2024 Sustainability Report

COLOR ROOT GROUP

COLOR ROOT

Empower the textile industry towards a sustainable future.

Contents

About Color Root

We remain embracing the concept of sustainability, actively respond to the carbon neutral strategy, promote the work of sustainable products, resource recycling, ecological protection, assurance of human rights, etc., and are committed to fulfilling our corporate social responsibility commitments.

01

BRIGHT

Company profile

Color Root Group specializes in providing sustainable and innovative products for the textile printing & dyeing industry. We have constructed a one-stop solution covering the production of basic chemical raw materials, Eco-friendly reactive dyes and fine chemical intermediates, and dyes, recycling and comprehensive disposal of industrial solid waste, and are committed to promoting the green development of the whole industry.

Founding time：2008

Annual production capacity of dyestuff is over **50,000** tons.

Annual production capacity of basic chemical raw materials is over **580,000** tons.

Annual production capacity of intermediates is over **57,000** tons.

Total approved disposal capacity of industrial solid waste (including hazardous waste) is over **14** million cubic meters.

Capacity of by-products and resource utilization products is over **1** million tons.

Industrial Layout

- Hazardous waste landfill ---------- Green Energy Environmental Protection (Inner Mongolia)
- Intermediate production ---------- Liyuan Plant (Inner Mongolia)
- Intermediate production ---------- Shuangli Plant (Inner Mongolia)
- Basic raw material production ------ Huakangyuan Plant (Inner Mongolia)
- Resource utilization ---------- Likangyuan Chemical (Shayang)
  Basic chemical raw material production
- Hazardous waste landfill ---------- Likangyuan Environmental Protection (Shayang)
- Import and export trade ---------- Qilihua Trading (Wuhan)
- Dyestuff trade ---------- Color Root Trading (Shanghai)
- Research & Development ---------- Chromatol R&D Center (Shanghai)
- Dyestuff production ---------- Color Root Plant (Songzhi)
- Dyestuff production ---------- Likang Plant (Songzi)
- Printing & dyeing production ------- Silu Xuanhang (Songzi)
- Dyestuff trade ---------- Color Root Trading (Hong Kong)

No.1 in Hubei

Industrial solid waste (including hazardous waste) disposal capacity.

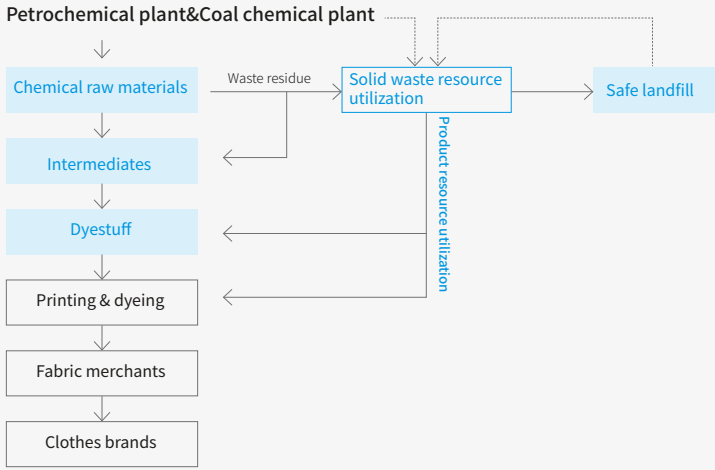
Unique in China

Production and manufacturing of Eco-friendly fluorine-containing reactive dyes.

No.1 in the world

Capacity of more than five kinds of special dye intermediates.

(16 kinds of intermediates can be produced, PCVS OAVS 3-5 DABA...)



From green products to green industry chain

Strengthening the synergy between solid waste treatment and production link

Reverse logistics and recycling system:

Establish reverse logistics system in the printing & dyeing plant, dyestuff plant and raw material plant, and send the recyclable wastes generated in the production process back to the comprehensive utilization link of solid waste in time to reduce waste.

Production process improvement

Upgrading of printing, dyeing and dyestuff technology:

Adopt more Eco-friendly and efficient printing, dyeing and dyestuff technology to reduce pollutant emissions and improve product quality.

Synergy in the whole industry chain

Whole industry chain support:

Adopting the synergistic development strategy of the whole industry chain of chemical engineering → printing & dyeing → environmental protection, and the whole industry chain setup from the development of dyestuff, production of intermediates and dyestuff, to the research of Eco-friendly printing & dyeing process and equipment, and finally to the Eco-friendly resource utilization, enabling Color Root to obtain more synergistic effect between business segments.

Sales Network

With Shanghai as the supporting point, we have established the Chromatol Environmental Protection Chemical R&D Center and radiated the R&D, technical service and sales centers around the world. By focusing on R&D, production and sales of textile chemicals and provision of application technology, Chromatol adopts a characteristic and differentiated product strategy, and specializes in providing customers with high-quality products and the best printing & dyeing solutions to improve their market competitiveness and economic benefits.

With a strong R&D team and technical service team, we develop high-end textile dyeing chemicals and auxiliaries that are green, Eco-friendly, energy-saving and emission-reducing, and independently innovate dye structures, multi-active groups and chromogens. Our products have been certified by European environmental protection agencies, and are widely recognized and highly valued by domestic and foreign users, with high market influence and market share.

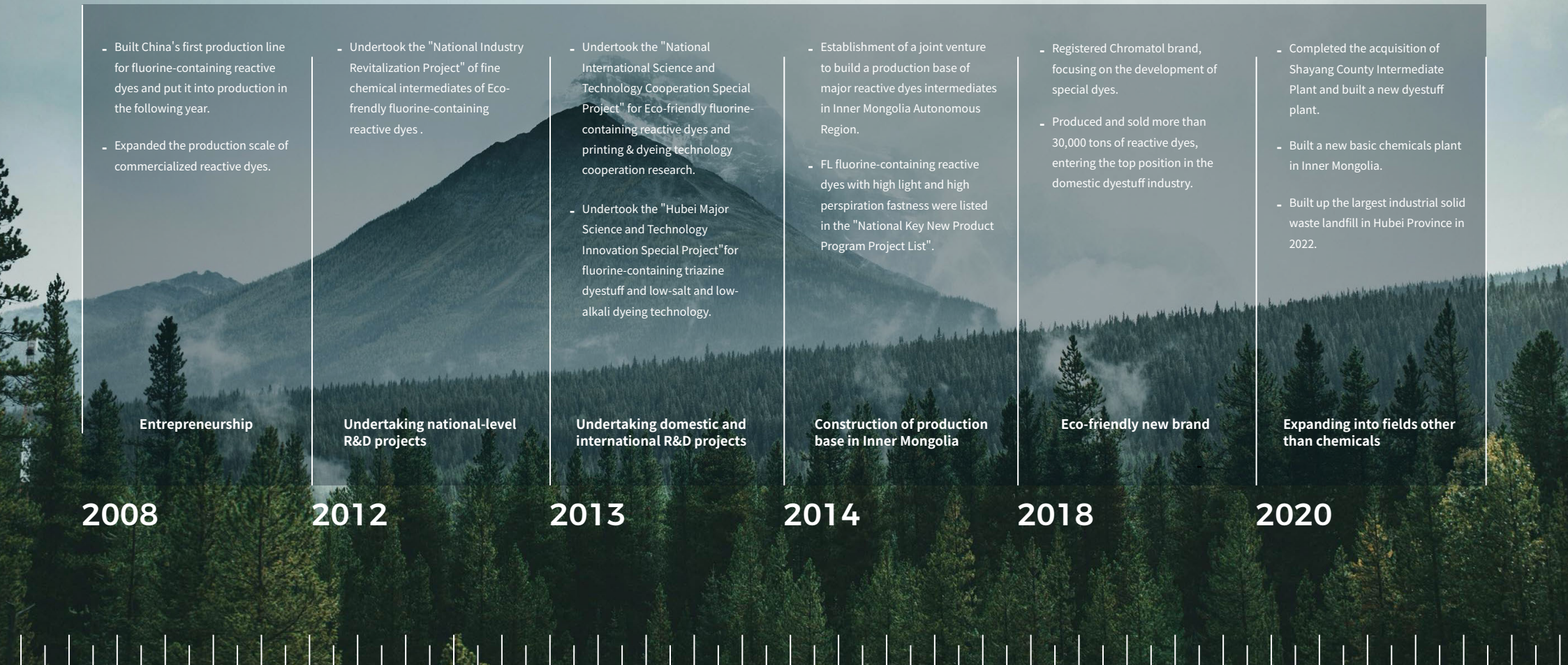
Our products are exported to five continents

30+

countries and regions, ranking the forefront in the global reactive dyes industry.

Historic Evolution

The founding of Color Root Group can be traced back to 2008. At that time, in order to solve the problem with a large amount of wastewater generated in printing and dyeing industry, the founder set up a team and invested in the research and development of the first generation Eco-friendly reactive dyes, which can significantly improve the efficiency of printing and dyeing and reduce the discharge of printing and dyeing wastewater, with the aim of promoting the sustainability of the printing and dyeing industry from the source.



2008 Entrepreneurship

- Built China's first production line for fluorine-containing reactive dyes and put it into production in the following year.
- Expanded the production scale of commercialized reactive dyes.

2012 Undertaking national-level R&D projects

- Undertook the "National Industry Revitalization Project" of fine chemical intermediates of Eco-frendly fluorine-containing reactive dyes .

2013 Undertaking domestic and international R&D projects

- Undertook the "National International Science and Technology Cooperation Special Project" for Eco-friendly fluorine-containing reactive dyes and printing & dyeing technology cooperation research.
- Undertook the "Hubei Major Science and Technology Innovation Special Project"for fluorine-containing triazine dyestuff and low-salt and low-alkali dyeing technology.

2014 Construction of production base in Inner Mongolia

- Establishment of a joint venture to build a production base of major reactive dyes intermediates in Inner Mongolia Autonomous Region.
- FL fluorine-containing reactive dyes with high light and high perspiration fastness were listed in the "National Key New Product Program Project List".

2018 Eco-friendly new brand

- Registered Chromatol brand, focusing on the development of special dyes.
- Produced and sold more than 30,000 tons of reactive dyes, entering the top position in the domestic dyestuff industry.

2020 Expanding into fields other than chemicals

- Completed the acquisition of Shayang County Intermediate Plant and built a new dyestuff plant.
- Built a new basic chemicals plant in Inner Mongolia.
- Built up the largest industrial solid waste landfill in Hubei Province in 2022.

Corporate Culture

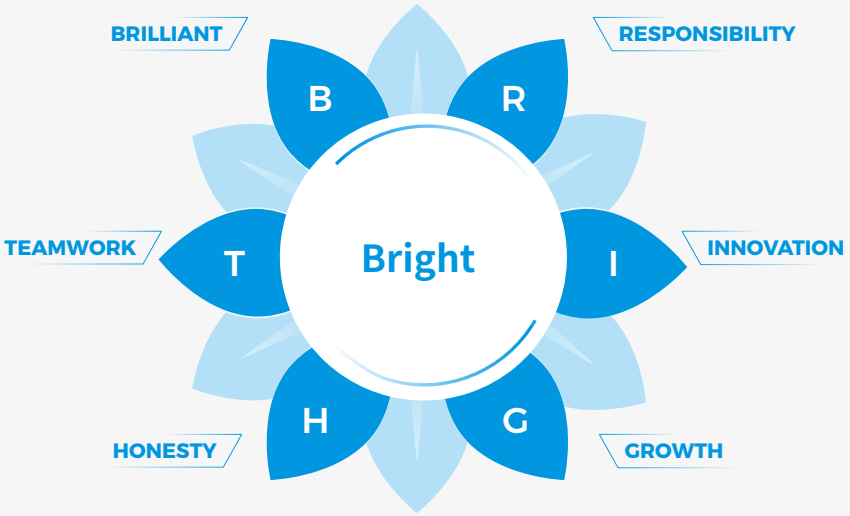
Vision

Become a pioneer enterprise with long-term trust and sustainable development.

Mission

Lead the dyestuff chemistry industry with technological innovation, promote sustainable development with conceptual innovation, and contribute to a win-win situation of the value chain with service innovation.

Values



Through technological innovation

Promote the green transformation of the textile printing & dyeing industry by introducing Eco-friendly and efficient dyeing and printing solutions.

Through conceptual innovation

Remould the resource value and promote the synergy and sustainable development of the textile printing & dyeing and environmental protection industries.

Through service innovation

Promote the sustainable development of the environment with global partners to realize the win-win situation of the value chain.

Honors and Qualifications

Enterprise Honors

State-level Specialized and New Key "Little Giant "Enterprise

High-tech Enterprise

Hubei Top 100 Private Enterprises in Manufacturing

Hubei Engineering Research Center for Reactive Dyes

Environmental Social Responsibility Enterprise in 2021

Green Factory of Hubei Province in 2022

High Quality Development Benchmark Enterprise in 2023

17th Contract and Credit Keeping Enterprise of Hubei Province in 2024

Annual Advanced Level Intelligent Factory of Hubei Province in 2024

International Environmental Protection Certification

198 pcs
Products passed bluesign® System Certification
Officially became bluesign's partner in 2016.

293 pcs
Products obtained ZDHC MRSL V3.1 Compliance Certification
Level 3 Highest Level Certification
Joined ZDHC in 2017 and became a ZDHC Contractor.

242 pcs
ECO PASSPORT
Products passed OEKO-TEX® ECO PASSPORT Certification
First obtained ECO PASSPORT certificate in 2012 .

123 pcs
Products passed Global Organic Textile Standard (GOTS) Certification
Officially obtained GOTS 7.0 certificate in 2023.

Successfully obtained SYRICIT Green Dyes Product Certification in 2023.

Since 2012, it has passed Green Leaf Certification for 13 consecutive years.

120 pcs
Products were included in the list, all of which have been rated as grade A.

Started to register REACH regulation in 2013.

Started to register KKDIK regulation in 2013.

Green Advocate League

中国国家标准化管理委员会
Standardization Administration of the P.R.C.

中国绿色产品

Management System Certification

ISO9001 Quality Management System Certification .
ISO14001 Environmental Management System Certification.
ISO45001 Occupational Health and Safety Management System Certification.
ISO50001 Energy Management System Certification.
GB/T23001-2017 Integration of Industrialization and Industrialization Management System Certification .

Creating Sustainable Value Together

We remain embracing the concept of sustainability, actively respond to the carbon neutral strategy, promote the work of sustainable products, resource recycling, ecological protection, assurance of human rights, etc., and are committed to fulfilling our corporate social responsibility commitments.

02

BRIGHT

Industry Challenges

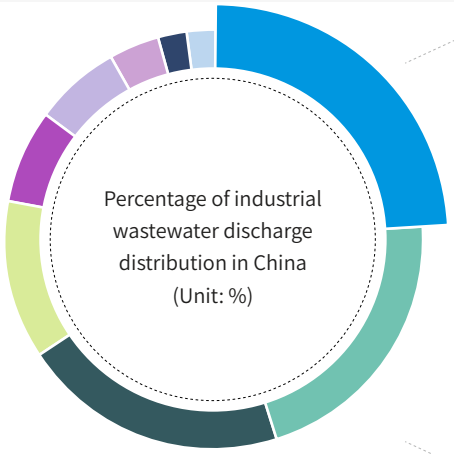
Due to the complexity and length of its front-end industry chain, the textile and apparel industry is faced with numerous supplier factors that affect product quality and sustainable development, including the selection of raw materials, environmental impacts during the production process, labor conditions, supply chain transparency, and product recyclability and sustainability. These factors not only have a profound impact on corporate social responsibility and reputation, but also have a direct relation to consumer trust and loyalty to the brand. Therefore, in terms of brands, managing these supplier factors and ensuring the sustainability of the entire industrial chain is key to achieving long-term growth and maintaining competitiveness.

Global climate challenges caused by the apparel industry

According to the United Nations Environment Program, the textile and apparel industry accounts for 10 percent of global carbon emissions. It is the second largest source of pollution after the oil industry, and the material production link, including weaving, dyeing and finishing, leads to more than half of the emissions. Forecasts show that by the time the world population grows to 8.5 billion in 2030, the carbon emissions from the apparel and textile industry may exceed those of the oil industry and become the top source of carbon emissions; by 2050, the fashion industry will consume more than 30% of the global carbon budget. Therefore, it is urgent for the textile and apparel industry to make a green and low-carbon transition.

Global water resource challenges caused by the apparel industry

In the front-end industrial chain of the textile and apparel industry, wastewater treatment has become a major challenge there are more high water consumption industries involved. The wastewater generated by these industries has high salinity, high organic content, high chroma, and abnormal pH values and these characteristics make it difficult to treat through conventional methods. Together, these factors contribute to the high difficulty of treating the large volumes of wastewater generated in front-end industries, not only increasing the economic burden on enterprises, but also posing greater environmental risks. Therefore, in the pursuit of sustainable development, the clothing brand and apparel industry must pay attention to the issue of wastewater treatment in the front-end industry chain, and take effective technical and management measures to reduce the impact on the environment.



1 **24.20% Textile industry, chemical raw materials**
2 21% Others
3 20.60% Agricultural and sideline food processing
4 12.30% Paper-making
5 7.2% Food manufacturing
6 6.8% Alcohol, beverage, refined tea
7 3.9% Medical manufacturing
8 2.1% Electricity and heat production
9 2.1% Computer, communications and other electronics

Data source: Organized by Guanzhi Hainei Consulting

Total industrial wastewater pollutant discharge in China was **14.67** billion tons.

Total wastewater discharge in textile and chemical raw materials industries accounted for **24.20%.**

Total industrial wastewater discharged was over **3.55** billion tons.

High difficulty in wastewater treatment

High salt

Wastewater generated by the industry is characterized by high salt, which affects the activity of microorganisms and leads to poor results of traditional biological treatment processes.

High organic content

The high organic content of wastewater increases the complexity of treatment, as more efficient technologies are needed to break down these substances.

High chroma

High chroma wastewater not only affects the visual sensation of the water body, but may also contain dyes and other chemicals that are difficult to degrade, increasing the cost and difficulty of treatment.

High pH value

Abnormal pH values can be toxic to aquatic organisms and require neutralization treatment prior to discharge.

Approach to the challenge

Since its establishment, Color Root Group has been developing high-performance Eco-friendly dyestuff with low salt and alkali, energy saving and emission reduction, high light and high perspiration fastness, based on the "safer, more Eco-friendly and healthier"principle. Color Root Group's green reactive dyes innovation not only helps to improve the difficulty in treating printing & dyeing wastewater, but also reduces the energy consumption of the entire printing & dyeing industry and at the same time meets the consumer's demand for healthy, Eco-friendly and safe products. These innovations will drive the entire printing & dyeing industry in a greener, more Eco-friendly direction and realize the sustainable development of the industry.

Improve printing & dyeing efficiency

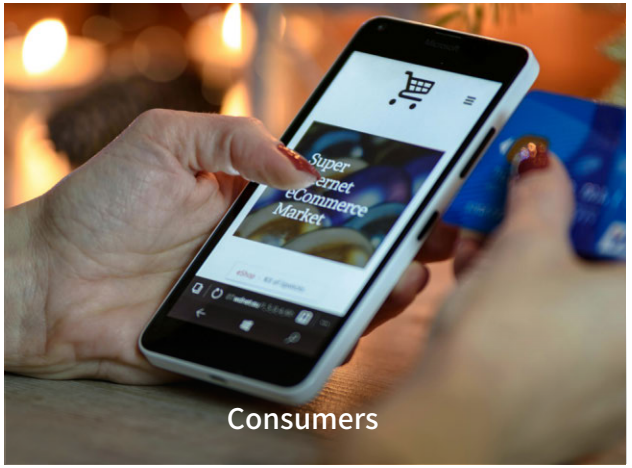
Reduce environmental impact

Decrease printing & dyeing wastewater

Our solutions

- Eco-friendly and efficient dyestuff and process solutions
- Green printing & dyeing to chain a sustainable future

Green printing & dyeing to chain a sustainable future



Sustainable Development Results

Product innovation and service quality

Participating in **12** industries/associations

Annual R&D expenditure RMB **6,369.34**

Holding **150** patents

Product qualification rate of up to **99%**

Customer satisfaction rate of up to **97%**

Environmental resource management

Total investment in environmental management amounted to RMB **5,975.97**

Annual electricity savings directly realized from energy efficiency measures amounted to **16,980.157** MWh

The recycling rate of self-produced solid waste amounted to **93.97%**

The annual water saving directly achieved by water conservation measures amounted to **223,081** tons;

The recycling rate of packaging materials for finished products reached **98.18%**

Sustainable production and supply chain

100% of products and supply chain raw materials have passed the testing of aromatic amines and other hazardous substances

100% of our products are certified at the highest level (Level 3) of Zero Discharge of Hazardous Chemicals (ZDHC)

100% of new suppliers have undergone an environmental impact assessment

Social co-prosperity

Employee satisfaction reached **97%**

0 incidents of discrimination, forced labor and child labor

0 cases of work-related deaths

Total social welfare investment of more than RMB **10million**

Sustainable Development Strategy

Color Root Group knows very well the importance of sustainable development, and with the United Nations Sustainable Development Goals (SDGs) as a strategic guideline, it has constructed a sustainable value management framework centered on six major issues to promote green transformation and harmonious coexistence between us and the society and economy through practices that emphasize both innovation and responsibility.

Sustainable value management

Sustainable products

Develop high-performance and Eco-friendly dyestuff that are environmentally friendly, safe and harmless throughout their life cycle.

Circular economy development

Promote green, low-carbon and circular development, reduce pollutant emissions and improve resource utilization efficiency.

Energy and resource saving

Focus on the optimization of materials and energy in the whole process of product production, develop green manufacturing technology, minimize resource consumption and reduce greenhouse gas emissions.

Health and safety guarantee

Continuously promote the safety and health management system, improve the emergency management mechanism, enhance the level of intelligence, and ensure the health and safety of employees in the labor process.

Industry co-creation

Focus on technological innovation, environmental protection and sustainable development, and drive industry exchanges and co-creation to realize sustainable and healthy development.

Social co-prosperity

Starting from the surrounding community, assume social responsibility and actively participate in social welfare and rural revitalization activities.

SUSTAINABLE DEVELOPMENT GOALS

2022 2024 2030 2050

Water resource recycling

Achievement

- By the end of 2024, the water resource recycling rate was **37.8%.**

Long-term goals

- Water resource recycling rate will be **70%** or more by 2050, taking 2022 as the base year.

Greenhouse gas emissions

Achievement

- **41.86%** carbon reduction by 2024 compared to 2022.

Short-term goals

- Reduce carbon emissions by more than **15%** per year taking 2022 as the base year, and achieve carbon peaking by 2030.

Long-term goals

- Achieve carbon neutral and net zero emissions by 2050, with 2022 as the base year.

Solid waste recycling and packaging

Achievement

- Achieved **93.97%** recycling rate of self-produced solid waste by the end of 2024.
- Achieved **98.1%** recycling rate of self-produced packaging by the end of 2024.

Short-term goals

- With 2022 as the base year, the recycling rate of self-produced solid waste will reach over **95%** by 2030.
- With 2022 as the base year, the recycling rate of packaging will reach over **99%** by 2030.

2.2

Sustainable product

Innovation and R&D are the driving force and source of sustainable development. We are committed to promoting technological innovation and industrial upgrading in the printing & dyeing industry, actively overcoming the key technologies of reactive dyes industry products, maintaining technological leadership, accelerating the research and development of new products, supporting the transformation and upgrading of the reactive dyes industry towards greening, and driving the sustainable development of the high-end dyestuff industry.

Our R&D Philosophy

Color Root Group has always insisted on integrating the corporate culture of "Innovation, Green, Health and Efficiency" into our product concepts, taking into full account the potential impact on resources and the environment during the life cycle of the products in terms of structural design, selection of raw materials, production, sales, use and disposal etc., and committing itself to providing Eco-friendly, healthy and safe products and services to downstream textile printing & dyeing enterprises as well as end users.

Technology leadership

Taking "Science and Technology, Innovation and Green" as the industry orientation, strengthen R&D capability, tackle the complex technical problems in the industry, and provide innovative technologies for the industry.

High-end development

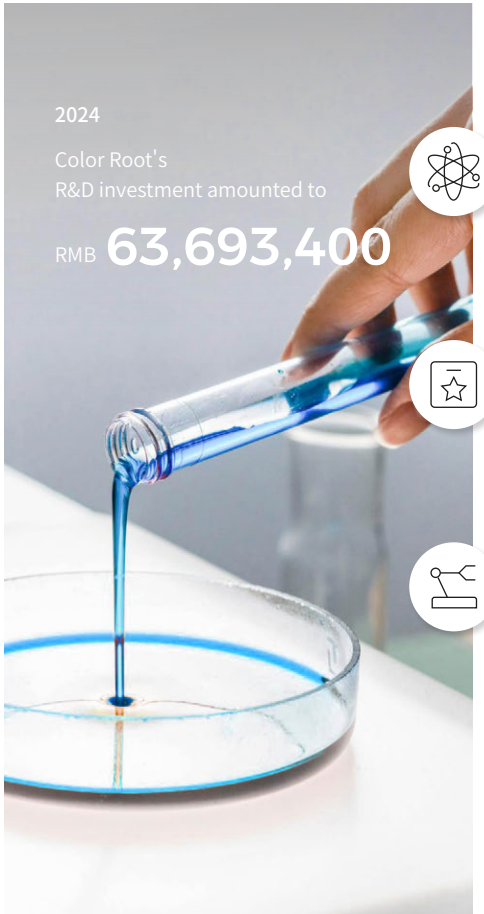
Aiming at the international advanced level, commit itself to developing high-quality, high value-added and multi-functional printing & dyeing products to enhance the industrial competitiveness.

Green development

Adhere to the concept of green development, strengthen the R&D and application of energy conservation and emission reduction and environmental protection technologies, and promote the green and sustainable development of the printing & dyeing industry.

R&D Management

We have established a sound R&D management system, clarified the R&D process, and formulated an effective incentive system for R&D personnel to accelerate the transformation of scientific and technological achievements, and to improve the corporate capability of independent innovation as well as the motivation and creativity of R&D personnel.



R&D innovation initiatives

Key technology breakthroughs

Increase investment in R&D of "cutthroat" key common technologies with high pollution, high energy consumption and poor color fastness in printing & dyeing industry, break through technical bottlenecks, and improve the conversion rate of scientific and technological achievements and the contribution rate of science and technology.

Innovation system construction

Build a closely integrated collaborative innovation mechanism for Industry-University-Research to promote the organic connection and collaborative innovation of upstream and downstream industries.

Intelligent reconstruction

Accelerate the application of digital, networked and intelligent technologies in printing & dyeing industry, and improve production efficiency and product quality.

Achievements in scientific research

In 2024, Color Root's "Reactive Blue FL-RN" series products were included in the list of "Hubei Boutique" of 2024; "Reactive Red FL-2BL" series products were included in the "Hubei Province Recommendation Catalogue of Innovative Product Application Demonstration of 2024".

By the end of 2024

Color Root held authorized patents totally

150

Including invention patents

57

Annual newly-added patents yearly

9

Pending invention patents

16

In addition, Color Root has obtained

The identification of High-tech Enterprise, and the identification of State-level Specialized and New Key "Little Giant" Enterprise.

Awarded with

Hubei Province Enterprise Technology Center
Hubei Engineering Research Center for Reactive Dyes.

Research and Development Field

Innovation is the driving force and support of enterprise development. Since our establishment, we have been practicing the innovation road, and our research and development topics run through all steps of the whole industrial chain: safer and more Eco-friendly dye structures, more low-carbon and energy-saving dyeing methods, more recyclable and efficient raw material production processes, and more energy-saving and durable production and environmental protection disposal equipment..... are all the industry challenges that we are constantly overcoming. With the power of continuous innovation, we have promoted the green transformation of global reactive dyes production and dyeing, and opened a new chapter of sustainable development.

Development of new reactive dyes

We develop new reactive dyes with higher dyeing performance (e.g., high fixation rate, high color fastness) and lower environmental pollution (e.g., low wastewater and waste gas emissions), and explore new dye molecular structure and functional group design to improve the functionality of dyes in terms of antibiosis, UV protection, and humidifying and perspiration.

Innovation of Ecofriendly production technology

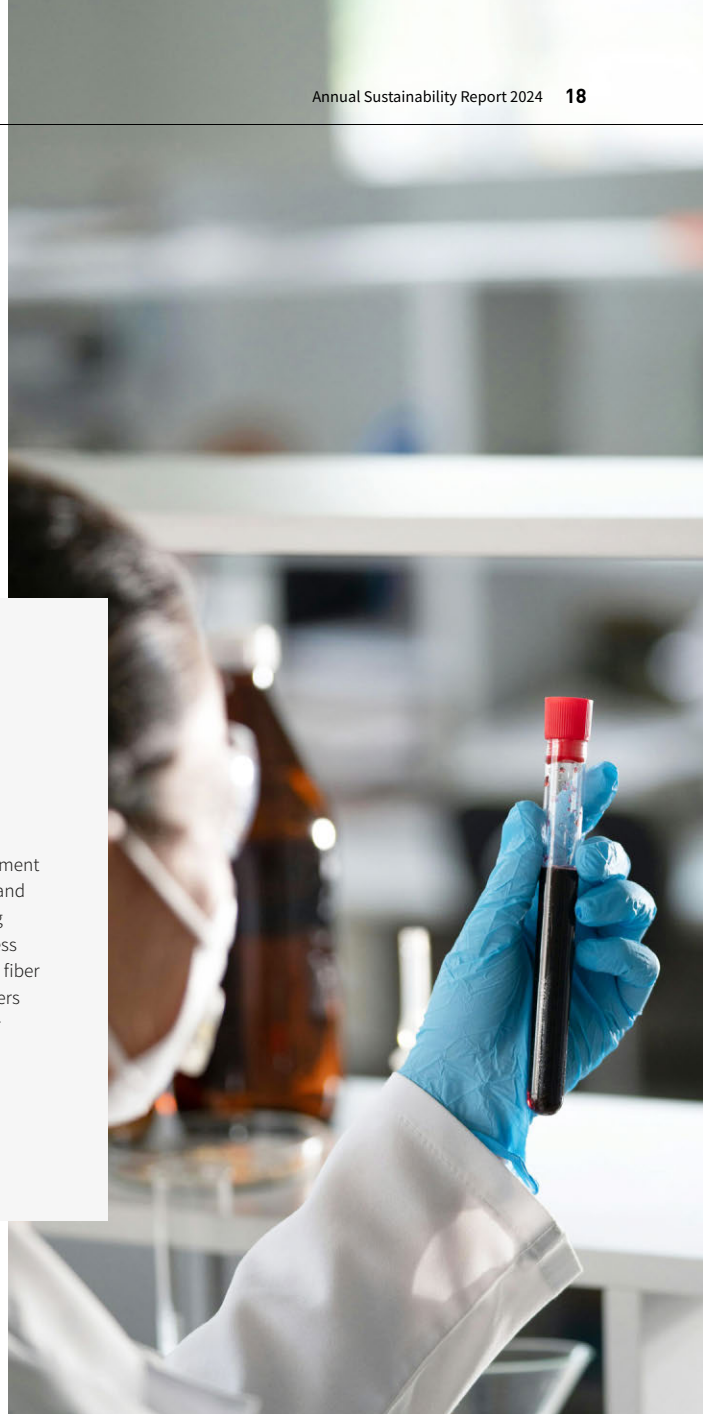
Improve the synthesis methods of dyestuff and their raw materials, reduce energy consumption and material consumption in the production process, decrease the emission of wastewater, waste gas and solid waste, promote cleaner production technologies and circular economy models, and realize the efficient use and recycling of resources.

Green Dyestuff

Develop and promote Eco-friendly dyestuff such as water-based dyestuff and bio-based dyestuff to meet the market demand for green textiles. Strengthen the ecological safety assessment of dyestuff to ensure that the products are harmless to the environment and human body during the use.

Technological innovation in Eco-friendly printing & dyeing

Focus on the research, development and promotion of Eco-friendly and energy-saving printing & dyeing technologies (including waterless dyeing, less water dyeing, loose fiber dyeing, etc.) to provide customers with more efficient and greener printing & dyeing solutions.



Innovative Dyestuff

The Eco-friendly reactive dyes we have developed have significant environmental attributes and can bring significant environmental benefits to the industry chain compared to traditional dyestuff.

Colourzol® SP-EC Series

Easy-washing reactive dyes with high solubility and dyeing enhancement, as well as ultra-high washing fastness, outstanding multi-fiber staining performance, almost reaching Level 4; no matter dark or medium dark colors, it can achieve the washing fastness requirements without the need for fixation finishing. Currently there is no similar economical dye combination in the market, and the dyeing cost is basically the same compared to conventional reactive dyes.

Colourzol® OS-W Series

The newly easy-washing reactive dyes combinations, which was launched in January 2025, focus on all dyeing fastness requirements and dyeing costs, with economical dyeing and worry-free fastness, and black and navy are the most distinctive series varieties; they are characterized by high lifting power, high fixation rate, and a wide range of chromatograms, and can satisfy almost all the fastness requirements in the printing & dyeing industry; moreover, the dyeing is economical and easy to wash, and the performance is ensured to be consistent with SP-EC.

Improvement of fixation rate

Eco-friendly reactive dyes have higher fixation rate compared to traditional reactive dyes. The new structure of reactive dyes makes the fixation rate of Eco-friendly reactive dyes in the dyeing process increase by more than 10%.

Improvement of dyeing efficiency

The new structure of reactive dyes with higher fixation rate means that less dyestuff is wasted during the dyeing process, thus improving dyeing efficiency. This saves customers more than 30% in dye consumption.

Reduction of wastewater discharge

Due to the high fixation rate of fluorine-containing reactive dyes and the reduced use of chemical additives, the amount of wastewater generated during the dyeing process is reduced and the concentration of pollutants in the wastewater is lowered. This means that the burden of treating wastewater is reduced, which can reduce the cost and environmental impact of wastewater treatment. Our products can reduce the chromaticity of wastewater by more than 50%, the total COD value of dyeing wastewater can be reduced by about 50%, and the amount of dyeing wastewater discharged can be reduced by 40%.

Reduction of chemical additives

The traditional dyeing process requires the large amounts of salt and other chemical additives to promote dyes adsorption and fixation. Eco-friendly reactive dyes, such as salt-free dyeing technology, can reduce or eliminate the use of these chemical additives. It can save the use of salt and alkali up to 70% or more.

Improvement of levelling of dyeing

The use of Eco-friendly reactive dyes improves fabric levelling of dyeing and reduces color differences, thus improving product quality and reducing rework and scrap due to color differences. Our dyestuff have excellent dyeing compatibility, leveling property and dyeing reproducibility, with a high success rate of dyeing, which can reduce the dyeing cost by 30% for customers.

Energy saving and water reduction

The application of Eco-friendly reactive dyes can significantly reduce water and energy consumption in the dyeing process. Our products adopt medium-low temperature dyeing, which can significantly shorten the heating process and processing time. While saving energy, it can improve the production efficiency of our customers by about 25%, save 20% in terms of energy consumption, and save about 40% in terms of water resources during the whole dyeing process.

Innovative Dyeing Process

In addition to innovative research and development in new Eco-friendly dyestuff, we are actively exploring more environmentally-friendly, water-saving and energy-saving dyeing process technologies to promote the green transformation of the industry.

Eco-friendly water-saving dyeing system based on thin film evaporation

The water saving dyeing system we developed utilizes an original constant temperature water circulation system equipment, combines the advantages of new Eco-friendly reactive dyes with low-temperature printing & dyeing, high fixation rate, etc. enables cotton, yarn and other fabrics to be dyed in a system at 60° C, eliminating the need for heat exchange of water during the entire process and greatly reducing the consumption of energy.

We will collect and treat all dyeing and washing process wastewater through the water treatment equipment, and more than 90% of it can be reused as recycled water back to the dyeing and washing process. The water-saving percentage is more than 95%, the energy conservation rate is more than 90%, and furthermore, at least 1/3 of the dyeing time can be saved. At present, this set of equipment and technology is being promoted in Japan and Southeast Asia, and attracts high attention from customers.

1

Continuous modification/ dyeing system for loose fiber

This system combines our original continuous fiber modification/dyeing equipment and water circulation system, which breaks through the traditional intermittent fiber dip-dyeing and realizes the continuous modification and dyeing of loose fibers at room temperature. Compared with the existing traditional dyeing vat dip-dyeing process, this system can reduce the water consumption in the process by more than 70%, and recycle wastewater by 90% after treatment, so as to achieve "zero discharge" of sewage. With obvious water saving, energy saving, emission reduction, consumption reduction and economic and social benefits, it can promote the printing & dyeing industry to development in the direction of zero discharge and intelligence. The performance of the colored fiber products obtained by the system dyeing reaches or even exceeds that of the traditional process, and they can be widely used in the spinning or blending of all kinds of yarns.

2

Research and development of cationic modified cellulose fiber dyeing technology - "low-temperature water dyeing"

We have been exploring and developing clean dyeing technology with "zero sewage discharge", "no chemical addition" and "low temperature fixation". By cationic modified treatment of the loose fiber, we can dye it without adding salt or alkali and dyeing and fixation can be carried out at 40°C . Compared with traditional dyeing, the dyeing residue is colorless or low in chromaticity, and the dyeing wastewater can be recycled. After dyeing is completed, the dyeing residue is collected intensively, the dyeing wastewater is recycled using a low-temperature thin-film evaporation treatment system, and "zero discharge" of dyeing wastewater is truly achieved.

This technology has been developed since 2019, and has made great experimental progress in cotton fiber and its blend dyeing and cheese dyeing, needing further promotion and application.

3

Development of new technology for spraying instead of dyeing - "Waterless Printing & Dyeing System"

In order to realize "zero" pollution, "trace" carbon emission and "zero" chemical addition, we are independently researching and developing cationic modifier, and by cationizing textile fabrics and adopting digital inkjet technology, printing reactive dyes onto the fabrics. The reactive dyes are fixed to the fibers at room temperature, thus eliminating the need for drying and washing processes and achieving the dyeing effect of traditional printing. Compared with traditional printing, this technology does not need to add any thickening agent, urea and alkali when preparing printing paste, so as to achieve the real no ammonia nitrogen addition, no salt and no alkali pure green Eco-friendly printing system.

In terms of saving energy and water resources, the advantages are more prominent, and there is no need for high temperature drying and vaporization of printed products, and no need for low-temperature washing and high-temperature soaping; in the pre-treatment of printed fabrics and compared to the traditional digital inkjet printing production process, the pre-treatment process of fabrics is decreased, so that there is no chemical additives and no discharge of Eco-friendly wastewater discharges, saving a large amount of water resources; it is the real zero sewage discharge system.

4

Make Dyestuff Healthier and Safer

Health is a topic we have always been concerned about, and the creation of the beauty of color should not be at the expense of health. Dyestuff, as the source of color, is the foundation of a healthy color life. We integrate industrial resources, control quality from the source, and provide textile manufacturers with green and healthy commitment support through the output of higher quality and greener products.

Higher Dyestuff Standards than the Industry

Our dyestuff follow domestic & international and industry-related safety standards, and we ensure the reliability of our products with internal requirements that exceed the standards to protect the safety of consumers. We adhere to REACH safety regulation requirements to strictly control product quality, strictly control and eliminate hazardous substances, and ensure that we provide Eco-friendly, safe, and harmless sustainable dyes to domestic and international customers.

We attach great importance to the safety and health of consumption-based textiles, and our company and products have been certified by more than 10 authoritative organizations, among which our company has passed the certification of ISO Quality Management System, Environmental Management System, Occupational Health and Safety Management System, Energy Management System, and Integration of Industrialization and Industrialization Management System, and we joined the ZDHC and became its contractor in 2017.

Our company and related products have passed the bluesign® System Certification, OEKO-TEX® ECO PASSPORT Certification, Global Organic Textile Standard (GOTS) Certification, ZDHC MRSL V3.1 Compliance Certification, Green Leaf Certification, and Green Dye Product Certification, and comply with the Inditex standards and REACH and KKDIK regulations, which fully demonstrate our strict requirements for product standards, as well as our commitment and unremitting pursuit of producing green, Eco-friendly, healthy and safe products.

ROADMAP TO ZERO

Zero Discharge of Hazardous Chemicals Organization (ZDHC)

Providing Healthy and Safe Dyestuff

We fully consider the impact on human health, resources and the environment caused by the structural design, raw material selection, production, sales, use and disposal of dyestuff in the development process, minimize or eliminate the use of raw materials containing toxic and hazardous substances, strengthen the control of raw materials and finished products, cut off the source of hazardous substances, and provide healthy, safe and Eco-friendly products for downstream textile printing & dyeing enterprises.

We actively develop innovative high-performance eco-reactive dyes and promote the transformation of dyestuffs from ordinary products to high-performance, eco-safe products. Moreover, we value customer feedback on product quality, focus on improving product performance, and provide customized process solutions to meet diverse customer needs.

In 2024, we further optimized our quality control procedures, strengthened the IPQC process inspection system, reinforced the product quality release standard and the outer packaging rework standard, and implemented them to the key nodes, resulting in significant improvement in product quality stability and customer satisfaction.

2024

Color Root's dyestuff qualification rate up to **99%**

Customer satisfaction rate up to **97%**

Color Root has obtained ISO 9001 Quality Management System Certification

Dyestuff Life Cycle Management

We always adhere to the product quality management concept of "quality first, prevention first, customer first, full participation and continuous improvement", improve the quality management system and implement the product life cycle management process. At the same time, we electronize the key data of all production links through the ERP information system, and control the raw materials in batches and categories, so as to realize the traceability from finished products to raw materials and strengthen the product quality management.

Dyestuff life cycle quality management system

Traceability of raw materials

- **Supplier management:** Improve the access mechanism of suppliers to ensure that the source of raw materials is reliable.
- **Batch management:** Each batch of raw materials is uniquely coded to realize accurate traceability of raw materials.
- **Quality acceptance:** All raw materials are strictly inspected before storage to ensure that the quality of raw materials meets the standards.

Production monitoring

- **Production process:** Record the key aspects of production to ensure that the process can be monitored and traceable.
- **Operation standardization:** Standardize the production operation procedures, and reduce the impact of human factors on quality.
- **Exception handling:** Record, analyze and deal with exceptions in a timely manner.

Quality testing

- **Setting standards:** According to industry standards and policies and regulations, formulate strict quality testing standards.
- **Monitoring process:** Establish quality monitoring process, introduce advanced monitoring equipment, and control product quality strictly.

Packaging label

- **Label specifications:** Formulate packaging label specifications, including name, date, batch, traceability code and other information, to ensure that customers can identify the product information.
- **Anti-counterfeiting technology:** QR code, RFID and other anti-counterfeiting technology is used to improve product anti-counterfeiting capabilities.

Logistics tracking

- **Information system:** Create a logistics information system to realize the full tracking of logistics links.
- **Temperature control management** For products that require temperature-controlled transportation, temperature control equipment and technology is used to ensure product quality and safety.

Sales and after-sales

- **Channel management:** Ensure that products enter the market through formal sales channels.
- **After-sales service:** Build after-sales service system, improve the customer complaint mechanism, and enhance consumer satisfaction.
- **Product recall:** Improve product recall procedures to ensure that the problem products are subject to timely and effective treatment.

2.3

Circular Economy Development

We actively develop a resources-recycling industrial system, develop internal and external dual circulation, drive the circular production and industrial integration, facilitate the comprehensive utilization of waste utilization, and significantly enhance resource efficiency.

Circulation in Production Links

We strictly implement the pollution discharge policy, ensuring the three types of waste (waste gas, wastewater, and solid waste) are treated comprehensively and discharged within compliance standards. By optimizing production processes and enabling material conversion between product lines, we minimize waste generation at the source. Our upgraded management systems and pollution control facilities, overseen by the Environmental Protection Committee, continuously advance pollution control and resource recycling capabilities. These efforts contribute to preserving ecological balance and building a sustainable future.

2024

9.75%

reduction in total waste gas emissions vs. 2022.

26.56%

decrease in wastewater discharge vs.2022.

93.97%

recovery rate of self-generated solid waste.

Goals

Reduce wastewater discharge

By upgrading production technologies and equipment, we aim to minimize wastewater generation at the source throughout our operations.

Reduce the concentration of waste gas emission

Adopt more Eco-friendly production materials and processes to reduce the emission of harmful gases.

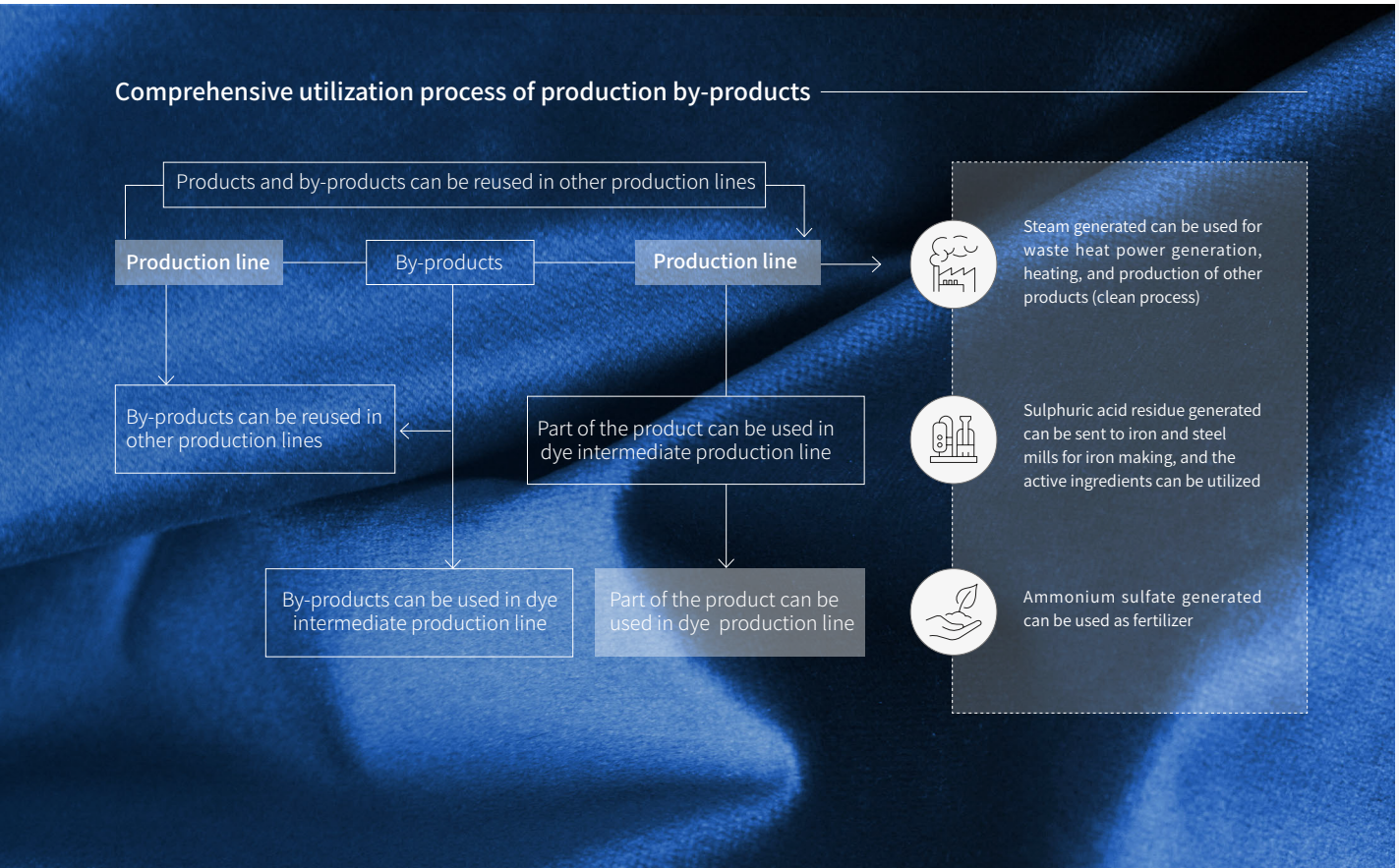
Improve the resource utilization rate of waste

Through classified collection and treatment, improve the resource utilization rate of waste.

Based on 2022, strive to reduce the emissions of waste, wastewater and waste gas by **20%** in 2026.

Comprehensive utilization of production by-products

We conduct dedicated research on resource recovery, transforming by-products and residues from production processes into valuable raw materials, energy, or products for Color Root’ s internal use or commercial sales. This "waste-to-resource" strategy allows us to manage waste through waste synergy, converting discarded materials into productive assets. By optimizing production technologies, we strengthen closed-loop integration of raw materials and by-products across product lines. This minimizes residue and secondary output generation while enhancing resource efficiency, particularly for waste salt, waste acid and other by-products.



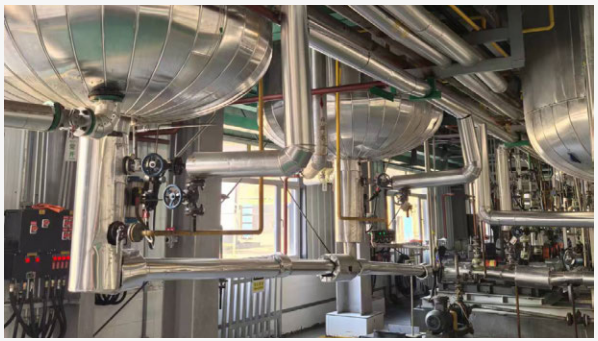
Give full play to the advantages of the industrial chain for research and development and construction of H-acid transformation project

The reactive dyes market has experienced rapid growth, driving expanded production and diversified product portfolios. Coupled with rising demand for direct and acid dyes, this surge created an H-acid supply shortage

To address this challenge:

- 2022:We pioneered R&D on a continuous-flow H-acid nitration process.
- 2023:Achieved breakthrough in continuous tubular plug-flow reactor (PFR) technology for inter-stage H-acid nitration.
- July 2024:Commissioned a custom-designed PFR system at the Inner Mongolia plant, enabling industrial-scale continuous H-acid production through process transformation.

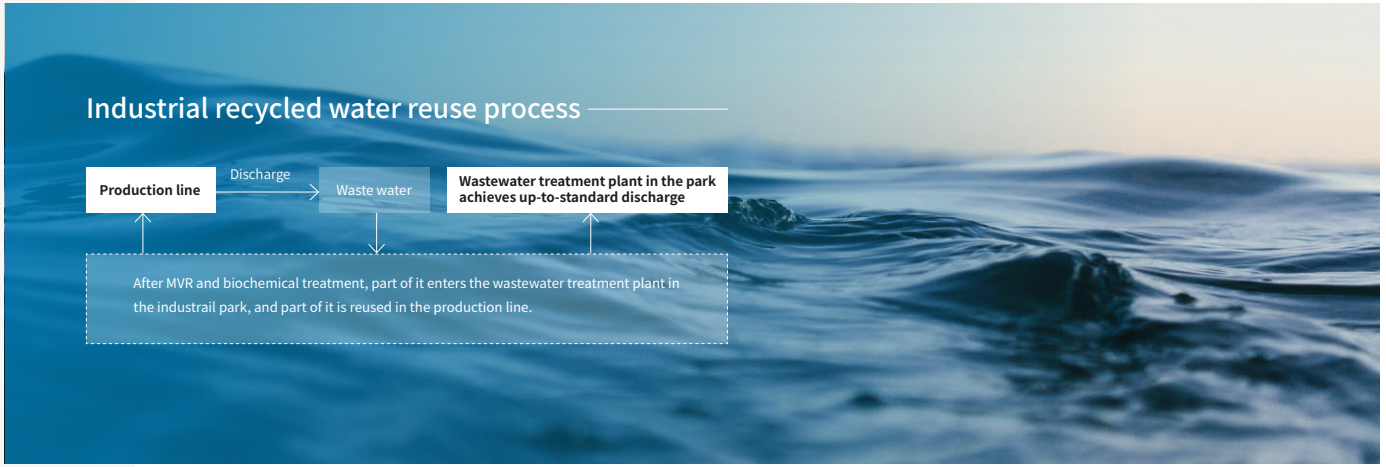
This project exemplifies seamless collaboration between ColorRoot's Environmental and Dye Business Units, marking a strategically important milestone in strengthening our vertically integrated value chain.



H-acid Production line of Inner Mongolia plant

Industrial Recycled Water & Emission Gas Recycling

We actively implement circular economy principles through advanced recovery systems. By applying multi-stage treatment technologies, we transform recyclable wastewater and emission streams into production-grade resources. These recovered materials are then reintegrated into manufacturing processes, effectively reducing and operational costs through resource autonomy.



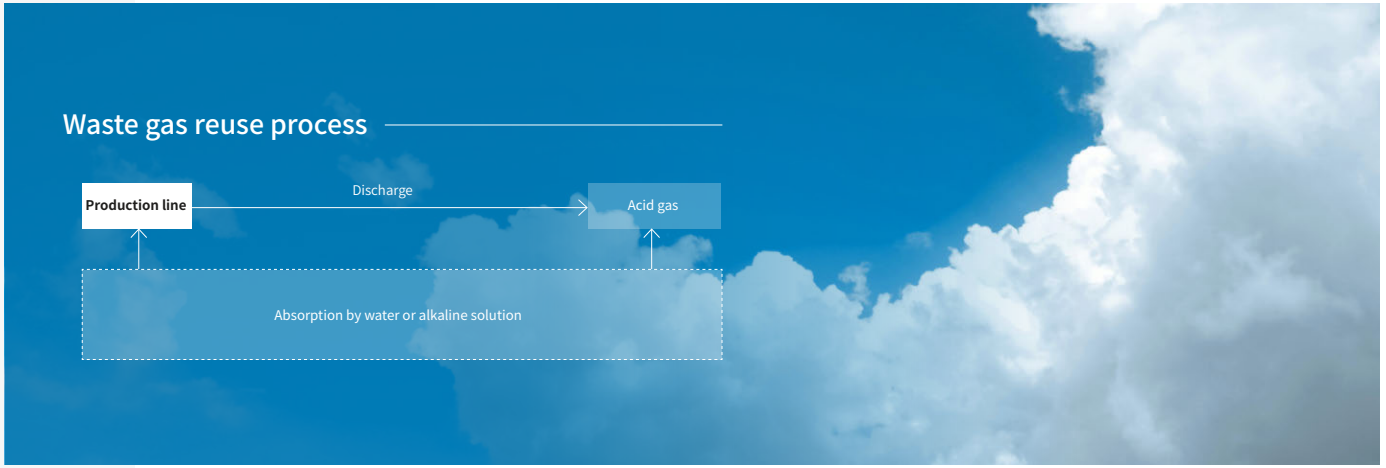
2024

The Color Root's recycled water reuse rate increased to approximately

37.8%

Recycled reused water amounted to

223,081 cubic meters.



Recycling Service Solutions

We offer professional solutions for harmless treatment and resource utilization of hazardous wastes through advanced technology and scientifically managed processes, reducing the environmental impact of industrial activities and advancing the green circular economy.

Hazardous waste treatment service:

Guided by the principles of "reduction, recycling, and harmless treatment," we provide compliant hazardous waste disposal solutions for waste generators. While managing our own waste responsibly, we assist customers in safe landfilling and resource recovery, contributing to the development of zero-waste cities.

Composite Liner Landfill

This landfill disposal facility utilizes a double composite liner as the impermeable layer, with a total planned design capacity of 5.94 million cubic meters. It is designed to primarily dispose of 23 categories and 129 subcategories of hazardous wastes, such as incineration residues, surface treatment wastes, dye and paint wastes, and other wastes.

Reinforced Concrete (RC) Landfill

This landfill disposal facility utilizes a monolithic reinforced concrete structure as the impermeable barrier. It comprises 15 concrete disposal cells, with a total disposal capacity of 240,000 cubic meters. The facility is designed to primarily dispose of 12 categories and 87 subcategories of hazardous wastes, including waste salt, arsenic-bearing wastes,and mercury-bearing wastes.

Color Root's hazardous waste landfill in Hubei is the largest solid waste and hazardous waste landfill disposal center in China with the largest approved storage capacity.

By the end of 2024

The total storage capacity of hazardous waste disposal reached **6.18** million cubic meters

26,471.78 tons of hazardous waste were disposed of

Solid waste resource utilization services

We provide industrial waste salt recycling solutions for enterprises generating salt-containing solid waste. By leveraging existing on-site equipment and surplus steam, we transform external industrial waste salt into value-added products including industrial salt, fertilizer products and raw materials, and chemical feedstocks.

Our solid waste resource recovery initiative provides tailored disposal solutions for diverse chemical enterprises, resolving persistent operational bottlenecks and advancing their green sustainable development.

We have invested over RMB **50million** in a **200,000** t/a waste salt recycling project.

In 2024, it processed **35,953** tonnes of solid/hazardous waste through resource recovery, achieving a **93.1%** solid waste recovery rate.

Sewage treatment and water recycling services

Through continuous R&D and refinement of our proprietary dye and chemical wastewater treatment technologies, we have developed an innovative water recycling system with patented processes. This solution effectively addresses treatment challenges for industrial wastewater from comparable production facilities, utilizing energy-efficient equipment and low-cost materials to enhance treatment efficacy while reducing operational costs. Moving forward, we will optimize and scale this integrated system to provide novel solutions for wastewater management challenges in the dye and chemical industries.

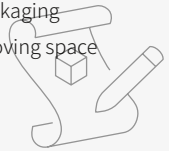
Packaging Material Recycling

Sustainability of packaging materials is an important step to reduce the negative impact of enterprises on the environment. We have established a packaging material recycling system to reprocess and recycle waste packages and improve the recovery rate of package materials. At the same time, we have formulated a packaging material saving strategy and target, focusing on the three core elements of "packaging material reduction, greening and standardization ", and striving to save packaging material resources while reducing environmental impacts, so as to achieve environmental protection and economic benefits.

Strategic plan of packaging material saving

Reduction of packaging materials

On the premise of not affecting product quality and safety, reduce the use of packaging materials by folding, modular packaging, optimizing packaging size, and improving space utilization.

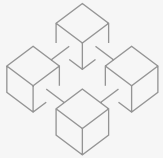


Greening of packaging materials

Promote the use of reusable and degradable packaging materials of paper, wood and metal.

Standardization of packaging materials

Carry out the standardization of packaging materials and reduce the types and specifications of packaging materials supply.



Objectives

By the end of 2024, the recovery rate of our packaging materials reached **98.1%.**

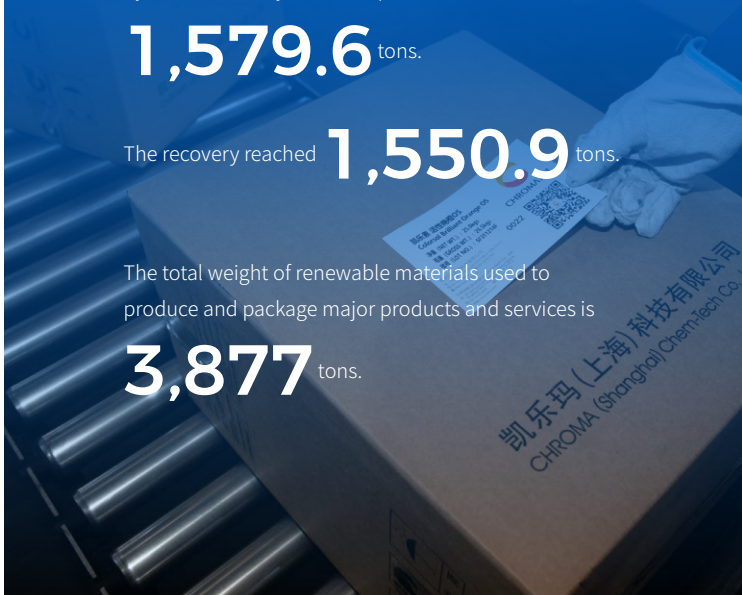
We plan to increase the recovery rate of packaging materials to **99%** in 2025.

2024

The total amount of packaging materials used by Color Root's dye finished products reached **1,579.6** tons.

The recovery reached **1,550.9** tons.

The total weight of renewable materials used to produce and package major products and services is **3,877** tons.



2.4

Energy and Resource Saving

The concept of sustainability is not only embodied in the products and business of Color Root Technology, but also integrated into our production and operation activities. We fulfill the responsibility of environmental protection actively, take "green first" as the purpose of environmental protection, take "saving first, efficient utilization, technological innovation and circular development" as the core, adhere to the principle of development in protection and protection in development, and are dedicated to supporting the sustainable development of enterprises with the least energy and resource consumption. In strict accordance with the requirements of reduction, reuse and recycling, we reduce the resource consumption in all aspects of production, circulation and consumption from the source, and minimize the impact of enterprise production and operation on the environment.

Green Operation

We improve Color Root's environmental management system actively and have established an environmental management committee headed by the general manager of the plant, which is responsible for leading and coordinating the overall work of environmental protection, compiling environmental protection objectives and work plans, so as to ensure that environmental protection concepts are effectively implemented.

We have also set up an environmental risk assessment system to conduct risk assessments of production processes, wastewater discharge destinations, production technologies, safety evaluation of hazardous chemicals, safe production control, environmental risk prevention and control measures, and environmental pollution caused by environmental emergencies to safeguard the green operation of the enterprise.

2024

By the end of 2024, Color Root Technology has been recognized as a provincial green factory in Hubei Province and Likangyuan has been recognized as a green factory in Jingmen City. Both Color Root Technology and Likangyuan have passed ISO 14001 Environmental Management System Certification.

Green office

In the office area, we encourage and promote the concept of green office actively, and implement it through the systems and regulations, intelligent office, energy-saving appliance use and other initiatives in order to reduce energy consumption and waste emissions in the office area, to alleviate the burden on the environment.

Optimize equipment operation

- Make full use of natural light and reduce the use of artificial lighting.
- Set operating hours for office areas and equipment, and turn them off when not in use.

Popularize energy-saving electric appliances

- Use energy-saving electric appliances such as LED lights and energy-saving air conditioners.
- Adopt an intelligent control system to realize remote control and timing switching of equipment to reduce energy waste.

Promote intelligent office

- Promote paperless office and use electronic documents instead of paper documents.
- Reduce unnecessary printing and avoid repeated waste.
- Optimize office processes and use online video conferencing to reduce travel.

Tackle Climate Change

Climate change is a common challenge facing all mankind, and it has become a consensus in the world to mitigate the extreme climate impacts brought about by global warming. We deeply understand the profound impacts of climate change on the social economy and corporate development, and have actively responded to domestic and international climate initiatives. We have formulated a systematic climate change response strategy and greenhouse gas emission reduction targets in conjunction with the current situation of Color Root, and plan to establish a comprehensive climate change management system to further strengthen our climate resilience through more effective carbon reduction measures.

2024

Color Root's photovoltaic power generation capacity reached

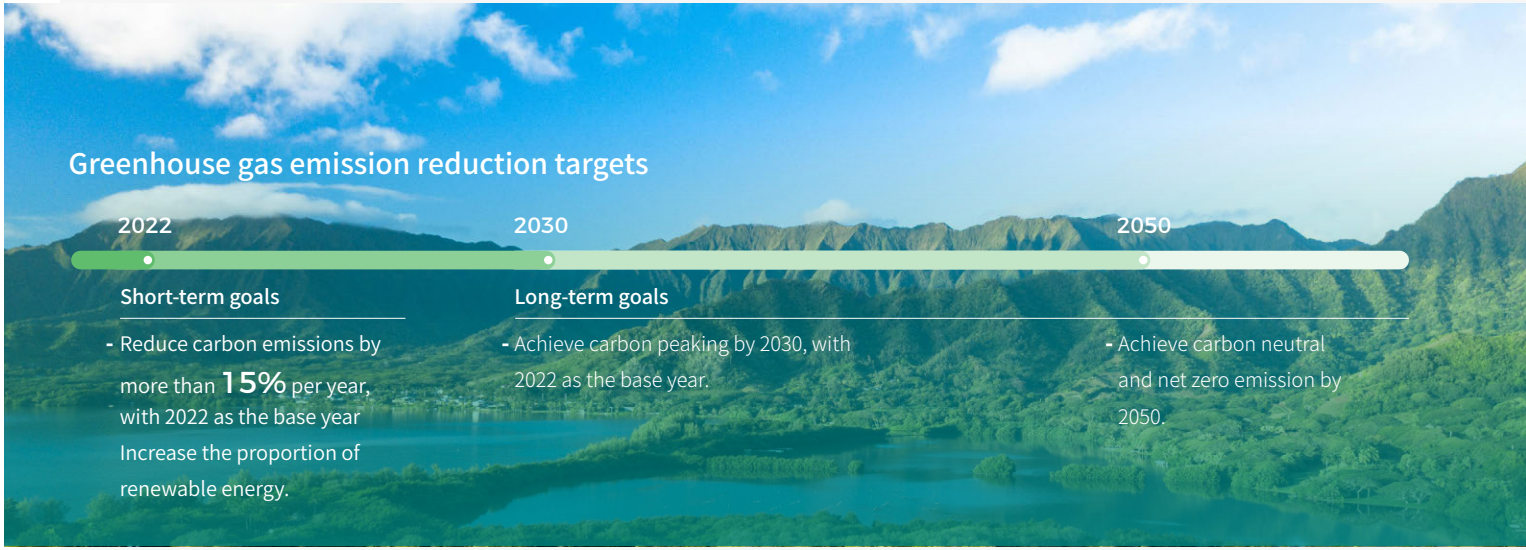
1,821,879 kWh

Cogeneration capacity amounted to

4.5 million kWh

Compared to 2022, annual carbon emission in 2024 decreased by

41.86%



Greenhouse gas reduction initiatives

Adoption of renewable energy

Actively promote the use of renewable energy sources, such as solar energy and wind energy, to reduce dependence on fossil energy.

Waste heat recovery and utilization

Reduce energy consumption and greenhouse gas emission through secondary utilization of heat energy in production.

Improve energy utilization efficiency

Adopt energy efficient technologies and equipment, optimize energy use structure, and improve energy use efficiency.

Green supply chain management

Promote upstream and downstream enterprises in the supply chain to jointly implement green production and emission reduction measures to form a green supply chain system.

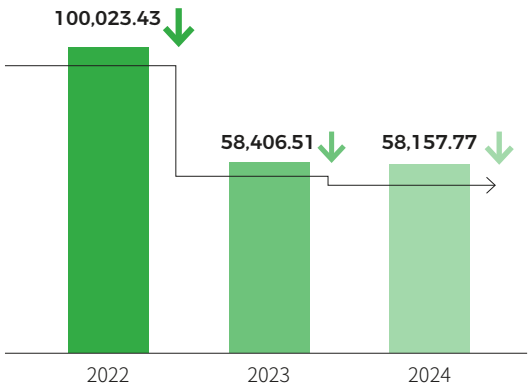
Adaptation and mitigation

Actively promote solar energy, wind energy and other technologies that can enhance climate change mitigation measures while focusing on climate change adaptation issues to improve Color Root's adaptive capacity and resilience. Renewable energy sources are used to reduce dependence on fossil energy.

Accounting for Greenhouse Gas Emissions

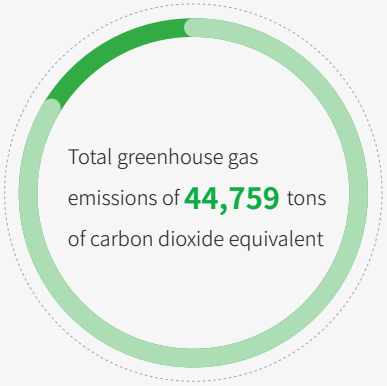
We have established an internal greenhouse gas emission accounting system in accordance with the"Greenhouse Gas Emission Accounting Methodology and Reporting Guidelines for Chemical Manufacturing Enterprises in China (for Trial Implementation)", and have conducted our own accounting for the greenhouse gas emissions generated by major manufacturing enterprises of Color Root's two main business units in the course of their production to assess the effectiveness of our annual carbon-reduction efforts.

Greenhouse gas emissions of Color Root from 2022 to 2024 (unit: ton of carbon dioxide equivalent)



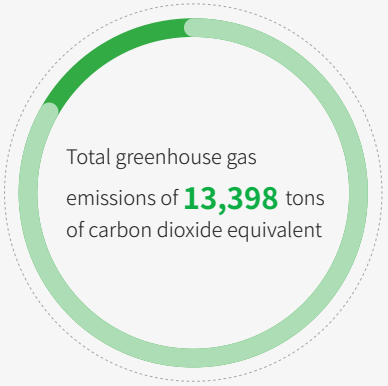
Greenhouse gas emissions from production in the two business units in 2024

Dyestuff Business Unit



- Direct greenhouse gas emissions accounted for 19%
- Indirect greenhouse gas emissions accounted for 81%

Environmental Protection Business Unit



- Direct greenhouse gas emissions accounted for 20%
- Indirect greenhouse gas emissions accounted for 80%

Note 1: The accounting boundary of the Dyestuff Business Unit is all the production facilities of Hubei Color Root Technology Co., Ltd; the accounting boundary of the Environmental Protection Business Unit is all the production facilities of Hubei Likangyuan Chemical Co., Ltd.

Note 2: Due to equipment renewal and technological transformation, some production lines of the Environmental Protection Business Unit were shut down and optimized in 2023, resulting in large fluctuations in data.

Energy Saving

We adhere to the energy management policy of "Technology Leadership, Energy Efficiency Improvement, Total Quantity Control and Sustainable Development", and through the establishment of an energy management system, the implementation of strict systems and standards, and the implementation of proactive energy-saving improvement measures, we have improved the efficiency of energy utilization, reduced the energy waste, and lowered the carbon footprints of our production and operations.

In order to fundamentally improve the level of energy management, we identify the laws and regulations of the industry actively, formulate the "Energy Management System", and set up the "Energy Saving Target Assessment Implementation Plan" to quantify the energy saving targets to the departments, positions, and individuals, and carry out monthly, quarterly, and annual assessments to ensure that the assessment results are linked to the performance pay of the relevant personnel.


能源管理体系认证证书
CERTIFICATE OF MANAGEMENT SYSTEM FOR ENERGY
HUBEI COLOR ROOT TECHNOLOGY CO., LTD.
能源管理体系认证证书
湖北丽康源化工有限公司
CNAS

Color Root and its main subsidiary Likangyuan have passed ISO 50001 Energy Management System Certification.

2024
Color Root's total electricity consumption was

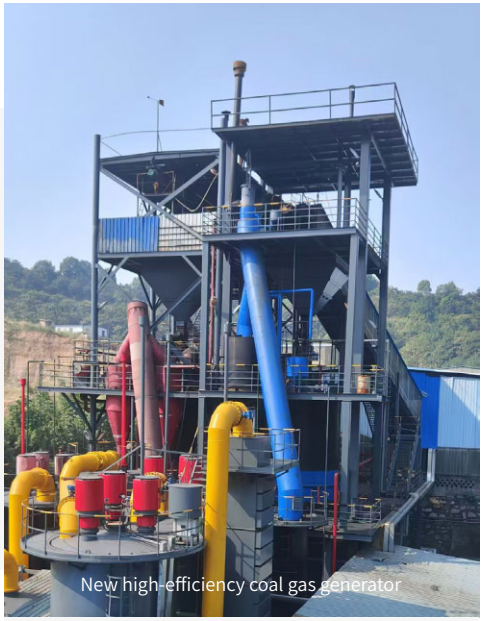
16,471.077 MWh.

A decrease of approximately

49.78%

from the previous year.

Annual electricity savings directly realized from energy saving and efficiency measures amounted to **16,980** MWh.



New high-efficiency coal gas generator

Replace non-productive equipment to improve energy efficiency

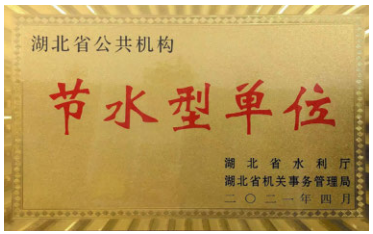
Color Root actively adopted new energy-saving technologies, products and equipment in order to eliminate backward equipment with high energy consumption and high pollution, and to reduce production energy consumption through technological transformation. In 2023, we introduced a new type of high-efficiency gas generator to replace the old one, achieving a reduction of 5,429.11 tons of coal for fuel, which significantly improved the energy utilization efficiency.

Water Resources Conservation

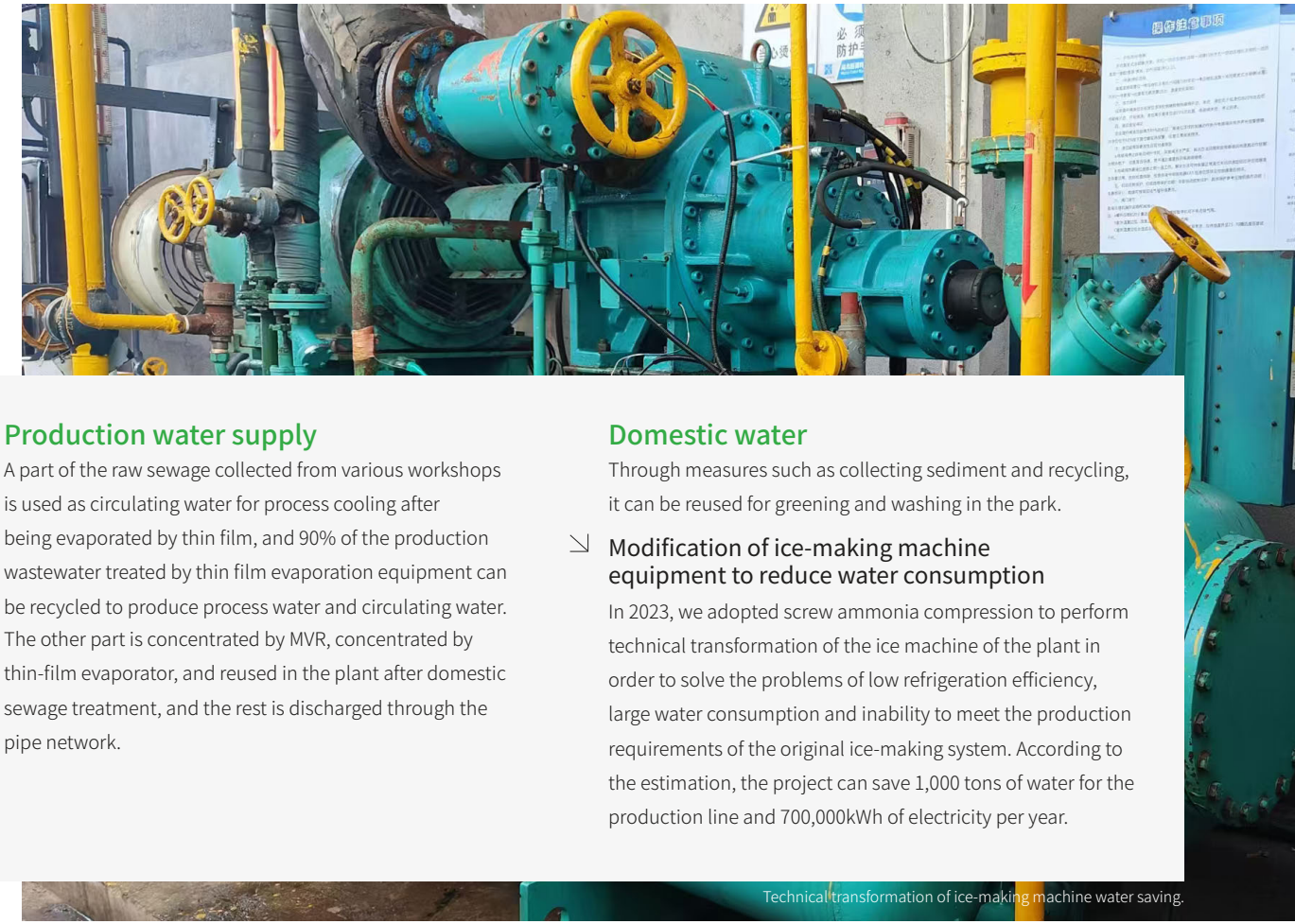
Strengthening the rational development, utilization and protection of water resources is an important topic for the sustainable development and transformation of chemical enterprises. We are committed to improving the efficiency of water resources utilization and strengthening the effective management of water resources through recycling and economical management. We have established and improved the water resources management system, formulated documents such as Water Saving Management Measures and Water Management System, and set water saving assessment indicators for regular assessment.

2024

We carried out water conservation work actively, and the annual water consumption directly realized by water-saving measures reached **185,105** tons.



Color Root won the provincial water-saving unit award.



Production water supply

A part of the raw sewage collected from various workshops is used as circulating water for process cooling after being evaporated by thin film, and 90% of the production wastewater treated by thin film evaporation equipment can be recycled to produce process water and circulating water. The other part is concentrated by MVR, concentrated by thin-film evaporator, and reused in the plant after domestic sewage treatment, and the rest is discharged through the pipe network.

Domestic water

Through measures such as collecting sediment and recycling, it can be reused for greening and washing in the park.

Modification of ice-making machine equipment to reduce water consumption

In 2023, we adopted screw ammonia compression to perform technical transformation of the ice machine of the plant in order to solve the problems of low refrigeration efficiency, large water consumption and inability to meet the production requirements of the original ice-making system. According to the estimation, the project can save 1,000 tons of water for the production line and 700,000kWh of electricity per year.

Technical transformation of ice-making machine water saving.

2.5

Health and Safety Guarantee

Color Root Group implements the occupational health and safety policy of "prevention first, comprehensive management", adheres to the "people-oriented" core value, and takes the continuous improvement of the working environment of the employees as an important mission from the perspective of the employees' health and safety needs to provide a solid guarantee for the employees' occupational health and safety.

Health and Safety System

By adhering to the concept of "any risk can be controlled, any violation can be prevented, and any accident can be avoided", we minimize the risks of occupational health and safety and continuously improve the occupational health and safety management system through the implementation of the system, risk control, and the clarification of responsibilities, in order to provide employees with a safe and healthy working environment.

Management strategy and objectives

1

Ensure that employees are protected from accidents in the course of work and maintain their life safety and health.

2

Pay attention to employees' mental health, prevent and solve mental health problems in the workplace, and improve employees' job satisfaction and happiness.

3

Comply with national and local laws and regulations to protect the legitimate rights and interests of employees, such as labor protection and employment injury insurance.

2024

The coverage rate of Color Root's employees' occupational health checkups reached **100%**

Occupational disease incidence rate of employees was **0%**

Disabling injury frequency rate was **1%**

Management methods

Implement safety responsibilities

Establish a Production Safety, Environmental Protection, Fire Protection and Occupational Health & Hygiene Management Committee, with the general manager of the plant as the director, the deputy general managers in charge as the vice directors, and the heads of each department as members.

Reduce safety risks

Formulate the "Control Procedures for Identification of Danger Sources and Risk Evaluation", scientifically assess and effectively control potential risks, and actively rectify hidden dangers found.

Improvement of institutional system

We have established a comprehensive institutional system, including 12 policy and institutional documents such as "Responsibility System for Prevention and Control of Occupational Disease Hazards", "System for Workers' Occupational Health Guardianship and Records Management", and "System for Monitoring and Evaluation Management of Occupational Disease Hazards".

Color Root has passed ISO 45001 Occupational Health and Safety Management System Certification.

Production Safety Management

We always carry out the safety policy of "safety first, prevention first, comprehensive management", actively promote the construction of safety standardization around various safety objectives, firmly implement the production safety responsibility system, strengthen supervision and inspection, and ensure the safety and reliability of production equipment and the health and safety of workers.

Based on regulations and policies, we have formulated a comprehensive emergency plan for production safety, which has basically covered all kinds of emergencies in Color Root. We provide customized training for different positions to ensure that employees can accurately identify and effectively respond to the specific risks they may encounter in their work, thus building an all-round, multi-level occupational health and safety protection system.

2024

Color Root conducted safety drills more than **30**

Including comprehensive large-scale exercises **2**

Specialized emergency exercises **8**

On-site disposal exercises **21**

No work-related deaths occurred.

Production Safety Management Measures

Building corporate safety culture

We carry out occupational health and safety activities to motivate the employees' safe production attitude and professionalism, form perfect, standardized, scientific and effective safety management rules and regulations, improve the employees' safety awareness, and enhance the safety responsibility of Color Root's managers at all levels.

Form a "people-oriented" multi-level composite corporate culture consisting of safety material culture, safety behavior culture, safety system culture and safety spirit culture.

Environmental emergency drill site

Improving the production safety responsibility system

Color Root has signed five-level production safety target management responsibility documents with the general manager, deputy general manager, department director, workshop director, team and employee and the safety commitment has been signed to each employee to implement the safety management system of "horizontal to the edge, vertical to the end, up and down corresponding, internal and external convergence".

Safety production month poster

Dual prevention working mechanism

Starting from systematic and essential safety, we strictly supervise and inspect, implement the risk classification management responsibility, and comprehensively identify the risks of Color Root position by position and equipment by equipment and formulate management and control measures.

We inspect the equipment and facilities as well as the operation site. For the problems identified in the form of "hidden danger rectification notice", give timely notification to the responsible unit for rectification, and track the implementation. Achieve "five implementations" including responsibility, measures, funds, time limits and plans.

Safe production oath activity

Intelligent Safety Production

In order to safeguard the occupational health of our employees and reduce the risk of operational safety, we actively promote the development of new technologies and the iteration of equipment, and have established an automated and intelligent production process management system, which utilizes mechanical, electronic, and computer technologies to control and manage the production process, reducing the direct involvement of personnel and increasing the coefficient of safe production. In addition, through automated production, we have greatly reduced the opportunity for employees to come into direct contact with hazardous substances and reduced the impact of noise, dust and other occupational hazards. We will continue to improve the quality of the working environment inside the workshop through optimizing the production process, improving the sealing of equipment and other measures, to enhance the level of protection for the health and safety of employees, and to contribute to the construction of a healthy and safe production.

Intelligent safety management system

DCS automatic control system

Supervise the whole process of production safety, realize centralized management and decentralized control of the production process, and ensure the safety of the production process.

Safety interlocking system

Prevent accidents from occurring and reduce the danger and impact of accidents.

Intelligent central control room.

2.6

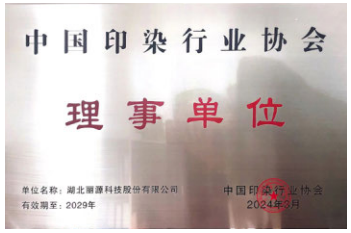
Industry Co-Creation

As an enterprise with deep roots in the dyestuffs industry, we have always believed in the positive value of cooperation and sharing while innovating for the sustainable development of Color Root, the industry and the society. In order to help the industry create a win-win situation, we join hands with our counterparts and professional scholars at home and abroad to exchange and learn new achievements and explore new opportunities in the industry. We actively undertake the responsibilities of industry associations, promote the development of industry standards, and carry out in-depth talent exchanges and scientific research project cooperation with universities, so as to help the industry develop in the future through talent cultivation and technological innovation.

Industry Exchange and Integration

In order to promote the co-creation and win-win situation of the industry, we actively participate in domestic and international exchanges and exhibitions related to dyestuff and sustainable development, and realize the coordinated development and mutual benefit and win-win situation of the industry through intuitive and high-quality exchanges.

Moreover, we participate in various trade associations actively. As a governing unit, we deeply participate in China Printing & Dyeing Industry Association and Hubei Monitoring Chemicals Association to jointly promote the sustainable and high-quality development of the industry.



Governing Unit of China Printing & Dyeing Industry Association

Join hands with partners to explore the future of the industry

In August, 2024, Color Root and Rudolph Indonesia held a product launch conference in Bandung, Indonesia. During the meeting, the general manager of Color Root introduced Color Root's sustainable development strategy and environmental protection concept, and at the same time elaborated the sustainable advantages of Colourzol products, which were highly recognized by the partners. Color Root takes this conference as an opportunity to further develop external cooperation, strengthen environmental protection layout, and integrate better and more eco-friendly products into customers' life and work circles.

General manager introduces the advantages of Color Root products

Chromatol participated in the international exhibition, and the brand-new Eco-friendly reactive dyes attracted much attention.

In response to the development strategy of "One Belt, One Road" and promoting the technical cooperation in the international dye industry, in November 2024, Color Root participated in the 10th China International Dyestuff Fair and the 6th Turkey Chemical Industry Exhibition in Istanbul, Turkey. Chromatol's new generation of Eco-friendly reactive dyes has been widely concerned and highly recognized for its characteristics of "environmental friendliness", "excellent performance" and "easy cleaning".

Chromatol exhibition area

Promoting sustainable chemicals management and participating in the ZDHC solutions conference

In December 2024, Color Root was invited to participate in the ZDHC Solutions Conference 2024 and ZDHC Contractors' Workshop organized by ZDHC Certification (Zero Discharge of Hazardous Chemicals), discussing the sustainable development and future planning of the industry with nearly 500 industry peers, government representatives and brands. As of December 2024, a total of 293 products have been uploaded and released on the ZDHC gateway, achieving the highest level 3 certification. They included 157 products under Color Root Technology and 136 Colourzol products under Chromatol, demonstrating Color Root's strong commitment to environmental protection and health.

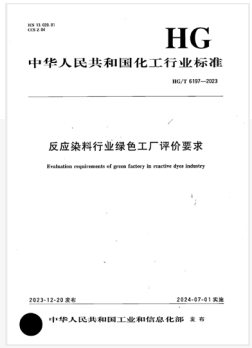
ZDHC solutions conference

Building Industry Standards Together

The guidance of high-quality standards is a key factor for the innovation and sustainable development of the industry. As a member of the Group Standardization Technical Committee of China Dyestuff Industry Association, we have actively participated in the formulation of national and industrial standards related to reactive dyes to promote the healthy development of the dyestuff industry, and have participated in the formulation of a total of 17 standards.During the reporting period, we participated in the formulation of standards related to the evaluation of green products and green factories in the dyestuffs industry, profoundly participating in helping improve the industry's sustainable development system.

Participated in the formulation of the national standard GB/T 44009-2024"Green Product Assessment - Dyes".

Participated in the formulation of the industry standard HG/T 3963-2024 "C.I. Reactive Blue 222 (Reactive Dark Blue M-2G)".



Participated in the formulation of the industry standard HG/T 6197-2023 "Evaluation Requirements of Green Factory in Reactive Dyes Industry".

Industry-university- research cooperation

We are oriented to the needs of industrial development and actively promote the deep integration of industry-university- research. Since its establishment, we have cooperated with Dalian University of Technology, Donghua University, Wuhan Textile University and Guizhou University of Engineering Science in scientific research and talent docking to promote the transfer and transformation of scientific and technological achievements, and assist the development of young talents in the industry, so as to promote the development of the industry by industry-university- research.

Deep cooperation between institutions to promote the development of the industry

Color Root has established a long-term, close, stable and effective cooperative relationship with Guizhou University of Engineering Science, setting up mechanisms such as "Color Root Scholarship" and exchange study in talent cultivation, and cooperating in dye technology research in scientific research and innovation. As an enterprise, we give full play to our own advantages and contribute to the sustainable development of the integration of industry-university- research in the dyestuff industry.

School-enterprise cooperation- Guizhou University of Engineering Science.

2.7

Social Co-prosperity

In the course of its development, Color Root Technology has always adhered to the concept of "Never forget where one's happiness comes from and give back to society", and has the courage to assume social responsibility while pursuing commercial success. Color Root continues to pay attention to education, medical care, infrastructure construction and other livelihood issues, practicing social responsibility through targeted charitable donations, helping rural revitalization, engaging in green public welfare, enthusiastically participating in community activities and other diversified forms to help promote social progress.

In 2019, Color Root Technology was honored with the title of "Poverty Eradication Enterprise" by Songzi City Government and Municipal Committee.

Charitable Contributions

Since its establishment, Color Root has been actively involved in charitable contributions, involving support for poverty alleviation and rural revitalization, support for higher education, assistance in the prevention and control of epidemics, and special public welfare donations, with a cumulative amount of more than RMB 10 million.

Supporting accurate poverty alleviation and rural revitalization

Over the years, Color Root has carried out precise poverty alleviation and rural revitalization projects in more than ten villages such as Mayuhe Village, Shiqiao Village, Liqiao Village, Nanhai Jinji Temple, Zhichanghe Shiziling Village, Baiyang Village in Chendian Town, Songzi City. In addition, it has helped improve infrastructure and medical conditions, supported campus construction and scholarships, set up the respect for the aged projects, and carried out flood disaster relief, with a cumulative donation of more than RMB 4.3 million.

Support for higher education

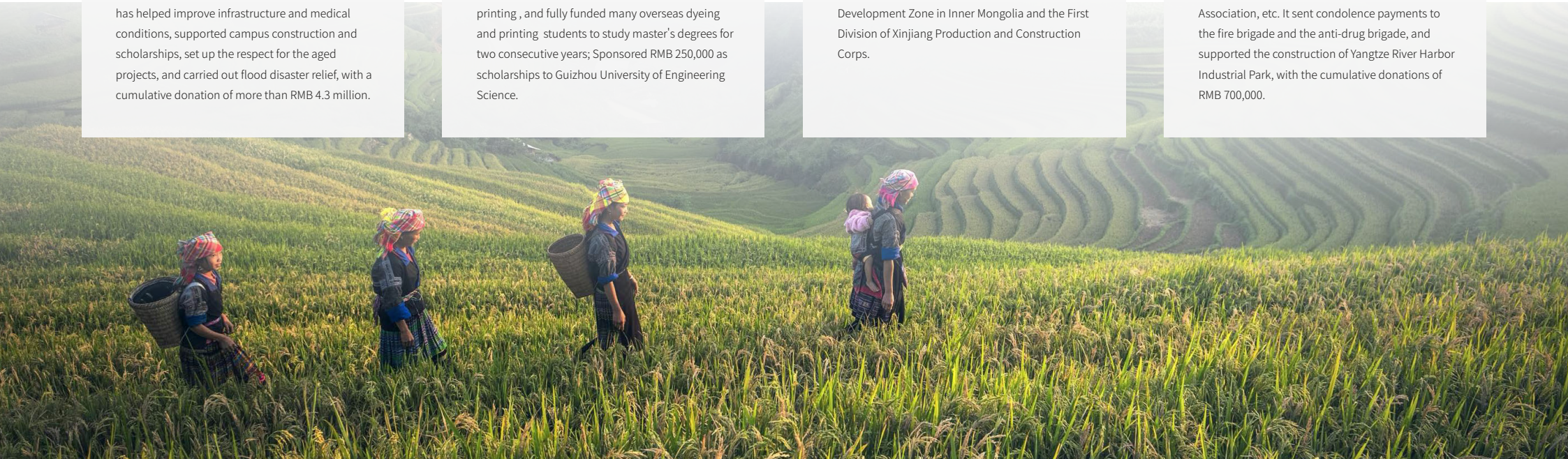
Color Root has donated more than RMB 3 million to Wuhan Textile University and Guizhou University of Engineering Science, including more than RMB 2.7 million to Wuhan Textile University, which was used to establish scholarships and set up international students' classes for textile dyeing and printing , and fully funded many overseas dyeing and printing students to study master's degrees for two consecutive years; Sponsored RMB 250,000 as scholarships to Guizhou University of Engineering Science.

Help epidemic prevention and control

After the COVID-19 pandemic broke out in 2020, Color Root Technology donated RMB 2.10 million to the Red Cross Society in various regions. Among them, RMB 1 million was donated to Songzi Red Cross Society, and RMB 1.1 million was donated to the Red Cross Society in Shayang, Shishou, Tengger Development Zone in Inner Mongolia and the First Division of Xinjiang Production and Construction Corps.

Carrying out special public welfare donations

Color Root made targeted donations to Chendian Town Population Welfare Foundation, Songzi City Concern for the Next Generation Workers Association, Songzi Charity Federation, Love Heart Association, Jingmen Charity Federation, Shayang Concern for the Next Generation Workers Association, etc. It sent condolence payments to the fire brigade and the anti-drug brigade, and supported the construction of Yangtze River Harbor Industrial Park, with the cumulative donations of RMB 700,000.



Rural Revitalization

In active response to the call of the national rural revitalization strategy, we have supported the development and construction of the countryside over years, with practical action to practice "revitalizing an enterprise, enriching local economy, and bringing up local common people".

Providing employment opportunities

By integrating funds for rural revitalization and convergence and transferring idle land, we have provided more than 350 jobs for villagers in Mayuhe Village, Shiqiao Village and Chendian Village, and purchased social insurance for all of them, effectively solving the employment problems of elderly villagers, and driving villagers to increase their income by more than RMB 50 million.

Enhancing employability

We introduced cutting-edge agricultural technology and advanced management experience to support local farmers to join the planting and deep-processing projects of special agricultural products, such as vigorously promoting the planting of new varieties of oranges, and organizing vocational skills training courses to effectively enhance the employment skills of villagers and stimulate the endogenous development of the countryside.

Improvement of villagers' life

We are committed to the construction of rural infrastructure, and strongly support the construction of roads, bridges and streetlights; on the one hand, we have set up a special fund for rural revitalization, and accurately support the development of education, medical care, provision for the aged and other social undertakings, so as to build a solid foundation for rural development and improve the living conditions of villagers in all aspects.

“In the vicinity of Likangyuan Chemical Factory, pieces of farmlands are green and vibrant. This is not only a gift of nature, but also a vivid portrayal of Likangyuan's practice of green development.

Green Public Welfare

We always adhere to the concept of "safer, more Eco-friendly and healthier", take sustainable development as our corporate mission, and actively practice green public welfare. We not only advocate the concept of energy conservation, environmental protection and green travel in our daily operations, but also actively hold and call on employees to participate in environmental protection activities, put forward environmental protection initiatives, and personally convey the concept of green development. By organizing a number of environmental protection activities, we not only send out environmental protection initiatives to the society, but also convey the life concept of green health, and push the society towards a sustainable future together.

Environmental protection action practice

Color Root arranges the garbage clearing activity of "Beauty in Jingzhou along Yangtze River" on Party's Day; organizes employees to participate in tree planting activities; schedules employees to participate in "Bailizhou" green cycling activity on China's Youth Day. Sending out environmental protection initiatives to everyone with practical actions, and passing on the life concept of green health to more people.

Garbage clearing activity

Green cycling activity

Community Participation

We always regard community participation as an important part of enterprise development. We actively participate in various activities organized by local communities, with special emphasis on supporting sports activities. Through these efforts, we hope to enhance the cohesion of the community to promote the exchange and interaction between employees and friendly relations with neighbors, and build a better future with the community.

Building a healthy community together

Color Root actively responds to the initiative of governments at all levels in Shayang County, and extensively participates in community activities such as outing, walking and basketball games in development zones, showing the awareness of social participation of enterprises. Through these activities, we hope to contribute to the health and vitality of the community and further strengthen the close ties between Color Root and the community.

Color Root participated in the community basketball game.

Color Root participated in the outing and walking activity.

B-Brilliant

R-Responsibility

I-Innovation

G-Growth

H-Honesty

T-Teamwork

Our Values

Bright

[Public QR Code]

Sweep the code for attention, enjoy the service

COLOR ROOT

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