

Consumer Research Result of Jack Bean Tempeh: Tradition Meets Innovation



In 2025, BOI Research was commissioned by GAIN to conduct a research project evaluating jack bean tempeh (locally known as tempe koro) as an alternative to soybean tempeh, which concentrated on three main dimensions: **consumer acceptance of taste, the effectiveness of communication messages, and overall market readiness.**



The research findings are intended to serve as a strategic basis for shaping B2B and B2C marketing approaches for Rumah Pangan Nusantara (RPN) and Rumah Pangan Aceh (RPA) – two Micro Small Medium Enterprises (MSMEs). Beyond this, the study also aims to highlight potential product opportunities, provide deeper insight into consumer preferences across different market segments, and reinforce the role of RPN and RPA as pioneers in promoting innovative and sustainable products grounded in local traditions.

Background

GAIN has identified tempeh as a nutritious food which has low environmental impact. Plant-based protein consumption in Indonesia is projected to increase, and tempeh has gained wider recognition at the international level as a global “superfood.”

Tempeh continues to serve as an everyday staple food in Indonesia, valued for its affordability, and suitability across all age groups. However, domestic soybean production currently fulfills only around 6% of national demand, with the majority covered by imports. This dependency renders tempeh production vulnerable to international market dynamics and price fluctuations.

Against this backdrop, kacang koro or jack beans (*Canavalia ensiformis*) has emerged as a promising alternative raw material. The crop is tolerant to dry climates, productive in marginal lands, and provides protein content comparable to soybeans. Its potential use, both as a primary ingredient and in combination with soybean, introduces opportunities to diversify tempeh production, reduce reliance on imports, and strengthen the foundation of local food security.

GAIN Indonesia thus assessed the feasibility of the market for more environmentally positive tempeh production and processing. The results show that jack bean has high potential to be developed as a tempeh alternative, considering its cheap raw material price, nutritional profile (relatively low fat and high protein), sensory properties (high acceptance), and scale-up readiness.



Research Method

Central Location Testing

This method assessed consumer acceptance of tempe kacang koro by conducting sensory evaluations of three variants—soybean, kacang koro, and a soybean–koro blend—focusing on appearance, taste, texture, and purchase intention.

Consumer Behaviour Survey

Consumer behaviour survey input on protein source awareness, taste, marketing messages, and perceptions, encompassing broader habits and attitudes such as awareness of tempeh alternatives, purchasing patterns, and perceived opportunities and barriers.

In-Depth Interview

IDIs were conducted to obtain a comprehensive understanding of market dynamics and key challenges in promoting tempeh made from kacang koro, engaging both B2B and B2C stakeholders.

The study was conducted from May 24, 2025 to July 31, 2025 with 210 respondents from Greater Jakarta and Aceh.



Results

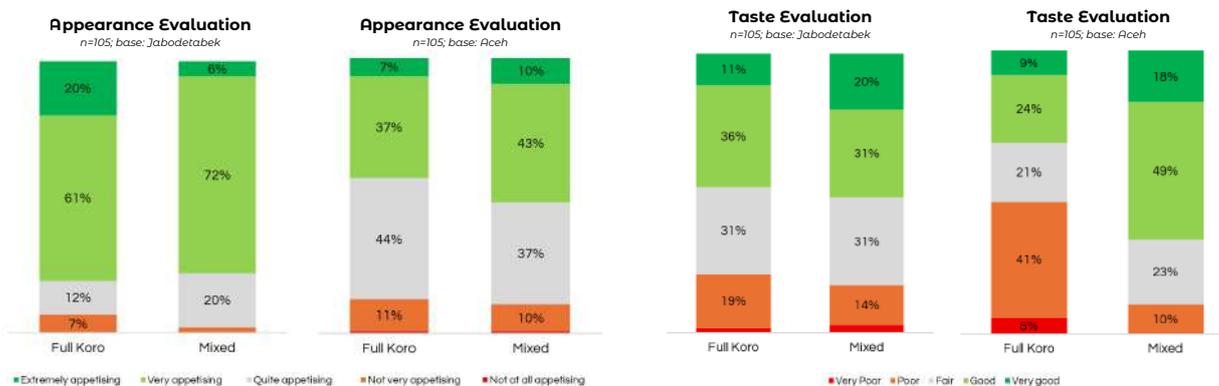
Key Takeaways

Recent consumer testing and surveys indicate strong potential for tempe made from kacang koro and mixed kedelai-koro formulations. While kacang koro tempe stands out visually, taste preferences still favor traditional soybean tempe. Mixed formulations offer a balanced appeal, combining familiarity with innovation.

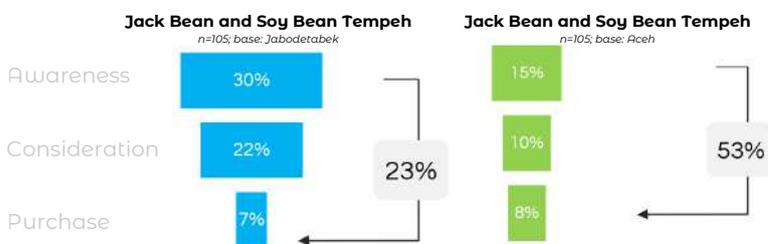
Fresh plant-based products like tempe and tofu are highly favored, with **92%** of respondents purchasing them more frequently than other food categories. Monthly spending on tempe and tofu averages **Rp147,800** in Jabodetabek and **Rp118,210** in Aceh. Traditional markets remain the dominant purchase channel for tempe (90%), followed by small eateries (66%) and vegetable stalls (49%). E-commerce and quick commerce are emerging, especially in Jakarta, where they account for around 16% of tempe-related spending.

Central Location Testing (CLT)

Products Tested: Tempe Kacang Koro, Tempe Kacang Kedelai, Tempe Mixed (70% Kedelai & 30% Koro).



Consumer Behaviour Survey



Drivers of Purchase

- Taste or texture appeal (73%)
- Prior trial experience (47%)
- Affordable price (33%)
- Perceived healthier composition (27%)

Barriers to Purchase

- Lack of familiarity or availability (70%)
- Never having tried before (39%)
- Perception of unattractive taste or texture (27%)

Supermarkets, street vendors, and caterers expressed interest in selling or using tempe kacang koro, conditional on taste quality and added value. Specifically, supermarkets express curiosity and openness if the taste is good and offers added value. Vegetable vendors or tukang sayur are unfamiliar with tempe from alternative beans, but show interest in trying it.

Conclusion

After thorough testing, the evaluation results indicate that **mixed tempe (70% kedelai and 30% koro) achieved more favorable responses** than full koro tempe across multiple aspects. In Aceh, 67% of respondents liked mixed tempe, compared to only 33% for full tempe koro, while in Jabodetabek the figures were 51% and 47% respectively.

Our findings suggest that unlocking the potential of alternative tempe requires focused product innovation and strategic trust-building. For kacang koro-based tempe, innovation should prioritize improving taste and texture to meet consumer expectations. Mixed kedelai-koro formulations offer a promising path by blending familiarity with nutritional novelty. To support adoption, we recommend investing in consistent quality control, in-store sampling, and clear consumer education—especially around the safety and benefits of new ingredients like kacang koro



Global Alliance for Improved Nutrition (GAIN) Indonesia

The Global Alliance for Improved Nutrition (GAIN) is a Swiss-based foundation launched at the United Nations in 2002 to tackle the human suffering caused by malnutrition. GAIN's Strategy aims to transform food systems to make healthier diets from sustainable food systems accessible to all people and especially those whose are most vulnerable to shocks.

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BOI Research

BOI Research is a boutique market research agency in Indonesia, specializing in selecting the right research tools to deliver actionable insights. The firm provides integrated services for international and domestic clients across a wide range of industries.

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