

BIBLIOGRAPHY

- Aryanti, N., Yovita Asih Kusumastuti and Wida Rahmawati (2017). Pati Talas (Colocasia Esculenta (L.) Schott) Sebagai Alternatif Sumber Pati Industri. *Majalah Ilmiah MOMENTUM*, 13(1), p.138246. doi: <https://doi.org/10.36499/jim.v13i1.1759>
- Aryanti, N., Yovita Asih Kusumastuti, & Wida Rahmawati. (2017). Pati Talas (Colocasia Esculenta (L.) Schott) Sebagai Alternatif Sumber Pati Industri. *Majalah Ilmiah MOMENTUM*, 13(1), 138246. <https://doi.org/10.36499/jim.v13i1.1759>
- Aski Safarizki, H., & Sri Lestari, M. (2020). Optimalisasi Kemasan Raos Eca Dalam Peningkatan Promosi Dan Nilai Jual Produk. *Surya Abdimas*, 4(2), 53–62. <https://doi.org/10.37729/abdimas.v4i2.599>
- Bastiawan, H., Santoso, S., Sahab, A. I., Yamin, A., & Almira, B. (2022). Analysis of Healthy Living Behavior, Age, and Income on Gluten-Free Food Consumption. *Journal of Consumer Sciences*, 7(1), 51–67. <https://doi.org/10.29244/jcs.7.1.51-67>
- Begley, B. W. (2019). Taro Processing in Hawaii: an Economic and Historical Perspective. *CRC Press EBooks*, 357–377. <https://doi.org/10.1201/9780429306181-29>
- Belyaev, V., Nikitenko, A., Artemenkov, D., Grigorov, I., Tarasov, M., & Efimov, Y. (2022). Fishing for Chab Mackerel Scomber Colias near the Coats of West Afrika. *Fisheries*, 2022(5), 21–27. <https://doi.org/10.37663/0131-6184-2022-5-21-27>
- Chodrijah, U., Noegroho, T., & Tirtadanu. (2020). Growth, Mortality and Exploitation Rate of Indo-Pacific King Mackerel (*Scomberomorus guttatus*, Bloch and Schneider, 1801) in the Tarakan waters, North Kalimantan, Indonesia. *IOP Conference Series: Earth and Environmental Science*, 584(1), 012026. <https://doi.org/10.1088/1755-1315/584/1/012026>
- Ciptawati, E., Budi Rachman, I., Oktiyani Rusdi, H., & Alvionita, M. (2021). Analisis Perbandingan Proses Pengolahan Ikan Lele Terhadap Kadar nutrisinya. *IJCA (Indonesian Journal of Chemical Analysis)*, 4(1), 40–46. <https://doi.org/10.20885/ijca.vol4.iss1.art5>
- D Mareta, Sobir, I Helianti, Purwono, & E Santosa. (2021). Current status of taro (*Colocasia esculenta*) utilization as local food diversification toward climate resilience in Indonesia. *IOP Conference Series. Earth and Environmental Science*, 913(1), 012027–012027. <https://doi.org/10.1088/1755-1315/913/1/012027>

- Foschia, M., Horstmann, S., Arendt, E. K., & Zannini, E. (2016). Nutritional Therapy – Facing the Gap between Coeliac Disease and gluten-free Food. *International Journal of Food Microbiology*, 239, 113–124. <https://doi.org/10.1016/j.ijfoodmicro.2016.06.014>
- Hanafi, D., Novia, D. and Putra, A.A. (2020). Karakteristik Patty Burger Yang Dibuat Dari Daging Itik Dengan Berbagai Persentase Tepung Talas. *Journal of Livestock and Animal Health*, 3(1), pp.27–31. doi: <https://doi.org/10.32530/jlah.v3i1.195>
- Harimurti, K., Sudjatinah, M., Fitriana, I., Teknologi, J., Pertanian, H. and Pertanian, T. (2021). Pengaruh Perbedaan Waktu Pengukusan Pada Proses Pemindangan Ikan Kembung Terhadap Sifat Fisik, Kimia dan Organoleptik. [online] Available at: <https://repository.usm.ac.id/files/journalmhs/D.111.16.0105-20210915113813.pdf> [Accessed 9 May 2025].
- Hayati, R., Nanda Mayani, Rika Husna, & Sulaiman, I. (2023). Pengolahan Nugget Ayam Dan Penerimaannya Melalui Uji Organoleptik Di Desa Krueng Lam Kareung Kecamatan Indrapuri Aceh Besar. *JURNAL PENGABDIAN MAHAKARYA MASYARAKAT INDONESIA*, 1(1), 19–24. <https://doi.org/10.24815/pemasi.v1i1.30198>
- Heppy Suci Wulanningtyas, Muhamad Sabda, Ondikeleuw, M. and Yuliantoro Baliadi (2019). Keragaman Morfologi Talas (*Colocasia Esculenta* L.) Lokal Papua. *Buletin Plasma Nutfah*, 25(2), pp.23–23. doi: <https://doi.org/10.21082/blpn.v25n2.2019.p23-30>
- Hidayat, N., Muhammad Varel Fahrezi, Dinda Salsabilah, Dila Rahmawati, & Desi Sinanda. (2024). Optimalisasi Gizidan Kesejahteraan Ekonomi Keluarga Melalui Inovasi Olahan Nugget Bandeng. *COMSERVA Jurnal Penelitian Dan Pengabdian Masyarakat*, 4(7), 2251–2256. <https://doi.org/10.59141/comserva.v4i7.2699>
- Hosseini, S.M., Soltanizadeh, N., Mirmoghtadaee, P., Banavand, P., Mirmoghtadaie, L. and Shojaee-Aliabadi, S. (2018). Gluten-free Products in Celiac disease: Nutritional and Technological Challenges and Solutions. *Journal of research in medical sciences : the official journal of Isfahan University of Medical Sciences*, [online] 23, p.109. doi: https://doi.org/10.4103/jrms.JRMS_666_18
- Khalili Tilami, S., & Sampels, S. (2017). Nutritional Value of Fish: Lipids, Proteins, Vitamins, and Minerals. *Reviews in Fisheries Science & Aquaculture*, 26(2), 243–253. <https://doi.org/10.1080/23308249.2017.1399104>

- Mawla, A. M., Sutan, S. M., & Hawa, L. C. (2019). Karakteristik Berbagai Jenis Nugget Pada Penyimpanan Suhu Dingin. *Jurnal Teknotan*, 12(2), 17. <https://doi.org/10.24198/jt.vol12n2.4>
- Mohta, S., Rajput, M. S., Ahuja, V., & Makharia, G. K. (2021). Emergence of Celiac Disease and Gluten-related Disorders in Asia. *Journal of Neurogastroenterology and Motility*, 27(3), 337–346. <https://doi.org/10.5056/jnm20140>
- Nadira Ismiyatul Finani and Yusuf, A. (2023). Sosialisasi Makanan Bebas Gluten Sebagai Pengganti Tepung Terigu Untuk Pencegahan Diabetes Dan Overweight Di Kampung Bulak Cumpat Srono, Surabaya. *Deleted Journal*, 1(1), pp.35–40. doi: <https://doi.org/10.54082/jpmii.264>
- Prastiwi, W.D., Santoso, S.I. and Marzuki, dan S. (2017). Preferensi Dan Persepsi Konsumsi Produk Nugget Sebagai Alternatif Konsumsi Daging Ayam Pada Masyarakat Di Kecamatan Secang Kabupaten Magelang. *AGROMEDIA: Berkala Ilmiah Ilmu-ilmu Pertanian*, 35(1). doi: <https://doi.org/10.47728/ag.v35i1.194>
- Riski Ayu A, & Sri Winarti. (2021). PENGEMBANGAN PRODUK COOKIES GLUTEN FREE BER-BASIS UMBI-UMBIAN LOKAL DI UD. *SOFIA COOKIES. ABIYASA*, 1(1), 1–6. <https://doi.org/10.33005/abiyasa.v1i1.2>
- Rismayanti, N., Amelia, R., Aji, F.S., Said, N., Irawati, I. and Hayati, L. nur (2021). Go Honey Pemberdayaan Perempuan Desa Borong Loe Melalui Budidaya Tumbuhan Talas sebagai Pangan Alternatif Meningkatkan Perekonomian Desa Benteng Gantarang. *Ilmu Komputer untuk Masyarakat*, 2(1), pp.41–48. doi: <https://doi.org/10.33096/ilkomas.v2i1.921>
- Rokot, R. P., Rotty, L. W. A., & Moeis, E. S. (2019). Perbedaan Pola Konsumsi Ikan Laut Dan Daging Terhadap Kejadian Hipertensi Pada Masyarakat. *E-CliniC*, 7(1). <https://doi.org/10.35790/ecl.7.1.2019.23539>
- Saputro, H., & Rifani, L. E. (2021). The Effect of High Fiber Consumption Patterns on Lowering Cholesterol Levels Low Density Lipoprotein: Literature Review. *Open Access Health Scientific Journal*, 2(2), 55–62. <https://doi.org/10.55700/oahsj.v2i2.20>
- Saraswati Martika Padma, Zulfa Shafira Prihastari, Sari, A.R., Ika Restu Revulaningtyas and Diklusari Isnarosi Norsita (2021). PENGEMBANGAN PRODUK PANGAN LOKAL TALAS BOGOR (*Colocasia Esculenta*) SEBAGAI BAHAN BAKU PEMBUATAN DONAT MENGGUNAKAN METODE QUALITY FUNCTION DEPLOYMENT (QFD). *Jurnal Ilmiah Teknik Industri*, 9(2), pp.148–148. doi: <https://doi.org/10.24912/jitiuntar.v9i2.10264>

- Septariawulan Kusumasari, Fitria Riany Eris, Sri Mulyati, & Vega Yoesepa Pamela. (2019). KARAKTERISASI SIFAT FISIKOKIMIA TEPUNG TALAS BENENG SEBAGAI PANGAN KHAS KABUPATEN PANDEGLANG. *Jurnal Agroekoteknologi*, 11(2), 227–227. <https://doi.org/10.33512/jur.agroekotetek.v11i2.7693>
- Setiawan, G. and Halim, M.C. (2022). Pengaruh Asam Lemak Omega-3 terhadap Penyakit Kardiovaskular. *Cermin Dunia Kedokteran*, 49(3), p.160. doi: <https://doi.org/10.55175/cdk.v49i3.1774>
- Shah, Y. A., Saeed, F., Afzaal, M., Waris, N., Ahmad, S., Shoukat, N., & Ateeq, H. (2022). Industrial applications of taro (*Colocasia esculenta*) as a novel food ingredient: A review. *Journal of Food Processing and Preservation*, 46(11). <https://doi.org/10.1111/jfpp.16951>
- Shulgina, L. V., Pavel, K. G., Solodova, E. A., & Yakush, E. V. (2023). Nutritional Value and Dietary Significance of Natural Canned Japanese Mackerel. *Trudy VNIRO*, 192, 181–191. <https://doi.org/10.36038/2307-3497-2023-192-181-191>
- Siti Hadijah and Adriani, D. (2019). SUBSTITUSI TEPUNG TALAS SEBAGAI PENGANTI TEPUNG TERIGU PADA KUE TRADISIONAL BARONCONG. *Journal FAME: Journal Food and Beverage, Product and Services, Accomodation Industry, Entertainment Services*, [online] 2(2). Available at: <https://journal.ubm.ac.id/index.php/journal-fame/article/view/1986/1624> [Accessed 9 May 2025].
- Soares, R., Luiz, C., & Maria. (2018). *Physical, chemical and sensorial properties of low-fat and gluten-free chicken nuggets*. 16(1), 18–29. <https://doi.org/10.1080/15428052.2017.1310071>
- Sundari, D., Almasyhuri, A., & Lamid, A. (2015). Pengaruh Proses Pemasakan Terhadap Komposisi Zat Gizi Bahan Pangan Sumber Protein. *Media Penelitian Dan Pengembangan Kesehatan*, 25(4). <https://doi.org/10.22435/mpk.v25i4.4590.235-242>
- Vina Qurrota A'yun, Evi Liviawaty, Rusky Intan Pratama, & Junianto. (2023). Aluminium Foil as a Packaging Material for Fishery Products: a Review. *Asian Journal of Fisheries and Aquatic Research*, 23(3), 35–41. <https://doi.org/10.9734/ajfar/2023/v23i3604>
- Yemmen, C., & Gargouri, M. (2022). Potential Hazards Associated with the Consumption of Scombridae fish: Infection and Toxicity from Raw Material and Processing. *Journal of Applied Microbiology*, 132(6), 4077–4096. <https://doi.org/10.1111/jam.15499>

APPENDIX

1. Approved recipe



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

APPROVAL RECIPE

Recipe Name : MACKEREL FISH NUGGETS WITH TARO FLOUR
SUBSTITUTION
TITLE OF C&D : DEVELOPMENT OF GLUTEN FREE MACKEREL
FISH NUGGET USING TARO FLOUR
Yield : 1-2 portion
Main Ingredients : 100 g Mackerel Fish
Ingredients :

- 100 g of mackerel fish
- 20 g of taro flour
- 50 g of modified tapioca flour
- 60 g egg white
- 45 g whole egg
- 1 g garlic
- 2 g corn starch
- 14 g spring onion
- 2 g salt
- 1 g white pepper
- 2 g onion powder
- 2 g garlic powder
- 10 ml cooking oil

Method :

1. Add the mackerel, 20 g taro flour, garlic, scallions, chicken powder, vegetable oil, garlic powder, onion powder, salt and pepper into the chopper.
2. Add the egg and mix until the batter is well combined.
3. Pour the batter into a greased baking pan and smooth the surface.



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

4. Steam for 12 minutes, then remove and let it cool. Once cooled, cut into rectangle shapes.
5. Dredge the nugget pieces in taro flour, dip them into beaten egg, then coat with modify tapioca starch.
6. Fry using the pan fry method until golden brown

Product Description

1. Product Description: These nuggets are made from mackerel, which has a higher omega-3 content than salmon and tuna. Mackerel is high in vitamins B12, D, selenium and iron. It also tastes more savory and provides natural sweetness so you can reduce the use of flavoring. Then pan fry the mackerel over low heat so as not to reduce the nutritional content of the mackerel.
2. Product Purpose: Gluten-free mackerel fish nuggets from taro flour.
3. Product Advantage: These mackerel nuggets have high Omega-3 content, dense and soft texture, rich nutrition, and affordable price. mackerel also contains high amounts of vitamin B12, D, selenium, and iron, making it a very nutritious choice.

TRIAL PROGRESS (50 – 100 WORDS)

In this trial of making mackerel nuggets, I made 6 samples, namely A0 (50g wheat flour), A1 (45g wheat flour and 15g taro flour), A2 (40g wheat flour and 30g taro flour), A3 (35g wheat flour and 45g taro flour), A4 (30g wheat flour and 60g taro flour), A5 (50g taro flour). In terms of texture, these six samples are not different, but the flavor resulting from the use of taro flour is slightly sweeter. Then I wanted to emphasize the gluten free nuggets so I replaced the breadcrumb with modified tapioca starch.

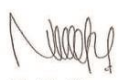


CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

TRIAL DOCUMENTATION



Student Name : Leeoneill Dave Gunawan
NIM : 2374130010026

Advisor	1 st Examiner	2 nd Examiner
 Name: Windi Habsari, S.T., M.T Date: 21/8 25	 Name: Novi Indah Permata Sari, S.T., M.Sc Date: 21/8 25	 Name: Chef Gilbert Yaguar Hadiwirawan, A.Md. Par. Date: 21/8 25

2. Approved Sensory



CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT SENSORY TEST

DATE : 16 April 2025

NAME : Leoneill Dave Gunawan

NIM : 2374130010026

PRODUCT : DEVELOPMENT OF GLUTEN FREE MACKEREL FISH NUGGET
USING TARO FLOUR AS A FLOUR SUBSTITUTION

ADVISOR : Windy Habsari, S.T., M.T.

PANELIST	SIGHT	SMELL	TEXTURE	TASTE	OVERALL	TOTAL
Panelist 1	5	5	4	5	4	23
Panelist 2	4	4	2	3	3	16
Panelist 3	3	5	5	5	5	23
Panelist 4	4	5	3	4	4	20
Panelist 5	2	3	3	3	3	14
Panelist 6	2	4	4	3	3	16
Panelist 7	5	4	3	2	4	18
Panelist 8	3	4	3	4	3	17
Panelist 9	3	4	4	4	4	19
Panelist 10	4	4	4	4	4	20
TOTAL	35	42	35	37	37	186

NOTES :

1. Good, kurang empuk sedikit
2. Tekstur agak berpasir dan kering
3. sudah baik, tapi coating tepungnya sepertinya kurang matang sedikit
4. Akan lebih enak jika dalamnya lebih matang
5. Enak tapi terlalu main aman ...
6. warna agak terlalu pale. rasa krg umami
7. Taste is starchy/floury, texture not chewy enough
8. Taste too starchy
9. Good, mgkn karena dingin jadi krg crunchy on the outside. Tapi overall oke
10. Asinnya pas, tekstur lembut



3. Consultation Form



OTTIMO
 CULINARY INNOVATION AND
 NEW PRODUCT DEVELOPMENT

CONSULTATION FORM
 OTTIMO
 CULINARY INNOVATION AND
 NEW PRODUCT DEVELOPMENT

Name : Leondrejil Dene Gunawan
Student Number : 222413061003
Advisor : Windi..H

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
1.	5/25/25	Nugget ikan selada dengan substitusi tepung talas		Liya (M. Windi)
2.	17/25/25	Penyusunan resep		Liya
3.	21/25/25	Percobaan probot hasil trial ke-2		Liya
4.	4/25/25	formulasi Revisi Reoporal		Liya
5.	6/25/25	Bab 1 & 2		Liya
6.	9/25/25	Konsul proposal bab 1,2,3		Liya (windi..h)

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
7.	6/25/25	Judul CVD		9
8.	9/25/25	Percobaan 25 hasil trial		
9.	10/25/25	Revisi Reoporal & subrepor table		
10.	10/7/2025	Revisi proposal		
11.	11/4/2025	Probuat result		Liya
12.	20/25/25	Nutritional value		Liya

4. Systematic Process Documentation

1. Ingredients of mackerel nugget



2. Steam the mixture



3. Cut the mixture



4. Frying



5. Mackerel nugget

