

## **A journey towards more sustainable packaging for microwaved ready meals**

In our fast-paced lives, we consumers often seek healthy and convenient food options that are quick to consume such as microwaved ready meals. But have you ever wondered about the complex process behind selecting the right packaging materials for these foods? Micvac, a leading provider of in-pack pasteurization technology, has been addressing this challenge with innovative solutions for chilled ready meals. In this research, the world of sustainable packaging for Micvac technology is explored to find the most environmentally friendly packaging option to be utilized in the future.

### *The Challenge:*

Packaging materials play a crucial role in ensuring the quality and safety of the food. Packaging developers face a challenging task of selecting materials that are not only compatible with the product but also meet important requirements such as shelf life, cost, and environmental impact. Quite a juggling act! Micvac's technology stands out because it offers a unique method of cooking and pasteurization right in the packaging itself, reducing water and energy usage and minimizing environmental impact. But the question remains: what is the most sustainable packaging option for Micvac technology?

The research delved into the world of packaging materials, studying both conventional and innovative solutions. To find the answer, an evaluation tool was developed that considers various sustainability criteria. The analysed packaging solutions included Micvac's current packaging (made up of a tray, a lid film and a valve) and alternative options like monoPP, fiber-based, biopolymer, and monoPET. The tool which assesses the environmental impact of these packaging solutions is made up of four areas: packaging material, transport efficiency, influence on food waste, and packaging end-of-life. The tool assigned scores from 1 to 5 based on each solution's performance in these areas. Each solution showed its unique strengths and weaknesses but the monoPP option emerged victorious as the champion of the evaluation with an overall score of 2.96 out of 5, followed closely by other alternatives.

We also combed through EU regulations, shed light on the ready meals market trends, and even engaged in thrilling conversations with key players in the supply chain such as food producers and retailers. The mission? Unravel the mystery behind the ideal packaging. Many key players are striving for monomaterial packaging and reducing plastic content without compromising food safety and shelf life. These companies are aiming for 100% recyclable packaging in the near future. They are marching to the beat of upcoming legislation, which will demand recycled content to be included in food packaging.

In summary, the proposed packaging solutions for Micvac could revolutionize the way we enjoy chilled ready meals. The research highlighted the importance of balancing environmental impact, product requirements, and market trends. It witnessed the triumph of the monoPP packaging in the evaluation tool, leading the charge towards a more environmentally friendly food industry. So, the next time you heat up a chilled ready meal in the microwave, remember that behind the magic lies the power of sustainable packaging, transforming the way we savor our meals while preserving our planet.