

## 7. LAMPIRAN

### Lampiran 1. Data Rendemen

Tabel 5. Rendemen Daging Ikan Kurisi (*Nemipterus nematophorus*)

Ulangan	Berat Awal (g)	Berat Daging Bersih (g)	Rendemen (%)
1	118,4	51,3	43,328
2	120,2	48,7	40,516
3	122,7	52,5	42,787
4	118,8	50,9	42,845
5	101,5	44,3	43,645
6	119,2	51,7	43,372
7	109,4	46,8	42,779
8	110,9	47,1	42,471
9	123,1	52	42,242
10	111,5	46,1	41,345
<b>TOTAL</b>	<b>1155,7</b>	<b>491,400</b>	<b>42,533±0,96</b>

Tabel 6. Rendemen Protein Miofibril Ikan Kurisi (*Nemipterus nematophorus*)

Nomor Tabung (g)	Berat Tabung (g)	Tabung + Endapan I (g)	Berat Endapan I (g)	Tabung + Endapan II (g)	Berat Endapan II (g)
1	0,896	2,258	1,362	1,618	0,722
2	0,882	2,176	1,294	1,588	0,706
3	0,906	2,275	1,369	1,616	0,71
4	0,927	2,293	1,366	1,65	0,723
5	0,896	2,244	1,348	1,627	0,731
6	0,906	2,225	1,319	1,615	0,709
7	0,9	2,136	1,236	1,601	0,701
8	0,902	2,258	1,356	1,601	0,699
9	0,906	2,002	1,096	1,595	0,689
10	0,898	2,028	1,13	1,59	0,692
11	0,912	2,092	1,18	1,588	0,676
12	0,899	2,136	1,237	1,611	0,712
13	0,888	2,125	1,237	1,607	0,719
14	0,877	1,082	0,205	1,537	0,66
15	0,905	2,175	1,27	1,633	0,728
16	0,903	2,22	1,317	1,636	0,733
17	0,91	2,153	1,243	1,531	0,621
18	0,91	2,003	1,093	1,608	0,698
19	0,91	1,971	1,061	1,606	0,696
20	0,9	1,88	0,98	1,615	0,715
21	0,884	1,918	1,034	1,56	0,676
22	0,889	2,01	1,121	1,574	0,685
23	0,883	1,96	1,077	1,616	0,733

24	0,912	1,982	1,07	1,657	0,745
25	0,863	1,83	0,967	1,565	0,702
26	0,903	1,84	0,937	1,614	0,711
27	0,881	1,815	0,934	1,586	0,705
28	0,901	1,72	0,819	1,593	0,692
29	0,882	1,805	0,923	1,605	0,723
30	0,88	1,758	0,878	1,597	0,717
31	0,928	1,769	0,841	1,607	0,679
32	0,899	1,779	0,88	1,598	0,699
33	1,068	2,406	1,338	1,938	0,87
34	1,076	2,303	1,227	1,943	0,867
35	1,098	2,311	1,213	1,997	0,899
36	1,077	2,297	1,22	1,935	0,858
37	1,068	2,349	1,281	1,939	0,871
38	1,082	2,352	1,27	1,954	0,872
39	1,065	2,296	1,231	1,896	0,831
40	1,082	2,331	1,249	1,971	0,889
41	1,065	2,318	1,253	1,949	0,884
42	1,095	2,35	1,255	1,923	0,828
43	1,088	1,427	0,339	1,964	0,876
44	1,079	1,378	0,299	1,95	0,871
45	1,069	2,322	1,253	1,938	0,869
46	1,069	2,332	1,263	1,933	0,864
47	1,071	2,288	1,217	1,922	0,851
48	1,084	2,276	1,192	1,957	0,873
49	1,07	2,278	1,208	1,959	0,889
50	1,063	2,342	1,279	1,958	0,895
51	1,082	2,37	1,288	1,937	0,855
52	1,066	2,32	1,254	1,936	0,87
53	1,067	2,35	1,283	1,921	0,854
54	1,091	2,438	1,347	1,958	0,867
55	1,088	2,368	1,28	1,973	0,885
<b>TOTAL</b>			<b>62,219</b>		<b>42,495±0,09</b>

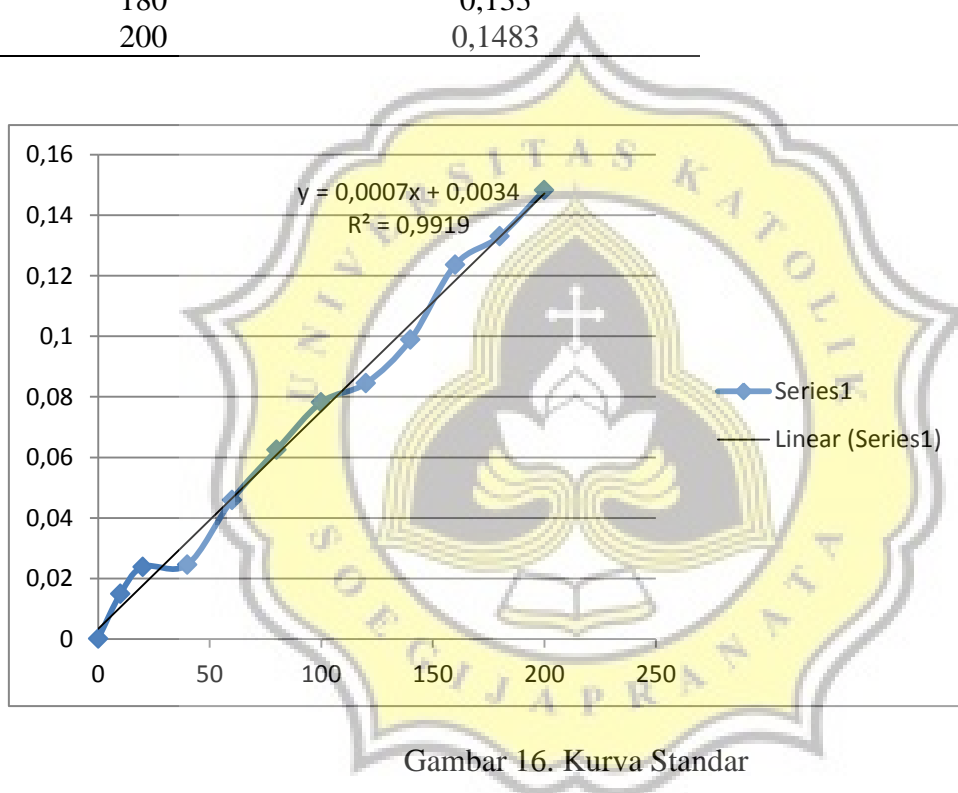
Keterangan : 1. Data di atas diperoleh dari berat daging ikan kurisi bersih (*boneless*) sebanyak 250 gram

2. Berat endapan I diperoleh dari endapan hasil sentrifugasi I

3. Berat endapan II adalah protein miofibril diperoleh dari endapan hasil sentrifugasi II

Tabel 7. Kurva Standar

Konsentrasi (ppm)	Absorbansi
0	0,0002
10	0,015
20	0,0239
40	0,0246
60	0,046
80	0,0625
100	0,0782
120	0,0845
140	0,0989
160	0,1236
180	0,133
200	0,1483



## Lampiran 2. Data Konsentrasi Protein terhadap Konsentrasi Garam

Tabel 8. Uji Normalitas Data Konsentrasi Protein terhadap Konsentrasi Garam

	Perlakuan	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil	0.1	.131	6	.200*	.993	6	.995
	0.2	.266	6	.200*	.908	6	.424
	0.3	.212	6	.200*	.877	6	.254
	0.4	.181	6	.200*	.960	6	.821
	0.5	.296	6	.110	.878	6	.261
	0.6	.218	6	.200*	.921	6	.512
	0.7	.229	6	.200*	.911	6	.444
	0.8	.154	6	.200*	.968	6	.880

Keterangan : Signifikansi lebih dari 0,05 sehingga data yang ditampilkan sudah normal.

Tabel 9. Uji ANOVA Data Konsentrasi Protein terhadap Garam

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	529264.275	7	75609.182	3.678E3	.000
Within Groups	822.385	40	20.560		
Total	530086.660	47			

Keterangan : Signifikansi kurang dari 0,05 sehingga ada perbedaan nyata antar perlakuan.

Tabel 10. Uji DUNCAN Data Konsentrasi Protein terhadap Garam

Perlakuan	N	Subset for alpha = 0.05						
		1	2	3	4	5	6	7
0.1	6	.76200						
0.2	6		7.66683					
0.3	6		1.0521E1					
0.4	6			2.3828E1				
0.5	6				1.1365E2			
0.6	6					2.2758E2		
0.7	6						2.3701E2	
0.8	6							2.4613E2
Sig.		1.000	.282	1.000	1.000	1.000	1.000	1.000

## Lampiran 3. Data Konsentrasi Protein terhadap pH Pelarut

Tabel 11. Uji Normalitas Data Konsentrasi Protein terhadap pH Pelarut

	pH	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil	5.4	.241	6	.200*	.915	6	.471
	5.6	.240	6	.200*	.946	6	.711
	5.8	.273	6	.181	.882	6	.277
	6	.129	6	.200*	.995	6	.998
	6.2	.230	6	.200*	.888	6	.309
	6.4	.191	6	.200*	.973	6	.910
	6.6	.173	6	.200*	.956	6	.788
	6.8	.181	6	.200*	.926	6	.551
	7	.239	6	.200*	.920	6	.504
	7.2	.221	6	.200*	.840	6	.131
	7.4	.181	6	.200*	.957	6	.796
	7.6	.288	6	.132	.823	6	.093
	7.8	.235	6	.200*	.909	6	.429
	8	.272	6	.187	.873	6	.239

Keterangan : Signifikansi lebih dari 0,05 sehingga data yang ditampilkan sudah normal.

Tabel 12. Uji ANOVA Data Konsentrasi Protein terhadap pH Pelarut

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	493564.251	13	37966.481	1.688E3	.000
Within Groups	1574.019	70	22.486		
Total	495138.270	83			

Keterangan : Signifikansi kurang dari 0,05 sehingga ada perbedaan nyata antar perlakuan.

Tabel 13. Uji DUNCAN Data Konsentrasi Protein terhadap pH Pelarut

pH	N	Subset for alpha = 0.05															
		1	2	3	4	5	6	7	8	9	10	11	12				
5.4	6	1.3095E1															
5.6	6	1.5619E1															
5.8	6		3.0904E1														
6	6			3.7476E1													
6.2	6				5.2380E1												
6.4	6					5.6024E1											
6.6	6						6.6452E1										
6.8	6							7.3571E1									
7	6								8.4405E1								
Sig.		.360	1.000	1.000	.168	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
										1.3075E2							
											1.4711E2						
												2.1199E2					
													2.3221E2				
														2.3947E2			
															1.000		
																1.000	

## Lampiran 4. Data Analisis Daya Ikat Air

Tabel 14. Uji Daya Ikat Air

<i>Batch</i>	Ulangan	Volume awal (ml)	Volume akhir (ml)	Air yang terikat (ml/g)
1	1	10	7,7	2,3
	2	10	8,2	1,8
	3	10	8	2
2	1	10	8,2	1,8
	2	10	8,5	1,5
	3	10	8	2
Rata-rata				1,90 ± 0,27

## Lampiran 5. Data Analisis Daya Gelasi

Tabel 15. Uji Daya Gelasi

<i>Batch</i>	Ulangan	Berat Adonan Protein (gram)	Berat Tertinggal (gram)	Berat Tertinggal (%)	Daya Gel
1	1	8,6	5,8	67,442	+
	2	8,3	5,11	61,566	+
	3	7,8	4,56	58,462	+
2	1	8,5	5,12	60,235	+
	2	8	4,87	60,875	+
	3	8,1	5,02	61,975	+
Rata-rata				61,76 ± 3,05	

Keterangan : (+) = terbentuk gel  
(-) = tidak terbentuk gel

## Lampiran 6. Data Analisis Daya Pembentukan Emulsi

Tabel 16. Uji Daya Pembentukan Emulsi

<i>Batch</i>	Ulangan	A (cm)	B (cm)	% emulsi
1	1	2,9	8,5	34,118
	2	3,1	8,5	36,471
	3	2,9	8,5	34,118
2	1	3	8,3	36,145
	2	3,1	8,3	37,349
	3	3	8,5	35,294
Rata-rata				35,58 ± 1,31

Keterangan : A = tinggi lapisan emulsi yang terbentuk (cm)  
B = tinggi total dalam tabung (cm)

## Lampiran 7. Data Analisis Daya Pembentukan Busa

Tabel 17. Uji Daya Pembentukan Busa

Batch	Ulangan	V awal (ml)	V akhir (ml)	Busa yang terbentuk (ml)	% Busa
1	1	10	11,3	1,3	13
	2	10	11,5	1,5	15
	3	10	11,7	1,7	17
2	1	10	11,5	1,5	15
	2	10	11,5	1,5	15
	3	10	12	2	20
Rata-rata				1,583	15,83 ± 2,40

## Lampiran 8. Pembuatan Larutan Buffer Phosphat (pH 5,4-8,0)

**Larutan A (Larutan  $\text{Na}_2\text{HPO}_4$  0,1 M)**

$\text{Na}_2\text{HPO}_4 \cdot 2\text{H}_2\text{O}$  ditimbang sebanyak 17,799 g dan dilarutkan kedalam 1 L aquades. Kemudian larutan dihomogenkan.

**Larutan B (Larutan  $\text{NaH}_2\text{PO}_4$  0,1 M)**

$\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$  ditimbang sebanyak 15,601 g dan dilarutkan kedalam 1 L aquades. Kemudian larutan dihomogenkan.

Tabel 18. Pembuatan Larutan Buffer Phosphat (pH 5,4-8,0)

pH	Larutan A (mL)	Larutan B (mL)
5,4	3,2	96,8
5,6	5,1	94,9
5,8	8,0	92,0
6,0	12,3	87,7
6,2	18,6	81,4
6,4	26,7	73,3
6,6	37,5	62,5
6,8	49,1	50,9
7,0	61,1	38,9
7,2	72,0	28,0
7,4	80,8	19,2
7,6	87,0	13,0
7,8	91,5	8,5
8,0	94,7	5,3

(Mulyono, 2006)



#### Lampiran 10. Metode Bradford

Supernatan yang diperoleh dari uji kelarutan protein terhadap pH pelarut dan konsentrasi garam digunakan sebagai bahan utama pada metode Bradford. Sebanyak 10 $\mu$ L supernatan ditambahkan 90  $\mu$ L aquades dan 5mL larutan Bradford. Kemudian campuran dihomogenasi dengan *vortex* dan didiamkan selama 2 menit. Selanjutnya absorbansi diukur dengan panjang gelombang ( $\lambda$  595 nm).

#### Lampiran 11. Pembuatan Larutan Garam NaCl (0,1-0,8M) dalam Buffer Phosphat

Larutan NaCl 0,1 M  $\rightarrow$  2,92 gram NaCl dalam 500 mL buffer fosfat

Larutan NaCl 0,2 M  $\rightarrow$  5,84 gram NaCl dalam 500 mL buffer fosfat

Larutan NaCl 0,3 M  $\rightarrow$  8,76 gram NaCl dalam 500 mL buffer fosfat

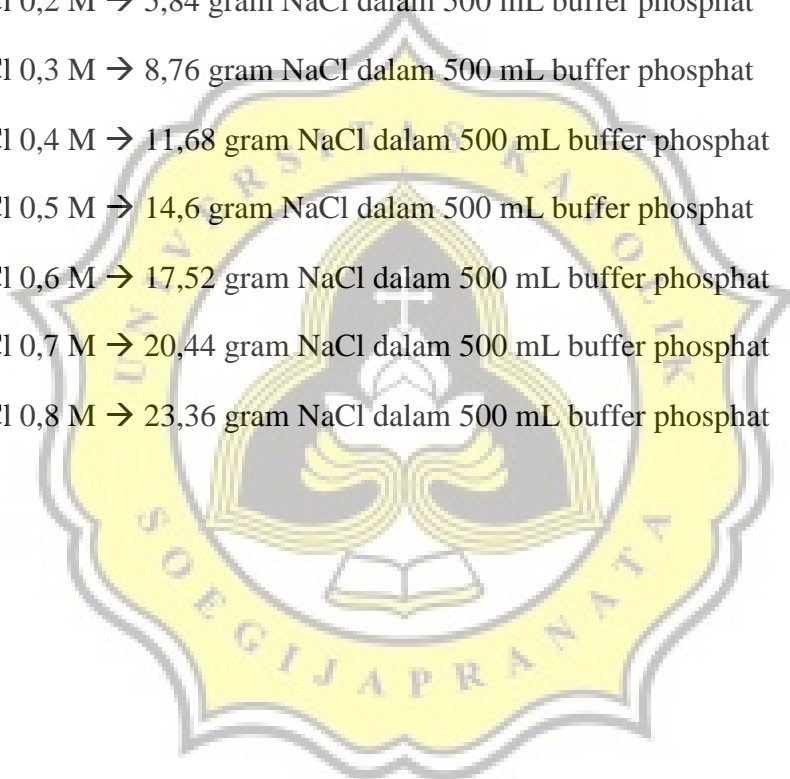
Larutan NaCl 0,4 M  $\rightarrow$  11,68 gram NaCl dalam 500 mL buffer fosfat

Larutan NaCl 0,5 M  $\rightarrow$  14,6 gram NaCl dalam 500 mL buffer fosfat

Larutan NaCl 0,6 M  $\rightarrow$  17,52 gram NaCl dalam 500 mL buffer fosfat

Larutan NaCl 0,7 M  $\rightarrow$  20,44 gram NaCl dalam 500 mL buffer fosfat

Larutan NaCl 0,8 M  $\rightarrow$  23,36 gram NaCl dalam 500 mL buffer fosfat



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