

BIBLIOGRAPHY

- Adam, M. H. (2019). Pengaruh Penambahan Ekstrak Bunga Rosella (*Hibiscus sabdariffa* Linn) terhadap Keasaman pada Yogurt (pH). *Jurnal Peternakan Lokal*, 1(2), 28–33. <https://ejournals.umma.ac.id/index.php/peternakan/article/download/274/173>
- Andayani, S., Khaldun, I., Pada, A. U. T., Zulfadli, Z., Rahmatan, H., Nazar, M., & Mulyani, N. S. (2022). PENGEMBANGAN MEDIA PRAKTIKUM BERBASIS EXCEL MATERI PEMERIKSAAN KARBOHIDRAT (GLUKOSA, SUKROSA DAN FRUKTOSA) UNTUK MENINGKATKAN KETERAMPILAN PROSES SAINS. *Jurnal Penelitian Pendidikan IPA*, 8(5), 2253–2259. <https://doi.org/10.29303/jppipa.v8i5.1890>
- Atmarita, A., Jahari, A. B., Sudikno, S., & Soekatri, M. (2017). ASUPAN GULA, GARAM, DAN LEMAK DI INDONESIA: Analisis Survei Konsumsi Makanan Individu (SKMI) 2014. *Gizi Indonesia*, 39(1), 1. <https://doi.org/10.36457/gizindo.v39i1.201>
- Batubara, M. S., Sabri, E., & Tanjung, M. (2017). PENGARUH PEMBERIAN EKSTRAK ETANOL DAUN ANDALIMAN (*Zanthoxylum acanthopodium* DC.) TERHADAP GAMBARAN MORFOLOGI OVARIUM MENCIT (*Mus musculus* L.) STRAIN DDW. *KLOROFIL Jurnal Ilmu Biologi Dan Terapan*, 1(1), 5. <https://doi.org/10.30821/kfl:jibt.v1i1.1232>
- Dewi, I. A., Pertiwi, E. D., Fitriani, F., Rahmawati, A. Y., & Wijaningsih, W. (2023a). Formulasi permen Jelly daun kelor dan jambu biji sebagai alternatif Snack Tinggi zat besi dan vitamin C untuk anak. *JURNAL RISET GIZI*, 11(1), 50–56. <https://doi.org/10.31983/jrg.v11i1.10784>
- Dewi, I. A., Pertiwi, E. D., Fitriani, F., Rahmawati, A. Y., & Wijaningsih, W. (2023b). Formulasi permen Jelly daun kelor dan jambu biji sebagai alternatif Snack Tinggi zat besi dan vitamin C untuk anak. *JURNAL RISET GIZI*, 11(1), 50–56. <https://doi.org/10.31983/jrg.v11i1.10784>
- Fatmawati, F., Halik, A., Sutanto, S., Laga, S., & Pance, Y. (2022). Studi formula permen jelly gelatin dengan buah naga merah *hylocereus polyrhizus* L. *Jurnal Ilmiah Ecosystem*, 22(2), 267–277. <https://doi.org/10.35965/eco.v22i2.1522>
- Fitrina, F., Ali, A., & Fitriani, S. (2014). RASIO LIDAH BUAYA DAN RUMPUT LAUT TERHADAP MUTU PERMEN JELLY. *Jurnal Sagu*, 13(1), 14–21. <https://doi.org/10.31258/sagu.v13i1.2131>
- Helmalia, A. W., Putrid, P., & Dirpan, A. (2019). POTENSI REMPAH-REMPAH TRADISIONAL SEBAGAI SUMBER ANTIOKSIDAN ALAMI UNTUK BAHAN BAKU PANGAN FUNGSIONAL). *Canrea Journal Food Technology Nutritions and Culinary Journal*, 26–31. <https://doi.org/10.20956/canrea.v2i1.113>
- Insani, H., Rizqiati, H., & Pratama, Y. (2018). Pengaruh Variasi Konsentrasi Sukrosa Terhadap Total Khamir, Total Padatan Terlarut, Kadar Alkohol dan Mutu Hedonik pada Water Kefir Buah Naga Merah (*Hyloreceus Polyrhizus*). *Jurnal Teknologi Pangan*, 2(2), 90–97. <https://doi.org/10.14710/jtp.2.2.90>

- Jackson, B., & Jayanthi, T. (2014). Determination of sucrose in raw sugarcane juice by microwave method. *Indian Journal of Science and Technology*, 4(5), 566–570. <https://doi.org/10.17485/ijst/2014/v7i5.10>
- Kamil, R. Z., Fadhila, F. H., Dea, A., Rahayu, E. S., & Hartiningsih, S. (2023). The shelf-life, microbiology quality, and characteristic changes of probiotic *Lactobacillus plantarum* DAD-13 milk jelly candy during storage. *Jurnal Teknik Pertanian Lampung (Journal of Agricultural Engineering)*, 12(4), 899. <https://doi.org/10.23960/jtep-l.v12i4.899-908>
- Mariana, R. U., Alif, F. J. A., Kristiana, R. D., Muflihati, I., & Suhendriani, S. (2023). Study on making jelly candy from the melon rind. *TEKNOBUGA Jurnal Teknologi Busana Dan Boga*, 11(1), 1–7. <https://doi.org/10.15294/teknobuga.v11i1.34564>
- Marpaung, D. S. S., Fil'aini, R., Fahrani, A. C., Cahyani, D., & Sinaga, A. O. Y. (2019). PHYSICAL CHANGES OF ANDALIMAN (*ZANTHOXYLUM ACANTHOPODIUM* DC.) IN PACKAGING DURING LOW-TEMPERATURE STORAGE. *AGROINTEK*, 13(2), 177–182. <https://doi.org/10.21107/agrointek.v13i2.5543>
- Masri, E., Shella, N., & Ahriyasna, R. (2022). Literasi gizi dan konsumsi gula, garam, lemak pada remaja di Kota Padang. *Jurnal Kesehatan*. <https://jurkes.polije.ac.id/index.php/journal/article/download/284/138>
- Miranti, M. (2020). Pengaruh suhu dan lama pengeringan terhadap mutu permen jelly buah nangka. *AGRILAND Jurnal Ilmu Pertanian*, 8(1), 116–120. <https://doi.org/10.30743/agr.v8i1.2592>
- Nurnasari, E., & Khuluq, A. D. (2018). Potensi Diversifikasi Rosela Herbal (*Hibiscus sabdariffa* L.) untuk Pangan dan Kesehatan. *Buletin Tanaman Tembakau Serat & Minyak Industri*, 9(2), 82. <https://doi.org/10.21082/btsm.v9n2.2017.82-92>
- Ompusunggu, N. P., & Irawati, W. (2021). Andaliman (*Zanthoxylum acanthopodium* DC.), a rare endemic plant from North Sumatra that rich in essential oils and potentially as antioxidant and antibacterial. *JURNAL BIOLOGI TROPIS*, 21(3), 1063–1072. <https://doi.org/10.29303/jbt.v21i3.2961>
- Purbowati, I. S. M., Syamsu, K., Warsiki, E., & R, H. S. (2016). OPTIMIZATION OF PHENOLS EXTRACTION FROM ROSELLE (*Hibiscus sabdariffa*) BY MICROWAVE ASSISTED EXTRACTION AS ANTIBACTERIAL AND ANTIOXIDANT AGENTS. *Jurnal Teknologi Industri Pertanian*, 26(1). <https://journal.ipb.ac.id/index.php/jurnaltin/article/download/14415/10693>
- Putri, A., Sudimartini, L. M., & Dharmayudha, A. a. G. O. (2020). Standarisasi Cemaran Mikrob Daun Sirsak (*Annona muricata* L.) sebagai Bahan Baku Sediaan Obat Tradisional. *Indonesia Medicus Veterinus*, 9(3), 305–313. <https://doi.org/10.19087/imv.2020.9.3.305>
- Rahadian, R., Harun, N., & Efendi, R. (2017). Pemanfaatan ekstrak kelopak bunga rosella (*Hibiscus sabdariffa* L) dan rumput laut (*Euchema cottoni*) terhadap mutu permen jelly. *Jurnal Online Mahasiswa Fakultas Pertanian Universitas Riau*, 4(1), 1–14. <https://www.neliti.com/publications/199967/pemanfaatan-ekstrak-kelopak-bunga-rosella-hibiscus-sabdariffa-l-dan-rumput-laut>

- Rahayu, S., Rosidah, R., Paramita, O., Ansori, M., & Setiani, B. E. (2023). Analyzing milk caramel candy with the addition of emprit ginger and secang wood extract. *TEKNOBUGA Jurnal Teknologi Busana Dan Boga*, 11(2), 98–112. <https://doi.org/10.15294/teknobuga.v11i2.45016>
- Rahim, E., Fadhillah, R., Ronitawati, P., Swamilaksita, P., & Harna. (2019). Penambahan ekstrak serai (*Cymbopogon citratus*) dan ekstrak tomat (*Solanum lycopersicum*) terhadap kadar proksimat, FE, dan vitamin C pada permen jelly. *Jurnal Nutrisia*. <https://www.nutrisiajournal.com/index.php/JNUTRI/article/download/145/68>
- Rahim, E. M., Fadhillah, R., Ronitawati, P., Swamilaksita, P. D., & Harna, H. (2020). Penambahan Ekstrak Serai (*Cymbopogon citratus*) dan Ekstrak Tomat (*Solanum lycopersicum*) Terhadap Nilai Gizi, Kandungan Fe, dan Vitamin C pada Permen Jelly. *JURNAL NUTRISIA*, 21(2), 75–82. <https://doi.org/10.29238/jnutri.v21i2.145>
- Rahman, N. A., Hudha, M. I., & Anggorowati, D. A. (2023). PRODUKSI MINUMAN INSTAN ROSELA DENGAN PENGONTROLAN PENGAWET DAN KONDISI OPERASI. *Jurnal ATMOSPHERE*, 4(2), 1–7. <https://doi.org/10.36040/atmosphere.v4i2.8478>
- Rahmawati, R., & Nurjanah, S. (2020). PENGARUH KONSENTRASI ENZIM PAPAİN TERHADAP MUTU GELATIN BUBUK DARI TULANG DAN CAKAR AYAM. *JURNAL KONVERSI*, 9(1), 14. <https://doi.org/10.24853/konversi.9.1.14>
- Rienoviar, Heliawati, L., & Khoiriyah, A. (2019). Aktivitas Antioksidan dan Identifikasi Senyawa Aktif dalam Ekstrak Buah Andaliman (*Zanthoxylum acanthopodium* DC.). *Warta Industri Hasil Pertanian*, 36(2), 124. <https://doi.org/10.32765/wartaihp.v36i2.5668>
- Rismandari, M., Agustini, T., & Amalia, U. (2017a). KARAKTERISTIK PERMEN JELLY DENGAN PENAMBAHAN IOTA KARAGENAN DARI RUMPUT LAUT *Eucheuma spinosum*. *Saintek Perikanan*, Vol.12, 103–108. <https://jurnal.unpad.ac.id/farmasetika/article/view/36649>
- Rismandari, M., Agustini, T. W., & Amalia, U. (2017b). KARAKTERISTIK PERMEN JELLY DENGAN PENAMBAHAN IOTA KARAGENAN DARI RUMPUT LAUT (KARAKTERISTIK PERMEN JELLY DENGAN PENAMBAHAN IOTA KARAGENAN DARI RUMPUT LAUT). *SAINTEK PERIKANAN Indonesian Journal of Fisheries Science and Technology*, 12(2), 103. <https://doi.org/10.14710/ijfst.12.2.103-108>
- Safirin, M. T., Samanhudi, D., Aryanny, E., & W, E. P. (2023). Pemanfaatan Teknologi Packaging untuk Meningkatkan Kualitas dan Keamanan Produk Pangan Lokal. *Jurnal Abdimas Peradaban*, 4(1), 31–41. <https://doi.org/10.54783/ap.v4i1.21>
- Sari, E. M., Fitriani, S., & Ayu, D. F. (2022). Penggunaan sari buah kelubi dan gelatin dalam pembuatan permen jelly. *Jurnal Teknologi Dan Industri Pertanian Indonesia*, 14(2), 63–71. <https://doi.org/10.17969/jtipi.v14i2.23309>

- Sari, F. N., & Holinesti, R. (2022). The effect of drying temperature on the quality of ginger jelly candy. *Jurnal Pendidikan Tata Boga Dan Teknologi*, 3(2), 95. <https://doi.org/10.24036/jptbt.v3i2.339>
- Shasti, H., & Siregar, T. a. P. (2017). UJI AKTIVITAS ANTIBIOTIK EKSTRAK BUAH ANDALIMAN (*Zanthoxylum acanthopodium* DC) TERHADAP PERTUMBUHAN BAKTERI *Staphylococcus aureus* SECARA IN VITRO. *Ibnu Sina Biomedika*, 1(1), 49–56. <https://doi.org/10.30596/isb.v1i1.1122>
- Sinurat, E., & Murniyati, M. (2014). Pengaruh waktu dan suhu pengeringan terhadap kualitas permen jeli. *Jurnal Pascapanen Dan Bioteknologi Kelautan Dan Perikanan*, 9(2), 133. <https://doi.org/10.15578/jpbkp.v9i2.106>
- Sule, M. E. S., Astuty, E., & Tahitu, R. (2023). In vitro antibacterial activity and phytochemical screening of Galoba (*Hornstedtia alliacea*) seeds extract. *Bioactivities*, 1(2), 81–89. <https://doi.org/10.47352/bioactivities.2963-654x.196>
- Uji organoleptik permen Jelly dengan menggunakan ekstrak buah naga. (2023). *Jurnal Ilmu Pangan Dan Hasil Pertanian*, 7, 196–203. <https://journal.upgris.ac.id/index.php/jiphp/article/view/17038/pdf>
- Wahyudi, H., Mustofa, A., & Widanti, Y. (2019). AKTIVITAS ANTIOKSIDAN TEH DAUN KELOR (*Moringa oliefera*) -ROSELA (*Hibiscus sabdariffa* L) DENGAN VARIASI LAMA PENGERINGAN. *JITIPARI (Jurnal Ilmiah Teknologi Dan Industri Pangan UNISRI)*, 3(2). <https://doi.org/10.33061/jitipari.v3i2.2692>
- Wardani, N. I. M., & Vifta, N. R. L. (2021). Potensi antioksidan dan tabir surya ekstrak dan sediaan krim rambut jagung (*Zea Mays* L.). *Journal of Holistics and Health Sciences*, 3(2), 233–245. <https://doi.org/10.35473/jhhs.v3i2.92>
- Wulandari, D.-., Sugiyanto, S., & Tawarniate, A. Z. (2023). CHARACTERISTICS OF JELLY CANDY BASED ON BOVINE SPLIT HIDE GELATIN. *Jurnal Ilmu Ternak Universitas Padjadjaran*, 23(1), 14. <https://doi.org/10.24198/jit.v23i1.43854>
- Yuliati, Y., Sari, N. I., & Loekman, S. (2017). Study on Consumer acceptance of jelly candy seaweed (*Euचेuma cottonii*) with the addition of natural dyes Rosele (*Hibiscus Sabdariffa* L). *Jurnal Online Mahasiswa Fakultas Perikanan Dan Ilmu Kelautan Universitas Riau*, 4(1), 1–10. <https://www.neliti.com/publications/201633/study-on-consumer-acceptance-of-jelly-candy-seaweed-eucheuma-cottonii-with-the-a>

APPENDIX

1. Approved Recipe

APPROVAL RECIPE	
Recipe Name	:ROSELLA AND ANDALIMAN HARD CANDY
TITLE OF C&D	: UTILIZATION OF ROSELLA AND ANDALIMAN AS THE MAKING FOR HERBAL JELLY CANDY
Yield	: 30 pcs (3 pcs per serving)
Main Ingredients	: rosella and andaliman
Ingredients	:
• 150 gram of sugar	• 19.5 gram of rosella
• 390 gram of water	• 19.5 gram of andaliman
• 30 gram of gelatin	• 12 gram for corn starch
• 3.75 gram of oil	
• 12 gram of powdered sugar	

Method :

- Measure all of the ingredients.
- Blend andaliman with water.
- Strain the mixture to separate the pulp from the liquid.
- Grind the rosella flowers with blender.
- Brew the roselle flowers and andaliman extraction at 70-80°C for 15 minutes.
- Strain the tea.
- Grease the mold with oil.
- In a saucepan, combine the rosella and andaliman tea and sugar.
- Bloom gelatin powder with 30 gr cold rosella and andaliman tea.
- Cook the mixture until sugar dissolve and reach 100°C.
- Meanwhile in another bowl, bain marie bloomed gelatin until it melts.
- Remove from the heat, add melted gelatin, mix well until there is no lumps.
- Carefully pour the mixture onto the silicone mold.
- Allow the candy to cool at room temperature for 1 hour.
- Cool the candy in the refrigerator at 5°C for 24 hours and then placed at room temperature for 1 hour.
- Dehydrate the candy with dehydrator at 50°C for 48 hours.
- Dust the candy with corn starch and powdered sugar to prevent sticking.

- Store the candy in an airtight container at room temperature.

Product Description

Andaliman is a special spice from the author hometown, Medan. It also known for its citrusy and mildly peppery flavor. When used in making hard candy, it adds a refreshing and exotic taste, giving the candy authenticity and local appeal. Rosella, on the other hand, is a plant known for its tart flavor and vibrant color, the author loved for its versatility and health benefits. Combining andaliman and rosella creates a hard candy with a unique flavor that surpasses store-bought options. Made from natural ingredients, it's a healthier choice compared to candies with artificial additives. The blend of andaliman and rosella creates a delicious taste experience that stands out, making it the author's preferred choice for its natural and flavorful qualities.

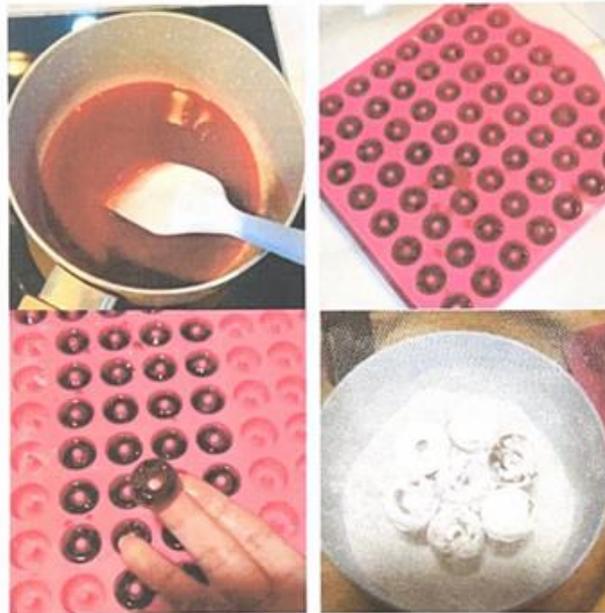
Incorporating these natural ingredients not only enhances the candy's flavor profile but also provides potential health benefits. Andaliman is rich in antioxidants and may possess anti-inflammatory properties, while rosella is abundant in vitamin C and other essential nutrients. By infusing the candy with these nutritious ingredients, it becomes a healthier alternative to store-bought candies laden with artificial additives and preservatives. Moreover, the use of andaliman and rosella adds authenticity and cultural significance to the candy, reflecting the culinary heritage of their respective regions.

The author wants to make jelly candy to address the suboptimal nutritional content typically found in conventional jelly candies on the market. By incorporating natural ingredients like rosella and andaliman, the author aims to create a healthier alternative that not only appeals to children but also offers enhanced nutritional benefits. Rosella and andaliman provide additional antioxidants, nutrients, and natural flavors, which can improve the health benefits of the candy while reducing the reliance on artificial additives. This approach also aligns with the broader goal of promoting healthier snacking options for children and the general population.

TRIAL PROGRESS (50 – 100 WORDS)

The trial began with selecting rosella and andaliman for their nutritional benefits and unique flavors. Various jelly candy formulations were developed, adjusting sugar content to maintain sweetness while enhancing healthiness. Multiple batches were tested, with sensory evaluations guiding adjustments. Dehydration trials at 50°C for 12, 24, and 48 hours were conducted, with the 48-hour process yielding the most stable and chewy product. Final optimization focused on balancing flavor, texture, and nutritional content, resulting in a healthier candy alternative that aligns with the study's objectives.

TRIAL DOCUMENTATION





CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT

Student Name : Marjorie Praqueita Butarbutar

NIM : 2274130010051

Advisor	1 st Examiner	2 nd Examiner
 Name: Arya Putra Sundjaja Date: 27 Maret 2024	 Name: Heni Adhianata Date: 27 Maret 2024	 Name: Gilbert Yanuar Hadiwirawan Date: 27 Maret 2024

2. Approved Sensory



Akademi Kuliner & Patiseri
OTTIMMO
 INTERNASIONAL
CELEBRATING 10 YEARS OF EXCELLENCE IN CULINARY EDUCATION

CULINARY INNOVATION AND NEW PRODUCT DEVELOPMENT SENSORY TEST

DATE : 19 April 2024

NAME : Marjorie Praqueita Butar Butar

NIM : 2274130010051

PRODUCT : UTILIZATION OF ROSELLA AND ANDALIMAN AS THE MAKING FOR HIGH ANTIOXIDANT NATURAL HARD CANDY

ADVISOR : Arya Putra Sundjaja, S.E.

PANELIST	SIGHT	SMELL	TEXTURE	TASTE	OVERALL	TOTAL
Panelist 1	5	3	2	4	5	19
Panelist 2	4	4	2	4	4	18
Panelist 3	5	5	4	5	5	24
Panelist 4	5	5	5	5	5	25
Panelist 5	4	4	1	4	3	16
Panelist 6	5	5	5	5	5	25
Panelist 7	4	4	4	4	4	20
Panelist 8	5	5	5	5	5	25
Panelist 9	4	4	1	3	3	15
Panelist 10	4	4	4	4	4	20
TOTAL	45	43	33	43	43	207

NOTES :

1. rosellanya kurang terasa dan sizenya terlalu besar
2. Ukuran terlalu besar, dan terlalu keras permennya
3. Okelah rasanya enak
4. Very good
5. i know it's hard candy, but it's too hard
6. Nicely done
7. taste spt permen jahe
8. Good
9. It's a hard candy but way too hard to bite into. Can't taste the rosella and the andaliman
10. -





Akademi Kuliner & Pastry
OTTIMO
 INTERNATIONAL

CONSULTATION FORM
CULINARY INNOVATION AND
NEW PRODUCT DEVELOPMENT

Name : *Marjorie Tranyeth*
 Student Number :
 Advisor : *Chef Arya* :

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
1.	22/5-24	Product Consultation	<i>[Signature]</i>	<i>[Signature]</i> Arya
2.	25/5-24	Product Consultation	<i>[Signature]</i>	<i>[Signature]</i> Arya
3.	27/5-24	Product Consultation	<i>[Signature]</i>	<i>[Signature]</i> Arya
4.	16/9-24	Product Consultation	<i>[Signature]</i>	<i>[Signature]</i>
5.	17/7-24	Product Consultation	<i>[Signature]</i>	<i>[Signature]</i>
6.		Product Consultation	<i>[Signature]</i>	<i>[Signature]</i>

No	Date	Topic Consultation	Name/ Signature	Advisor Signature
7.		Report Consultation	<i>[Signature]</i>	<i>[Signature]</i>
8.		Report revision	<i>[Signature]</i>	<i>[Signature]</i>
9.		Report Consultation	<i>[Signature]</i>	<i>[Signature]</i>
10.		Report revision	<i>[Signature]</i>	<i>[Signature]</i>
11.		Proposal Consultation and revision	<i>[Signature]</i>	<i>[Signature]</i>

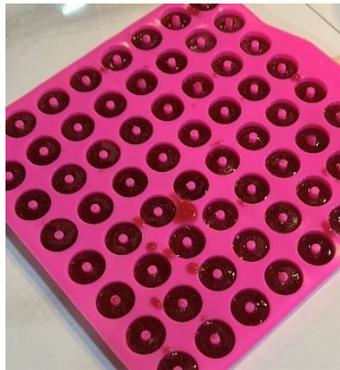
3. Consultation Form

4. Systematic Process Documentation

- 1) Making the candy mixture



- 2) Cooling and drying the candy



- 3) Dusting the candy



- 4) Product result

