



## JURNAL ONLINE PERTANIAN TROPIK



# Mentari Kwala Bingai Elderly Daycare provides packaging and marketing assistance for moringa leaf tempeh chips

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### ABSTRACT

*Mentari Elderly Daycare in Kwala Bingai Village provided assistance in the packaging and marketing of moringa leaf tempeh chips, an effort to empower the elderly through the development of healthy and economically valuable local food products. Partners faced challenges in substandard production, unattractive packaging design, and suboptimal marketing strategies. This community service activity aimed to increase the capacity of the elderly in managing small businesses based on functional foods through a participatory training approach. The assistance included training in hygienic and consistent moringa leaf tempeh chip production techniques, attractive packaging design, and digital and conventional marketing strategy training. The results of the activity showed an increase in the skills of the elderly in producing quality products with a longer shelf life. The moringa leaf tempeh chip product has obtained a Business Identification Number (NIB), a PIRT Number, and an MUI Halal Certificate, as a form of legality and quality assurance. Marketing is carried out online through social media and digital platforms, as well as offline in several minimarkets, bakeries, and through a network of resellers. This program not only increases the economic independence of the elderly but also strengthens the function of Mentari Daycare as a center for productive, social, and inspirational activities for elderly residents in Kwala Bingai Village.*

**Keywords:** Elderly, empowerment, moringa leaf, tempeh chips

### ABSTRAK

Kegiatan pendampingan pengemasan, dan pemasaran keripik tempe daun kelor oleh Daycare Lansia Mentari di Desa Kwala Bingai merupakan upaya pemberdayaan lansia melalui pengembangan produk pangan lokal yang sehat dan bernilai ekonomi. Mitra menghadapi kendala pada aspek produksi yang belum standar, desain kemasan yang kurang menarik, serta strategi pemasaran yang belum optimal. Kegiatan pengabdian masyarakat ini bertujuan meningkatkan kapasitas lansia dalam mengelola usaha kecil berbasis pangan fungsional dengan pendekatan pelatihan partisipatif. Pendampingan meliputi pelatihan teknik produksi keripik tempe daun kelor yang higienis dan konsisten, pembuatan desain kemasan yang menarik, serta pelatihan strategi pemasaran digital dan konvensional. Hasil kegiatan menunjukkan peningkatan keterampilan lansia dalam menghasilkan produk berkualitas dengan daya simpan lebih lama. Produk keripik tempe daun kelor telah memperoleh Nomor Induk Berusaha (NIB), Nomor PIRT, dan Sertifikat Halal MUI, sebagai bentuk legalitas dan jaminan mutu. Pemasaran dilakukan secara daring (online) melalui media sosial dan platform digital, serta secara luring di beberapa minimarket, toko roti, dan melalui jaringan reseller. Program ini tidak hanya meningkatkan kemandirian ekonomi lansia tetapi juga memperkuat fungsi Daycare Mentari sebagai pusat kegiatan produktif, sosial, dan inspiratif bagi warga lanjut usia di Desa Kwala Bingai.

**Kata Kunci:** lansia, pemberdayaan, daun kelor, keripik tempe



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<https://doi.org/10.32734/jpt.v12i2.23048>

## 1. Introduction

Tempeh is a typical Indonesian fermented product produced from soybeans through an inoculation process using *Rhizopus oligosporus*. This traditional food is not only known for its high protein content but also for its bioactive compounds such as isoflavones and bioactive peptides, which offer health benefits (Teoh, Chin, & Lim, 2024). Currently, diversifying tempeh products into various processed forms, such as tempeh chips, is a new trend to extend shelf life and increase the economic value of soy-based products (Murwani, 2024). Tempeh chip production has become a business opportunity for communities in various regions in Indonesia. According to research by Susanti (2022), using simple methods such as frying at a stable temperature can produce high-quality tempeh chips with a crispy texture and low oil content. Furthermore, the development of the tempeh chip business is also driven by the ease of production and the abundant availability of local raw materials, making it a leading commodity for MSMEs in the processed food sector (Rossy, Munandar, et al., 2022).

The moringa (*Moringa oleifera*) leaves used in this product have high nutritional benefits and potential economic value. Research by Lestari and Rahmadani (2022) showed that adding moringa leaf flour to food products increases protein, calcium, and iron levels without significantly reducing flavor. The use of moringa leaves in making tempeh chips not only provides additional nutritional value but also introduces the concept of functional snacks to the wider community. Thus, the integration of local ingredients such as moringa leaves into processed food products aligns with the spirit of food security and innovation based on local resources (Lestari & Rahmadani, 2022).

Interestingly, similar innovations have also been found in neighboring countries. In Malaysia, tempeh chips are gaining popularity as a healthy, plant-based snack that is high in protein and low in cholesterol. A study by Teoh et al. (2024) explains that demand for tempeh-derived products is increasing along with the trend of fermented functional foods. In Thailand, tempeh is also being introduced through alternative food projects to increase the plant-based protein security of urban communities (Chua, 2023). This fact suggests the potential for developing processed tempeh products to compete in the ASEAN market.

In a social context, the Mentari Elderly Daycare in Kwala Bingai is an example of an institution that seeks to empower the elderly through productive economic activities. Research by Madanih (2021) shows that the participation of elderly people in activities such as food processing can increase their sense of empowerment, psychological well-being, and social relationships among members. Through assistance in the production and marketing of moringa leaf tempeh chips, this activity not only increases income but also strengthens the meaning of life for the elderly.

Legality and certification are crucial components in expanding market reach. According to Susanti (2022), business legality, such as NIB/NBL (National Business License) and PIRT/PBR (Permit for Business Registration), and MUI halal certification, are indicators of quality and consumer trust in processed food products. Through mentoring activities, Mentari Elderly Daycare has successfully obtained all three certifications, strengthening its position in both local and online markets. Furthermore, modern packaging design has been shown to positively influence consumer purchasing interest (Rahmawati, 2021).

Marketing strategy is also a key factor in business sustainability. A study by Rossy et al. (2022) found that digital marketing training and the use of social media increased sales of MSME products by up to 40%. Mentari Elderly Daycare's moringa leaf tempeh chips have been marketed online through online marketplace platforms and offline through minimarkets, bakeries, and reseller networks around Langkat Regency. This combination of strategies expands market reach while enhancing the group's economic sustainability.

## 2. Materials and Methods

### 2.1. Location of activity

This activity took place at the Mentari Elderly Daycare in Kwala Bingai, Langkat Regency, North Sumatra Province. This location was chosen because it is a center for senior activities and has adequate facilities for the production and packaging of moringa leaf tempeh chips.

## 2.2. Materials

The materials and tools used in this community service activity include the main raw materials, namely tempeh and fresh moringa leaves as the basic ingredients for making chips; supporting packaging materials, such as plastic jars as containers, sticker labels containing product information, business permit numbers, PIRT numbers, halal certification, plastic wrap, and silica gel pockets to maintain product quality; as well as tools for online marketing and promotion, including smartphone devices and social media accounts such as Gmail, Instagram, and YouTube which are used as a means of branding and communication with consumers.

## 2.3. Implementation of method

This Community Service (PKM) activity is carried out with direct mentoring for the elderly involved, using focus group discussions (FGDs) and hands-on practice. The activity stages include:

### 1. Packaging Assistance

- Determining the type of container (plastic jar) and net weight of the product to be sold.
- Creating sticker labels that include product information, PIRT number, business license number, and MUI halal certification.
- Packaging the product with plastic wrap and placing silica gel pockets to maintain the quality of the chips during distribution.

### 2. Marketing Assistance

- Creating social media accounts: Gmail, Instagram, and YouTube.
- Training in using social media for promotion, product branding, and communication with consumers.
- Assistance with offline marketing strategies through minimarkets, bakeries, and local resellers.

Through this method, seniors not only learn production and packaging techniques, but also understand the legal process and marketing strategies, so that Mentari Daycare Lansia's moringa leaf tempeh chips can be marketed effectively both online and offline.

## 3. Results and Discussion

### 3.1. Moringa leaf tempeh chips packaging process

The packaging of Moringa leaf tempeh chips involves several important steps to ensure the product is not only safe and legal, but also attractive to consumers. The initial stage begins with the creation of a product logo that reflects a healthy, natural, and elderly-friendly identity, while also symbolizing the involvement of seniors in production. Next, a Business Identification Number (NIB) is issued to establish business legality, followed by a PIRT Number from the Health Office to ensure household food safety standards. The next step is MUI halal certification, which ensures the product is safe and in accordance with Sharia principles, thereby increasing consumer confidence. Once the legal aspects are met, the final step is the aesthetic and premium packaging design, designed to look elegant, attract consumer interest, and increase the product's appeal in the market.

#### 3.1.1. Product logo creation

The initial packaging stage also included determining the product's brand name, Mentari Moringa Leaf Tempe Chips. The name "Mentari" is derived from the name of Mentari Elderly Daycare, as a form of identity and symbol of the elderly's involvement in the production process. The name selection was conducted through a participatory process, involving the elderly to provide input to ensure the name was memorable, had a positive impression, and reflected the healthy and natural values of the product. Thus, the brand name not only serves as product identity but also emphasizes the emotional attachment and pride of the elderly in the moringa leaf tempe chips they produce.

The next step in the packaging process for the moringa leaf tempe chips began with the creation of a logo and product label design. The support team, along with the elderly at Mentari Kwala Bingai Daycare, engaged in creative discussions to determine a logo concept that reflected the product's identity: healthy, natural, and elderly-friendly. Several designs were tested and evaluated together, ultimately selecting a logo that was simple yet attractive, memorable, and reflected the nutritional value and quality of the moringa leaf tempe chips.

Once the logo was approved, the next step was creating sticker labels to be affixed to the chip containers. These labels were designed to be both informative and aesthetically pleasing, featuring the logo, product name, and brief information about the product. Seniors were involved in this process, from selecting the color and size to the logo layout, allowing them to feel creatively involved and take pride in the product they produce.

This logo represents the identity of Mentari Moringa Leaf Tempe Chips, produced by Aisyiyah Mentari Elderly Daycare, located in Kwala Bingai Village, Stabat District. The overall logo conveys a healthy, natural, and energetic feel, with a combination of visual and text elements that reinforce the brand message (Figure 1).

The product name, "Mentari Moringa Leaf Tempe Chips," is prominently displayed at the top of the logo, emphasizing the product's core identity. The friendly, easy-to-read font reflects the product's healthy, homey yet professional nature. The slogan "Tasty and Healthy" communicates the product's two main advantages: delicious taste and the health benefits of natural ingredients, namely tempeh and moringa leaves. This message is highly relevant to the target market seeking healthy snacks, particularly the elderly and young families.



Figure 1. Logo of the moringa leaf tempeh chips product produced by Mentari Elderly Day Care.

**Manufacturer Identity** The description "Daycare Lansia Aisyiyah Mentari" indicates that this product is the work of the elderly in its care, strengthening social values and economic empowerment of the elderly. This is a unique feature and added value to the brand. **Production Location** The writing "Kwala Bingai, Stabat" emphasizes the product's local origin, supports regional economic promotion, and provides a strong geographic identity.

**Moringa leaf green** logo color means green represents moringa leaves, the product's main nutrient-rich ingredient. Green also symbolizes freshness, health, and natural life, aligning with the high nutritional value offered by this snack. **Tempe & Energy Orange:** Orange symbolizes tempeh, a local soy-based ingredient rich in protein. In addition, orange also reflects enthusiasm, warmth, and positive energy, which aligns with the spirit of the elderly who work at Aisyiyah Mentari Daycare. **It also provides a cheerful and appetizing visual appeal.** **Sun Yellow:** Yellow is used to represent the word Mentari, which means sun. This color suggests optimism, hope, and blessings. Like the sun that illuminates life, this product also brings nutritional benefits and bright social values to its consumers and its makers. **Neutral White:** White is used as a background or supporting element, creating a clean, healthy, and simple impression. This helps the visual focus stay on the product name and the identity of the manufacturer.

Creating a product logo is a crucial step in a branding strategy because it serves as a visual identity that differentiates a product from competitors. A well-designed logo can convey a professional, memorable impression, and reflect the product's character and values, such as the quality, healthiness, and uniqueness of Moringa leaf tempeh chips. Furthermore, a logo plays a role in building consumer trust, facilitating product recognition in the market, and serving as a key element in promotional materials, both print and digital. Therefore, creating a logo is not merely an aesthetic aspect, but also a marketing strategy that can increase a product's appeal and success in the market.

### 3.1.2. Issuance of business permit number (NIB)

One of the permits required for the moringa leaf tempeh chips business is the Business Identification Number (NIB). The NIB is an official identification number for businesses, both individual and non-individual

businesses (Setyawan et al., 2022). This number assists businesses in applying for business and operational permits, and also serves as a Company Registration Certificate (TDP), Importer Identification Number (API), and customs access rights. Businesses with an NIB are also registered as participants in social health and employment social security. By having a business permit, the moringa leaf tempeh chips MSME has proper legal protection, can operate legally, and receives government support through registration on the Online Single Submission (OSS) account. The NIB obtained for the Mentari Daycare Lansia moringa leaf tempeh chips business is shown in Figure 2.

**PEMERINTAH REPUBLIK INDONESIA**  
**PERIZINAN BERUSAHA BERBASIS RISIKO**  
**LAMPIRAN**  
**NOMOR INDIK BERUSAHA: 2807250098338**

No.	Kode KBLI	Judul KBLI	Lokasi Usaha	Tingkat Risiko	Jenis Usaha	Status	Catatan
1	10794	Industri Kue, Biskuit, Roti, dan Produk Lainnya	JL. SUPRAPTO LINGKUNGAN VII BANTENAN, Desa/Kelurahan Kwala Bingai, Kec. Stabat, Kab. Langkat, Provinsi Sumatera Utara	Rendah	NIB	Terbuka	

Lampiran berikut ini memuat daftar bidang usaha untuk:

- Dengan ketentuan bahwa NIB tersebut hanya berlaku untuk Kode dan Judul KBLI yang tercantum dalam lampiran ini.
- Pelaku Usaha wajib memenuhi persyaratan dan/atau kewajiban sesuai Norma, Standar, Prosedur, dan Kriteria (NSPK) Kementerian/Lembaga (K/L).
- Pengawasan pemenuhan persyaratan dan/atau kewajiban Pelaku Usaha dilakukan oleh Kementerian/Lembaga/Pemerintah Daerah terkait.
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**PEMERINTAH REPUBLIK INDONESIA**  
**PERIZINAN BERUSAHA BERBASIS RISIKO**  
**NOMOR INDIK BERUSAHA: 2807250098338**

Berdasarkan Undang-Undang Nomor 6 Tahun 2023 tentang Penetapan Peraturan Pemerintah Pengganti Undang-Undang Nomor 2 Tahun 2022 tentang Cipta Kerja Menjadi Undang-Undang, Pemerintah Republik Indonesia menerbitkan Nomor Induk Berusaha (NIB) kepada:

- Nama Pelaku Usaha : YUMINA
- Alamat : JL. SUPRAPTO LINGKUNGAN VII BANTENAN, Desa/Kelurahan Kwala Bingai, Kec. Stabat, Kab. Langkat, Provinsi Sumatera Utara
- Nomor Telepon Seluler : 0813-1234-5678
- Email : yumi@mentari.co.id
- Kode Klasifikasi Baku Lapangan Usaha Indonesia (KBLI) : 10794
- Status Usaha : Usaha Mikro

NIB ini berlaku di seluruh wilayah Republik Indonesia selama menjalankan kegiatan usaha dan berlaku sebagai hak akses kepastian, pendafaran, kepastian jaminan sosial kesehatan dan jaminan sosial ketenagakerjaan, serta bukti pemenuhan laporan pertama Rapor Keterlaksanaan di Perusahaan (WUPP).

Pelaku Usaha dengan NIB tersebut di atas dapat melaksanakan kegiatan berusaha sebagaimana terlampir dengan tetap memperhatikan ketentuan peraturan perundang-undangan.

NIB ini merupakan perizinan tunggal yang berlaku sebagai sertifikasi jaminan produk halal berdasarkan pernyataan mandiri pelaku usaha dan setelah memperoleh pembinaan dan/atau pendampingan Proses Produk Halal (PPH) dari Pemerintah Pusat dan Pemerintah Daerah sesuai dengan ketentuan peraturan perundang-undangan.

Diberikan di Jakarta, tanggal: 28 Juli 2025

**Menteri Investasi dan Hibah/Kepala Badan Koordinasi Penanaman Modal,**

Ditandatangani secara elektronik

Ditak tanggal: 28 Juli 2025

Figure 2. Business permit number issued for Mentari moringa leaf tempeh chips

### 3.1.3. Creating a PIRT number

Based on the Food and Drug Monitoring Agency (BPOM) Regulation Number 22 of 2018 concerning Guidelines for the Issuance of Home Industry Food Certificates, it is explained that PIRT is a Home Industry Food permit certificate issued by the Regent or Mayor through the Health Office.

**PEMERINTAH REPUBLIK INDONESIA**  
**PERIZINAN BERUSAHA UNTUK MENUNJANG KEGIATAN USAHA**  
**SERTIFIKAT PEMENUHAN KOMITMEN PRODUKSI PANGAN OLAHAN**  
**INDUSTRI RUMAH TANGGA (SPP-IRT)**  
**LAMPIRAN PB-UMKU: 280725009833800000001**

- No. Pendaftaran : P-IRT 211105010118-30
- Nama IRTP : YUMINA
- Nama Pemilik : YUMINA
- Alamat : JL. SUPRAPTO LINGKUNGAN VII BANTENAN
- Provinsi : SUMATERA UTARA
- Kabupaten/Kota : KAB. LANGKAT
- Kecamatan : Stabat
- Desa : Kwala Bingai
- Jenis Produk Pangan : Hasil olahan biji-bijian, kacang-kacangan, dan umbi
- Nama Jenis Pangan : Kue, Biskuit, Roti, dan Produk Lainnya
- Nama Produk / Branding Pangan : Kue, Biskuit, Roti, dan Produk Lainnya
- Komposisi : Kue, Biskuit, Roti, dan Produk Lainnya
- Kemasan Primer : Plastik
- Masa Berlaku Sertifikat : 04-08-2030
- Komitmen :
  - Mengikuti Penyelenggaraan Keamanan Pangan;
  - Memenuhi persyaratan cara Produksi Pangan Olahan yang baik untuk IRTP atau hygiene, sanitasi, dan dokumentasi;
  - Memenuhi ketentuan label pangan olahan;
  - Memenuhi persyaratan keamanan dan mutu Pangan Olahan termasuk persyaratan penggunaan BTP dan cermat sesuai dengan ketentuan peraturan perundang-undangan;

Atas peruntuk dalam waktu 3 bulan

**PEMERINTAH REPUBLIK INDONESIA**  
**PERIZINAN BERUSAHA UNTUK MENUNJANG KEGIATAN USAHA**  
**SERTIFIKAT PEMENUHAN KOMITMEN PRODUKSI PANGAN OLAHAN**  
**INDUSTRI RUMAH TANGGA (SPP-IRT)**  
**LAMPIRAN PB-UMKU: 280725009833800000001**

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- Dokumen ini terdapat ketentuan isi dokumen ini akan dilakukan perubahan selang-selingnya.

Figure 3. PIRT number for Mentari moringa leaf tempeh chips issued

This certificate serves as official legality, guaranteeing that the food products produced are safe for consumption, produced according to hygienic standards, and meet applicable health requirements for home industries. PIRT is an essential requirement for MSME products to be legally marketed in both local and offline markets. For Mentari Moringa Leaf Tempe Chips, the PIRT application process was carried out through mentoring by the Community Service Team (PKM) for the elderly at Mentari Lansia Daycare. The application process included completing a form, inspecting the production facilities, and testing product quality according to Langkat Regency Health Office standards. By obtaining a PIRT number, the Moringa Leaf Tempe Chips officially have the legal status of a home industry food product, increasing consumer trust and opening up broader marketing opportunities. The PIRT number obtained is shown in Figure 3.

#### 3.1.4. Issuance of MUI halal certification

The halal status of a product can be ensured through the halal certification process, which includes a thorough inspection from raw material selection through production stages to the final product. Halal certification is part of the business ethics that producers must implement to guarantee halal status to consumers. In addition to providing consumers with halal assurance, the halal label also brings economic benefits to producers, including: (1) increasing consumer trust in the product, (2) becoming a Unique Selling Point (USP) that differentiates the product in the market, (3) opening opportunities for penetration into the international halal market, (4) expanding product sales in both domestic and international markets, and (5) being a relatively inexpensive investment compared to the potential increase in revenue (Ramlan & Nahrowi, 2014). In this activity, the halal certification process is still awaiting the availability of quotas from the halal certification facilitator. Although not yet complete, several stages of certification progress have been carried out and recorded as part of the activity implementation documentation.

  
 REPUBLIK INDONESIA  
 (REPUBLIC OF INDONESIA)  
 جمهورية إندونيسيا  
 LAMPIRAN SERTIFIKAT HALAL  
 (THE ATTACHMENT OF HALAL CERTIFICATE)  
 مرفقة لشهادة الحلال

Nomor Sertifikat / Certificate Number: ID12410026552550825  
 رقم الشهادة: ID12410026552550825

Nama Pelaku Usaha / Name of Company: YUMINA  
 اسم الشركة: YUMINA

Jenis Produk / Type Product: Makanan ringan siap santap  
 نوع المنتج: Makanan ringan siap santap

Alamat Pabrik / Factory's Address: DAYCARE LANSIA MENTARI, JL. SUPRAPTO LINGKUNGAN VIII BANTENAN, LANGKAT, Sumatera Utara, 20811, Indonesia  
 عنوان المصنع: DAYCARE LANSIA MENTARI, JL. SUPRAPTO LINGKUNGAN VIII BANTENAN, LANGKAT, Sumatera Utara, 20811, Indonesia

Daftar Produk / Product Name

No	Nama Produk / Product Name
1	Keripik Tempe Daun Kelor Mentari

Hal 1 / Total Produk: 1

Diterbitkan di Jakarta pada / Issued in Jakarta on: 26 Agustus 2025  
 أصدرت الشهادة بجاكرتا في: 26 أغسطس 2025

KEPALA  
 BADAN PENYELENGGARA JAMINAN PRODUK HALAL  
 HEAD OF HALAL PRODUCT ASSURANCE BODY  
 رئيس وكالة ضمان المنتجات الحلال

Ahmad  
 Dokumen ini telah ditandatangani secara elektronik menggunakan sertifikat elektronik yang diterbitkan oleh Balai Sertifikasi Elektronik, BSN

 Balai Sertifikasi Elektronik

Figure 4. Halal certificate for Mentari moringa leaf tempeh chips issued by MUI



### 3.1.5. Making product packaging

The initial stage of packaging the Moringa leaf tempeh chips began with the design preparation. The support team, along with the elderly at Mentari Lansia Daycare, discussed a packaging concept that aligned with the product's identity: healthy, natural, and elderly-friendly. Design considerations included color selection, logo layout, container size, and clear, easy-to-read product information. The goal of this preparation was to create packaging that not only physically protected the product but also visually appealed to consumers.

During this process, the packaging underwent several revisions to adjust for aesthetics and practicality. Each revision involved evaluating visual aspects such as color combination, typography, logo positioning, and overall appeal. After several adjustments and input from the elderly and the support team, the optimal packaging design was achieved: elegant, premium, and able to attract consumers while maintaining the product's professional image.



Figure 5. Transformation of Mentari moringa leaf tempeh chips packaging

### 3.2. Marketing process for moringa leaf tempeh chips

The marketing process for moringa leaf tempeh chips is carried out through digital marketing, utilizing social media accounts as a promotional and branding tool. The support team guided seniors at Mentari Lansia Daycare to create official product accounts on platforms like Instagram, YouTube, and Gmail. Through these accounts, the product is introduced with engaging content, such as aesthetically pleasing packaging photos, production process videos, and customer testimonials. This strategy aims to increase market reach, build the product's online identity, and make it easier for consumers to order online.

Furthermore, digital marketing includes direct interaction with consumers, such as responding to comments, answering questions, and providing information on pricing, ordering methods, and the benefits of moringa leaf tempeh chips. Seniors are guided to understand how to use social media effectively without compromising digital security. With this approach, the product is not only recognized locally but also has the potential to reach a wider consumer base through online promotions, building loyalty, and significantly increasing sales.

#### 3.2.1. Creating a social media account

In marketing activities, an important component of the promotional mix is an effective communication strategy to ensure widespread product recognition and increased sales. This is achieved by delivering persuasive promotional messages that capture consumer attention. To support this strategy, the Community Service (PKM) team has assisted seniors at Mentari Lansia Daycare in creating partner social media accounts. A Gmail account was created as the basis for registering other social media accounts and for online correspondence. A YouTube account is used to promote the product through videos showcasing the production process, chip quality, and customer testimonials. Meanwhile, an Instagram account is utilized to reach a wider audience with engaging and informative visual content about Mentari Moringa Leaf Tempe Chips.

In addition to creating social media accounts, the PKM team also provided training on how to manage and optimize these platforms effectively. The training included guidance on creating engaging captions, using

relevant hashtags, uploading high-quality photos and videos, and maintaining consistent posting schedules to attract followers. Although direct management of the accounts still requires assistance from the PKM team, this activity has helped build awareness among seniors about the importance of digital presence in increasing product visibility and strengthening the branding of Mentari Moringa Leaf Tempe Chips.

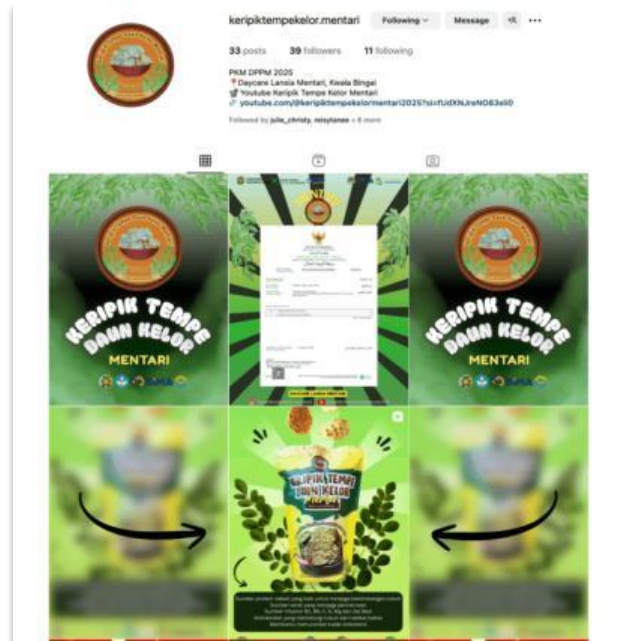


Figure 6. Instagram account for Mentari moringa leaf tempe chips

### 3.3. Supporting and inhibiting factors

Several supporting factors played a crucial role in the successful production, packaging, and marketing of moringa leaf tempeh chips. The primary factor was the active involvement of seniors at Mentari Elderly Daycare, who provided motivation, creativity, and practical experience at every stage of production. The support of the Community Service (PKM) mentor team was also crucial, providing technical guidance on everything from logo creation and packaging design to business legality and online marketing strategies. Furthermore, adequate production facilities, quality raw materials, and access to social media and local and online marketing networks further strengthened the success of this initiative. This combination of factors enabled the production of moringa leaf tempeh chips not only to be professionally produced but also to compete in the market with quality and an attractive appearance for consumers.

Several inhibiting factors were also encountered in the production and marketing of moringa leaf tempeh chips, particularly those related to the elderly as the primary actors. Their advanced age makes it difficult for them to adapt to the use of machinery and production equipment, which requires precision, regular training, and caution to avoid injury. Furthermore, the elderly's limited ability to use gadgets and digital technology makes it difficult for them to conduct online marketing independently, requiring constant support from the community service team, comprising both lecturers and students. These factors require a patient approach, repeated guidance, and consistent supervision to ensure the activities run safely and smoothly, while remaining productive for the elderly.

## 4. Conclusions

The packaging and marketing assistance for Mentari's Moringa Leaf Tempeh Chips demonstrated that active involvement of seniors can produce a safe, attractive product with official legality through NIB, PIRT, and halal certification. The packaging process, which included logo creation, premium packaging design, and digital marketing strategies, successfully increased the product's appeal, while the PkM team's support was key in addressing the elderly's limitations, particularly in the use of machines and online marketing. Overall, this activity not only improved the skills and independence of seniors but also opened up broader market opportunities for moringa leaf tempeh chips.



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