





are threatening food security for hundreds of millions of people.
In 2022, we had massive droughts and heatwaves in Europe, the

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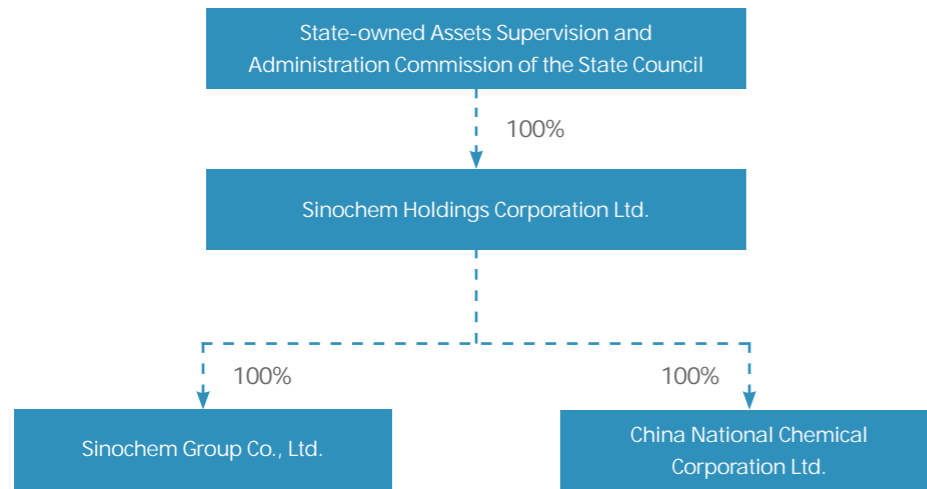


08	Sinochem Holdings
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Sinochem Holdings Corporation Ltd. (“ Sinochem Holdings”) was established through the joint restructuring of Sinochem Group Co., Ltd. and China National Chemical Corporation Ltd. on May 8, 2021. Sinochem Holdings is one of the leading state-owned enterprises under the supervision of the SASAC (State-owned Assets Supervision and Administration Commission of the State Council). It boasts over 220,000 employees.

Looking ahead, Sinochem Holdings will uphold the Company’s value of “ In Science We Trust” as it strives to develop a world-leading chemical conglomerate, constantly improve upon its technological innovations and enhance its core competitiveness and sustainability, and realize its vision of “ to become a great respectful conglomerate with global presence” while constantly contributing to social progress and the development of the chemical industry.



Business Units



Syngenta Group (SG) is a subsidiary of Sinochem Holdings, and serves as the main operating company within its life science segment. As a global leader in agricultural technology and innovation, Syngenta Group is involved in the development, production, and commercialization of a diverse range of seeds, crop protection and crop nutrition products, as well as modern agricultural services. Syngenta Group assists farmers around the world, both large and small, in enhancing their yields and adopting sustainable agriculture practices.

Syngenta Group, which was registered in Shanghai in 2019, has four business units: Syngenta Crop Protection, Syngenta Seeds, ADAMA, and Syngenta Group China. The Company has a long-standing history of over 250 years in Switzerland, and has now grown to employ 57,000 people, operating in more than 100 countries and regions worldwide. In 2022, Syngenta Group posted \$33.4 billion in sales.



	<p>Syngenta Seeds is a leading global developer and producer of seeds with \$33.4 billion in sales.</p>
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	<p>ADAMA is a leading global developer and producer of crop protection products with \$1.2 billion in sales.</p>
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Source: Based on 2022 data, with -\$2.9 billion of related transactions.

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Syngenta Group: The Good Growth Plan

Syngenta launched the Good Growth Plan in 2013, which have been achieved in 2020. Based on its unwavering commitments, Syngenta Group has launched the new Good Growth Plan, setting four new pillars and relevant quantitative targets until 2025.

Regenerative Agriculture

Regenerative agriculture is a results-oriented agricultural production system that combines both innovation and tradition, which can help restore soil health, promote biodiversity, mitigate climate impacts, protect



Syngenta Group China: Promoting Sustainable Practices

Adhering to the concept of green development and harmonious coexistence of people and nature, and focusing climate resilience, Syngenta Group China takes a technological innovation-driven approach to

development transformation.

We spent 10 years researching and developing patented compound fungicides, reducing usage and increasing

targeted capability, wide applicability, and long-term

MAP is committed to promoting green agriculture by encouraging sustainable agricultural practices and raising the awareness of sustainable development among farmers, so as to maintain environmental conditions conducive to long-term agricultural development.

In 2022, based on the core concepts of sustainable agricultural development and regenerative agriculture, and aligned with China's carbon-peaking and carbon neutrality strategy, as well as *The No.1 Central Documents for 2022* and *The National Green Development Plan for Agriculture during the 14th Five-Year Plan*, China Agricultural Green Development Research Center and Sinochem Agriculture Holdings updated the previous MAP Agricultural Green Development Index and built the 2022 MAP Agricultural Green and High-Quality Development Index ("the Green Index"). During the process, we fully balanced between the needs of achieving sustainable development and ensuring agricultural supply, and followed the principles of materiality, systematic, independence, and applicability. The Green Index uses four primary indicators, including Resource Conservation,

measure the practices of green development by farmers from multiple dimensions. Scores of these indicators were calculated to reach a Green Index score, with a total score of 100, based on their relevant weights and in accordance with the research methodology.



, corn, wheat, apple, citrus, grape, strawberry, potato, silage corn, cotton, and alfalfa, main grain crops and most common cash crops. The survey covered both farmers who use MAP services (" MAP farmers") and those had no MAP services (" non-MAP farmers").

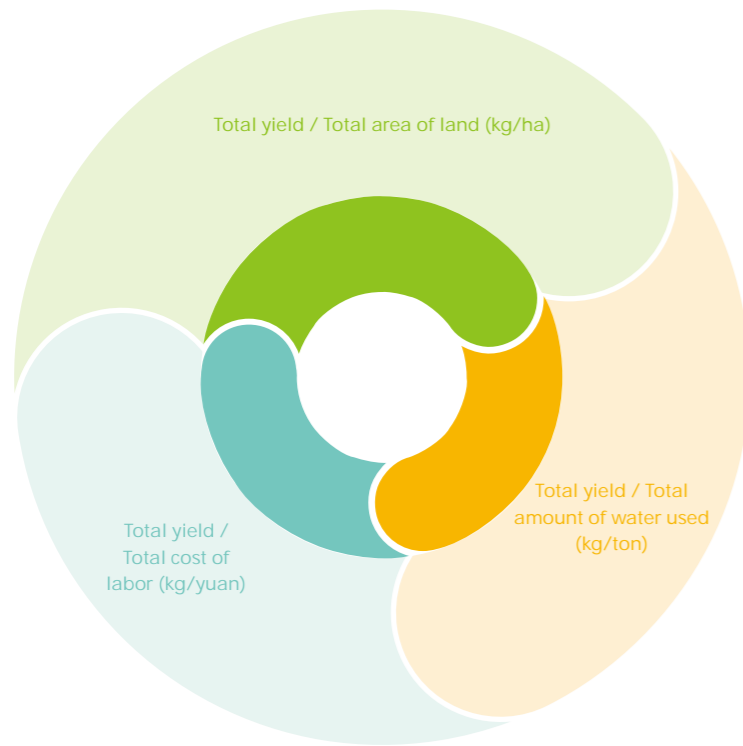


Protecting the ecological environment is a fundamental strategy that fosters productivity while maintaining harmony between people and nature. It is an essential approach towards realizing

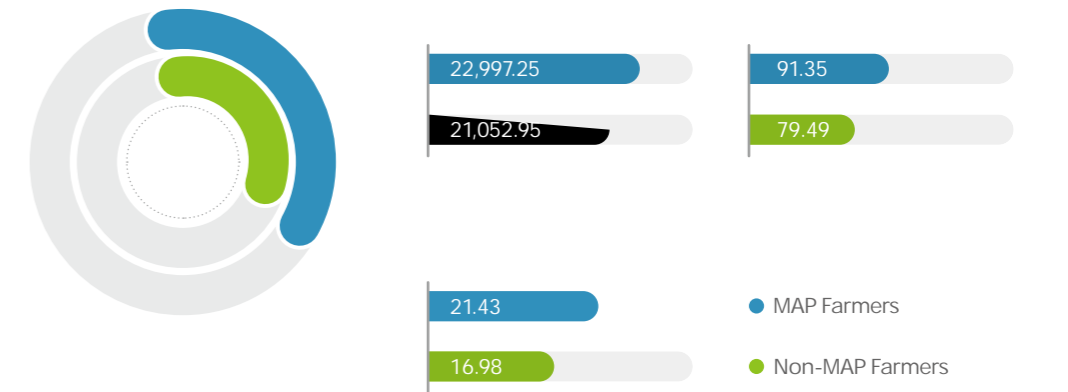
agricultural resources such as arable land and water.

MAP focuses on addressing the major issues and challenges related to the utilization of agricultural resources. Through the adoption of various innovations and green practices, MAP enhances the management of standardized agricultural production throughout the entire process and helps farmers

Indicators



Survey Findings



Indicator Interpretations

MAP promotes water-saving agricultural of water resources through technologies such as drip irrigation, soil moisture testing based irrigation, and precision irrigation, etc.

(Total yield / Total amount of water used, kg/ton)



Land productivity

The 2022 No. 1 Central Document

to enlarge the production of soybean and other oil crops. In order to implement the national strategy, MAP joins hands with its upstream and downstream partners, adopts a series of

oil crops, and has obtained good results.

Combined with agricultural machinery and agronomic knowledge, MAP promotes the ridge cultivation technique of "deep cultivation, layered fertilization and two-row cultivation" and high ridge density cultivation to replace the narrow ridge two-row cultivation mode used by farmers. Meanwhile, MAP introduces Pneumatic Precision Seed Drill to provide farmers with sowing services and enhance sowing uniformity as well as seedling density, so as to achieve the overall improvement of land productivity.

MAP applies seed coating and fertilization techniques to help crop tolerate the low temperatures in spring and protect

crops from diseases and pests. In addition, it takes innovative customized program combined with core master batch, slow-release nitrogen technology and foliar fertilization, so as to

soybean yield.

With MAP services, the 533 ha of farmland of the Yilan Chengxin Cooperative realized an average productivity of 3,885 kg per ha, witnessing a year-on-year increase of 975 kg per ha and an income increase of RMB6,000 per ha of farmland. In particular, the productivity of 20 ha high yield experimental farm realized a local annual record of 4,725 kg per ha.

In 2022, MAP operates 68 technical service centers in Heilongjiang, Liaoning, Henan, Shandong and other

Han Zhimin, Secretary-General of Chengxin Cooperative, expressed his joy, " We appreciate the full process services by MAP, and are looking forward to keep working with MAP next year! "



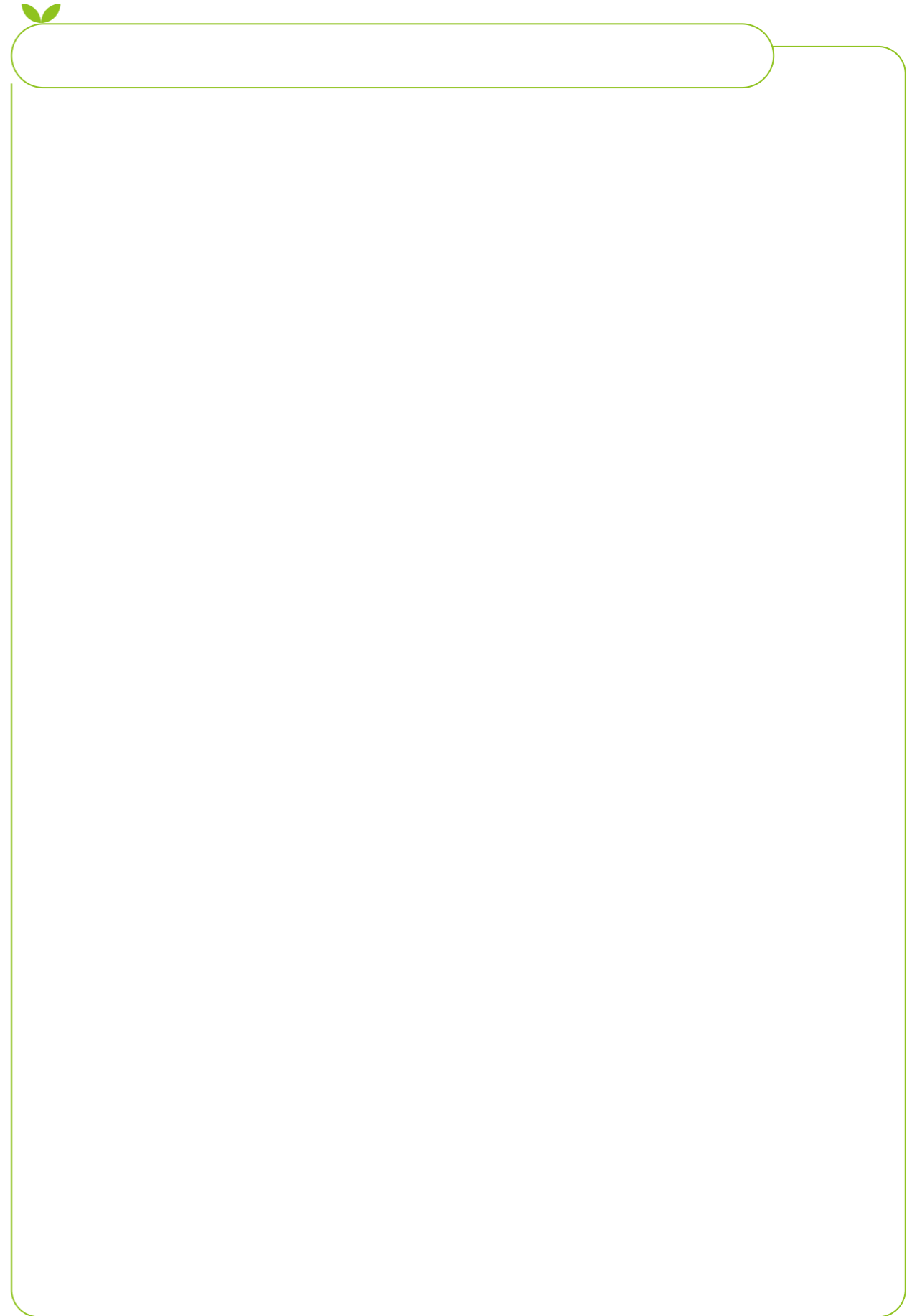


to promote soil testing and fertilizer formulation. While reducing fertilizer application, this practice also helps add medium and trace elements into soil to enhance crop stress resistance,

To date, MAP has set up over 600 service centers located in core advantageous production regions nationwide, and more than 30 fertilization stations based on regional demands so as to take both soil testing result as well as local planting

Pests and diseases have been an important external factor limiting the yield and quality of cash crops such as fruits and vegetables. Frequent pesticide application not only increase the cost of labor and agricultural machinery, but also increase the risk of pesticide residues to a certain extent.

For growers of citrus, apple and other crops, MAP provides timely and accurate early warning of pests and diseases through pest forecast, UAV application and other technologies, as well as timely optimized crop protection service plans, ensuring both precision crop protection and less frequency and lower amount of pesticide residues.



Industry Efficiency

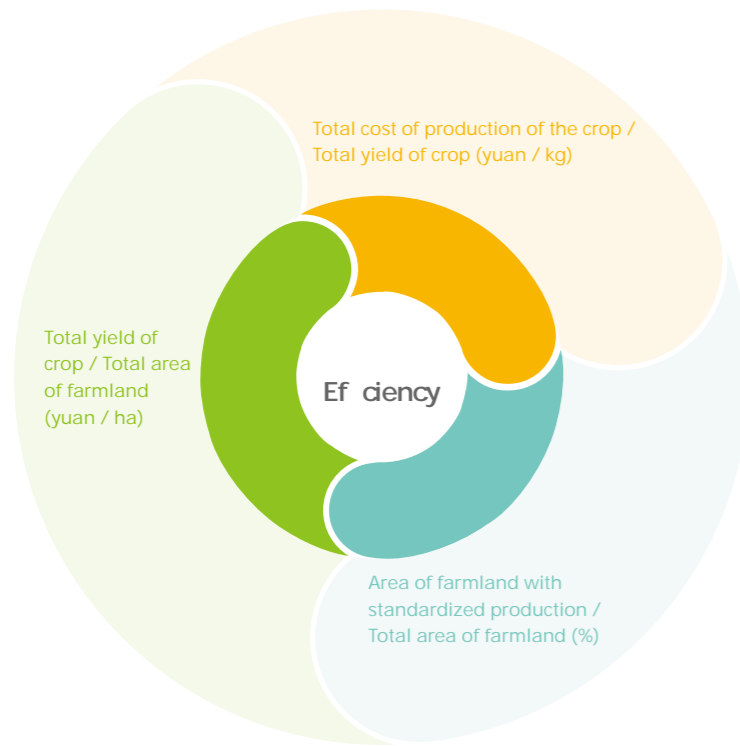
The 14th Five-year Plan for Promoting Agricultural and Rural Modernization puts forward

competitiveness of the agricultural sector in China.

MAP constantly innovates and improves agricultural service models to help Chinese farmers improve the quality of agricultural produce and farming productivity. By doing so, we aim to improve

their income through multiple channels, further exploring the potential to improve quality and

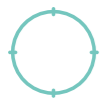
Indicators



The total income per unit of farmland generated by farmers through the sale of



Refers to the ratio of total planting cost to total crop output in the agricultural production process within a single crop production cycle. The smaller the value the better. The investment in planting in the survey includes land rent, seeds, fertilizers, pesticides, labor, agricultural machinery, irrigation, plastic sheeting, and other expenses.



Standardized production refers to standardized activities of the entire agricultural industrial chain. Standards for key industrial chain activities are formulated, revised and implemented to ensure necessary and reasonable level of standardization.

Survey Findings

- MAP Farmers
- Non-MAP Farmers

Indicator Interpretations



Alfalfa is widely needed by the animal feed industry due to its rich content of high-quality crude protein and crude

corn, makes it a "must have" feed for lactating cows. As the price for imported US alfalfa hay increased to over RMB4,000 yuan/ton because the impact of complex global political and

utilize domestic alfalfa.

local alfalfa industry chain, and implemented the new model of alfalfa utilization - wrapped alfalfa silage. Wrapped alfalfa silage can prevent the rain damage in the drying process, and

Jing'an Village is situated in Dingxing County, Baoding City, Hebei Province. With a population of 3,620, Jing'an village has 340 ha of arable land and 17 production teams. Previously, location, economic foundation, economic capabilities and other factors had been playing a detrimental role the village's development, and putting limits on the income of the village collective.


In 2020, MAP expanded its services in Dingxing. After understanding the situation of Jing'an Village, MAP proposed the business model of "village-level coops" accordingly. While keeping the farmers' land contract unchanged, farmers put their farms into a village cooperative, and entrust its management to the village collective, who contacted MAP's professional full-process services to realize higher productivity as well as higher revenue for both the farmers and the village collective.


In order to make full use of the local agricultural machinery resources and create jobs, the village collective took the lead in establishing the village cooperative to complete the sowing and watering tasks, leaving MAP in charge of the rest, including making planting plan, agricultural supplies supply,


The National Green Development Plan for Agriculture during the 14th Five-Year Plan Period puts this plan seeks to accelerate the implementation of standardized and green agricultural production, adhering to the guidance of "quality and green agriculture", MAP actively integrates and promotes green production technologies and practices. These practices include promoting variety screening, quality improvement, brand building and standardized production, and the application of regenerative agricultural practices, to encourage the development of green, high-quality, branded and specialty agricultural products.

Indicators



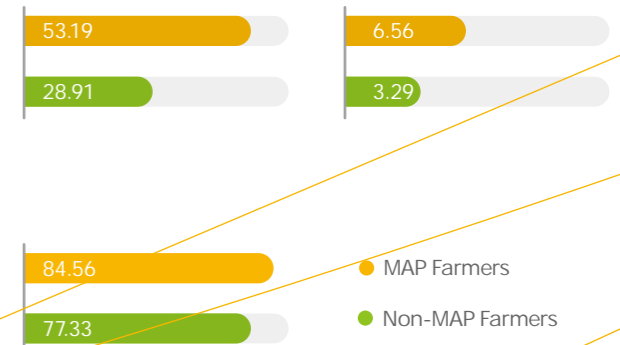
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Regenerative agricultural practices include conservation tillage (no tillage or less-tillage, straw covering, green covering, etc.), soil testing and fertilizer formulation, and green crop protection (physical and biological), etc. During the survey, areas with one or more such practices are considered as areas with regenerative agricultural practice.
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The ratio of the output value of high-quality agricultural products to the total output value of all agricultural products. The term "high-quality produce" used in the survey refers to product produced with premium-pricing orders.
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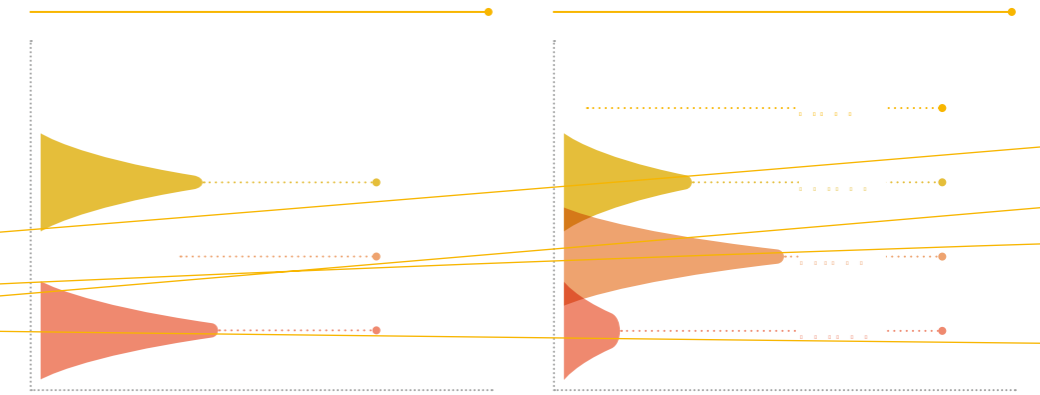
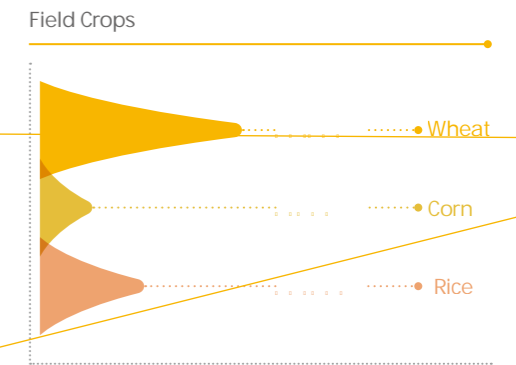
High-quality varieties refer to crop varieties that have valid national or provincial approval for growing in suitable ecological areas.

Survey Findings



Indicator Interpretations

conditions, MAP actively promote regenerative agricultural practices, such as conservation tillage, crop rotation and intercropping, green covering and straw return, and green crop enhance soil health, adapt to climate change, conserve water resources, Application of regenerative agricultural technologies not only promotes the production of green and quality agricultural products, but also contribute to carbon capture and reduction of GHG emissions.



Application of Regenerative Agricultural Technologies Green Coverage in Winter Contributes to Carbon Reduction and

Since 2021, the MAP Pingyao Service Center has been actively in two years in accordance with local light and heat conditions,

The triticale MAP introduced from Mexico is cold and disease resistant, and has enough competitive advantages in growth and no need for pesticide weeding during the growth cycle,

and solve the problems of soil nutrient depletion and diseases and pests damage caused by continuous farming. In addition,

green coverage in winter also helps mitigate the soil erosion caused by wind during winter.

This practice not only increases the yield per unit area by

helps improve the multiple crop index of local crops. MAP has developed a new path of green and high-quality development to help farmers increase income and achieve greater prosperity, and was highly recognized by local government and growers.



In Rui'an City, Zhejiang Province, MAP authorized local farmers

avored by consumers with their rich content of nutrients such

MAP agronomists worked together with local farmers to conduct

the most suitable planting plots, and developed customized planting and harvesting plans according to the characteristics of the plots. *U...OVDP SHUO

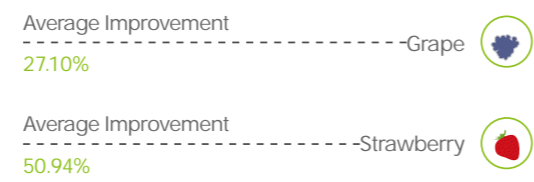


Use of High-Quality Varieties

In 2022, based on its profound understanding of green and sustainable agriculture, MAP vigorously explored ways to promote

as well as reduced greenhouse gas emissions.

Green Index scores of the three types of crops are all below 50, which means that there is still room for improvement.





The survey data in the report was collected from July to September 2022, mainly covering the full growth period of crops in 2021. All other data cited was as of the end of December 31, 2022 unless otherwise noted.



During the research, the following areas have been surveyed:

- Wheat:** Anhui, Hebei, Henan, Shandong, and Shaanxi; Anhui, Gansu, Hebei, Henan, Heilongjiang, Jilin, Liaoning, Inner Mongolia, Ningxia, Shandong, Shaanxi, and Xinjiang; Anhui, Heilongjiang, Hubei, Hunan, Jilin, Jiangsu, Liaoning, Sichuan, and Chongqing; Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Sichuan, Yunnan, and Chongqing; Gansu, Shandong, and Shaanxi; Anhui, Guangdong, Guangxi, Hebei, Jiangsu, Sichuan, and Yunnan; Anhui, Henan, Jiangsu, and Shandong; Inner Mongolia; Jilin and Inner Mongolia; Xinjiang; and Inner Mongolia.

Number of Valid Questionnaires

Wheat	352	184	168
Corn	764	431	333
Rice	517	336	181
Citrus	370	280	90
Apple	278	203	75
Grape	108	77	31
Strawberry	110	79	31
Potato	47	23	24
Silage Corn	94	52	42
Cotton	87	53	34
Alfalfa	44	29	15
Total	2,771	1,747	1,024

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