360-degree appraisal"<sup>65</sup> guestionnaire to all employees to understand their satisfaction with the service of the functional departments from multiple dimensions, and score the performance of the employees in the functional departments based on the results of the questionnaire. The results of performance analysis are applied to different scenarios such as promotion, remuneration adjustment and bonus distribution.

## **Talent Training**

Modern Dairy places great importance to talent training and has constantly innovated and implemented talent development programs, to build an internal talent supply chain. We have stepped up our resources commitment to young management trainee cultivation and optimized the manager training contents. Thanks to the efforts, 80% of management personnel added in 2024 were promoted internally. We have further implemented the "Learning, Training, Examination and Competition" model, conducted both internal and external trainings, and upgraded 776 courses on the "Niurenhui" online learning platform, providing our employees with professional guidance. During the reporting period, we conducted 3,756 training sessions, with a total of 241,800 class hours, averaging 26.84 class hours per person, covering all employees.



64 The "Grow Model" is one of the most common and effective tools used in coaching skills to coach others through the establishment of goals (GOAL), understanding of the current situation (REALITY), discussion of measures (OPTIONS), and refinement of plans (WRAP-UP). The Grow Model is designed to empower employees or groups to, guided by coaching, take responsibility for finding answers and determining a course of action.

<sup>65</sup> The "360-degree appraisal" refers to a method of obtaining observation results of members' behaviors of an organization from multiple perspectives. The evaluators in this evaluation model include not only the supervisor of the evaluated person, but also other people who are in close contact with him/her, such as colleagues, subordinates, and customers, as well as the evaluated person himself/herself as the self-evaluator

## Leadership Cultivation System

Under the "four-wheel" leadership model, we implement the "Running Program" and the "Spring Program" among our on-the-job management personnel and reserve management talents in different levels.

Composed of four special programs, namely Leading, Elite, Superior and Advanced, the "Running Program" aims to cultivate the leadership of the Company's onthe-job management personnel. The "Spring Program", consisting of 5 programs, namely Golden Bull, Silver Bull, Bronze Bull, Steel Bull and Iron Bull, to foster our reserve promotion personnel. Different training contents are provided for different programs, to help the trainees improve their leading skills in a targeted manner.





#### **Professional Force Cultivation System**

According to the "diamond-shaped" professional force model, a professional force training system has been established. In 2024, under the "Technologies 100 Special Class", we ran 14 offline training sessions covering the four sequences of veterinary medicine, breeding, nutrition and equipment. The training topics included Health Management of Dairy Cows in Large-Scale Farms, Dairy Cow Nutrition and Formula Management, Postpartum Nursing and Disease Control, and Loader Maintenance. 151 backbone personnel participated in the training. In addition, we provided 78 "Modern Dairy Air Classes", with new courses in safety and environmental protection, product quality control and inspection, farm streamlining, hoof trim, milk halls management and other topics, covering 1,889 employees in the professional sequence.



We provided covering

78 "Modern Dairy Air Classes"

**=**-Ŏ-



Leadership Force Cultivation System

Working Together Appendix







Technologies 100 Special Class - Nutrition Training

#### **Management Trainees Cultivation System**

We continue to build and optimize the management trainees cultivation system. We adopted an online-offline mix learning mode and offered basic courses such as the Office Series Skills Enhancement, the Structured Thinking and the Creative Thinking to help new employees quickly adapt to the workplace. In 2024, we upgraded the "Young Talent Program" by building a training model covering five stages and four guidance mechanisms, to help our management trainees with their transformation, growth and promotion.





#### mechanisms

"Green Hand", "Transformation", "Professional Skill Cultivation", "Management Skill Cultivation", and "Capable Talent". The course system covers CEO meeting, professional literacy, professional skills, leadership enhancement, and extension and communication, helping employees to evolve from green hands to management talents:

The mechanisms include guidance by "mentor + coach", guidance by the Group's Human Resources Department, guidance by the HR head, and guidance by senior fellow, providing new employees' career development with strong support

In 2024, we ran 7 offline training sessions, 14 technical training sessions, and 21 online growth communication meetings for management trainees. We organized a total of 124 rotations of management trainees. During the reporting period, 22 out of our 2023 management trainees completed their training and became management personnel ahead of schedule. We recorded a management trainee promotion rate of 59.1%, hitting an all-time high in the history of the Group.



Management Trainee Program

## Internal Trainer Cultivation System

In order to optimize the talent cultivation environment of Modern Dairy and improve employees' professional quality, we have created an internal trainer team and strengthened the construction of knowledge sharing system. We carried out the build-up and operational management of our internal trainers and internal training course system in accordance with the Internal Trainer Management System and our strategic needs and business characteristics. As of the end of the reporting period, the Company had a total of 160 internal trainers and developed 214 courses in leadership force, professional force, and general force. In 2024, we offered 148 internal training sessions online and offline, with 30,635 attendances.





#### "Courses at the Farm'

During the year, our internal trainer team launched the "Courses at the Farm" leadership program. Led by our senior management, the training courses were delivered to our frontline employees in 9 regions and new business segments. The innovative "trainers go with trainees" model helped to reduce costs, improve efficiency, and support employee growth.

#### "Air Classes"

The internal trainer team ran the "Air Classes" for professional force cultivation using the "diamond-shaped" professional force model and qualification analysis reports. The program was designed and delivered by our backbone employees in the technology sequence based on the qualification knowledge map and competency matrix. Covering all our frontline technological employees, the program effectively enhanced our overall technical competence and stimulated our professional competence improvement.

#### "Professional Literacy Improvement"

During the year, our internal trainer team upgraded the "Modern Dairy Professional Literacy" courses in general forces in accordance with our internal policy and company's culture. The team delivered general training in professional literacy to all employees in areas such as professional ethics, professional conducts, and professional mentality. This has laid a solid foundation for our sustainable development.

## **Democratic Management**

Modern Dairy is committed to strengthening democratic management and has established a sound democratic management policy to safeguard employees' right to know, right to participate, right to supervise and right to express, and fully protect employees' democratic rights and interests. We have improved the Management System of Enterprise Workers' Congresses, established communication channels for equal consultation, and built harmonious labor relations.

We have established an employee communication platform and opened a variety of complaint and reporting channels. Employees can submit feedback, suggestions, reports or complaints through the QR code of "Voice of Employees", democratic life meetings, mass forums, collective negotiation, labor dispute coordination committees and employee hotline. After receiving such cases, we will transfer them in a timely manner to the relevant department for handling.

To understand employees' opinions and suggestions, the employee satisfaction and engagement survey is carried out on a regularly basis. During the year, we surveyed employees on their satisfaction with our corporate culture, platform growth and customer value, receiving a score of 4.82 out of 5. We also worked to understand what they need and how they feel at work through engagement surveys. Employee engagement level for the year was as high as 90.52%.

#### Modern Dairy Develops Internal Trainer Curriculum, Stimulating Organizational Development





During the year, employee engagement level for the year was as high as



# Safety and Health

With "Safety and Health First" as the core value of the enterprise, Modern Dairy attaches great importance to the safety and health of employees. We have established a production safety management system We also require our suppliers and contractors to implement rigorous work safety measures and safeguard the bottom line of production safety.

## **Establishing the Safety Management System**

Modern Dairy strictly complies with national laws and regulations such as the Production Safety Law of the People's Republic of China and the Regulations on the Reporting, Investigation and Handling of Production Safety Accidents. We have formulated the Modern Dairy Health and Safety Policy and the Work Safety Management Policy. We have also amended the Safety and Environmental Protection Five-Level Search and Management Policy, the Health, Safety and Environment Protection Accident Investigation and Management Policy, the Safety Three Level Education Implementation Scheme, the Safety Management Policy for Silage Procurement and other work safety and operation support policies. These policies are applied to all our employees, suppliers and contractors.

We have developed the Modern Dairy Health and Safety Operational Structure, which provides for the Sustainability Committee under the Board to manage key health and safety issues such as occupational health, employee well-being, accident prevention and emergency response. The Sustainability Committee under the Board develops policies and action strategies to continuously identify and monitor health and safety-related risks and opportunities, and reports to the Chairman of the Board on the Company's health and safety performance and progress on a regular basis. The Company has set up a Production Safety Committee, which is responsible for conducting overall planning and guiding production safety. The Production Safety Committee organizes production safety meetings on a regular basis and sets safety targets and implementation plans for the Company. This year, we conducted hierarchical management according to the importance of each department's operations to the Company's production safety. The responsible person for accidents occurring in the production process will be held accountable with regard to salary assessment, performance assessment and administrative punishment. Once a year, we conduct an internal audit to review the effectiveness of our safety policies and whether our workplace is safe. We also revise and improve relevant policies based on the audit results to ensure their effectiveness and adaptability.

As of the end of the reporting period, we had achieved our 2024 safety management targets and set new targets for 2025 to ensure safety risk control and continuous improvement in the production process.



- Average health and safety training hours of employee and contractor every year: ≥ 16 hours
- and safety training
- Average health and safety training hours of employee and contractor every year: ≥ 16 hours

66 The formula for calculating the lost time injury frequency rate (LTIFR) is (Total number of work-related accidents of employees certified by the Government's work injury department/total number of hours actually worked by employees) x 1,000,000.

## **Strengthening Safety Management Measures**

We have established a health and safety performance management mechanism, and signed performance contracts with our executives, farm managers at all levels and other relevant personnel. In the performance contracts, there are evaluation clauses by tying executives' salary to safety management goals. We have set up restrictive conditions in such contracts, stipulating that if a grade 1-3 production safety accident<sup>66</sup> occurs during the contract term, the direct person in charge will be, depending on the severity of the accident, deducted points, deducted annual performance bonus and even dismissed.

We have carried out a number of internal inspections, including unannounced visits by executives, unannounced inspections, regional mutual inspections, self-inspections of farms and other measures to monitor the implementation of the production safety management policy at each farm. Based on the inspection results, we have conducted a comprehensive analysis of potential safety hazards on the farms and incorporated the issues discovered during the unannounced inspections into the matters supervised by the Group. The relevant farms are urged to rectify in time, and the rectification process is monitored, to ensure that the issues are effectively resolved.

In order to respond to safety incidents in a timely manner, we have guided all farms to establish comprehensive emergency plans, including special emergency plans and on-site disposal plans for fire, mechanical and chemical injuries according to different situations. Each farm is required to conduct an emergency drill every six months to test the feasibility of the plan. The farms are all equipped with CPR AEDs and other equipment, and employees are trained in the use of AEDs to improve their emergency care awareness and skills. We will revise the plans according to the drills, so as to enhance farms' ability to deal with emergencies.

## Improving Safety Awareness

In order to comprehensively strengthen risk prevention and control, the Company has carried out the activity of "I EHS Thematic Empowerment - Sharpening Elites through Real Combat" in three major regions in a targeted manner. By integrating various forms such as on-site diagnosis, brainstorming, hands-on teaching, and mutual Q&A, the activity has effectively improved employees' awareness of safety and environmental protection as well as their professional skills. In addition, the Company has arranged multiple health and safety knowledge training courses, and set up online self-learning platforms and columns, covering production safety policies, special work, and safety culture. The analysis of specific cases such as seasonal risk characteristics and occupational hazard risk prevention and control is also provided. After the training, we will organize a test for our employees to verify the effectiveness of the training at each farm, helping employees consolidate their knowledge of production safety. In 2024, we released 75 pieces of safety-related articles on our internal platform, and carried out 24 safety training sessions.





I EHS Thematic Empowerment - Sharpening Elites through Real Combat

68 On the basis of the 4 types of accident grades of especially serious accident, serious accident, large accident and ordinary accident stipulated by the

<sup>&</sup>lt;sup>67</sup> The formula for calculating the occupational disease incidence rate is (Number of newly discovered cases of an occupational disease/number of employees engaged in such work)\*100%. In the dairy farming and livestock industry, Brucellosis represents a unique dynamic risk. To reduce its incidence, we have actively implemented a range of measures, including enhancing employees' personal protective capabilities, equipping occupational disease prevention facilities, and improving the working environment. These efforts have effectively brought the risk under control, ensuring it is now manageable and well-regulated.

state, the Health, Safety and Environmental Protection Accident Investigation and Management System, Modern Dairy supplemented the types of accidents into 6 grades, adding the dimensions of casualties and direct economic losses. We also determined the accident reporting process, and standardized the investigation and handling standards for various types of accidents.

## **Safeguarding Occupational Health**

The farms of Modern Dairy implement occupational health management from three aspects: standards formulation, special retrieval, and advance prevention. They have established and continuously improved the ISO 45001 occupational health and safety management systems, and are committed to obtaining broader certification among all the farms. As of December 31, 2024, all the farms that have been constructed and put into operation passed ISO 45001 certification for occupational health and safety management systems, accounting for 100% of the total.



Modern Farming (Group) Co., Ltd.

ISO 45001 Occupational Health and Safety Management System Certificate

In order to effectively promote the prevention and control of occupational diseases, the Company has formulated the Occupational Health Special Prevention and Control Program, which identifies the occupational health risk points in 31 processes of 9 departments, describes these risks in detail, and specifies the corresponding protective measures and points. On this basis, the Company enters an inspection plan into the "Mu'anyun Management Platform". Under the plan, department heads are required to carry out one inspection per day, and the security department needs to carry out two special inspections per week, so as to ensure that the occupational health risks are effectively controlled.

This year, the Company's occupational health professionals conducted special inspections on occupational health in certain farms to help them enhance their occupational health control capacity and promote comprehensive breakthrough and governance of occupational health.

Adhering to "early detection and prevention", the Company regularly organizes all employees to undergo pre-job, on-the-job, and off-the-job medical examinations to comprehensively monitor the occupational health status of employees. Meanwhile, the Company promotes the establishment of employee occupational health records in all units in accordance with the requirements of respective territories, to standardize and systematize occupational health management. The Company has also formulated the Management System for Occupational Health Examination, Diagnosis and Assessment, which clarifies the standards for occupational disease examinations and determines the frequency and items of employee pre-job, on-the-job, and off-the-job medical examinations.

In order to further enhance the effectiveness of safety management, Modern Dairy has carried out in-depth cooperation with China Academy of Safety Science and Technology, a national authoritative safety organization. We give full play to the strengths of the academy in the field of safety, and set up a team of experts to carry out on-site safety production diagnosis and assessment on typical farms. The Company adopts a variety of methods, such as five-level retrieval of occupational health and safety, dual prevention mechanism construction, and silage special retrieval, to ensure 100% coverage of assessment at all farms. By probing into the internal laws and root causes of problems and identifying existing major risks and underlying problems related to production safety, the Company has issued the industry's first on-site production safety diagnosis and assessment report, which comprehensively improves its ability to prevent risks at the source and to manage and control risks. On this basis, the Company plans to join hands with China Academy of Safety Science and Technology to promote the release of relevant group or industry standards in the future.

## Safety Management of Contractors

Modern Dairy implements the concepts and principles of safety management into the supply chain. We guide our contractors to cultivate safety awareness, pay attention to production safety, and establish a safety system to guarantee the safe operation of the supply chain.

We require all contractors to follow our policies and procedures and to report any incidents or hazards to us in a timely manner according to the Health and Safety Policy After entering into the partnership with contractors, we will sign the Sustainable Procurement Management Agreement with them to clarify the safety management responsibilities and work content of both parties. In 2024, the rate of contractors signing up the Sustainable Procurement Management Agreement was 100%.

The detailed rules for the assessment of construction breaches have been developed to strengthen the construction safety management and supervision of contractors. Supervision units and project engineers carry out safety inspection at the construction site every day, and check the construction pre-control measures in dangerous areas, the construction and use of construction equipment, the establishment of fire prevention facilities and the establishment of construction site safety signs and fences, so as to identify and eliminate potential safety risks in time. We will terminate the cooperation with the contractor who violates the rules or causes a safety accident during the construction process.

We carry out security training for the construction personnel of the contractor at the construction site every day before the daily construction. We have set up a facial recognition access control system at the gate of the construction site to ensure that untrained personnel are prohibited from entering.



Advance

In 2024, the rate of contractors signing up the Sustainable Procurement Management Agreement was

100%



# Employee Care

Always adhering to the "people-oriented" principle, Modern Dairy is committed to building a caring and responsible employer brand image, and continues to provide benefits for its employees. The Company keeps improving the Employee Welfare Management System, and adheres to the talent concept of "tree industry's fastest growing, strongest professional, best value, the most respected cow". Attaching importance to the interests and happiness of employees and their families, we provide humanistic care for employees, and seek to create a caring enterprise atmosphere.

Taking inclusive benefits as the cornerstone, the Company's welfare system has the function of talent retention and motivation to meet the needs of employees at different stages. This year, the Company developed a "360 Care System" to provide employees with full life-cycle support on the basis of daily support such as social insurance, housing fund, quarterly labor protection supplies, to ensure that employees are worry-free during work.



## **Enriching the Daily Activities of Employees**

Fully considering the differentiated needs of employees in terms of job level, position and gender, we carry out activities such as painting activities on Children's Day, flower arrangement activities on Women's Day, and birthday parties. Through such activities, we aim to enhance the employees' sense of well-being, belonging and gain, and deepen the emotional connection between the employees and the Company. In addition, centered on farms and regions, we regularly carry out a series of activities focusing on junior employees, such as the "Cattlemen Carnival", to set up a platform for employees to display their talents. In 2024, we organized over 1,500 events for employees and invested over RMB7.3 million.





## **Focusing on Employees' Physical and Mental Health**

In terms of employee health care, Modern Dairy endeavors to build a comprehensive health welfare system covering annual health checkup and supplementary commercial insurance. We organize all employees to undergo a comprehensive health checkup in public hospitals or professional health checkup institutions nationwide every year. This helps employees understand their own health status promptly, and ensures that employees are in good physical condition to devote themselves to work and life. In addition, we provide supplemental commercial insurance benefits for employees' children, self-funded commercial insurance upgrade plan for their spouses, and self-funded group inspection benefit plan for their families, delivering health care to the whole family.

## **Providing Financial Support to Employees**

Considering employees' needs for family reunion, the Company grants employees reunion leave and reimbursement of travel expenses, so as to effectively alleviate their economic burden for family reunion. The Company also provides dormitories for working couples. In addition, the Company provides meal allowance, transportation allowance, telecom allowance, off-site rotation allowance, housing fund for frontline working couples, and living allowance for personnel stationed abroad during the construction period of the project. Through such benefits, we offer employees economic support for their daily work and life from multiple aspects, which effectively improves their living conditions.

Birthday party

2024 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

#### Key Performances of Modern Dairy Employees

Total number and percentage of employees by gender Total number and percentage of employees by age group

#### Total number of employees by region





Total number of employees by employment type



Total number of employees by employment type (level)





#### Total number of employees by ethnicity



Working Together Appendix

24.55%

Percentage of female

## 26.16%

 $\mathcal{C}^+$ 



Total number of new

## 1.609



harassment cases based on review record

0



agreement with human rights policy

the set of the set of the set





82.8%

satisfaction with human rights training

99.8%



99.7%













С	Employees	aged	31	to	50
	1.16%				

Employees aged 51 and above P. 1.20%



Talent Training and Development Key Performances of Modern Dairy



Total number of training sessions 3, 756







69 The formula for calculating the total turnover rate is total number of employees who voluntarily left for the year / (Total number of employees who voluntarily left for the year + Total headcount at the end of the year).





#### Average training hours of employees by age

29.84 25.98 26	.82
30 and below 31 to 50 51 a	and above
Employees aged Employees aged Emp	oloyees aged

#### Average training hours of employees by ethnicity

Han ethnic group	Mongol ethnic group
26.85	26.89
Hui ethnic group	Other minorities
26.51	26.56

#### Safety and Health Key Performances of **Modern Dairy**



0

0%

0

Work-related fatalities



Percentage of work-related fatalities



Work-related supplier/contractor fatalities



Lost Time Injury Frequency Rate (LTIFR) for employees and contractors

0.42 per million working hours



Lost days due to work injury









# 803

Occupational disease incidence rate for employees and contractors



63

## 0.68%

Percentage of employees and contractors covered by health and safety training



100%



Average health and safety training hours of employee and contractor every year

# 16

100%



1



Number of farms with ISO 45001 certification







# 36

Percentage of constructed farms with ISO 45001 certification

# 000

# Working Together with the Society

Modern Dairy insists on building a "green supply chain", deeply integrates the ESG concept into the whole procurement process, and builds a full life cycle management system covering supplier access, hierarchical management, and empowering training. We control environmental and social risks through our Sustainable Procurement Management Guidelines and Zero-Deforestation programs, and prioritize local sourcing to reduce our carbon footprint. At the same time, Modern Dairy actively fulfills social responsibilities, respects community rights, actively communicates through community committees and territorial management, and promotes harmonious development. We integrate public welfare actions with the FRESH sustainability strategy of enterprise. implement assistance in key areas, promote community development through rural revitalization, environmental protection, educational assistance and public welfare volunteerism, help farmers and herdsmen increase income and become rich, and demonstrate corporate social responsibility. Focusing on a "green supply chain," Modern Dairy transforms ESG concepts into pragmatic procurement standards and community initiatives, fostering symbiotic relationships with suppliers and communities. We strengthen the environmental bottom line through institutional innovation from full-cycle supplier management to zero-deforestation commitment; by localized purchasing and community building, we revitalize the rural economy and people's well-being while preserving the ecology.We have realized win-win outcomes for various stakeholders through the closed-loop FRESH sustainable development strategy. This demonstrates an innovative paradigm of sustainable development in the husbandry industry, setting an exemplary benchmark for the industry from responsibility practice to value creation.

- 6% to 25%. In particular, the scoring weight of labor management indicator is 15%
- 56 suppliers, including quality enhancement communication meetings with beet pulp suppliers
- actions based on the audit results
- and vegetation destruction issues to Modern Dairy
- Triple S zero-deforestation certification

- welfare activities and contributed more than RMB25 million in financial aids over the past five years
- jobs for 1,226 people. Our school-enterprise cooperation projects provided 367 new jobs
- farmers to increase their employment and income by more than 1.2 million people
- received more than 1,000 interns from agricultural colleges for job trial, and achieve 100% job retention
- Employed nearly 200 veterans



6 Increased the scoring weight of ESG performance in the Supplier Comprehensive Evaluation Form from

• Provided suppliers with 5 ESG training sessions on topics such as sustainable procurement, labor management, performance management, zero-deforestation, low carbon and energy saving, and methane reduction, covering 100% of our suppliers. Our supplier capacity enhancement program covered

• Conducted a 100% ESG audit on a total of 461 Tier 1 suppliers. In addition, we conducted ESG audit on 98 important Tier 3 suppliers of raw materials, and requested each Tier 3 supplier to carry out corrective

♦ In May 2024, COFCO International delivered 50,000 tonnes of Brazilian soybeans free of deforestation

Ocoperated with Cargill on China's first soybean delivery with "zero-deforestation", obtaining China's first

Onated over RMB2.33 million worth of funds and gifts to external charitable causes, organized 67 public

• The number of our village-enterprise cooperation projects increased from 187 in 2023 to 254, creating

A Guided farming households around the ranch to develop silage corn planting according to local conditions with the order model of "company + farming household + cooperative", helping farmers and herdsmen to increase their income and get rich. Now, the total amount of silage purchased annually exceeds 4 million tonnes, the annual silage loan distribution amounted to RMB460 million, and the industrial chain drives

Continued to carry out the Green Seedling program in the past three years, signed cooperation with 45 colleges and universities, and set up "Modern Dairy Industry College" to train animal husbandry talents;

## Sustainable Procurement

Strictly abiding by the Law of the People's Republic of China on Tenders and Bids and the Code for Procurement Management of State-owned Enterprises and other industry standards and norms, we formulated internal policies, including the Procurement Bidding Management Policy, the Supplier Management Policy, the Modern Dairy Supplier Code of Conduct, the Raw Materials Procurement Management Policy, the Auxiliary Materials Procurement Management Policy, the Equipment Procurement Management Policy and the Modern Dairy's Localization Procurement Policy. We manage our suppliers throughout their life cycle and conduct supplier audit in environment, society, and governance. We also empower and train them for mutual development. For low-carbon operation, we advocate sustainable procurement, prioritize suppliers near operational sites, and strengthen zero-deforestation management, striving to build a green supply chain.

## Supplier Lifecycle Management

We implement full lifecycle management for our suppliers, regulate their behaviors, and observe their risks and performance in terms of environmental and social responsibility. We improve the procedures of supplier access, identification, and assessment, and incorporate ESG concept into the scoring criteria for each step. We conduct supplier tier management, so as to reduce our procurement risks and promote sustainable procurement. We have launched several training sessions for our suppliers and have developed a supplier capacity enhancement program for mutual growth with the value chain.

#### Supplier Access and Engagement

We have included in our procurement management policy requirements related to the environmental and social performance of our suppliers, including requirements for environmental management, labor management, community relations, and business ethics. Our guality inspection department and the purchasing demand unit jointly form an audit team. The audit team performs supplier auditing in accordance with the Supplier Comprehensive Evaluation Form.

This year, we increased the scoring weight of ESG performance in the Supplier Comprehensive Evaluation Form from 6% to 25%. In particular, the scoring weight of labor management indicator is 15%. The audit team fills out the Supplier Comprehensive Evaluation Form based on the supplier's overall performance during on-site auditing, document auditing and sample inspections. We prioritize selecting suppliers who demonstrate superior ESG performance and have higher comprehensive scores.

#### In terms of environmental protection

Before cooperating with suppliers, we conduct on-site auditing to their plants to make sure that their production facilities have no impact on the environment. We require our forage suppliers to have stand-alone plants with no pollution sources around the plants that would affect the safety of the feed products. We also check whether the suppliers dispose of wastes in compliance with laws and regulations. Additionally, for our soy product suppliers, we require compliance in pesticides use and conduct third-party pesticide residues testing to their products to avoid soil pollution due to excessive use of pesticides.

We set requirements for suppliers' business ethics, community relations and labor management level. We require suppliers to implement effective anticorruption and anti-bribery management, properly handle conflicts of interest, and always operate with integrity. We assess suppliers' overall performance in community relations (e.g., community communication, the impact of business activities on the community, the use of local resources, and participation in community development, etc.). And we examine suppliers' overall performance in the labor practices (legal labor use and protection of rights and interests, compensation and benefits, working conditions, occupational health and code of conduct. etc.) to ensure that there is no forced labor, child labor, and discrimination or harassment in the workplace.

When suppliers are in the admission process, they are asked to sign the Commitment Letter for Sustainable Procurement Management Guidelines. When we enter into a co-operation agreement with the suppliers, they are further required to sign the Sustainable Procurement Management Agreement and the Sunshine Agreement, to further clarify their responsibilities and obligations in terms of environmental protection, social responsibility and clean cooperation, and to jointly promote the construction of sustainable supply chains.



Modern Dairy actively implements the Modern Dairy's Localization Procurement Policy, and prioritizes building partnerships with local farming households, suppliers and communities where the Company operates, to promote local economic development. We prioritize local sourcing of dairy cattle, feed, equipment, services and other supplies from our farm operations to support the development of the local agricultural chain and reduce transportation costs and environmental impact. We purchase forage grown by local farming households on a long-term basis and provide them with technical guidance to help them improve forage yield and guality. In addition, we work with local farming households to build milk source bases and provide them with technical training, quality monitoring and operation guarantee services to help them improve the dairy cow breeding skills and raise income. This year, we further carried out localized resource procurement practices in combination with the characteristics of resources around the ranch, and developed nearly 10 alternative raw materials around the ranch across the country. We purchased pear residue instead of soybean peel around Shanghe Ranch and Maanshan Ranch, and cotton straw instead of wheat straw around Changji Ranch, which effectively increased the income of farming households around the ranch.

#### **Supplier Tier Management**

In order to effectively identify and manage ESG risks in the supply chain, and to identify the different risks faced by suppliers at different tiers, Modern Dairy carries out supplier tier management. By tracing the upstream supply chain, we have identified Tier 1, Tier 2, and Tier 3 suppliers. This year, we conducted a 100% ESG audit on a total of 461<sup>70</sup> Tier 1 suppliers (including all types of suppliers such as equipment, feed and fodder, auxiliary materials, and services). In addition, we conducted ESG audit on 98 important Tier 3 suppliers of raw materials (feed and forage).



<sup>70</sup> This refers to the Tier 1 suppliers involved in ranch operations.

This year, the Commitment Letter for Sustainable Procurement Management Guidelines, the Sustainable Procurement Management Agreement and the Sunshine Agreement were signed by

of our suppliers.

## **Supplier Auditing**

We conduct monthly audits of all suppliers based on the Supplier Audit Form, which includes multi-dimensional assessment standards such as qualification and timeliness of delivery, and suppliers' capabilities in management of invoices and factory rules and regulations. We also audit suppliers' environmental and social risks, including whether suppliers discharge waste gas and wastewater according to regulations, whether their employees work in safe conditions and whether there are any instances of forced labor in their workplaces. This year, we improved the scoring weight of ESG performance in the Supplier Audit Form from 5% to 30%.

Based on the evaluation of the audit panel, we have classified suppliers into four categories: Excellent (Long-term Cooperation), Good (Continuous Cooperation), Qualified (Cooperation Alert), and Ungualified (Ordered to Rectify within a Deadline). In accordance with the management requirements of these categories, we will determine further audit requirements and modes of cooperation for suppliers. Suppliers deemed unqualified are required to carry out rectification in environmental and social performance within a limited time according to the Supplier Rectification Issue Letter. For issues that need rectification, we take the following actions, including but not limited to:

- Requesting suppliers with potential high ESG risks to submit an improvement action plan, complete the improvement measures within the deadline to mitigate and eliminate their ESG risks, and regularly report their implementation status and progress to us. We will verify the implementation status based on the improvement action plan;
- Terminating the contract and ceasing business relations;
- · Reporting non-compliant behavior to relevant departments and stakeholders.

#### **Supplier Empowerment**

Modern Dairy regularly carries out supplier training and creates industry chain ecosystem with suppliers. We conduct supplier relationship management system(SRM) training for all cooperative suppliers, introduce system functions and usage methods to suppliers, improve collaborative work efficiency, and realize the digital transformation of supply chain management. We focus on communication with suppliers and are committed to achieving common growth with suppliers. This year, we provided suppliers with 5 ESG training sessions on topics such as sustainable procurement, labor management, performance management, zerodeforestation, low carbon and energy saving, and methane reduction, covering 100% of our suppliers.

Besides, we implemented the supplier capacity enhancement program to help suppliers enhance their overall capabilities. We carried out performance analysis on suppliers with low performance scores and helped them develop specific improvement plans, including technological transformation and management optimization. As of the end of 2024, our supplier capacity enhancement program covered 56 suppliers in several ways, including quality enhancement communication meetings with beet pulp suppliers and flaked corn and corn flour suppliers.



In December 2024, we held the supplier conference to advocate sustainable procurement and required suppliers to improve their ESG management capabilities, facilitating the "gold content" of development through the "green content" of industry. We also announced our sustainable procurement requirements to suppliers at the conference and reached a consensus with our partners in eight aspects, including legal compliance. environmental protection, labor rights and social responsibility, to jointly build a green, fair and harmonious business environment. The training covered 100% of our suppliers.

#### **Promoting Green Procurement**

The Company adheres to green procurement and works with suppliers to promote sustainable supply chain development, including but not limited to:



Modern Dairy cooperated with Breton for NEV technology development and experimentation. Currently, we have 6 cars at different farms, and have reduced carbon dioxide emissions by an average of 200 tonnes per car per year compared to fuel-powered wheel loaders.



Modern Dairy has equipped the farms with 5 electric vehicles, 1 electric calf feeder, 12 fixed mixing tanks, 1 electric aerial work platform, and 10 sets of automated feed pushers. This reduces greenhouse gas emissions by 2,480 tonnes of CO<sub>2</sub> equivalent per year.







Modern Dairy procured a total of 15,000 units of energysaving fans from two energy-saving fan manufacturers, Shandong Xinhui Yihe Temperature Control Equipment Co., Ltd. and Hebei Yezhu Agriculture and Animal Husbandry Technology Co., Ltd. Energy-saving fans can save about 40% of electricity consumption compared to ordinary fans.



**Precise Spray** 

Modern Dairy procured precise spray devices from Shanghai NiuNeng Low-Carbon Technology Co., Ltd. and East Rock Farm Technologies Co., Ltd., saving about 10% of electricity consumption and 39% of water consumption compared with ordinary spray devices.

## Zero-deforestation Value Chain

Modern Dairy abides by the Forestry Law of the People's Republic of China and the Regulations on the Implementation of the Forestry Law of the People's Republic of China, and has set up the Modern Dairy Forest Protection Policy and other internal systems. We have launched a series of initiatives to minimize disruptions to production and operations, aiming to build a "zero-deforestation" industry chain with upstream and downstream partners.

In terms of raw material procurement, Modern Dairy requires raw material suppliers to comply with the Modern Dairy Supplier Code of Conduct. On this basis, the suppliers are required to carry out special management on the procurement of feeding animals (such as dairy cows) and raw and auxiliary materials of feed (such as soybean meal) which have the risk of deforestation. For the purpose of building a supply chain of "zero-deforestation", deforestation caused by expansion of agricultural land or planting land should be avoided in the raw material production areas of Modern Dairy and its suppliers.





#### Zero-Deforestation Procurement Practice in Modern Dairy

In developing the Supplier Comprehensive Evaluation Form, the Company incorporated site selection, land use, natural resource use (forests) and waste management, supplier eco-protection measures, and ecological restoration into the evaluation process to ensure that ecosystem damage from the Company's operations is minimized through diversified initiatives.

Zero-Deforestation Compliance: The Company clarifies the requirements and criteria for "zero-deforestation" in the industry chain, and requires suppliers to comply with the forest protection laws and regulations applicable in the countries and regions in which they operate. Besides, suppliers are required to prohibit the procurement of products produced by destroying ecosystems such as High Carbon Stock Forests, High Conservation Value Forests, peatlands, wetlands, and tropical rainforests. We conducted a supplier zero-deforestation compliance survey during this year to ensure that suppliers comply with the laws applicable in the regions in which they operate:

Zero-Deforestation Certification: Encourage suppliers to obtain third-party certifications with international credibility, such as sustainable forestry certification from FSC/PEFC/CFCC and responsible soybean certification from RTRS.

We have established procedures to manage and monitor suppliers of raw materials that pose a deforestation risk.

Traceability of Raw Materials: This year, Modern Dairy carried out traceability of raw materials, and initially established the model of Supplier Forest Risk Traceability Table, which contains the supplier name, supplier grade, commodity category, supplier country, and supplier's risk level, and other aspects;

Alternative Raw Material Sourcing: Explore and advocate for the substitution of raw materials at risk of deforestation.

We delivered relevant training to suppliers to help them progressively comply with the Modern Dairy Forest Protection Policy and related regulatory requirements.



Modern Dairy cooperated with COFCO International on the first shipment of Brazilian soybean "free of deforestation and vegetation destruction" issues. In May 2024, COFCO International delivered 50,000 tonnes of Brazilian soybeans free of deforestation and vegetation destruction issues to Modern Dairy. COFCO International committed to eliminating deforestation in its soybean supply chain by

2025 and establishing a sovbean supply chain by 2030 that is completely free of deforestation and vegetation destruction issues in environmentally sensitive locations in Latin America



**Global Dairy Industry** 

T BRAY

In February 2025, Modern Dairy joined hands with industry partners to release the Initiative on Building a Sustainable Supply Chain for the Global Dairy Industry ("the Initiative") at the signing ceremony of the China (Inner Mongolia)-Brazil Sustainable Soybean Strategy and the Initiative.

In accordance with the Initiative, Modern Dairy will carry out Brazilian soybean trade free of deforestation and vegetation destruction from 2025 to 2030, in order to protect rainforests and grassland vegetation in Brazil, reduce agricultural carbon emissions, and jointly address the challenge of climate change.



Modern Dairy cooperated with Cargill on China's first soybean delivery with "zero-deforestation", obtaining China's first Triple S zero-deforestation certification. In April 2024, Cargill successfully delivered soybean meal with "zero deforestation" to Modern Dairy's farms in Chabei and Zhangjiakou.

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#### Participation in the Launch of the Initiative on Building a Sustainable Supply Chain for the



Modern Dairy actively promotes feed formulation optimization by replacing soybean meal with Canola meal which is known as low-erucic and low-thioglycosides rapeseed meal, in an effort to reduce methane emissions per unit of milk produced and reduce the risk of deforestation associated with soybean cultivation.

By reducing the content of anti-nutritional factors (erucic acid and thioglycosides), Canola meal significantly improves the nutrition and palatability of the feed, effectively enhances dairy cows' feed intake and feed digestibility, and increases the efficiency of milk production, thus reducing the methane emissions per unit of milk produced. At the same time, the rich oleic acid (monounsaturated fatty acid) in Canola meal inhibits production of methane in the rumen, further reducing the methane produced in dairy cows' intestine.

In 2024, the Company reduced soybean meal usage by 44.4% by partially replacing soybean meal with Canola meal in its feed formulations. This effectively reduced the risk of deforestation associated with soybean cultivation, and decreased the carbon footprint per unit of milk produced.

## Supplier Key Performance

The number of total suppliers<sup>71</sup> is



<sup>71</sup> "Total Suppliers" means the number of suppliers that remain and have partnerships in the SRM system as of December 31, 2024. This year, we sorted out the statistical caliber of the number of suppliers and optimized the internal data collection and statistical processes.

 $^{\rm 72}$  "Region" means the place where the supplier is registered

informed in advance, and provide their consent without coercion when initiating projects or activities within their communities.

# Community Development

Adhering to the principle of "be honest and credible", Modern Dairy plays to its strengths in areas such as rural revitalization, environmental protection, educational support, and public welfare voluntary, and actively fulfils its social responsibilities. This year, Modern Dairy donated over RMB2.33 million worth of funds and gifts to external charitable causes, organized 67 public welfare activities, and contributed more than RMB25 million in financial aids over the past five years.

This year, Modern Dairy donated over

organized

million worth of funds and gifts to external charitable causes

public welfare activities

## **Community Relations**

Modern Dairy respects the rights and interests of the communities in which we operate our farms and formulated the Modern Dairy Statement on Supporting Community Engagement, and the Modern Dairy Human Rights Protection Policy. We established community committees and adopted a territorial management mechanism, whereby the management team of each farm, comprising the heads of the relevant business segments, is responsible for receiving and handling complaints, in order to facilitate regular communication with local stakeholders, including indigenous people, women, youth and other vulnerable groups. We established precautionary and formal grievance and complaint mechanisms and channels for local community members to raise concerns or complaints about our operations and impacts.

#### Community impact assessment

Whenever we plan to establish a new farm in a new area, we conduct community impact assessment on the community. The assessment is designed to identify and mitigate any potential negative impacts on the social, economic, environmental and cultural aspects of the community. We will share and communicate our assessment results with the local community in due course. We adhere to the principle of applying Free, Prior, and Informed Consent (FPIC<sup>73</sup>) as outlined in the United Nations Declaration on the Rights of Indigenous Peoples, and endeavor to ensure that our community impact assessments are conducted in a transparent, well-involved and culturally appropriate manner.

We proactively foster strong partnerships with local communities by actively seeking community input during the project planning phase, ensuring community participation in our projects. As part of the environmental impact assessment process, community committees invite local residents to participate in relevant research and evaluations, and share the results with the community. Furthermore, we actively promote village-enterprise cooperation to create employment opportunities and implement an "enterprises + bases + farming households" industrial model for forage production. This initiative supports the development of the forage cultivation industry in surrounding areas and contributes to local economic growth. In addition, we implement a variety of programs to provide educational support and alleviate poverty, aligning with national efforts to combat poverty and support sustainable development.

#### **Environmental pollution responses**

In compliance with national regulations such as the Environmental Protection Law of the People's Republic of China. the Measures for the Environmental Emergency Response Management, and the Guidelines for Investigation and Management of Environmental Risk Hazards in Enterprises, we have formulated the Emergency Response Plan for Environmental Incidents. The plan establishes a comprehensive framework for emergency preparedness, response, and post-incident recovery. All employees are required to strictly adhere to the established procedures and requirements in the event of an incident to swiftly mitigate adverse impacts on environment and the community.

contributed more than



in financial aids over the past five years

#### Preventive community engagement mechanism

<sup>73</sup> The FPIC principle underscores the necessity of ensuring that community members are granted the freedom to make decisions, are adequately

#### Human rights policy audit and training

We regularly conduct human rights audits. This year, we conducted a sample survey of employees from all of our farms, covering all levels, including general employees, mid-level management, and senior management, as well as all positions, such as farm milkers, breeding division employees, safety and quality departments and other business departments, and functional departments of the company. We analyzed the results of our research and optimized our existing human rights policies to better improve their implementation in protecting people in the community. We also conducted human rights training for our employees to raise their awareness of the need to respect the human rights of community residents and to work together to build a harmonious community.

#### Ethical standards for contract security providers or security personnel

Modern Dairy requires all contract security providers or security personnel (As of the end of 2024, all security personnel at Modern Dairy are the Company's employees, and contract security providers are not used) to respect the rights and interests of community residents, to carry out security work in a manner that respects human rights, to comply with relevant laws and regulations and professional standards and policies, to regularly participate in training related to the protection of human rights carried out by Modern Dairy, and to resolve conflict situations that may occur in a responsible manner, opposing the use of violence in any dispute.

## **Rural Revitalization**

In active response to the national rural revitalization strategy, the Company actively adopts the principle of "carrying forward tailored local solutions and targeted support, and consolidating achievements to drive progress". Focusing on comprehensive rural development, infrastructure improvement, and rural governance system optimization, the Company is fully dedicated to advancing the rural revitalization initiative and fostering shared prosperity. In 2024, Modern Dairy created employment opportunities and drove rural economic growth by engaging in farming household partnership, village-enterprise cooperation, targeted support, and silage support programs.

This year, the Company centered its efforts on three main lines and six measures with a focus on industrial chain coordination, industry-wide drive and multi-dimensional empowerment, guided the farming households around the ranch to develop silage corn planting according to local conditions, and facilitated the employment of local villagers. We also carried out practices such as educational assistance, charitable donations, environmental protection, and provided special financial assistance and support. By adopting the IoT and cloud computing, we provided effective data support for all aspects of the supply chain of the farms. In addition, we achieved the resource recycling and the harmless treatment of wastes through the construction of a green industrial chain, promoting the sustainable rural development.



#### **Farmer Partnerships**

Modern Dairy, with the order model of "company + farming household + cooperative", guides farming households around the ranch to develop silage corn planting according to localconditions, helping farmers and herdsmen to increase their income and get rich. Now, the total amount of silage purchased annually exceeds 4 million tonnes, the annual silage loan distribution amounted to RMB460 million, and the industrial chain drives farmers to increase their employment and income by more than 1.2 million people.

Baoji Farm	Baoji Farm has driven the industry develop herds by 500 cows. By optimizing feed for 10,000 tonnes, generating an additional RMI
Yunnan Farm I Yunnan Farm II Hongya Farm	Yunnan Farm I and Yunnan Farm II encour collectively purchases nearly 50,000 tonnes Hongya Farm drives over 15,000 mu of fo more than 30,000 tonnes of silage each year
Hefei Farm	The farm has partnered with local farming h rapeseed, and 1,200 mu of wheat.
Suqian Farm	For three consecutive years, Suqian Farr initiatives by encouraging local farming hous the farm also engages farming household mitigate planting risks, the farm has purchas income guarantee for farming households.
Guoxiangyuan Farm	Guoxiangyuan Farm has collaborated with the measures. By prioritizing the employment deepening farming household cooperation impoverished households. During the silage nearby farmers, further supporting their incom
Shanghe Farm	In the past three years, the Farm has cooper 350,000 tons of feed near the farm every y local income.
Modern Grassland's Organic Base in Bayannur	The base achieved a remarkable harvest, meets organic standards. This marks a so constitutes approximately 50% of the daily o per cow and driving cost reduction and efficie
	Achievements in Farming Household

opment with 500 local farming households, expanding dairy ormulations, the farm has increased silage procurement by /IB250,000 in income for farmers.

rages local farming households to cultivate forage crops and so feed silage annually.

orage cultivation by local farming households, and procures ar.

households to cultivate over 3,000 mu of barley, 4,500 mu of

rm has actively supported the government's food security useholds to cultivate winter wheat. During the harvest season, ds to participate in efforts to increase yield. Additionally, to ased crop insurance for staple grains, providing both cost and

the local government to implement targeted poverty alleviation at of underprivileged families from surrounding villages and n, the farm has helped increase production and income for le procurement period, the farm prioritizes qualified plots from ome generation.

erated on nearly 70,000 mu of land, and purchased more than year, with the industrial chain driving hundreds of millions in

r, producing nearly 7,000 tonnes of organic silage corn that olid step towards green and sustainable agriculture. Silage diet of cows at Modern Dairy, effectively enhancing milk yield siency improvement across the entire industry chain.

#### d Cooperation in 2024 (Selected)

#### **Village-Enterprise Cooperation**

Modern Dairy further strengthened village-enterprise cooperation this year by increasing the percentage of local hires, thus alleviating employment pressure in surrounding communities. In 2024, the number of Modern Dairy village-enterprise cooperation increased to 254, helping 1,226 villagers get jobs.

Ma'anshan Farm	The farm actively collaborates with neighboring villages, completing the cultivation of over 2,000 mu of winter wheat. It also promotes mutually beneficial, supportive relationships that drive economic growth for both the farms and the local regions, earning recognition as one of the "Ten Thousand Enterprises Revive Ten Thousand Villages" at the 2024 Chinese Farmers' Harvest Festival in Bowang District.
Shanghe Farm	The farm has signed cooperation agreements with 12 local villages, with local employees making up 85% of its workforce, effectively supporting community employment.
Fuminfeng Farm	As operations expanded, the farm has provided 20 jobs for local farmers through village-enterprise cooperation.
Yunnan Farm I Yunnan Farm II	This year, the farms in Yunnan have created 55 jobs through village-enterprise cooperation.
Wenshang Farm	The farm has integrated collective land resources of local villages to scale up silage corn cultivation. Through a cooperative model of "industry linking farmers, technology assisting farmers, and resources benefiting farmers", it actively promotes village-enterprise cooperation to improve planting efficiency and profitability for farming households.

#### Achievements in Village-Enterprise Cooperation in 2024

Modern Dairy is committed to providing employment opportunities for military veterans. As of the end of the reporting period, the Company has employed nearly 200 veterans. We place great emphasis on supporting the military and their families. We offer them comprehensive pre-employment skills training, career psychological counseling, and career development planning consultations. We prioritize employment opportunities for veterans and their families, broaden their employment channels, enhance their skill levels, and foster collaborative platforms. These efforts have contributed to local social stability and rural revitalization. This year, on the occasion of China's Army Day, we extended our heartfelt appreciation and recognition to Zhang Erhu, a veteran, for his resilience and professional dedication. We also expressed our gratitude to all veterans for their diligence and commitment in safeguarding our pastoral homeland. Modern Dairy actively promotes the company's employment positions in villages and towns around the farms, and works closely with the village committees to ensure that interested villagers can understand and participate in the recruitment process. In order to make the process more concrete and efficient, we take the following measures:



#### **Offering Well-Targeted Support**

Modern Dairy integrates social responsibility into the corporate development strategy and stays committed to promoting comprehensive rural development through industrial support. By establishing poverty alleviation monitoring and targeted assistance mechanisms, the Company ensures that rural areas not only shake off poverty but also avoid falling back into it, fostering a virtuous cycle of rural economic growth.



In December 2024, Chabei Farm donated 64 weaned male calves to Shagou Town and Yuzhouying Township and provided follow-up support, including training and guidance in breeding techniques to local farming households. Once the calves are fully grown, the economic benefits derived from them will be entirely retained by the recipient farming households. These proceeds are directly included in the annual income of the targeted households, significantly alleviating the financial burdens faced by economically disadvantaged families in the region.



Calf Donation by Chabei Farm



# Fechnology Enables Rural Revitalization -- Creating a "Wisdom Sample" for Plateau Dairy Industry

Since 2019, Modern Dairy has sent a team to Tibet to provide comprehensive assistance to the Semburi Ranch in Tibet, solve a number of technical problems in plateau dairy farming, and explore the experience of new paths for local economic growth and ecological protection. We led the gathering of advanced production factors with scientific and technological innovation, develop agricultural new guality productivity according to local conditions, gave full play to the advantages of standardized pasture construction, and participated in and quide a series of problems faced by local pastures to raise plateau cows, including bad climate, thin oxygen, fragile ecology. In addition, Modern Dairy adhered to the development model of green and low-carbon dairy farming. By 2024, 15,000 cubic meters of biogas slurry have been produced in Sembri Ranch and 3,000 mu of it have been returned to the field, effectively improving soil fertility, reducing the use of fertilizer, protecting soil health and promoting the local ecological balance.

Our assistance to Tibet also promotes the development of the ranching industry and ecological protection. Through the establishment of forage supply system, Modern Dairy has established a long-term and stable cooperative relationship with farmers and herdsmen in surrounding villages. In 2024, we acquired a total of 9,100 tons of silage, and the silage planting area reached 3,000 mu, driving the income of nearly 100 villagers in two natural villages. At the same time, the development of the ranch has also provided nearly 50 jobs and solved the relocation of 35 people.



Modern Dairy Aids Tibet and Help Plateau Dairy Farming



Modern Dairy participated in the celebration of the 30th Environmental Sanitation Workers' Day in Shandong Province, Shahe Town government staff and Shanghe Ranch staff organized in-depth sanitation workers to clean the site, and sent them rice, noodles, milk and other condolence products, bringing warmth and sympathy to the sanitation workers who have been fighting in the front line for a long time, and carried forward the labor spirit of sanitation workers with the help of the conference. Embodies the transformation of spiritual practice of Modern Dairy.



Modern Dairy Donates Living Comforts for Sanitation Workers

Modern Dairy has boosted the forage cultivation industry through the industry chain, cultivating about 2 million mu of controllable area and benefiting more than 200,000 households in surrounding areas. By installing free manure pipelines for farming households, the Company has pioneered a model of resource recycling. Over the past three years, Modern Dairy has allocated over RMB20 billion for forage payments and acquired more than 10 million tonnes of silage, addressing employment issues for numerous local farming households. This has greatly contributed to rural revitalization and common prosperity. Modern Dairy remains committed to driving green, high-guality, and sustainable development and transition across its upstream and downstream partners, fostering win-win outcomes across the industry chain, and making contributions to the modernization of China's rural areas and the prosperity of rural economy.

## **Financial Aid to Agriculture**

Modern Dairy integrates resources of financial institutions through the Love-Cattle Platform. Focusing on ranch operations, we have joined hands to launch financial products for operation, procurement and insurance, providing special financial assistance and support for cooperative suppliers and social pastures. In 2024, we offered RMB2.1 billion in financial lending through the Love-Cattle Platform, providing financial guarantee for the survival and development of social pastures.

## **Environmental Protection**

Modern Dairy has consistently prioritized environmental and ecological conservation. In recent years, by leveraging advanced technologies and collaborating with local governments and community enterprises, the Company has initiated large-scale silage cultivation. These efforts have effectively mitigated desertification in Urad Front Banner, achieving the goal of ecological restoration and greening in the region. Furthermore, Modern Dairy has accomplished China's first-ever delivery of "deforestation-free" soybeans, setting a benchmark for sustainable practices in agricultural commodity trade. This serves as a model case for "deforestation-free" practices, showcasing Modern Dairy's commitment to environmental protection.



Modern Dairy has implemented precision drip irrigation in the desert of Urad Front Banner. The Company has cultivated droughtresistant crops, such as silage corn, on a large scale, covering an area of 36 thousand mu of desert. The deep-rooted silage crops have reduced wind erosion and curbed soil and water loss. This initiative has led to a remarkable increase in local vegetation coverage, making a substantial contribution to the region's goal of transforming barren deserts into green landscapes.



The Farm and Silage Cultivation Base in the Desert of Urad Front Banner



# Successful Delivery of China's First "Deforestation-free" Soybean Order

In April 2024, Modern Dairy, in collaboration with COFCO and Cargill China, successfully completed the delivery of China's first "deforestation-free" soybean order. Cargill China delivered a total of 1,000 tonnes of deforestation-free soybean meal to Modern Dairy's farms in Chabei and Saibei regions, receiving the first Triple S certification for deforestationfree products in China. This partnership has enabled Modern Dairy to actively promote and advocate for sustainable agricultural commodity trade, working alongside its partners to advance towards a zero-carbon future. This practice has been recognized as a featured case in the "Capital Market Biodiversity Protection Project Exhibition" at the China Securities Museum.



Modern Dairy's Practice Featured as a Model Case in China Securities Museum Exhibition



## Modern Dairy Youth Volunteer Team's Charity Walk

On October 31, 2024, in observance of World Thrift Day, Modern Dairy organized the "Charity Walk: Striving for a Sustainable Future" and its second "Environmental Volunteer Service-Green Journey and Trash Cleanup" event, a 10-kilometer eco-friendly charity walk, at the headquarters in Ma'anshan. During the walk, volunteers conducted segmentby-segment inspections and cleanup, collected recyclable waste and sorted it for proper storage The initiative aimed to promote the concept and knowledge on ecological conservation and thrift while also embodying the spirit of volunteerism dedication, friendship, mutual assistance, and progress.



Modern Dairy Youth Volunteer Team's Charity Walk

## **Educational Support**

Modern Dairy actively responds to the national call for poverty alleviation, carries out school donation activities in difficult areas, and practices corporate social responsibility with practical actions. In the past three years, we have continued to carry out the Green Seedling program, signed cooperation with 45 colleges and universities, and set up "Modern Dairy Industry College" to train animal husbandry talents. At the same time, we receive more than 1,000 interns from agricultural colleges for job trial, and achieve 100% job retention.



In September 2024, Modern Dairy, in alignment with its "Green Seedling program", provided RMB30,000 to each financially disadvantaged student who had been admitted to key universities, in an effort to alleviate their financial burdens and improve their living conditions.

provided

RMR



Modern Dairy donated to Yangling Vocational and Technical College

benn admitted to key universities

In response to the revitalization of rural education, on the 90th anniversary of the founding of Yangling Vocational and Technical College, Modern Dairy donated RMB10,000 to the school to help the development and construction of local schools, and to bring sincere wishes and greetings to the students. 75% of the graduates of Yangling Vocational and Technical College serve Shaanxi agriculture, and we also indirectly contribute to rural revitalization through donations to support agriculture-related education.





Modern Dairy's Autumn Education Assistance Program



## **Voluntary Public Service**

Modern Dairy encourages employees to participate in voluntary activities, so that more people pay attention to environmental protection and social welfare. We continue to exert the energy of public welfare volunteers and organize multi-subject voluntary activities to provide support work for different groups.

#### **Green Farms Open Day**



In September 2024, Modern Dairy hosted the second Green Farms Open Day at Bengbu farm. This event, part of the "Low-Carbon Environmental Protection for Green Shared Prosperity, High-Quality Development for Building Beautiful Villages" initiative, in collaboration with the Department of Communications and Education of the Ministry of Ecology and Environment, showcased the Company's industry-leading green farming practices. Participants gained firsthand insights into innovations in manure management and resource recycling. Experts from various fields, along with representatives from enterprises, universities, and volunteers, engaged in in-depth discussions on topics such as advancing ecological and environmental technological innovation, supporting the development of beautiful countryside initiatives, and promoting green shared prosperity. The Open Day demonstrated Modern Dairy's unwavering commitment and remarkable achievements in green development. The event conveyed the Company's sustainability philosophy and confidence to the industry, society, partners, and consumers. Furthermore, the Company fostered societal consensus on the development model of green animal husbandry with Chinese characteristics.









Green Farms Public Open Day at Bengbu Farm

#### Helping the Elderly



Sugian Farm has actively engaged in volunteer services, focusing on areas such as traffic and public service support. The farm mobilized approximately 100 volunteers, contributing a total of 80 service hours.

Volunteers from the Company visited elderly care homes and community service centers near multiple farms, offering care and companionship to the elderly. They also donated essential daily supplies, including milk and cooking oil, to support the well-being of the elderly residents.



Elderly Care Home Visits and Donation Initiatives

This year, Shanghe Farm actively carried out volunteer activities to support the elderly. In February, the farm donated daily necessities worth a total of RMB20,000 to local elderly care homes and surrounding communities, specifically targeting seniors aged 70 and above. During the Double Ninth Festival, the farm organized employee volunteers to visit elderly individuals living alone in Shahe Town, Shanghe County and provided them with essential supplies and heartfelt companionship. This year, Shanghe Farm's elderly care initiatives involved approximately 80 volunteer participants, with a total service duration of around 80 hours.



Shanghe Farm Elderly Care Activities

#### **Charitable Donations**



Modern Dairy's Donation of Funds and Supplies to Communities in Need and Impoverished Families

Hefei Farm donated RMB10,000 to the "Emergency Relief" Mutual Aid Association of Changwang Community in Bailong Town. This contribution was allocated to the community's emergency relief fund, demonstrating harmonious collaboration between the Company and local government.

Modern Dairy donated RMB10,000 and essential living supplies to Dongjiaying Village in Shebiya Township. This initiative directly alleviated the economic pressures faced by impoverished families and improved their basic living conditions, and fostered harmonious development between the farms and local herdsmen. The donation also strengthened emotional ties with the community, promoting a positive and sustainable relationship.



Modern Dairy's Donation of Supplies and Funds to Dongjiaying Village, Shebiya Township

## **Key Performance Indicators for Public Welfare Initiatives**

3,594 hours of volunteer service

bours/person of volunteer service on average

participants engaged in the community activities

Appendix:	<b>HKEX</b>	ESG	Rep
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Requirements, Subject Areas, Aspects, General Disclosures and Key Performance Indicators (KPIs)		Location in Report or Notes
Mandatory Disclosure Requirements		
Governance Structure	A statement from the Board containing the following elements: (i) a disclosure of the Board's oversight of ESG issues; (ii) the Board's ESG management approach and strategy, including the process used to evaluate, prioritize and manage material ESG-related issues (including risks to the issuer's businesses); and (iii) how the Board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the issuer's businesses.	Sustainable Development Management
Reporting Principles	A description of, or an explanation on, the application of the following Reporting Principles (materiality, quantitative, balance and consistency) in the preparation of the ESG report	About This Report
Reporting Boundary	A narrative explaining the reporting boundaries of the ESG report and describing the process used to identify which entities or operations are included in the ESG report. If there is a change in the boundary, the issuer should explain the difference and reason for the change.	About This Report
"Comply or explain" Provisions		
A. Environmental		
Aspect A1: Emissions		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Practicing Green Operations
KPI A1.1	The types of emissions and respective emissions data.	Practicing Green Operations
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Practicing Green Operations
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Practicing Green Operations
Requ	irements, Subject Areas, Aspects, General Disclosures and Key Performance Indicators (KPIs)	Location in Report or Notes
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KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Practicing Green Operations
KPI A1.5	Description of emissions target(s) set and steps taken to achieve them.	Practicing Green Operations
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Practicing Green Operations
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Practicing Green Operations
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. Electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Practicing Green Operations
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Practicing Green Operations
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Practicing Green Operations
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Practicing Green Operations
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Practicing Green Operations
Aspect A3: The Environment and Natural Resources		
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	Practicing Green Operations
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Practicing Green Operations

#### Aspect A4: Climate Change

General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Practicing Green Operations
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Practicing Green Operations

#### B. Social

Employment and Labor Practices

#### Aspect B1: Employment

General Disclosure	Information on:	
	(a) the policies; and	
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	Protecting Employee Well-Being
	relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	
KPI B1.1	Total workforce by gender, employment type (for example, full- or part- time), age group and geographical region.	Protecting Employee Well-Being
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Protecting Employee Well-Being

# Requirements, Subject Areas, Aspects, General Disclosures and Key Performance Indicators (KPIs)

#### Aspect B2: Health and Safety

General

Disclosure

	Information on:
	(a) the policies; and
General Disclosure	(b) compliance with relevant laws and regulations that the issuer
	relating to providing a safe working environment and occupational hazards.
KPI B2.1	Number and rate of work-related fatalities occurred ir including the reporting year.
KPI B2.2	Lost Days due to Work Injury.
KPI B2.3	Description of occupational health and safety measu implemented and monitored.
Aspect B3: Dev	velopment and Training
General Disclosure	Policies on improving employees' knowledge and ski work. Description of training activities.
KPI B3.1	The percentage of employees trained by gender and senior management, mid-level management).
KPI B3.2	The average training hours completed per employee category.
Aspect B4: Lab	or Standards
	Information on:
General	(a) the policies; and
Disclosure	(b) compliance with relevant laws and regulations that the issuer
	relating to preventing child and forced labour.
KPI B4.1	Description of measures to review employment pract labor.
KPI B4.2	Description of steps taken to eliminate such practices
<b>Business Pract</b>	ices
Aspect B5: Sup	oply Chain Management
General Disclosure	Policies on managing environmental and social risks
KPI B5.1	Number of suppliers by geographical regions.
KPI B5.2	Description of practices relating to engaging supplier where the practices are being implemented, and how monitored.
KPI B5.3	Description of practices used to identify environment supply chain, and how they are implemented and mo
KPI B5.4	Description of practices used to promote environmen services when selecting suppliers, and how they are
Aspect B6: Pro	duct Responsibility
	Information on:
	(a) the policies; and

## Location in Report or Notes

Information on:	
(a) the policies; and	
(b) compliance with relevant laws and regulations that have a significant impact on the issuer	Protecting Employee Well-Being
relating to providing a safe working environment and protecting employees from occupational hazards.	
Number and rate of work-related fatalities occurred in the past three years including the reporting year.	Protecting Employee Well-Being
Lost Days due to Work Injury.	Protecting Employee Well-Being
Description of occupational health and safety measures adopted and how they are implemented and monitored.	Protecting Employee Well-Being
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Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Protecting Employee Well-Being
The percentage of employees trained by gender and employee category (e.g. senior management, mid-level management).	Protecting Employee Well-Being
The average training hours completed per employee by gender and employee category.	Protecting Employee Well-Being
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Information on:	
(a) the policies; and	
(b) compliance with relevant laws and regulations that have a significant impact on the issuer	Protecting Employee Well-Being
relating to preventing child and forced labour.	
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labor.	Protecting Employee Well-Being
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Requirements, Subject Areas, Aspects, General Disclosures and Key Performance Indicators (KPIs)		Location in Report or Notes
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Pursuing Excellent Quality
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	Pursuing Excellent Quality
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Pursuing Excellent Quality
KPI B6.4	Description of quality assurance process and recall procedures.	Pursuing Excellent Quality
KPI B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Pursuing Excellent Quality

#### Aspect B7: Anti-corruption

General Disclosure	Information on:	
	(a) the policies; and	Sustainable Dovelonment
	(b) compliance with relevant laws and regulations that have a significant impact on the issuer	Management - Business Ethics
	relating to bribery, extortion, fraud and money laundering.	
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Sustainable Development Management - Business Ethics
KPI B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Sustainable Development Management - Business Ethics
KPI B7.3	Description of anti-corruption training provided to directors and staff.	Sustainable Development Management - Business Ethics

Community

### Aspect B8: Community Investment

General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Working Together with the Society - Community Development
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).	Working Together with the Society - Community Development
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Working Together with the Society - Community Development



China Modern Dairy Holdings Ltd. 中國現代牧業控股有限公司 (mcorporated in the Cayman blands with limited liability) (開星朝着田宏2年期3月) Stock Code 般的代號: 1117

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