

7. LAMPIRAN

Lampiran 1. Syarat Mutu dan Keamanan Surimi

Parameter uji	Satuan	Persyaratan
a. Sensori		Min. 7 (skor 1-9)
b. Kimia		
- Kadar air	%	Maks. 80
- Kadar protein	%	Min. 12
c. Cemarkan mikroba		
- ALT	Koloni/g	Maks. $5,0 \times 10^4$
- <i>Escherichia coli</i>	APM/g	< 3
- <i>Salmonella</i> *		Negatif/25g
- <i>Vibrio cholera</i>	Koloni/g	Negatif/25g
d. Cemarkan logam*		
- Arsen (As)	mg/kg	Maks. 1,0
- Kadmium (Cd)	mg/kg	Maks. 0,1
- Merkuri (Hg)	mg/kg	Maks. 0,5**
- Timah (Sn)	mg/kg	Maks. 1,0**
- Timbal (Pb)	mg/kg	Maks. 40,0
	mg/kg	Maks. 0,3
	mg/kg	Maks. 0,4**
e. Cemarkan fisik		
- Filth		0
f. Fisik		
- Suhu pusat	°C	Maks. -18
- Kekuatan gel (<i>gel strength</i>)	g/cm ²	Min. 600
CATATAN * Bila diperlukan ** untuk ikan predator *** untuk ikan <i>scombroideae (scombroideae)</i> , <i>clupeidae</i> , <i>pomatomidae</i> , <i>coryphaenidae</i> **** untuk ikan hasil budidaya ***** untuk ikan karang		

Sumber: SNI 2694:2013 tentang Surimi

Lampiran 2. Perhitungan Analisa Pendahuluan

1. Pengukuran rendemen ikan

Berat 3 ikan utuh = 187 gram

Berat total daging ikan = 83 gram

$$\text{Rendemen} = \frac{83 \text{ gram}}{187 \text{ gram}} \times 100\% = 44,38 \%$$

2. Pengukuran kadar air ikan**Kadar air (%)**

$$= \frac{(\text{cawan kosong} + \text{sampel}) - (\text{cawan} + \text{sampel kering})}{\text{sampel}} \times 100$$

Ulangan	Cawan kosong (g)	Sampel (g)	Cawan + sampel kering (g)	Kadar Air (%)
1	24,766	5,007	26,018	74,995
2	21,139	5,004	22,390	75
3	22,681	5,008	23,932	75,020
			Rata - rata	75,005

$$\text{i) \%kadar air} = \frac{(24,766+5,007) - 26,018}{5,007} \times 100 = 74,995\%$$

$$\text{ii) \%kadar air} = \frac{(21,139+5,004) - 22,390}{5,004} \times 100 = 75\%$$

$$\text{iii) \%kadar air} = \frac{(22,681+5,008) - 23,932}{5,008} \times 100 = 75,020\%$$

$$\text{Rata - rata \%kadar air} = \frac{74,995 + 75 + 75,020}{3} = 75,005\%$$

3. Pengukuran kadar protein

$$\%N = \frac{(\text{ml HCl titrasi} - \text{ml HCl blanko}) \times 0,1N \text{ HCl} \times 14,008 \times 100}{\text{mg sampel}}$$

$$\%P \text{ (dry basis)} = \%N \times \text{faktor konversi (6,25)}$$

$$\%P \text{ (wet basis)} = \frac{(100 - \text{kadar air wet basis})}{100} \times \%P \text{ (dry basis)}$$

Ulangan	ml HCl Titration	%N	Kadar Protein Dry Basis (%)	Kadar Protein Wet Basis (%)
1	68,5	9,595	59,971	14,990
2	69	9,665	60,409	15,099
3	68,5	9,595	59,971	14,90
			Rata-rata	15,026

$$i) \quad \%N = \frac{68,5 \times 0,1 \times 14,008 \times 100}{1 \times 1000} = 9,595\%$$

$$\%P \text{ (dry basis)} = 9,595 \times 6,25 = 59,971\%$$

$$\%P \text{ (wet basis)} = \frac{(100 - 75,005)}{100} \times 59,971 = 14,990\%$$

$$ii) \quad \%N = \frac{69 \times 0,1 \times 14,008 \times 100}{1 \times 1000} = 9,665\%$$

$$\%P \text{ (dry basis)} = 9,665 \times 6,25 = 60,409\%$$

$$\%P \text{ (wet basis)} = \frac{(100 - 75,005)}{100} \times 60,409 = 15,099\%$$

$$iii) \quad \%N = \frac{68,5 \times 0,1 \times 14,008 \times 100}{1 \times 1000} = 9,595\%$$

$$\%P \text{ (dry basis)} = 9,595 \times 6,25 = 59,971\%$$

$$\%P \text{ (wet basis)} = \frac{(100 - 75,005)}{100} \times 59,971 = 14,990\%$$

$$\text{Rata - rata \%P wet basis} = \frac{14,990 + 15,099 + 14,990}{3} = 15,026\%$$

4. Kadar lemak

$$\text{Kadar lemak (\%)} = \frac{\text{berat lemak}}{\text{berat sampel}} \times 100$$

$$\% \text{ Lemak (wet basis)} = \frac{(100 - \text{kadar air wet basis})}{100} \times \% \text{ lemak (dry basis)}$$

Ulangan	Cawan kosong	Berat sampel	Cawan+ sampel kering	Berat lemak	Kadar lemak (%)	Kadar lemak wet basis (%)
1	62,772	5,000	63,017	0,245	4,9	1,225
2	69,002	5,001	69,256	0,254	5,079	1,269
3	38,866	5,000	39,117	0,251	5,020	1,255
					Rata-rata	1,250

$$\text{i) } \% \text{Lemak} = \frac{0,245}{5} \times 100 = 4,9\%$$

$$\% \text{ Lemak (wet basis)} = \frac{(100-75,005)}{100} \times 4,9 = 1,225\%$$

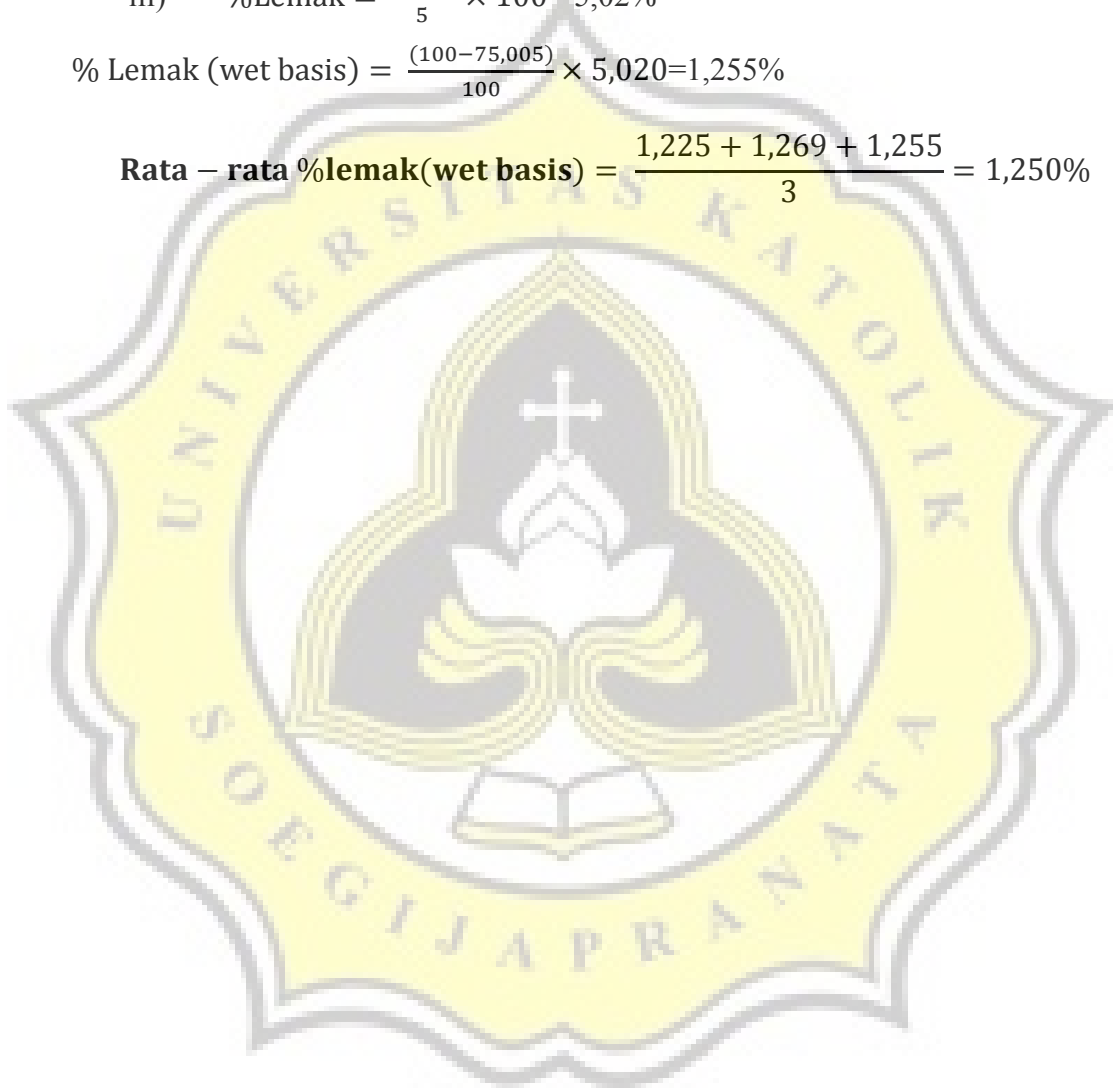
$$\text{ii) } \% \text{Lemak} = \frac{0,254}{5,001} \times 100 = 5,08\%$$

$$\% \text{ Lemak (wet basis)} = \frac{(100-75,005)}{100} \times 5,079 = 1,269\%$$

$$\text{iii) } \% \text{Lemak} = \frac{0,251}{5} \times 100 = 5,02\%$$

$$\% \text{ Lemak (wet basis)} = \frac{(100-75,005)}{100} \times 5,020 = 1,255\%$$

$$\text{Rata - rata \% lemak(wet basis)} = \frac{1,225 + 1,269 + 1,255}{3} = 1,250\%$$



Lampiran 3. Analisis Data

GEL STRENGTH

Tests of Between-Subjects Effects

Dependent Variable: GELSTRENGTH

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	905044.119 ^a	4	226261.030	22.683	.000
Intercept	5.023E7	1	5.023E7	5.036E3	.000
KONSENTRASI	726069.346	2	363034.673	36.394	.000
METODE	178974.772	2	89487.386	8.971	.000
Error	488776.979	49	9975.040		
Total	5.163E7	54			
Corrected Total	1393821.098	53			

a. R Squared = ,649 (Adjusted R Squared = ,621)

GEL STRENGTH

Duncan

KONSEN TRASI	N	Subset		
		1	2	3
0%	18	8.4218632E2		
2%	18		9.3102311E2	
4%	18			1.1202429E3
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 9975,040.

*DRIPLOSS***Tests of Between-Subjects Effects**

Dependent Variable:DRIPLOSS

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	97.290 ^a	4	24.323	31.467	.000
Intercept	42.967	1	42.967	55.588	.000
METODE	19.813	2	9.906	12.816	.000
KONSENTRASI_DL	77.477	2	38.739	50.118	.000
Error	37.874	49	.773		
Total	178.132	54			
Corrected Total	135.165	53			

a. R Squared = ,720 (Adjusted R Squared = ,697)

DRIPLOSS

Duncan

METODE	N	Subset	
		1	2
REFRIGERATOR	18	.3455333	
RUANG	18	.5939556	
WATERBATH	18		1.7365444E0
Sig.		.401	1.000

KADAR AIR

Tests of Between-Subjects Effects

Dependent Variable:kadar_air_coba

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	180.661 ^a	4	45.165	15.975	.000
Intercept	246857.816	1	246857.816	8.731E4	.000
KONSENTRASI_KA	18.327	2	9.163	3.241	.048
METODE	162.334	2	81.167	28.709	.000
Error	138.536	49	2.827		
Total	247177.014	54			
Corrected Total	319.197	53			

a. R Squared = ,566 (Adjusted R Squared = ,531)

kadar_air_coba

Duncan

KONSEN TRASI_K	N	Subset	
		1	2
0%	18	6.6804647E1	
2%	18	6.7876031E1	6.7876031E1
4%	18		6.8156620E1
Sig.		.062	.619

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 2,827.

WATER HOLD CAPACITY(WHC)

Tests of Between-Subjects Effects

Dependent Variable:WHC

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1109.922 ^a	4	277.481	6.895	.000
Intercept	187630.649	1	187630.649	4.662E3	.000
METODE_THAW	407.951	2	203.975	5.069	.010
KONSENTRASI	728.940	2	364.470	9.057	.000
Error	1891.398	47	40.243		
Total	193243.699	52			
Corrected Total	3001.320	51			

a. R Squared = ,370 (Adjusted R Squared = ,316)

WHC

Duncan

KONSEN TRASI	N	Subset	
		1	2
0%	18	5.7101964E1	
2%	16	5.8699481E1	
4%	18		6.5456885E1
Sig.		.463	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 40,243.