LAMPIRAN-LAMPIRAN

Lampiran 1. Gambar Randomisasi dan Penentuan Desain *Lay Out*

Besar unit penelitian mempunyai peluang yang sama untuk mendapatkan perlakuan, maka dalam penempatan unit penelitian digunakan randomisasi atau pengacakan dilakukan dengan langkah-langkah sebagai berikut:

a. Memberi nomor urut pada semua unit penelitian, yaitu 1 – 12
b. Mengambil bilangan random dari Tabel Gomez menggunakan 3 digit sebanyak jumlah unit penelitian sebagaimana disajikan pada Gambar 1.

1 568 3	2 710 5	3 520 1
4 719 11	5 521 9	6 676 12
7 712 10	8 677 6	9 712 8
10 660 2	11 608 7	12 656 4

Keterangan:

Baris pertama : Nomor urut (Penempatan Unit Penelitian sebelum Randomisasi)

Baris Kedua : Bilangan Random

Baris Ketiga : Ranking (Penempatan Unit Penelitian setelah Randomisasi)

Gambar 1. Nomor Urut, Bilangan Random, dan Ranking

c. Dengan menggunakan prinsip permutasi sederhana, maka nomor ranking dapat dianggap mewakili nomor urut sesuai dengan jumlah unit penelitian. Dengan demikian taraf perlakuan P_0 akan diulang 3 kali dan ditempatkan pada unit penelitian nomor 5,1,dan 9 . Taraf perlakuan P_1 akan diulang 3 kali dan ditempatkan pada unit penelitian nomor 10,6 dan 2. Taraf perlakuan P_2 akan diulang 3 kali dan ditempatkan pada unit penelitian nomor 3,11 dan 7. Taraf perlakuan P_3 akan diulang 3 kali dan ditempatkan pada unit penelitian nomor 12, 8, dan 4.
d. Memasukkan unit penelitin dalam *lay out*

   Urutan 1 ditempati oleh unit penelitian X_{03}, urutan 2 ditempati oleh unit penelitian X_{12}, urutan 3 ditempati oleh unit penelitian X_{01}.

Lampiran 2. Formulir Uji Skala Kesukaan (*Hedonic Scale Test*)

Hedonic Scale Test

Nama	:	
Tanggal Uji	:	
Nama Produk	:	Substitusi Teri Nasi (*Engraulidae*) dengan Kacang Merah (*Phaseolus vulgaris L*.) dan Bayam Merah (*Blitum rubrum*) pada Siomay Ayam Sebagai Pencegahan Anemia Remaja Putri
Kriteria Mutu yang Dinilai	:	Aroma, Warna, Rasa, dan Tekstur
Instruksi	:	Dihadapan saudara disajikan 4 buah contoh "siomay ayam dengan substitusi teri nasi dengan kacang merah dan bayam merah". Saudara diminta untuk memberikan penilaian terhadap aroma, warna, rasa, dan tekstur dengan menggunakan skala penilaian sebagai berikut :

1 : Sangat tidak suka

2 : Tidak suka

3 : Suka

4 : Sangat suka

Setelah saudara mencicipi salah satu sampel, saudara diminta untuk berkumur dengan air mineral yang telah diediakan sebelum mencicipi sampel yang lain. Selain itu saudara juga diminta kritik dan saran terhadap sampel.

Kode Sampel	Kriteria Penilaian			
	Aroma	Warna	Rasa	Tekstur
520				
656				
608				
712				

Kritik dan Saran :

.....

.....

Terima Kasih Atas Partisipasinya

Lampiran 3. Formulir Penentuan Taraf Perlakuan Terbaik

PENENTUAN TARAF PERLAKUAN TERBAIK

Nama :

Tanggal Uji :

Nama Produk : Substitusi Teri Nasi (*Engraulidae*) dengan Kacang Merah (*Phaseolus vulgaris L*.) dan Bayam Merah (*Blitum rubrum*) pada Siomay Ayam Sebagai Pencegahan Anemia Remaja Putri

Instruksi : Saudara diminta untuk mengemukakan pendapat urutan (ranking) pentingnya peranan ke-12 variabel berikut terhadap mutu Substitusi Teri Nasi (*Engraulidae*) dengan Kacang Merah (*Phaseolus vulgaris L*.) dan Bayam Merah (*Blitum rubrum*) pada Siomay Ayam Sebagai Pencegahan Anemia Remaja Putri yaitu kadar air, kadar abu, kadar protein, kadar lemak, kadar karbohidrat, kandungan energi, kadar vitamin C, kadar zat besi, warna, aroma, rasa dan tekstur dengan mencantumkan nilai 1 – 12. angka terendah utuk variabel kurang penting dan sebaliknya angka tertinggi untuk variabel terpenting. Pemberian nilai boleh sama apabila dirasa variabel yang dinilai sama pentingnya.

Variabel Mutu	Ranking
Kadar Air	
Kadar Abu	
Kadar Protein	
Kadar Karbohidrat	
Kadar Lemak	
Kadar Zat besi	
Kadar Vitamin C	
Kandungan energi	
Warna	
Aroma	
Rasa	
Tekstur	

Lampiran 4. Perhitungan Nilai Gizi menggunakan Tabel Komposisi Bahan Pangan

A. Taraf P_0 (100 : 0 : 0 : 0)

No	Bahan	Berat (g)	Energi (Kkal)	Protein (g)	Lemak (g)	KH (g)	Vit C (mg)	Besi (mg)
1	Daging ayam	200	427.8	40.4	28.4	0	0	2.2
2	Tepung terigu	40	140	4.4	0.04	30	0	0.52
3	Tepung tapioka	60	210	0.66	0.3	52.2	0	0.6
4	Telur ayam	33	16.5	3.5	0	0.3	0	0
5	Bawang merah	10	4.4	0.1	0	1	0.5	0.5
6	Bawang putih	7	6.2	0.2	0	1.4	0.7	0.7
7	Minyak wijen	15	132.6	0	15	0	0	0.02
8	Gula	3	11.6	0	0	3	0	0
TOTAL			946.77	949.1	49.26	43.74	87.9	1.2
Per 100 g			229.0	11.9	10.6	21.2	0.3	1.1

B. Taraf P_1 (50 : 10 : 30 : 10)

No	Bahan	Berat (g)	Energi (Kkal)	Protein (gr)	Lemak (gr)	KH (gr)	Vit C (mg)	Besi (mg)
1	Daging ayam	100	213.9	20.2	14.2	0.2	0	1.1
2	Teri nasi	20	28.8	6.5	0.12	0	0	0.6
3	Kacang merah	60	188.4	13.26	0.66	33.72	1.8	6.18
4	Bayam merah	20	8.2	0.44	0.16	1.26	6.6	1.4
5	Tepung terigu	40	140	4.4	0.04	30	0	0.52
6	Tepung tapioka	60	210	0.66	0.3	52.2	0	0.6
7	Telur ayam	33	16.5	3.5	0	0.3	0	0
8	Bawang merah	10	4.4	0.1	0	1	0.5	0.5
9	Bawang putih	7	6.2	0.2	0	1.4	0.7	0.7
10	Minyak wijen	15	132.6	0	15	0	0	0.02
11	Gula	3	11.6	0	0	3	0	0
TOTAL			960.6	49.26	30.48	123.08	9.6	11.62
Per 100 g			231.7	11.9	7.4	29.7	2.3	2.8

C. Taraf P_2 (40 : 20 : 30 : 10)

No	Bahan	Berat (g)	Energi (Kkal)	Protein (g)	Lemak (g)	KH (g)	Vit C (mg)	Besi (mg)
1	Daging ayam	80	171.1	16.2	11.4	0	0.9	0.9
2	Teri nasi	40	57.6	13	0.24	0	0	1.2
3	Kacang merah	60	188.4	13.26	0.66	33.72	1.8	6.18
4	Bayam merah	20	8.2	0.44	0.16	1.26	6.6	1.4
5	Tepung terigu	40	140	4.4	0.04	30	0	0.52
6	Tepung tapioka	60	210	0.66	0.3	52.2	0	0.6
7	Telur ayam	33	16.5	3.5	0	0.3	0	0
8	Bawang merah	10	4.4	0.1	0	1	0.5	0.5
9	Bawang putih	7	6.2	0.2	0	1.4	0.7	0.7
10	Minyak wijen	15	132.6	0	15	0	0	0.02
11	Gula	3	11.6	0	0	3	0	0
TOTAL			946.6	51.76	27.8	122.88	10.5	12.02
Per 100 g			228.4	12.5	6.7	29.6	2.5	2.9

D. Taraf P_3 (30 : 30 : 30 : 10)

No	Bahan	Berat (g)	Energi (Kkal)	Protein (g)	Lemak (g)	KH (g)	Vit C (mg)	Besi (mg)
1	Daging ayam	60	128.3	12.1	8.5	0	0	0.7
2	Teri nasi	60	86.4	19.5	0.36	0	0	1.8
3	Kacang merah	60	188.4	13.26	0.66	33.72	1.8	6.18
4	Bayam merah	20	8.2	0.44	0.16	1.26	6.6	1.4
5	Tepung terigu	40	140	4.4	0.04	30	0	0.52
6	Tepung tapioka	60	210	0.66	0.3	52.2	0	0.6
7	Telur ayam	33	16.5	3.5	0	0.3	0	0
8	Bawang merah	10	4.4	0.1	0	1	0.5	0.5
9	Bawang putih	7	6.2	0.2	0	1.4	0.7	0.7
10	Minyak wijen	15	132.6	0	15	0	0	0.02
11	Gula	3	11.6	0	0	3	0	0
TOTAL			930.17	51.81	932.6	54.16	25.02	122.88
Per 100 g			224.4	12.5	225.0	13.1	6.0	29.6

Lampiran 5. Perhitungan Mutu Protein

Taraf P_0 (100 : 0 : 0 : 0)

No	Bahan Makanan	Berat (g)	Protein (g)	Kadar Asam Amino			
				Lisin	Treonin	Triptofan	AAS
1	Daging ayam	200	40.4	3094.64	1902.84	383.8	1450.36
2	Tepung terigu	40	4.4	106.92	127.16	54.12	161.92
3	Tepung tapioka	60	0.66	29.502	18.414	2.706	9.9
4	Telur ayam	33	3.5	213.5	150.15	43.05	148.75
Jumlah			48.96	3118.72	1802.92	403.876	1469.37
Konsumsi AA per gram (mg/g)				70.35	44.91	9.88	36.17
Pola Kebutuhan AA (FAO/WHO/UNU 2013)				48	25	6.6	23
Skor Asam Amino (mg/g)				146.6	179.6	149.7	157.3

Bahan	Kadar Protein (g)	MC Bioassay	Konsumsi Protein x MC Bioassay
Daging ayam	40.4	97	3918.8
Tepung terigu	4.4	96	422.4
Tepung tapioka	0.66	86	56.76
Telur ayam	3.5	100	350
Jumlah	40.56	379	474,96
Mutu Cerna Teoritis (MC)			97.0
NPU			142

Taraf P_1 (50 : 10 : 30 : 10)

No	Bahan Makanan	Berat (g)	Protein (g)	Kadar Asam Amino			
				Lisin	Treonin	Triptofan	AAS
1	Daging ayam	100	16	1547.32	951.42	191.9	725.18
2	Teri nasi	20	6.5	438.1	255.45	76.7	211.9
3	Kacang merah	60	13.26	755.82	490.62	172.38	189.618
4	Bayam merah	20	0.44	20.108	6.908	6.6	10.692
5	Tepung terigu	40	4.4	106.92	127.16	54.12	161.92
6	Tepung tapioka	60	0.66	29.502	18.414	2.706	9.9
7	Telur ayam	33	3.5	213.5	150.15	43.05	148.75
Jumlah			48,96	2789.55	1802.3	507.556	1307.18
Konsumsi AA per gram (mg/g)				63.55	40.85	11.18	29.78
Pola Kebutuhan AA (FAO/WHO/UNU 2013)				48	25	6.6	23
Skor Asam Amino (mg/g)				132.4	163.4	169.4	129.5

Bahan	Kadar Protein (g)	MC Bioassay	Konsumsi Protein x MC Bioassay
Daging ayam	20.2	97	1959.4
Ikan Teri	6.5	97	630.5
Kacang merah	13.26	82	1087.32
Bayam merah	0.44	67	29.48
Tepung terigu	4.4	96	422.4
Tepung tapioka	0.66	86	56.76
Telur ayam	3.5	100	350
Jumlah	44.76	625	4535,86
Mutu Cerna Teoritis (MC)			92.6
NPU			119

Taraf P_2 (40 : 20 : 30 : 10)

No	Bahan Makanan	Berat (g)	Protein (g)	Kadar Asam Amino			
				Lisin	Treonin	Triptofan	AAS
1	Daging ayam	80	16.2	1240.92	763.02	153.9	581.58
2	Teri nasi	40	13	876.2	510.9	153.4	423.8
3	Kacang merah	60	13.26	755.82	490.62	172.38	189.618
4	Bayam merah	20	0.44	20.108	6.908	6.6	10.692
5	Tepung terigu	150	4.4	106.92	127.16	54.12	161.92
6	Tepung tapioka	60	0.66	29.502	18.414	2.706	9.9
7	Telur ayam	33	3.5	213.5	150.15	43.05	148.75
Jumlah			51.46	3242.97	2067.17	586.156	1526.26
Konsumsi AA per gram (mg/g)				63.02	40.17	11.39	29.66
Pola Kebutuhan AA (FAO/WHO/UNU 2013)				48	25	6.6	23
Skor Asam Amino (mg/g)				131.3	160.7	172.6	129.0

Bahan	Kadar Protein (g)	MC Bioassay	Konsumsi Protein x MC Bioassay
Daging ayam	12.8	97	1241.6
Ikan Teri	13	97	1261
Kacang merah	13.26	82	1087.32
Bayam merah	0.44	67	29.48
Tepung terigu	4.4	96	422.4
Tepung tapioka	0.66	86	56.76
Telur ayam	3.5	100	350
Jumlah	48.06	625	4778,36
Mutu Cerna Teoritis (MC)			92.9
NPU			119

Taraf P_3 (30 : 30 : 30 : 10)

No	Bahan Makanan	Berat (g)	Protein (g)	Kadar Asam Amino			
				Lisin	Treonin	Triptofan	AAS
1	Daging ayam	60	12.1	926.86	569.91	114.95	434.39
2	Teri nasi	60	19.5	1314.3	766.35	230.1	635.7
3	Kacang merah	60	13.26	755.8	490.62	172.38	189.618
4	Bayam merah	20	0.44	20.11	6.908	6.6	10.692
5	Tepung terigu	150	4.4	106.92	127.16	54.12	161.92
6	Tepung tapioka	60	0.66	29.50	18.414	2.706	9.9
7	Telur ayam	33	3.5	213.5	150.15	43.05	148.75
Jumlah			53.86	3367.01	2129.51	623.906	1590.97
Konsumsi AA per gram (mg/g)				62.51	39.54	11.58	29.54
Pola Kebutuhan AA (FAO/WHO/UNU 2013)				48	25	6.6	23
Skor Asam Amino (mg/g)				130.2	158.2	175.5	128.4

Bahan	Kadar Protein (g)	MC Bioassay	Konsumsi Protein x MC Bioassay
Daging ayam	12.1	97	1173.7
Ikan Teri	19.5	97	1891.5
Kacang merah	13.26	82	1087.32
Bayam merah	0.44	67	29.48
Tepung terigu	4.4	96	422.4
Tepung tapioka	0.66	86	56.76
Telur ayam	3.5	100	350
Jumlah	51.36	625	5011,16
Mutu Cerna Teoritis (MC)			93.0
NPU			119

Lampiran 6. Hasil Uji Lab Substitusi Teri Nasi dengan Bayam Merah dan Kacang Merah pada Siomay Ayam

LABORATORIUM GIZI
DEPARTEMEN GIZI KESEHATAN
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SURABAYA
Kampus C, Jl. Mulyorejo Surabaya, 60115
Telp. 0315964808

No. Sampel	: 105/Lab. Gizi/2024
Nama Sampel	: Siomay Ayam Substitusi Teri Nasi dengan Kacang Merah dan Bayam Merah
Pengirim	: Anindya Wima Rizqina
Alamat	: Sarjana Terapan Gizi dan Dietetika Poltekkes Kemenkes Malang
Tanggal diterima	: 28 Mei 2024
Tanggal selesai	: 4 Juni 2024

Hasil

Kode Sampel	Karbohidrat (%)	Protein (%)	Lemak (%)	Air (%)	Abu (%)	Vit. C (mg/100g)	Fe (mg/100g)
X01	15,78	12,11	1,78	68,94	1,39	0,01	0,032
X02	15,52	12,21	1,83	69,03	1,41	0,01	0,028
X03	15,60	12,18	1,81	68,99	1,42	0,01	0,029
X11	19,85	10,89	1,21	65,16	2,89	76,84	1,254
X12	19,81	10,93	1,25	65,08	2,93	77,01	1,229
X13	19,94	10,84	1,19	65,12	2,91	76,93	1,237
X21	20,92	11,05	0,97	63,74	3,32	84,51	1,894
X22	20,77	11,12	0,94	63,78	3,39	85,12	1,907
X23	20,71	11,09	0,99	63,80	3,41	84,89	1,911
X31	21.26	11.27	1.08	63.37	3.02	92.98	1,996
X32	21.19	11.31	1.04	63.41	3.05	93.14	2,004
X33	21.23	11.29	1.05	63.39	3.04	92.12	1,998

Surabaya, 4 Juni 2024
Teknisi,

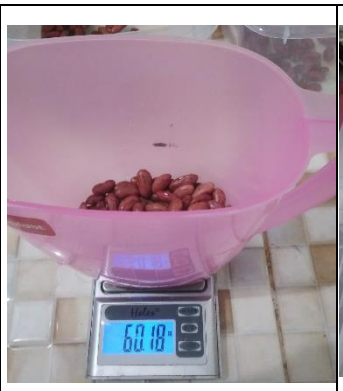
Evy Arfianti, S.KM, M.Kes.
NIP. 197303282000032005

Lampiran 7. Persiapan dan Pengolahan Bahan

a. Persiapan Bayam Merah

 Pencucian Bayam Merah	 Penimbangan bayam merah 20 gram tiap taraf perlakuan	 Pemotongan bayam merah hingga kecil-kecil

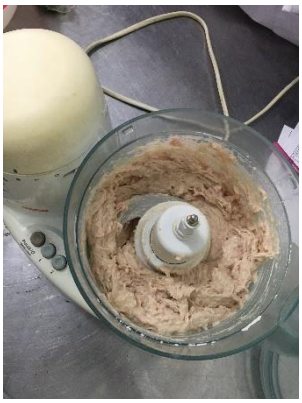
b. Persiapan Kacang Merah

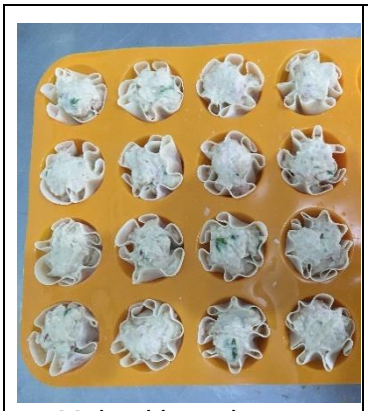
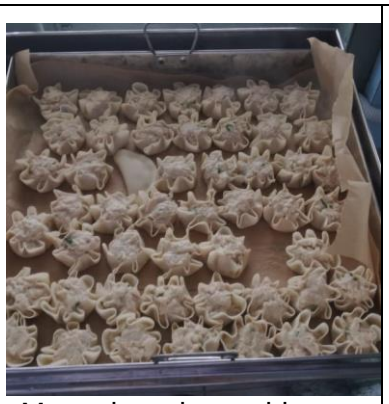
 Pencucian Kacang Merah	 Penimbangan kacang merah 60 gram tiap taraf perlakuan	 Perendaman kacang merah selama 24 jam
 Meniriskan kacang merah yang telah direndam		

c. Persiapan Teri Nasi

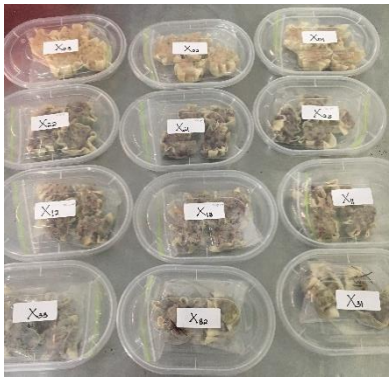
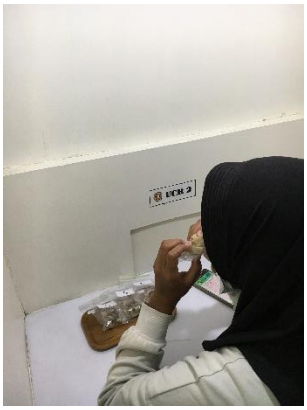
 Pencucian teri nasi	 Penimbangan teri nasi 20 gram tiap taraf perlakuan	 Mendiamkan teri nasi dengan air jeruk nipis selama 10 menit

d. Pengolahan Siomay Ayam

 Menyiapkan semua bahan tiap taraf perlakuan	 Memasukkan semua bahan ke food processor	 Penghalusan menggunakan food processor ± 20 detik
 Memasukkan adonan yang sudah dihaluskan kedalam wadah	 Menambahkan daun bawang, bumbu, dan bayam merah kedalam adonan	 Memasukkan adonan sebanyak 25 gram ke dalam kulit siomay

 Meletakkan siomay kedalam cetakan siomay	 Mengukus siomay hingga matang (20 menit)	 Siomay siap disajikan

e. Penilaian Mutu Organoleptik

 Sampel laboratorium	 Sampel Organoleptik (matang)	 Penilaian organoleptik

Lampiran 8. Taraf Perlakuan Terbaik

a. Hasil Ranking Variabel Terpenting

Variabel	Panelis										Jumlah	Rata-rata	Rank	Bobot Variabel
	1	2	3	4	5	6	7	8	9	10				
Kadar air	6	5	2	7	1	10	3	1	2	2	39	3.9	12	0.35
Kadar abu	8	7	1	8	2	10	2	2	1	1	42	4.2	11	0.37
Kadar protein	11	11	12	11	11	12	11	12	10	10	111	11.1	2	0.98
Kadar karbohidrat	9	6	4	10	3	8	8	8	8	3	67	6.7	7	0.59
Kadar lemak	10	6	3	9	4	8	9	9	7	4	69	6.9	5	0.61
Kadar zat besi	12	11	11	12	12	12	10	10	12	11	113	11.3	1	1.00
Kadar vitamin C	7	11	10	5	9	11	1	7	11	9	81	8.1	4	0.72
Energi	5	10	9	6	10	9	12	11	9	6	87	8.7	3	0.77
Warna	4	8	5	2	6	7	4	4	6	5	51	5.1	10	0.45
Aroma	3	9	7	2	7	7	7	5	5	7	59	5.9	8	0.52
Rasa	2	12	8	4	8	7	6	6	4	12	69	6.9	6	0.61
Tekstur	1	12	8	3	5	7	5	3	3	8	55	5.5	9	0.49
Total														**7.46**

b. Perhitungan Taraf Perlakuan Terbaik

No	Variabel	P_0	P_1	P_2	P_3	Terbaik	Terjelek
1	Kadar air	68.99	65.12	63.77	63.39	68.99	63.39
2	Kadar abu	1.41	2.91	3.37	3.04	3.37	1.41
3	Kadar protein	12.17	10.89	11.09	11.29	12.17	10.89
4	Kadar karbohidrat	15.63	19.87	20.80	21.22	21,22	15.63
5	Kadar lemak	1.81	0.42	0.97	1.06	1.81	0.42
6	Kadar zat besi	0.03	1.24	1.90	1.99	1,99	0.03
7	Kadar vitamin C	0.01	76.93	84.84	92.75	92,75	0.01
8	Kandungan energi	127.46	133.96	136.25	139.57	139.57	127.46
9	Warna	3.53	2.9	2.97	3	3.53	2.9
10	Aroma	3.53	2.97	3.1	3.03	3.53	2.97
11	Rasa	3.57	2.3	2.5	2.43	3.57	2.3
12	Tekstur	3.7	2.47	2.8	2.87	3.7	2.47

c. Hasil Perhitungan Taraf Perlakuan Terbaik

Variabel	Bobot variabel	Bobot normal	P0		P1		P2		P3	
			Ne	Nh	Ne	Nh	Ne	Nh	Ne	Nh
Kadar air	0.35	0.05	1.00	0.05	0.31	0.01	0.07	0.00	0.00	0.00
Kadar abu	0.37	0.05	0.00	0.00	0.77	0.04	1.00	0.05	0.83	0.04
Protein	0.98	0.13	1.00	0.13	0.00	0.00	0.15	0.02	0.36	0.05
Karbohidrat	0.59	0.08	0.00	0.00	0.76	0.06	0.92	0.07	1.00	0.08
Lemak	0.61	0.08	1.00	0.08	0.00	0.00	0.39	0.03	0.45	0.04
Zat besi	1.00	0.13	0.00	0.00	0.62	0.08	0.96	0.13	1.00	0.13
Vitamin C	0.72	0.10	0.00	0.00	0.83	0.08	0.91	0.09	1.00	0.10
Energi	0.77	0.10	0.00	0.00	0.54	0.06	0.73	0.07	1.00	0.10
Warna	0.45	0.06	1.00	0.06	0.00	0.00	0.11	0.01	0.16	0.01
Aroma	0.52	0.07	1.00	0.07	0.00	0.00	0.23	0.02	0.11	0.01
Rasa	0.61	0.08	1.00	0.08	0.00	0.00	0.16	0.01	0.10	0.01
Tekstur	0.49	0.07	1.00	0.07	0.00	0.00	0.27	0.02	0.33	0.02
Total	7.46			0.537		0.331		0.523		0.585

Lampiran 9. Analisis Uji Statistik Kadar Zat Gizi

a. Kadar Air

Oneway

Descriptives

Air

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	68.9867	.04509	.02603	68.8747	69.0987	68.94	69.03
P1	3	65.1200	.04000	.02309	65.0206	65.2194	65.08	65.16
P2	3	63.7733	.03055	.01764	63.6974	63.8492	63.74	63.80
P3	3	63.3900	.02000	.01155	63.3403	63.4397	63.37	63.41
Total	12	65.3175	2.31231	.66751	63.8483	66.7867	63.37	69.03

ANOVA

Air

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	58.804	3	19.601	15786.441	<.001
Within Groups	.010	8	.001		
Total	58.814	11			

Post Hoc Tests

Air

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P3	3	63.3900			
P2	3		63.7733		
P1	3			65.1200	
P0	3				68.9867
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

b. Kadar Abu
Oneway

Descriptives

Abu

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	1.4067	.01528	.00882	1.3687	1.4446	1.39	1.42
P1	3	2.9100	.02000	.01155	2.8603	2.9597	2.89	2.93
P2	3	3.3733	.04726	.02728	3.2559	3.4907	3.32	3.41
P3	3	3.0367	.01528	.00882	2.9987	3.0746	3.02	3.05
Total	12	2.6817	.78929	.22785	2.1802	3.1832	1.39	3.41

ANOVA

Abu

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.847	3	2.282	2944.760	<.001
Within Groups	.006	8	.001		
Total	6.853	11			

Post Hoc Tests

Abu

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P0	3	1.4067			
P1	3		2.9100		
P3	3			3.0367	
P2	3				3.3733
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

c. Kadar Protein
Oneway

Descriptives

Protein

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	12.1667	.05132	.02963	12.0392	12.2941	12.11	12.21
P1	3	10.8867	.04509	.02603	10.7747	10.9987	10.84	10.93
P2	3	11.0867	.03512	.02028	10.9994	11.1739	11.05	11.12
P3	3	11.2900	.02000	.01155	11.2403	11.3397	11.27	11.31
Total	12	11.3575	.51129	.14760	11.0326	11.6824	10.84	12.21

ANOVA

Protein

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.863	3	.954	605.931	<.001
Within Groups	.013	8	.002		
Total	2.876	11			

Post Hoc Tests

Protein

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P1	3	10.8867			
P2	3		11.0867		
P3	3			11.2900	
P0	3				12.1667
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

d. Kadar Lemak
Oneway

Descriptives

Lemak

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	1.8067	.02517	.01453	1.7442	1.8692	1.78	1.83
P1	3	1.2167	.03055	.01764	1.1408	1.2926	1.19	1.25
P2	3	.9667	.02517	.01453	.9042	1.0292	.94	.99
P3	3	1.0567	.02082	.01202	1.0050	1.1084	1.04	1.08
Total	12	1.2617	.34239	.09884	1.0441	1.4792	.94	1.83

ANOVA

Lemak

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.284	3	.428	650.278	<.001
Within Groups	.005	8	.001		
Total	1.290	11			

Post Hoc Tests

Lemak

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P2	3	.9667			
P3	3		1.0567		
P1	3			1.2167	
P0	3				1.8067
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

e. Kadar Karbohidrat
Oneway

Descriptives

Karbohidrat

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	15.6333	.13317	.07688	15.3025	15.9641	15.52	15.78
P1	3	19.8667	.06658	.03844	19.7013	20.0321	19.81	19.94
P2	3	20.8000	.10817	.06245	20.5313	21.0687	20.71	20.92
P3	3	21.2267	.03512	.02028	21.1394	21.3139	21.19	21.26
Total	12	19.3817	2.31934	.66954	17.9080	20.8553	15.52	21.26

ANOVA

Karbohidrat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	59.103	3	19.701	2245.119	<.001
Within Groups	.070	8	.009		
Total	59.173	11			

Post Hoc Tests

Karbohidrat

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P0	3	15.6333			
P1	3		19.8667		
P2	3			20.8000	
P3	3				21.2267
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

f. Kadar Zat Besi

Oneway

Descriptives

Zat_Besi

					95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
P0	3	.0297	.00208	.00120	.0245	.0348	.03	.03
P1	3	1.2400	.01277	.00737	1.2083	1.2717	1.23	1.25
P2	3	1.9040	.00889	.00513	1.8819	1.9261	1.89	1.91
P3	3	1.9933	.00577	.00333	1.9790	2.0077	1.99	2.00
Total	12	1.2918	.81955	.23658	.7710	1.8125	.03	2.00

ANOVA

Zat_Besi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.388	3	2.463	35221.954	<.001
Within Groups	.001	8	.000		
Total	7.388	11			

Post Hoc Tests

Zat_Besi

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P0	3	.0297			
P1	3		1.2400		
P2	3			1.9040	
P3	3				1.9933
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

g. Kadar Vitamin C
Oneway

Descriptives

Vitamin_C

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	.0100	.00000	.00000	.0100	.0100	.01	.01
P1	3	76.9267	.08505	.04910	76.7154	77.1379	76.84	77.01
P2	3	84.8400	.30806	.17786	84.0747	85.6053	84.51	85.12
P3	3	92.7467	.54857	.31672	91.3839	94.1094	92.12	93.14
Total	12	63.6308	38.80798	11.20290	38.9734	88.2883	.01	93.14

ANOVA

Vitamin_C

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16565.850	3	5521.950	54799.373	<.001
Within Groups	.806	8	.101		
Total	16566.656	11			

Post Hoc Tests

Vitamin_C

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P0	3	.0100			
P1	3		76.9267		
P2	3			84.8400	
P3	3				92.7467
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

h. Kandungan energi
Oneway

Descriptives

Energi

					95% Confidence Interval for Mean			
					Lower Bound	Upper Bound		
P0	3	127.4600	.10440	.06028	127.2006	127.7194	127.39	127.58
P1	3	133.9633	.21385	.12347	133.4321	134.4946	133.83	134.21
P2	3	136.2467	.31786	.18352	135.4571	137.0363	136.02	136.61
P3	3	139.5767	.24338	.14051	138.9721	140.1813	139.36	139.84
Total	12	134.3117	4.63217	1.33719	131.3685	137.2548	127.39	139.84

ANOVA

Energi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	235.593	3	78.531	1448.246	<.001
Within Groups	.434	8	.054		
Total	236.027	11			

Post Hoc Tests

Energi

Duncan[a]

		Subset for alpha = 0.05			
		1	2	3	4
P0	3	127.4600			
P1	3		133.9633		
P2	3			136.2467	
P3	3				139.5767
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

Lampiran 10. Analisis Uji Statistik Organoleptik

a. Warna

Kruskal-Wallis Test

Ranks

	Perlakuan	N	Mean Rank
	P0-568	30	79.17
	P1-719	30	51.75
	P2-712	30	54.98
	P3-660	30	56.10
	Total	120	

Test Statistics[a,b]

	Warna
Kruskal-Wallis H	13.473
df	3
Asymp. Sig.	.004

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P0-568	30	37.50	1125.00
	P1-719	30	23.50	705.00
	Total	60		

Test Statistics[a]

	Warna
Mann-Whitney U	240.000
Wilcoxon W	705.000
Z	-3.352
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P0-568	30	36.30	1089.00
P2-712	30	24.70	741.00
Total	60		

Test Statistics[a]

	Warna
Mann-Whitney U	276.000
Wilcoxon W	741.000
Z	-2.777
Asymp. Sig. (2-tailed)	.005

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P0-568	30	36.37	1091.00
P3-660	30	24.63	739.00
Total	60		

Test Statistics[a]

	Warna
Mann-Whitney U	274.000
Wilcoxon W	739.000
Z	-2.822
Asymp. Sig. (2-tailed)	.005

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P1-719	30	29.85	895.50
P2-712	30	31.15	934.50
Total	60		

Test Statistics[a]

	Warna
Mann-Whitney U	430.500
Wilcoxon W	895.500
Z	-.309
Asymp. Sig. (2-tailed)	.757

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P1-719	30	29.40	882.00
P3-660	30	31.60	948.00
Total	60		

Test Statistics[a]

	Warna
Mann-Whitney U	417.000
Wilcoxon W	882.000
Z	-.529
Asymp. Sig. (2-tailed)	.597

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P2-712	30	30.13	904.00
P3-660	30	30.87	926.00
Total	60		

Test Statistics[a]

	Warna
Mann-Whitney U	439.000
Wilcoxon W	904.000
Z	-.174
Asymp. Sig. (2-tailed)	.862

b. Aroma

Kruskal-Wallis Test

Ranks

Perlakuan	N	Mean Rank
P0-568	30	77.57
P1-719	30	50.70
P2-712	30	57.87
P3-660	30	55.87
Total	120	

Test Statistics[a,b]

	Aroma
Kruskal-Wallis H	11.924
df	3
Asymp. Sig.	.008

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

c. Rasa

Kruskal-Wallis Test

Ranks

Perlakuan	N	Mean Rank
P0-568	30	91.93
P1-719	30	46.40
P2-712	30	53.00
P3-660	30	50.67
Total	120	

Test Statistics[a,b]

	Rasa
Kruskal-Wallis H	36.676
df	3
Asymp. Sig.	<.001

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P0-568	30	42.18	1265.50
P1-719	30	18.82	564.50
Total	60		

Test Statistics[a]

	Rasa
Mann-Whitney U	99.500
Wilcoxon W	564.500
Z	-5.452
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P0-568	30	39.28	1178.50
P2-712	30	21.72	651.50
Total	60		

Test Statistics[a]

	Rasa
Mann-Whitney U	186.500
Wilcoxon W	651.500
Z	-4.122
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P0-568	30	41.47	1244.00
P3-660	30	19.53	586.00
Total	60		

Test Statistics[a]

	Rasa
Mann-Whitney U	121.000
Wilcoxon W	586.000
Z	-5.142
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P1-719	30	29.30	879.00
P2-712	30	31.70	951.00
Total	60		

Test Statistics[a]

	Rasa
Mann-Whitney U	414.000
Wilcoxon W	879.000
Z	-.569
Asymp. Sig. (2-tailed)	.569

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P1-719	30	29.28	878.50
P3-660	30	31.72	951.50
Total	60		

Test Statistics[a]

	Rasa
Mann-Whitney U	413.500
Wilcoxon W	878.500
Z	-.590
Asymp. Sig. (2-tailed)	.555

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

Perlakuan	N	Mean Rank	Sum of Ranks
P2-712	30	30.58	917.50
P3-660	30	30.42	912.50
Total	60		

Test Statistics[a]

	Rasa
Mann-Whitney U	447.500
Wilcoxon W	912.500
Z	-.040
Asymp. Sig. (2-tailed)	.968

a. Grouping Variable: Perlakuan

d. Tekstur

Kruskal-Wallis Test

Ranks

Perlakuan	N	Mean Rank
P0-568	30	86.65
P1-719	30	43.77
P2-712	30	55.20
P3-660	30	56.38
Total	120	

Test Statistics[a,b]

	Tekstur
Kruskal-Wallis H	27.643
df	3
Asymp. Sig.	<.001

a. Kruskal Wallis Test

b. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P0-568	30	40.70	1221.00
	P1-719	30	20.30	609.00
	Total	60		

Test Statistics[a]

	Tekstur
Mann-Whitney U	144.000
Wilcoxon W	609.000
Z	-4.821
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P0-568	30	38.30	1149.00
	P2-712	30	22.70	681.00
	Total	60		

Test Statistics[a]

	Tekstur
Mann-Whitney U	216.000
Wilcoxon W	681.000
Z	-3.764
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P0-568	30	38.65	1159.50
	P3-660	30	22.35	670.50
	Total	60		

Test Statistics[a]

	Tekstur
Mann-Whitney U	205.500
Wilcoxon W	670.500
Z	-3.931
Asymp. Sig. (2-tailed)	<.001

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P1-719	30	27.60	828.00
	P2-712	30	33.40	1002.00
	Total	60		

Test Statistics[a]

	Tekstur
Mann-Whitney U	363.000
Wilcoxon W	828.000
Z	-1.348
Asymp. Sig. (2-tailed)	.178

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P1-719	30	26.87	806.00
	P3-660	30	34.13	1024.00
	Total	60		

Test Statistics[a]

	Tekstur
Mann-Whitney U	341.000
Wilcoxon W	806.000
Z	-1.698
Asymp. Sig. (2-tailed)	.089

a. Grouping Variable: Perlakuan

Mann-Whitney Test

Ranks

	Perlakuan	N	Mean Rank	Sum of Ranks
	P2-712	30	30.10	903.00
	P3-660	30	30.90	927.00
	Total	60		

Test Statistics[a]

	Tekstur
Mann-Whitney U	438.000
Wilcoxon W	903.000
Z	-.186
Asymp. Sig. (2-tailed)	.852

a. Grouping Variable: Perlakuan