

Lampiran 1. Lembar penjelasan panelis

No. Responden

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KUESIONER PENELITIAN

Studi Pembuatan Cokelat dengan Penambahan Daun Kelor (*Moringa Oleifera*) dan Kurma (*Phoenix Dactylifera*) pada Atlet Endurance

**Program Studi Gizi Reguler Fakultas Ilmu-Ilmu Kesehatan
Universitas Esa Unggul
Jl. Arjuna Utara 9, Kebon Jeruk, Jakarta Barat 11510**

LEMBAR PENJELASAN PANELIS

Dalam penelitian ini, peneliti membuat produk makanan berupa cokelat kelor dan kurma. Diharapkan dengan adanya produk ini dapat menjadi salah satu alternatif makanan untuk atlet yang kaya akan kalsium dan energi.

Penelitian ini melibatkan mahasiswa Esa Unggul sebagai panelis semi terlatih dengan persyaratan panelis bersedia melakukan uji hedonik dan mutu hedonik, dalam keadaan sehat, tidak alergi terhadap bahan makanan tertentu, tidak merokok, dan tidak buta warna. Dalam uji hedonik dan mutu hedonik tersebut, panelis menilai masing-masing kriteria cokelat kelor dan kurma berdasarkan tingkat kesukaan atau skala penilaian dari empat formulasi. Dalam penilaian kriteria digunakan skala *visual analog scale*. Parameter yang diuji meliputi warna, aroma, rasa, dan tekstur dari produk. Lembar uji hedonik dan mutu hedonik yang telah disediakan sesuai dengan tingkat kesukaan panelis dengan memberikan titik pada skala yang diberikan. Kegiatan organoleptik ini akan dilakukan ± 10 menit dan diakhir kegiatan, panelis akan diberikan cinderamata sebagai *rewards* karena telah mengikuti kegiatan dan membantu peneliti dalam penelitian. Panelis yang sudah sesuai dengan kriteria dapat mengikuti kegiatan ini sesuai keinginan tanpa paksaan dan dapat menandatangani lembar persetujuan, tetapi panelis tidak sesuai dengan kriteria diharapkan tidak mengikuti kegiatan ini untuk menghindari timbulnya masalah kesehatan (alergi) dari produk.

Lampiran 2. Lembar persetujuan sebagai panelis

No. Responden

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LEMBAR PERSETUJUAN SEBAGAI PANELIS

Saya mahasiswa Program Studi Gizi Fakultas Ilmu-Ilmu Kesehatan Universitas Esa Unggul yang saat ini sedang melakukan pengambilan data untuk uji hedonik dan mutu hedonik pada produk cokelat kelor dan kurma. Kegiatan ini dilakukan untuk melengkapi data skripsi sebagai salah satu syarat memperoleh gelar sarjana gizi. Saya memohon ketersediaan waktu saudara/i untuk menjadi panelis semi terlatih. Perlu saya informasikan bahwa keikutsertaan saudara/i sebagai panelis bersifat sukarela dan diakhir pelaksanaan pengujian akan diberikan reward sebagai tanda terima kasih. Jika ada hal yang ingin disampaikan atau ditanyakan silahkan hubungi kontak pribadi saya.

Nama : Inni Fatmawati

No. Hp : 08989956614

Informed Consent :

Setelah saya mendapat penjelasan mengenai tujuan dan manfaat pengambilan data tersebut, dengan ini saya :

Nama :

Alamat :

Fakultas :

No. Hp :

Secara sukarela dan tanpa ada paksaan setuju untuk menjadi panelis semi terlatih dalam penelitian ini.

Jakarta,

2019

Panelis

()

Lampiran 4. Kuesioner uji organoleptik cokelat kelor dan kurma (mutu hedonik)

FORMULIR UJI MUTU HEDONIK

Nama :
Tanggal pengujian : / /2019
Produk : Cokelat kelor dan kurma
Kode sampel :

Dihadapan saudara disajikan beberapa sampel cokelat kelor dan kurma. Saudara diminta menilai berdasarkan aspek warna, tekstur, aroma, dan rasa dari produk tersebut berdasarkan tingkat kesukaan saudara/i dengan memberikan sebuah tanda garis tebal diantara garis VAS (*Visual Analog Scale*) yang tersedia.

Sebelum dan sesudah mencicipi cokelat kurma dan kelor, saudara/i diminta untuk meminum air putih terlebih dahulu sebelum memberikan penilaian. Atas kerjasamanya saya ucapkan terimakasih.

Warna



Hijau muda Hijau tua

Tekstur



Lembek Padat

Aroma



Khas daun kelor Khas cokelat

Rasa



Pahit Manis khas cokelat

Lampiran 5. Keterangan Lolos Kaji Etik



DEWAN PENEGAKAN KODE ETIK UNIVERSITAS ESA UNGGUL
KOMISI ETIK PENELITIAN
Jl. Arjuna Utara No.9 Kebon Jeruk Jakarta Barat 11510
Telp. 021-5674223 email: dpke@esaunggul.ac.id

Nomor : 0246-19.255/DPKE-KEP/FINAL-EA/UEU/VII/2019

KETERANGAN LOLOS KAJI ETIK **ETHICAL APPROVAL**

Komisi Etik Penelitian Universitas Esa Unggul dalam upaya melindungi hak asasi dan kesejahteraan subyek penelitian kesehatan, telah mengkaji dengan teliti protokol berjudul:

STUDI PEMBUATAN COKLAT DENGAN PENAMBAHAN DAUN KELOR (*MORINGA OLEIFERA*) DAN KURMA (*PHOENIX DACTYLIFERA*) PADA ATLET ENDURANCE

Peneliti Utama : Inni Fatmawati
Pembimbing : Putri Ronitawati, SKM., M.Si.
Nama Institusi : Universitas Esa Unggul

dan telah menyetujui protokol tersebut di atas.

Jakarta, 9 Juli 2019

Ketua



Dr. Rokiah Kusumapradja, SKM., MHA

- * *Ethical approval* berlaku satu tahun dari tanggal persetujuan.
- ** Peneliti berkewajiban
 1. Menjaga kerahasiaan identitas subyek penelitian
 2. Memberitahukan status penelitian apabila:
 - a. Setelah masa berlakunya keterangan lolos kaji etik, penelitian masih belum selesai, dalam hal ini *ethical approval* harus diperpanjang
 - b. Penelitian berhenti di tengah jalan
 3. Melaporkan kejadian serius yang tidak diinginkan (*serious adverse events*).
 4. Peneliti tidak boleh melakukan tindakan apapun pada subyek sebelum penelitian lolos kaji etik dan *informed consent*.

Lampiran 6. Laporan Pengujian Laboratorium Makanan Mbrio



"Food Safety is Honesty with Integrity"

REPORT OF ANALYSIS

Laporan Hasil Uji

2019-001424.01

RESULTS

Hasil

Sample identity : FO
Identitas sampel

Sample code : 3158
Kode sampel

No	Parameter Parameter	Result Hasil	Unit Satuan	Method Metode
1	Moisture Content	0.87	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
2	Moisture Content	0.85	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
3	Total Ash	0.66	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
4	Total Ash	0.67	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
5	Total Fat	41.26	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
6	Total Fat	41.24	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
7	Protein	2.99	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
8	Protein	2.99	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
9	Carbohydrate	54.24	g/100g	IKP/K-3 (By difference)
10	Carbohydrate	54.25	g/100g	IKP/K-3 (By difference)
11	Calories	408.91	kcal/100g	Calculation
12	Calories	408.87	kcal/100g	Calculation
13	Ca, Calcium	1165.39	mg/Kg	IKP/K-7 (AAS)
14	Ca, Calcium	1166.76	mg/Kg	IKP/K-7 (AAS)
15	Total Plate Count	2.3×10^2	cfu/g	ISO 4833-1:2013 (Pour plate)
16	Total Plate Count	2.3×10^2	cfu/g	ISO 4833-1:2013 (Pour plate)

Serving you sincerely,
MBRIO Food Laboratory

Alowisius Trihartoyo
Head of Laboratory

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Report of Analysis relate only to samples analyzed. This report shall not be reproduced, without the written approval from MBRIO Food Laboratory.
Laporan Hasil Uji ini hanya berhubungan dengan sampel yang dianalisis. Sertifikat/Laporan Hasil Uji tidak dapat digandakan tanpa persetujuan terlebih dahulu secara tertulis dari MBRIO Food Laboratory.

REPORT OF ANALYSIS

Laporan Hasil Uji

2019-001424.02

RESULTS

Hasil

Sample identity : F1
Identitas sampel

Sample code : 3159
Kode sampel

No	Parameter Parameter	Result Hasil	Unit Satuan	Method Metode
1	Moisture Content	3.29	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
2	Moisture Content	3.26	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
3	Total Ash	1.85	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
4	Total Ash	1.82	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
5	Total Fat	30.42	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
6	Total Fat	30.42	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
7	Protein	5.32	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
8	Protein	5.32	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
9	Carbohydrate	59.12	g/100g	IKP/K-3 (By difference)
10	Carbohydrate	59.18	g/100g	IKP/K-3 (By difference)
11	Calories	406.04	kcal/100g	Calculation
12	Calories	406.28	kcal/100g	Calculation
13	Ca, Calcium	4271.38	mg/Kg	IKP/K-7 (AAS)
14	Ca, Calcium	4270.04	mg/Kg	IKP/K-7 (AAS)
15	Total Plate Count	1.1×10^6	cfu/g	ISO 4833-1:2013 (Pour plate)
16	Total Plate Count	9.3×10^5	cfu/g	ISO 4833-1:2013 (Pour plate)
17	Crude Fiber	0.38	g/100g	SNI 01-2891-1992 Point 11 (Gravimetric)
18	Crude Fiber	0.38	g/100g	SNI 01-2891-1992 Point 11 (Gravimetric)

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Head of Laboratory

REPORT OF ANALYSIS

Laporan Hasil Uji

2019-001424.03

RESULTS

Hasil

Sample identity : F2
Identitas sampel

Sample code : 3160
Kode sampel

No	Parameter Parameter	Result Hasil	Unit Satuan	Method Metode
1	Moisture Content	3.69	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
2	Moisture Content	3.65	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
3	Total Ash	2.58	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
4	Total Ash	2.60	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
5	Total Fat	30.29	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
6	Total Fat	30.28	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
7	Protein	5.85	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
8	Protein	5.85	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
9	Carbohydrate	57.59	g/100g	IKP/K-3 (By difference)
10	Carbohydrate	57.62	g/100g	IKP/K-3 (By difference)
11	Calories	404.17	kcal/100g	Calculation
12	Calories	404.25	kcal/100g	Calculation
13	Ca, Calcium	3030.43	mg/Kg	IKP/K-7 (AAS)
14	Ca, Calcium	3051.08	mg/Kg	IKP/K-7 (AAS)
15	Total Plate Count	5.1 x 10 ²	cfu/g	ISO 4833-1:2013 (Pour plate)
16	Total Plate Count	5.5 x 10 ²	cfu/g	ISO 4833-1:2013 (Pour plate)
17	Crude Fiber	0.33	g/100g	SNI 01-2891-1992 Point 11 (Gravimetric)
18	Crude Fiber	0.33	g/100g	SNI 01-2891-1992 Point 11 (Gravimetric)

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REPORT OF ANALYSIS

Laporan Hasil Uji

2019-001424.04

RESULTS

Hasil

Sample identity : F3
Identitas sampel

Sample code : 3161
Kode sampel

No	Parameter Parameter	Result Hasil	Unit Satuan	Method Metode
1	Moisture Content	3.57	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
2	Moisture Content	3.37	g/100g	SNI 01-2891-1992 Point 5.1 (Gravimetric)
3	Total Ash	2.89	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
4	Total Ash	2.93	g/100g	SNI 01-2891-1992 Point 6.1 (Gravimetric)
5	Total Fat	31.53	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
6	Total Fat	31.53	g/100g	IKP/K-1 (Soxhlet-Hydrolysis)
7	Protein	7.08	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
8	Protein	7.08	g/100g	SNI 01-2891-1992 Point 7.1 (Kjeltech)
9	Carbohydrate	55.13	g/100g	IKP/K-3 (By difference)
10	Carbohydrate	55.09	g/100g	IKP/K-3 (By difference)
11	Calories	410.36	kcal/100g	Calculation
12	Calories	410.20	kcal/100g	Calculation
13	Ca, Calcium	7838.83	mg/Kg	IKP/K-7 (AAS)
14	Ca, Calcium	7833.32	mg/Kg	IKP/K-7 (AAS)
15	Total Plate Count	4.0 x 10 ²	cfu/g	ISO 4833-1:2013 (Pour plate)
16	Total Plate Count	3.7 x 10 ²	cfu/g	ISO 4833-1:2013 (Pour plate)
17	Crude Fiber	0.49	g/100g	SNI 01-2891-1992 Point 11 (Gravimetric)
18	Crude Fiber	0.48	g/100g	SNI 01-2891-1992 Point 11 (Gravimetric)

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Lampiran 7. Output Uji Anova
Analisis Zat Gizi

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
AIR	F0	2	.8600	.01414	.01000	.7329	.9871	.85	.87
	F1	2	3.2750	.02121	.01500	3.0844	3.4656	3.26	3.29
	F2	2	3.6700	.02828	.02000	3.4159	3.9241	3.65	3.69
	F3	2	3.4700	.14142	.10000	2.1994	4.7406	3.37	3.57
	Total	8	2.8188	1.21941	.43113	1.7993	3.8382	.85	3.69
ABU	F0	2	.6650	.00707	.00500	.6015	.7285	.66	.67
	F1	2	1.8350	.02121	.01500	1.6444	2.0256	1.82	1.85
	F2	2	2.5900	.01414	.01000	2.4629	2.7171	2.58	2.60
	F3	2	2.9100	.02828	.02000	2.6559	3.1641	2.89	2.93
	Total	8	2.0000	.92372	.32658	1.2278	2.7722	.66	2.93
LEMAK	F0	2	41.2500	.01414	.01000	41.1229	41.3771	41.24	41.26
	F1	2	30.4200	.00000	.00000	30.4200	30.4200	30.42	30.42
	F2	2	30.2850	.00707	.00500	30.2215	30.3485	30.28	30.29
	F3	2	31.5300	.00000	.00000	31.5300	31.5300	31.53	31.53
	Total	8	33.3713	4.89022	1.72895	29.2829	37.4596	30.28	41.26
PROTEIN	F0	2	2.9850	.00707	.00500	2.9215	3.0485	2.98	2.99
	F1	2	5.3200	.00000	.00000	5.3200	5.3200	5.32	5.32
	F2	2	5.8500	.00000	.00000	5.8500	5.8500	5.85	5.85
	F3	2	7.0800	.00000	.00000	7.0800	7.0800	7.08	7.08
	Total	8	5.3088	1.58837	.56157	3.9808	6.6367	2.98	7.08
KARBOHIDRAT	F0	2	54.2450	.00707	.00500	54.1815	54.3085	54.24	54.25
	F1	2	59.1500	.04243	.03000	58.7688	59.5312	59.12	59.18
	F2	2	57.6050	.02121	.01500	57.4144	57.7956	57.59	57.62
	F3	2	55.1100	.02828	.02000	54.8559	55.3641	55.09	55.13
	Total	8	56.5275	2.08800	.73822	54.7819	58.2731	54.24	59.18
SERAT KASAR	F0	2	.0000	.00000	.00000	.0000	.0000	.00	.00
	F1	2	.3800	.00000	.00000	.3800	.3800	.38	.38
	F2	2	.3300	.00000	.00000	.3300	.3300	.33	.33
	F3	2	.4850	.00707	.00500	.4215	.5485	.48	.49
	Total	8	.2988	.19387	.06854	.1367	.4608	.00	.49
KALSIMUM	F0	2	116.60750	.096874	.068500	115.73712	117.47788	116.539	116.676
	F1	2	427.07100	.094752	.067000	426.21968	427.92232	427.004	427.138
	F2	2	304.07550	1.460176	1.032500	290.95634	317.19466	303.043	305.108
	F3	2	783.60750	.389616	.275500	780.10694	787.10806	783.332	783.883
	Total	8	407.84038	260.305116	92.031756	190.21985	625.46090	116.539	783.883

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
AIR	Between Groups	10.387	3	3.462	645.671	.000
	Within Groups	.021	4	.005		
	Total	10.409	7			
ABU	Between Groups	5.971	3	1.990	5307.822	.000
	Within Groups	.002	4	.000		
	Total	5.973	7			
LEMAK	Between Groups	167.399	3	55.800	892797.000	.000
	Within Groups	.000	4	.000		
	Total	167.400	7			
PROTEIN	Between Groups	17.660	3	5.887	470945.000	.000
	Within Groups	.000	4	.000		
	Total	17.660	7			
KARBOHIDRAT	Between Groups	30.515	3	10.172	13124.839	.000
	Within Groups	.003	4	.001		
	Total	30.518	7			
SERAT KASAR	Between Groups	.263	3	.088	7014.333	.000
	Within Groups	.000	4	.000		
	Total	.263	7			
KALSIUM	Between Groups	474308.972	3	158102.991	274689.959	.000
	Within Groups	2.302	4	.576		
	Total	474311.274	7			

AIR

Duncan^a

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
F0	2	.8600		
F1	2		3.2750	
F3	2		3.4700	3.4700
F2	2			3.6700
Sig.		1.000	.056	.052

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

ABU

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F0	2	.6650			
F1	2		1.8350		
F2	2			2.5900	
F3	2				2.9100
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

LEMAK

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F2	2	30.2850			
F1	2		30.4200		
F3	2			31.5300	
F0	2				41.2500
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

PROTEIN

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F0	2	2.9850			
F1	2		5.3200		
F2	2			5.8500	
F3	2				7.0800
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

KARBOHIDRAT

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F0	2	54.2450			
F3	2		55.1100		
F2	2			57.6050	
F1	2				59.1500
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

SERAT KASAR

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F0	2	.0000			
F2	2		.3300		
F1	2			.3800	
F3	2				.4850
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

KALSIUM

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F0	2	116.60750			
F2	2		304.07550		
F1	2			427.07100	
F3	2				783.60750
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2,000.

Analisis Hedonik

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
HEDONIK	F0	30	7.097	1.2516	.2285	6.629	7.564	4.0	8.8
WARNA	F1	30	7.993	1.8489	.3376	7.303	8.684	.6	9.9
	F2	30	5.553	2.0272	.3701	4.796	6.310	1.8	9.3
	F3	30	4.363	2.4435	.4461	3.451	5.276	.4	9.5
	Total	120	6.252	2.3744	.2168	5.822	6.681	.4	9.9
	HEDONIK	F0	30	7.163	1.5902	.2903	6.570	7.757	2.0
TEKSTUR	F1	30	8.053	1.6425	.2999	7.440	8.667	3.0	9.6
	F2	30	5.850	2.2981	.4196	4.992	6.708	1.3	9.7
	F3	30	4.487	2.2814	.4165	3.635	5.339	1.0	9.3
	Total	120	6.388	2.3799	.2173	5.958	6.819	1.0	9.7
	HEDONIK	F0	30	8.170	1.4232	.2598	7.639	8.701	4.7
AROMA	F1	30	6.807	2.0098	.3669	6.056	7.557	2.2	9.5
	F2	30	5.433	2.5262	.4612	4.490	6.377	1.9	9.4
	F3	30	4.250	2.6758	.4885	3.251	5.249	.4	9.2
	Total	120	6.165	2.6372	.2407	5.688	6.642	.4	10.0
	HEDONIK	F0	30	8.503	1.0984	.2005	8.093	8.913	5.7
RASA	F1	29	7.814	1.5376	.2855	7.229	8.399	3.0	9.7
	F2	30	5.643	2.3078	.4213	4.782	6.505	1.7	9.5
	F3	30	3.920	2.0297	.3706	3.162	4.678	1.0	8.6
	Total	119	6.459	2.5496	.2337	5.996	6.922	1.0	10.0

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
HEDONIK WARNA	Between Groups	234.027	3	78.009	20.712	.000
	Within Groups	436.893	116	3.766		
	Total	670.920	119			
HEDONIK TEKSTUR	Between Groups	218.370	3	72.790	18.531	.000
	Within Groups	455.654	116	3.928		
	Total	674.024	119			
HEDONIK AROMA	Between Groups	259.030	3	86.343	17.615	.000
	Within Groups	568.583	116	4.902		
	Total	827.613	119			
HEDONIK RASA	Between Groups	391.962	3	130.654	40.056	.000
	Within Groups	375.106	115	3.262		
	Total	767.068	118			

HEDONIK WARNA

Duncan^a

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
F3	30	4.363		
F2	30		5.553	
F0	30			7.097
F1	30			7.993
Sig.		1.000	1.000	.076

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

HEDONIK TEKSTUR

Duncan^a

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
F3	30	4.487		
F2	30		5.850	
F0	30			7.163
F1	30			8.053
Sig.		1.000	1.000	.085

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

HEDONIK AROMA

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F3	30	4.250			
F2	30		5.433		
F1	30			6.807	
F0	30				8.170
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

HEDONIK RASA

Duncan^{a,b}

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
F3	30	3.920		
F2	30		5.643	
F1	29			7.814
F0	30			8.503
Sig.		1.000	1.000	.144

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 29,744.
 b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Analisis Mutu Hedonik

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
MUTU HEDONIK WARNA	F0	30	2.083	2.5131	.4588	1.145	3.022	.2	9.5
	F1	30	8.887	.8423	.1538	8.572	9.201	7.1	10.0
	F2	30	7.847	1.8416	.3362	7.159	8.534	1.5	9.9
	F3	30	8.783	.7901	.1442	8.488	9.078	7.0	10.0
	Total	120	6.900	3.2641	.2980	6.310	7.490	.2	10.0
MUTU HEDONIK AROMA	F0	30	7.940	1.8339	.3348	7.255	8.625	2.1	9.9
	F1	30	7.013	2.4434	.4461	6.101	7.926	2.1	9.9
	F2	30	7.893	1.9004	.3470	7.184	8.603	3.1	9.8
	F3	30	6.607	2.4606	.4492	5.688	7.525	2.1	9.6
	Total	120	7.363	2.2271	.2033	6.961	7.766	2.1	9.9
MUTU HEDONIK TEKSTUR	F0	30	5.177	2.6826	.4898	4.175	6.178	.7	9.7
	F1	30	8.457	1.2218	.2231	8.000	8.913	4.9	9.7
	F2	30	3.000	2.1531	.3931	2.196	3.804	.1	8.6
	F3	30	2.210	1.9994	.3650	1.463	2.957	.1	9.5
	Total	120	4.711	3.1825	.2905	4.136	5.286	.1	9.7
MUTU HEDONIK RASA	F0	30	8.600	1.0677	.1949	8.201	8.999	5.5	9.8
	F1	30	6.213	2.1703	.3962	5.403	7.024	2.4	9.5
	F2	30	3.603	1.9849	.3624	2.862	4.344	.7	9.5
	F3	30	2.560	2.1434	.3913	1.760	3.360	.1	7.3
	Total	120	5.244	3.0127	.2750	4.700	5.789	.1	9.8

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
MUTU HEDONIK WARNA	Between Groups	947.707	3	315.902	114.446	.000
	Within Groups	320.193	116	2.760		
	Total	1267.900	119			
MUTU HEDONIK AROMA	Between Groups	39.255	3	13.085	2.755	.046
	Within Groups	550.984	116	4.750		
	Total	590.239	119			
MUTU HEDONIK TEKSTUR	Between Groups	702.882	3	234.294	54.101	.000
	Within Groups	502.354	116	4.331		
	Total	1205.236	119			
MUTU HEDONIK RASA	Between Groups	662.940	3	220.980	61.452	.000
	Within Groups	417.136	116	3.596		
	Total	1080.076	119			

MUTU HEDONIK WARNA

Duncan^a

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
F0	30	2.083		
F2	30		7.847	
F3	30			8.783
F1	30			8.887
Sig.		1.000	1.000	.810

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

MUTU HEDONIK AROMA

Duncan^a

FORMULA	N	Subset for alpha = 0.05	
		1	2
F3	30	6.607	
F1	30	7.013	7.013
F2	30		7.893
F0	30		7.940
Sig.		.471	.123

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

MUTU HEDONIK TEKSTUR

Duncan^a

FORMULA	N	Subset for alpha = 0.05		
		1	2	3
F3	30	2.210		
F2	30	3.000		
F0	30		5.177	
F1	30			8.457
Sig.		.144	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

MUTU HEDONIK RASA

Duncan^a

FORMULA	N	Subset for alpha = 0.05			
		1	2	3	4
F3	30	2.560			
F2	30		3.603		
F1	30			6.213	
F0	30				8.600
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 30,000.

Lampiran 8. Perhitungan Nilai Gizi

Formula F0

Energi : 122.66 kkal
Protein : 0.89 g
Lemak : 12.37 g
Karbohidrat : 16.27 g
Kalsium : 34.98 mg

Kalori dalam 30 g Cokelat Kelor dan Kurma

Protein : $0.89 \times 4 = 3.56$ kkal
Lemak : $12.37 \times 9 = 111.33$ kkal
Karbohidrat : $16.27 \times 4 = 65.08$ kkal

AKG 2475 kkal

Protein : $(0.89/72) \times 100\% = 1.2\%$
Lemak : $(12.37/83) \times 100\% = 14.9\%$
Karbohidrat : $(16.27/340) \times 100\% = 4.7\%$
Kalsium : $(34.98/1200) \times 100\% = 2.9\%$

Formula F1

Energi : 121.84 kkal
Protein : 1.59 g
Lemak : 9.12 g
Karbohidrat : 17.74 g
Serat : 0.11 g
Kalsium : 128.12 mg

Kalori dalam 30 g Cokelat Kelor dan Kurma

Protein : $1.59 \times 4 = 6.36$ kkal
Lemak : $9.12 \times 9 = 82.08$ kkal
Karbohidrat : $17.74 \times 4 = 70.96$ kkal
Serat : $0.11 \times 2 = 0.22$ kkal

AKG 2475 kkal

Protein : $(1.59/72) \times 100\% = 2.2\%$
Lemak : $(9.12/83) \times 100\% = 10.9\%$
Karbohidrat : $(17.74/340) \times 100\% = 5.2\%$
Serat : $(0.11/35) \times 100\% = 0.31\%$
Kalsium : $(128.12/1200) \times 100\% = 10.6\%$

Formula F2

Energi : 121.26 kkal
Protein : 1.75 g
Lemak : 9.08 g
Karbohidrat : 17.28 g
Serat : 0.09 g
Kalsium : 91.22 mg

Kalori dalam 30 g Cokelat Kelor dan Kurma

Protein : $1.75 \times 4 = 7$ kkal
Lemak : $9.08 \times 9 = 81.72$ kkal
Karbohidrat : $17.28 \times 4 = 69.12$ kkal
Serat : $0.09 \times 2 = 0.18$ kkal

AKG 2475 kkal

Protein : $(1.75/72) \times 100\% = 2.4\%$
Lemak : $(9.08/83) \times 100\% = 10.9\%$
Karbohidrat : $(17.28/340) \times 100\% = 5.08\%$
Serat : $(0.09/35) \times 100\% = 0.25\%$
Kalsium : $(91.22/1200) \times 100\% = 7.6\%$

Formula F3

Energi : 123.08 kkal
Protein : 2.12 g
Lemak : 9.45 g
Karbohidrat : 16.53 g
Serat : 0.14 g
Kalsium : 235.08 mg

Kalori dalam 30 g Cokelat Kelor dan Kurma

Protein : $2.12 \times 4 = 8.48$ kkal
Lemak : $9.45 \times 9 = 85.05$ kkal
Karbohidrat : $16.53 \times 4 = 66.12$ kkal
Serat : $0.14 \times 2 = 0.28$ kkal

AKG 2475 kkal

Protein : $(2.12/72) \times 100\% = 2.9\%$
Lemak : $(9.45/83) \times 100\% = 11.3\%$
Karbohidrat : $(16.53/340) \times 100\% = 4.8\%$
Serat : $(0.14/35) \times 100\% = 0.4\%$
Kalsium : $(235.08/1200) \times 100\% = 19.6\%$

Lampiran 9. Dokumentasi Penelitian

DOKUMENTASI PENELITIAN



Penimbangan Bahan-Bahan



Pelelehan Cokelat



Teknik Double Boiler



Pencampuran Bahan-Bahan



Pencetakan Cokelat



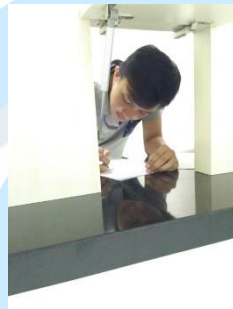
Masukkan ke dalam Freezer



Hasil Cokelat Padat



Pembungkusan dengan Alumunium Foil



Uji Organoleptik oleh Panelis

Universitas
Esa Unggul
Universitas
Esa Unggul

Lampiran 10. Desain Kemasan Produk



% Daily Value are based on 2475 calories diet

Nutrition Facts		
1 Serving Per Container		
Serving Size		30 g
Amount per serving		
Calories		120 kcal
		% Daily Value*
Total Fat	9 g	10.9%
Protein	1.6 g	2.2%
Carbohydrate	18 g	5.2%
Calcium	130 mg	10.6%
Crude Fiber	0.1 g	0.31%

*Percent Daily Value are based on 2475 calories diet. Your daily value may be higher or lower depends on your calories needs.