

Business Overview

- **The plant fiber tableware molding machinery industry is an industry that focuses on the development and production of machinery used to process plant fibers into various products used on dining tables, such as plates, bowls, cups, and disposable food containers.** These machines can utilize raw materials from various types of plant fibers, such as bagasse, bamboo pulp, reed pulp, wheat straw, palm pulp, and wood pulp, to produce high-quality products with various intended uses. In addition to tableware, it can also produce packaging for other industries, such as boxes or packaging bags.
- **The general production process starts with mixing plant fibers with water and various additives. It is then formed on a mold using a vacuum system, followed by drying and thermoforming using heat and pressure.** The resulting products are environmentally friendly, naturally biodegradable within 3 months when buried in the ground. In addition, the products are durable, have a smooth and beautiful surface, can be stored for up to 10 years without deterioration, and have excellent water and oil resistance properties, making them suitable for various applications.
- **This industry is constantly developing, with leading companies in the field inventing fully automated production technologies and obtaining invention patents in China, the United States and the European Union.** In addition, national industry standards such as ISO 9001 and ISO 14001, etc. have been established. Therefore, the plant fiber tableware molding machinery industry is important in meeting the demand for eco-friendly products and has good growth prospects in the future. Due to the increasing global trend of environmental protection and reduction of plastics, this industry plays a crucial role in creating sustainable alternatives for consumers and various business sectors.

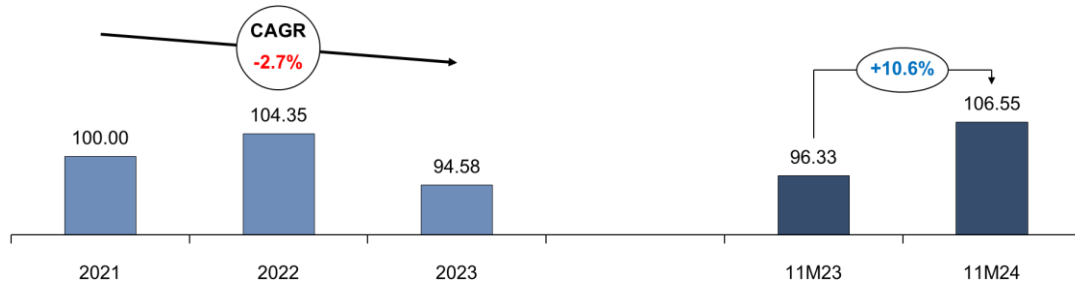
Overview of Thailand's Machinery and Equipment Manufacturing Industry

- **An estimate for the production of plant fiber tableware molding machinery can be derived from the overall machinery and equipment manufacturing overview. According to the Manufacturing Production Index (MPI) data in the machinery and equipment manufacturing category from the Office of Industrial Economics (OIE), there was an expansion of 10.6% YoY in the first 11 months of 2024.** This trend shows a better recovery compared to the previous 3 years, from 2021-2023, which contracted by about 2.7% CAGR. This reflects increased demand in the overall machinery and equipment market, including plant fiber tableware production machinery. This increased demand is partly due to the trend of using eco-friendly materials in the kitchenware industry, which is in line with the growing environmental awareness of consumers. Moreover, the recovery of the machinery and equipment manufacturing industry after the contraction in 2021-2023 demonstrates the resilience and adaptability of the sector, which is due to the improvement of production efficiency, development of new technologies, and adjustment of business strategies to meet changing market demand. In addition, Thailand is considered an important manufacturing base in the ASEAN region, which will lead to further investment in the machinery manufacturing industry, including plant fiber tableware molding machinery. This will help increase production potential and exports in the future.

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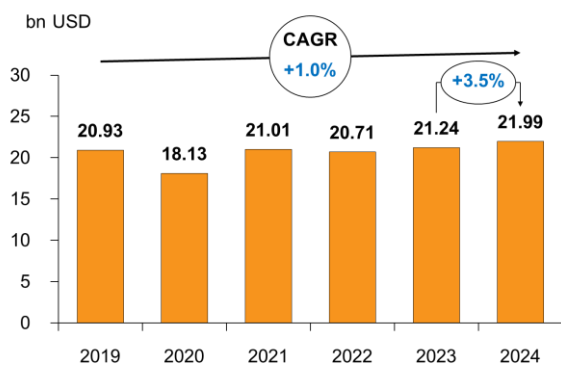
Figure 1 Manufacturing Production Index (MPI) data for machinery and equipment



Source: LH Bank Business Research Analysis based on data from OIE.

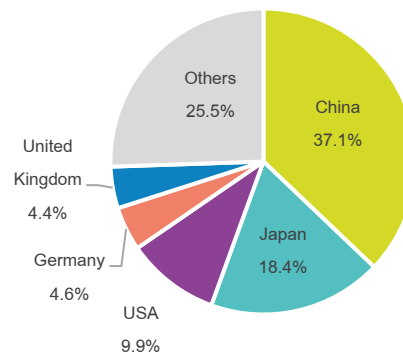
- Thailand has continuously developed its machinery industry, but still relies on importing machine parts and components for assembly into finished machines within the country. The main reason is that Thai entrepreneurs still lack the capacity to produce complex parts that require advanced technology. Data on Thailand's imports of machine parts and components from 2019-2024 show that the value of Thailand's imports of machine parts and components has increased by 1.0% YoY. The majority of imports come from China, accounting for 37.1%, followed by Japan with 18.4% and the US with 9.9%, respectively.** This trend of importing machine parts and components affects the production of plant fiber tableware molding machines in Thailand in several dimensions, especially when considering major import sources such as China and Japan, which are countries with advanced manufacturing technology. This import dependency has a positive effect on the domestic machinery manufacturing industry, as Thai entrepreneurs can adopt modern parts and technologies for further development, enabling them to produce highly efficient machinery that meets market demands. However, high import dependence can have a negative impact on production costs. Therefore, Thai entrepreneurs should learn and develop the ability to produce more complex parts to reduce import dependency and increase long-term competitiveness, especially in the plant fiber tableware molding machinery industry, which is a high-potential market in line with the trend of using environmentally friendly materials

Figure 2 Import Value of Machinery and Components in Thailand



Source: LH Bank Business Research Analysis based on data from MOC.

Figure 3 Machinery and Component Import by Country



Source: LH Bank Business Research Analysis based on data from MOC.

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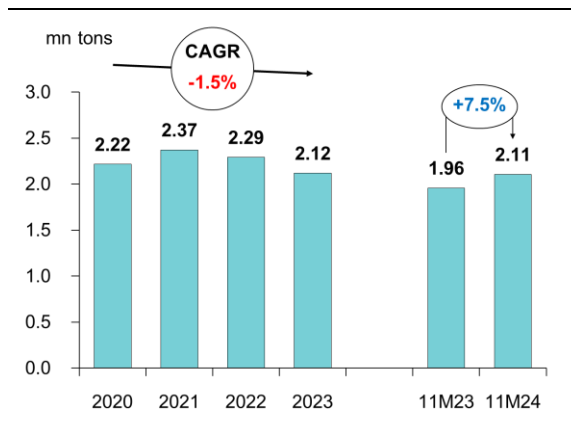
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Overview of the Demand for Plant Fiber Disposable Food Packaging

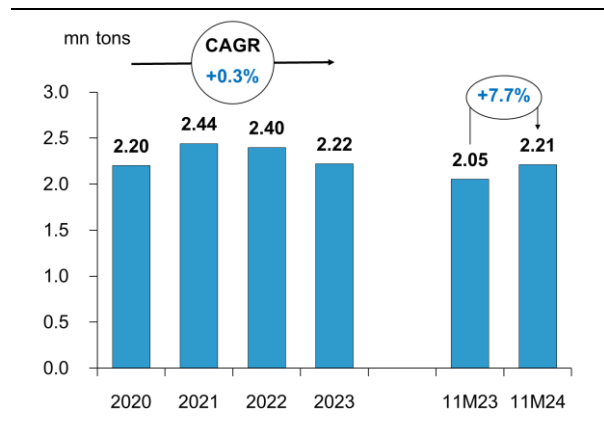
- The demand trend for plant fiber disposable food packaging can be estimated from paper packaging production data. According to the Bureau of Industrial Economics, paper packaging production volume in the first 11 months of 2024 totaled about 2.11 million tons, expanding by 7.5%YoY. This is in line with the domestic paper packaging sales volume in the same period, which grew by about 7.7%YoY to 2.11 million tons. The growth situation in the paper packaging industry reflects the increasing demand for disposable food packaging made of plant fibers, which influences the growth direction of the manufacturing industry for machinery used to mold plant fiber tableware. This is particularly relevant for use in hotels, food and beverage production facilities, restaurants, and households. In addition, plant fiber tableware is environmentally friendly and continuously recyclable, in line with the current trend to reduce the use of plastics. As a result, the demand for plant fiber tableware machinery is likely to increase, creating business opportunities and growth for machinery manufacturers in the industry.

Figure 4 Domestic Production Volume of Paper Packaging in Thailand



Source: LH Bank Business Research Analysis based on data from OIE.

Figure 5 Domestic Sales Volume of Paper Packaging in Thailand



Source: LH Bank Business Research Analysis based on data from OIE.

Business Outlook

- The plant fiber tableware molding machinery industry is expected to have a positive growth trend, driven by the increasing demand for disposable food packaging made from plant fibers. In addition, the global trend of environmental awareness and policies to reduce the use of plastics have created significant momentum for this industry. This is not only due to consumer demand, but also to government policies in many countries aimed at reducing single-use plastics, forcing companies to adapt and find new alternatives. This has made plant-based tableware an attractive option as it is biodegradable and has a lower environmental impact than plastic products.

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- However, the growth of this industry comes with significant challenges. Manufacturers of plant fiber tableware molding machinery must continually develop technology and innovation to meet rapidly changing market demands. These challenges include developing machines that can produce high quality, durable and attractive products while maintaining competitive production costs. As a result, investment in research and development (R&D) is a critical strategy for manufacturers in this industry. R&D not only helps improve machine efficiency, but also helps discover new materials and better manufacturing techniques that can improve the quality of the final product and reduce production costs. In addition, R&D enables companies to better respond to specific customer needs, which is a key factor in maintaining competitiveness in the global marketplace. Building business partnerships is another important strategy for success in this industry. Working with raw material producers, such as plant fiber producers, can help companies access high-quality raw materials at reasonable prices and assist in the development of new materials suitable for the production process. At the same time, establishing good relationships with tableware manufacturers is equally important, as it helps companies better understand the needs of the end market and develop machines that precisely meet customer requirements.

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