

Lampiran 1 formulir kesediaan menjadi panelis

FORMULIR KESEDIAAN MENJADI PANELIS

JUDUL PENELITIAN

**JUDUL PENELITIAN PENGARUH OBAT PENGGANTI TEPUNG JAGUNG DAN
TAHU TERHADAP PENERIMAAN NUGGET IKAN TUNGGUL**

Saya yang bertanda tangan di bawah ini adalah mahasiswa Program Gizi Universitas
Teknologi Kesehatan Kementerian Kesehatan Kupang:

Nama :

NIM :

Semester :

Kesediaan bertindak sebagai panelis selama penelitian berlangsung dan memberikan penilaian yang
jujur tanpa paksaan atau tekanan dari pihak manapun.

Kupang, Mei 2024

(.....)

Lambran 2 formulir penilaian organoleptik

FORMULIR PENILAIAN ORGANOLEPTIK

Judul Penelitian:
**PENGARUH OBAT PENGANTI TEPUNG JAGUNG DAN TAHU
TERHADAP PENERIMAAN NUGGET IKAN TONGKOL**

Berbagai jenis nugget ikan tuna disajikan di hadapan Anda. Sebelum mencoba masing-masing variasinya, berkumurlah terlebih dahulu dengan air minum yang disediakan. Beristirahatlah sejenak sebelum mencoba produk berikutnya. Anda akan diminta melakukan evaluasi sensorik dengan mencentang (√).

Faktor kualitas	Deskripsi nilai	Keterangan Sampel			
		P0	P1	P2	P3
Warna	Sangat suka (5)				
	Suka (4)				
	Agak suka (3)				
	Tidak suka (2)				
	Sangat tidak suka (1)				
Aroma	Sangat suka (5)				
	Suka (4)				
	agak Suka (3)				
	Tidak suka (2)				
	Sangat tidak suka (1)				
Tekstur	Sangat suka (5)				
	Suka (4)				
	agak Suka (3)				
	Tidak suka (2)				
	Sangat tidak suka (1)				
Rasa	Sangat suka (5)				
	Suka (4)				
	agak Suka (3)				
	Tidak suka (2)				
	Sangat tidak suka (1)				
Total Nilai					

Komentar:.....

.....

Lampiran 3

Multiple Comparisons

Tukey HSD

Dependent Variable	(I) Perlakuan	(J) Perlakuan	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Warna	Perlakuan 0	Perlakuan 1	.833*	.179	.000	.37	1.30
		Perlakuan 2	.533*	.179	.018	.07	1.00
		Perlakuan 3	1.100*	.179	.000	.63	1.57
	Perlakuan 1	Perlakuan 0	-.833*	.179	.000	-1.30	-.37
		Perlakuan 2	-.300	.179	.342	-.77	.17
		Perlakuan 3	.267	.179	.448	-.20	.73
	Perlakuan 2	Perlakuan 0	-.533*	.179	.018	-1.00	-.07
		Perlakuan 1	.300	.179	.342	-.17	.77
		Perlakuan 3	.567*	.179	.011	.10	1.03
	Perlakuan 3	Perlakuan 0	-1.100*	.179	.000	-1.57	-.63
		Perlakuan 1	-.267	.179	.448	-.73	.20
		Perlakuan 2	-.567*	.179	.011	-1.03	-.10
Aroma	Perlakuan 0	Perlakuan 1	.700*	.193	.002	.20	1.20
		Perlakuan 2	.567*	.193	.021	.06	1.07
		Perlakuan 3	.867*	.193	.000	.36	1.37
	Perlakuan 1	Perlakuan 0	-.700*	.193	.002	-1.20	-.20
		Perlakuan 2	-.133	.193	.901	-.64	.37
		Perlakuan 3	.167	.193	.825	-.34	.67
	Perlakuan 2	Perlakuan 0	-.567*	.193	.021	-1.07	-.06
		Perlakuan 1	.133	.193	.901	-.37	.64
		Perlakuan 3	.300	.193	.411	-.20	.80
	Perlakuan 3	Perlakuan 0	-.867*	.193	.000	-1.37	-.36
		Perlakuan 1	-.167	.193	.825	-.67	.34
		Perlakuan 2	-.300	.193	.411	-.80	.20
Tekstur	Perlakuan 0	Perlakuan 1	.600*	.197	.015	.09	1.11
		Perlakuan 2	.333	.197	.331	-.18	.85
		Perlakuan 3	.133	.197	.905	-.38	.65
	Perlakuan 1	Perlakuan 0	-.600*	.197	.015	-1.11	-.09
		Perlakuan 2	-.267	.197	.530	-.78	.25
		Perlakuan 3	-.467	.197	.088	-.98	.05
	Perlakuan 2	Perlakuan 0	-.333	.197	.331	-.85	.18
		Perlakuan 1	.267	.197	.530	-.25	.78
		Perlakuan 3	-.200	.197	.740	-.71	.31
	Perlakuan 3	Perlakuan 0	-.133	.197	.905	-.65	.38
		Perlakuan 1	.467	.197	.088	-.05	.98
		Perlakuan 2	.200	.197	.740	-.31	.71
Rasa	Perlakuan 0	Perlakuan 1	.567	.238	.086	-.05	1.19
		Perlakuan 2	.200	.238	.835	-.42	.82
		Perlakuan 3	-.167	.238	.896	-.79	.45
	Perlakuan 1	Perlakuan 0	-.567	.238	.086	-1.19	.05
		Perlakuan 2	-.367	.238	.416	-.99	.25
		Perlakuan 3	-.733*	.238	.013	-1.35	-.11
	Perlakuan 2	Perlakuan 0	-.200	.238	.835	-.82	.42
		Perlakuan 1	.367	.238	.416	-.25	.99
		Perlakuan 3	-.367	.238	.416	-.99	.25
	Perlakuan 3	Perlakuan 0	.167	.238	.896	-.45	.79
		Perlakuan 1	.733*	.238	.013	.11	1.35
		Perlakuan 2	.367	.238	.416	-.25	.99

Oneway

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Warna	Between Groups	20.033	3	6.678	13.849	.000
	Within Groups	55.933	116	.482		
	Total	75.967	119			
Aroma	Between Groups	12.733	3	4.244	7.559	.000
	Within Groups	65.133	116	.561		
	Total	77.867	119			
Tekstur	Between Groups	6.133	3	2.044	3.522	.017
	Within Groups	67.333	116	.580		
	Total	73.467	119			
Rasa	Between Groups	8.967	3	2.989	3.526	.017
	Within Groups	98.333	116	.848		
	Total	107.300	119			

Hasil Uji Organoleptik Warna

Warna

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05		
		1	2	3
Perlakuan 3	30	3.33		
Perlakuan 1	30	3.60	3.60	
Perlakuan 2	30		3.90	
Perlakuan 0	30			4.43
Sig.		.448	.342	1.000

Means for groups in homogeneous subsets are displayed.

Hasil Uji Organoleptik Aroma

Aroma

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
Perlakuan 3	30	3.63	
Perlakuan 1	30	3.80	
Perlakuan 2	30	3.93	
Perlakuan 0	30		4.50
Sig.		.411	1.000

Means for groups in homogeneous subsets are displayed.

Hasil Uji Organoleptik Tekstur

Tekstur

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
Perlakuan 1	30	3.73	
Perlakuan 2	30	4.00	4.00
Perlakuan 3	30	4.20	4.20
Perlakuan 0	30		4.33
Sig.		.088	.331

Means for groups in homogeneous subsets are displayed.

Hasil Uji Organoleptik Rasa

Rasa

Tukey HSD^a

Perlakuan	N	Subset for alpha = 0.05	
		1	2
Perlakuan 1	30	3.73	
Perlakuan 2	30	4.10	4.10
Perlakuan 0	30	4.30	4.30
Perlakuan 3	30		4.47
Sig.		.086	.416

Means for groups in homogeneous subsets are displayed.

Lampiran 4.

Tabulasi Data Uji Organoleptik Nugget Ikan Tongkol Substitusi Tepung Jagung, Ampas

Tahu Dan Tepung Terigu

P 0			
WARNA	AROMA	TEKSTUR	RASA
4	4	4	4
4	4	4	3
5	4	4	3
5	3	3	3
4	4	3	4
5	3	3	2
5	3	3	2
4	2	4	2
4	3	3	2
5	4	4	5
5	3	4	1
5	4	4	4
5	4	5	5
4	3	3	3
5	4	4	5
4	3	4	4
4	3	4	3
5	4	4	3
5	4	4	5
5	4	5	4
5	4	4	4
4	3	4	4
5	4	4	3
4	4	3	3
4	4	4	3
4	3	3	2
4	4	4	4
4	4	4	
4	4	3	3
3	4	3	4
4.433333	3.6	3.733333	3.344828

P 1			
WARNA	AROMA	TEKSTUR	RASA
4	3	3	4
4	4	4	4
5	5	4	3
3	3	4	3
4	4	4	4
5	3	3	3
4	2	4	2
4	2	3	3
5	3	4	3
5	5	5	5
5	4	4	4
4	4	5	5
5	4	5	5
5	4	4	3
5	4	4	4
5	5	5	4
4	3	4	3
5	3	3	3
5	4	4	3
5	4	5	4
5	3	5	3
4	3	4	3
5	4	4	4
4	4	4	4
4	4	4	4
4	5	2	2
4	5	4	5
4	4	4	4
5	5	3	4
5	4	3	4
4.5	3.8	3.933333	3.633333

P 2			
WARNA	AROMA	TEKSTUR	RASA
4	3	3	4
4	4	5	5
4	3	5	4
4	3	3	4
3	4	4	5
4	4	3	3
4	3	4	3
2	2	2	4
5	4	5	5
5	4	5	5
5	2	4	4
5	5	4	4
5	4	5	4
5	4	5	5
5	5	5	5
5	5	5	5
4	3	4	4
4	4	3	4
5	4	3	4
5	4	4	5
5	5	4	4
4	3	4	5
5	4	4	4
5	4	4	3
4	4	4	5
4	3	3	3
4	4	4	5
3	3	4	4
4	4	4	3
5	4	4	4
4.333333	3.733333	4	4.2

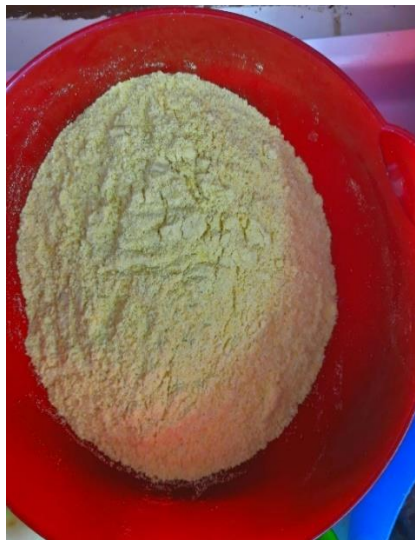
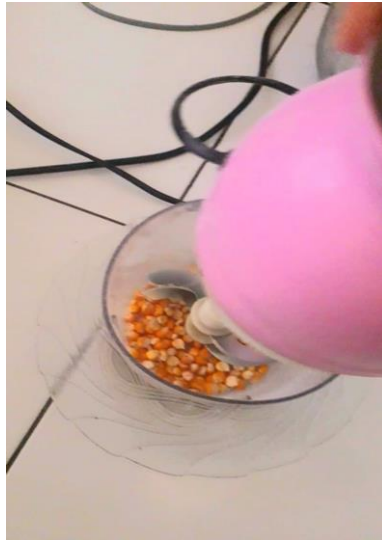
P3

WARNA	AROMA	TEKSTUR	RASA
5	5	5	5
4	4	5	5
4	4	4	5
4	4	5	5
3	3	4	5
4	3	3	2
4	2	4	2
2	3	2	4
5	5	5	5
5	5	5	5
5	2	3	5
5	4	5	5
5	3	5	5
4	1	4	4
5	5	4	4
5	4	4	4
4	3	5	5
3	1	3	3
5	5	3	5
5	4	4	5
5	5	4	4
4	3	4	4
5	4	4	5
4	4	4	5
4	4	4	4
4	5	4	5
3	3	3	4
4	5	4	5
5	5	5	5
5	4	5	5
4.3	3.733333	4.1	4.466667

Lampiran 5.

DOKUMENTASI PENELITIAN

Prosedur Pembuatan Tepung Jagung



Prosedur Pembuatan Tepung Ampas Tahu



Bahan pembuatan nugget ikan tongkol



Hasil pembuatan nugget ikan tongkol



Penelitian Oleh Panelis



Perhitungan nilai gizi menggunakan nutrisurvey dan hitung manual

NutriSurvey for Windows

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Women 19-24 years DGE2000 Portion 1 Days

Food	Amount	kcal	water	protein	fat	carbohydr	dietary	alcohol	PUFA	cholest	Vit. A	caroten	Vit. E	Vit
1 tepung terigu	100	364.0		10.3	1.0	76.3	2.7		0.4	0.0	0.0			0.0
2 ikan tongkol	400	443.6		96.0	4.0	0.0	0.0		1.2	184.0	64.0			4.0
3 telur ayam	200	310.2		25.2	21.2	2.2	0.0		2.8	848.0	380.0			4.0
4 gula pasir	5	19.3		0.0	0.0	5.0	0.0		0.0	0.0	0.0			0.0
5 tepung terigu	50	182.0		5.2	0.5	38.2	1.4		0.2	0.0	0.0			0.0
6 Bread-crumb dumpling (R)	100	125.8	65.7	6.4	4.3	15.0	1.1	0.0	0.6	107.8	96.7	0.1		0.7
7														
8														
9														
10														
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12														
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15														
16														
17														
18														
19														
20														
21														
22														
23														

Display options: TA A% FA MA NC

Total analysis:

- energy 1444.9 kcal
- water 65.7 g
- protein (41%) 143.1 g
- fat (19%) 31.0 g
- carbohydr. (39%) 136.7 g
- dietary fiber 5.1 g
- alcohol (0%) - g
- PUFA 5.2 g
- cholesterol 1139.8 mg
- Vit. A 540.7 µg
- carotene 0.1 mg
- Vit. E (eq.) 0.7 mg
- Vit. B1 1.9 mg
- Vit. B2 1.4 mg
- Vit. B6 1.5 mg
- tot. fol. acid 147.0 µg
- Vit. C 2.6 mg
- sodium 818.5 mg
- potassium 1288.0 mg
- calcium 252.2 mg
- magnesium 154.7 mg
- phosphorus 1401.0 mg
- iron 7.9 mg
- zinc 6.4 mg

85°F Windy 5:24 PM 5/21/2024

NutriSurvey for Windows

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Women 19-24 years DGE2000 Portion 1 Days

Food	Amount	kcal	water	protein	fat	carbohydr	dietary	alcohol	PUFA	cholest	Vit. A	carotene	Vit. E	Vi
1 tepung jagung kuning	5	18.1		0.4	0.2	3.8	0.4		0.1	0.0	2.3		0.1	
2 ampas tahu HITUNG MANUAL TKPI														
3 tepung terigu	80	291.2		8.2	0.8	61.0	2.2		0.3	0.0	0.0		0.0	
4 ikan tongkol	400	443.6		96.0	4.0	0.0	0.0		1.2	184.0	64.0		4.0	
5 tepung tapioka	50	190.5		0.2	0.1	45.7	0.4		0.0	0.0	0.0		0.0	
6 telur ayam	200	310.2		25.2	21.2	2.2	0.0		2.8	848.0	380.0		4.0	
7 gula pasir	5	19.3		0.0	0.0	5.0	0.0		0.0	0.0	0.0		0.0	
8 tepung terigu	50	182.0		5.2	0.5	38.2	1.4		0.2	0.0	0.0		0.0	
9 Bread-crumb dumpling (R)	100	125.8	65.7	6.4	4.3	15.0	1.1	0.0	0.6	107.8	96.7	0.1	0.7	
10														
11														
12														
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14														
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18														
19														
20														
21														
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23														

Display options: TA AS% FA MA NC

Total analysis:

- energy 1580.7 kcal
- water 65.7 g
- protein (37%) 141.6 g
- fat (18%) 31.1 g
- carbohydr. (45%) 170.9 g
- dietary fiber 5.4 g
- alcohol (0%) - g
- PUFA 5.2 g
- cholesterol 1139.8 mg
- Vit. A 545.1 µg
- carotene 0.1 mg
- Vit. E (eq.) 0.8 mg
- Vit. B1 1.9 mg
- Vit. B2 1.4 mg
- Vit. B6 1.5 mg
- tot. fol. acid 144.7 µg
- Vit. C 2.6 mg
- sodium 824.3 mg
- potassium 1282.4 mg
- calcium 250.5 mg
- magnesium 158.1 mg
- phosphorus 1397.9 mg
- iron 9.1 mg
- zinc 6.4 mg

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Women 19-24 years DGE2000 Portion 1 Days

Food	Amount	kcal	water	protein	fat	carbohydr	dietary	alcohol	PUFA	cholest	Vit. A	carotene	Vit. E	Vi
1 tepung jagung kuning	10	36.2		0.8	0.4	7.7	0.7		0.2	0.0	4.7		0.1	
2 ampas tahu HITUNG MANUAL TKPI														
3 tepung terigu	80	291.2		8.2	0.8	61.0	2.2		0.3	0.0	0.0		0.0	
4 ikan tongkol	400	443.6		96.0	4.0	0.0	0.0		1.2	184.0	64.0		4.0	
5 tepung tapioka	50	190.5		0.2	0.1	45.7	0.4		0.0	0.0	0.0		0.0	
6 telur ayam	200	310.2		25.2	21.2	2.2	0.0		2.8	848.0	380.0		4.0	
7 gula pasir	5	19.3		0.0	0.0	5.0	0.0		0.0	0.0	0.0		0.0	
8 tepung terigu	50	182.0		5.2	0.5	38.2	1.4		0.2	0.0	0.0		0.0	
9 Bread-crumb dumpling (R)	100	125.8	65.7	6.4	4.3	15.0	1.1	0.0	0.6	107.8	96.7	0.1	0.7	
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														

Display options: TA AS% FA MA NC

Total analysis:

- energy 1598.8 kcal
- water 65.7 g
- protein (37%) 142.0 g
- fat (18%) 31.2 g
- carbohydr. (45%) 174.7 g
- dietary fiber 5.8 g
- alcohol (0%) - g
- PUFA 5.3 g
- cholesterol 1139.8 mg
- Vit. A 545.4 µg
- carotene 0.1 mg
- Vit. E (eq.) 0.8 mg
- Vit. B1 2.0 mg
- Vit. B2 1.4 mg
- Vit. B6 1.5 mg
- tot. fol. acid 145.9 µg
- Vit. C 2.6 mg
- sodium 826.1 mg
- potassium 1296.8 mg
- calcium 250.8 mg
- magnesium 164.5 mg
- phosphorus 1410.0 mg
- iron 9.3 mg
- zinc 6.5 mg

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Women 19-24 years DGE2000 Portion 1 Days

Food	Amount	kcal	water	protein	fat	carbohydr	dietary	alcohol	PUFA	cholesterol	Vit. A	carotene	Vit. E	V1
1 tepung jagung kuning	15	54.3		1.2	0.5	11.5	1.1		0.2	0.0	7.1		0.2	
2 ampas tahu HITUNG MANUAL TKPI														
3 tepung terigu	80	291.2		8.2	0.8	61.0	2.2		0.3	0.0	0.0		0.0	
4 ikan tongkol	400	443.6		96.0	4.0	0.0	0.0		1.2	184.0	64.0		4.0	
5 tepung tapioka	50	190.5		0.2	0.1	45.7	0.4		0.0	0.0	0.0		0.0	
6 telur ayam	200	310.2		25.2	21.2	2.2	0.0		2.8	848.0	380.0		4.0	
7 gula pasir	5	19.3		0.0	0.0	5.0	0.0		0.0	0.0	0.0		0.0	
8 tepung terigu	50	182.0		5.2	0.5	38.2	1.4		0.2	0.0	0.0		0.0	
9 Bread-crumb dumpling (R)	100	125.8	65.7	6.4	4.3	15.0	1.1	0.0	0.6	107.8	96.7	0.1	0.7	
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														

Display options: TA A% FA MA NC

Total analysis:

- energy 1616.9 kcal
- water 65.7 g
- protein (37%) 142.4 g
- fat (19%) 31.4 g
- carbohydr. (46%) 178.6 g
- dietary fiber 6.1 g
- alcohol (0%) - g
- PUFA 5.3 g
- cholesterol 1139.8 mg
- Vit. A 547.8 µg
- carotene 0.1 mg
- Vit. E (eq.) 8.9 mg
- Vit. B1 2.0 mg
- Vit. B2 1.4 mg
- Vit. B6 1.5 mg
- tot. fol. acid 147.2 µg
- Vit. C 2.6 mg
- sodium 827.8 mg
- potassium 1311.1 mg
- calcium 251.1 mg
- magnesium 170.8 mg
- phosphorus 1422.0 mg
- iron 8.4 mg
- zinc 6.6 mg

Upcoming Earnings

7:07 PM 5/21/2024

P1 ampas tahu

Berat x TKPI

100

Nilai gizi ampas tahu (TKPI)

E = 414 L = 10.3

P = 26.6 KH = 41.3

berat ampas tahu P1 = 33.4

P2 = 12.3

P3 = 6.3

E = $\frac{33.4 \times 414}{100}$

= 138,27

= 138,27 + 1580,7

= 1718,9 → Total Energi P1

L = $\frac{33.4 \times 10.3}{100}$

= 6,11 + 3,11

= 37,21

KH = $\frac{33.4 \times 41.3}{100}$

= 13,79 + 170,9

= 184,69

P2 ampas tahu

E = $\frac{12.3 \times 414}{100}$

= 50,92 + 1.590,8

= 1641,72 (Total energi P2)

L = $\frac{12.3 \times 10.3}{100}$

= 3,27 + 1,42

= 14,57

KH = $\frac{12.3 \times 41.3}{100}$

= 5,07 + 174,7

= 180,4

P3 ampas tahu

E = $\frac{6.3 \times 414}{100}$

= 26,0 + 1616,9

= 1643,7 (Total energi P3)

L = $\frac{6.3 \times 10.3}{100}$

= 1,15 + 3,14

= 32,55

KH = $\frac{6.3 \times 41.3}{100}$

= 2,60 + 178,6

= 181,2

