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LAMPIRAN

Lampiran 1. Hasil Uji Proksimat Pakan

 **LABORATORIUM PENGUJI**
BALAI RISET PERIKANAN BUDIDAYA AIR PAYAU DAN PENYULUHAN PERIKANAN
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SERTIFIKAT HASIL UJI
No. 140/ LHU / BRPBAPPP / VIII/ 2022

Nama Pelanggan : Novi
Alamat : Universitas Cokrominoto
Tlp/Fax : 082291706985
Personel yang dihubungi : Novi
Jenis Sampel : Pakan
No.FPPS : N.040 / FPPS / BRPBAPPP / VIII /2022
Kode Sampel : Pakan Udang
Tanggal Penerimaan : 24 Agustus 2022
Tanggal Pengujian : 24 Agustus – 31 Agustus 2022
Waktu Penyelesaian LHU : 10.25 – 10.45 Wita (20 menit)
Hasil Pengujian :

Kode Sampel	Parameter (%)				
	Kadar Abu	Kadar Air	Kadar Lemak	Kadar Protein	Serat Kasar
Pakan Udang	20.64	8,97	9,72	35.53	3.29
Spesifikasi Metode	IKM/7.2.2N/ BRPBAPPP (Gravimetri)	IKM/7.2.3N/ BRPBAPPP (Gravimetri)	IKM/7.2.4N/ BRPBAPPP (Gravimetri)	IKM/7.2.5N/ BRPBAPPP (Gravimetri)	IKM/7.2.6N/ BRPBAPPP (Gravimetri)

Catatan : 1. Hasil uji ini hanya berlaku untuk sampel yang diuji.
2. Laporan Hasil Uji ini terdiri dari 1 (satu) halaman.
3. Laporan Hasil uji ini tidak boleh digandakan, kecuali secara lengkap dan seizin tertulis Laboratorium Penguji BRPBAPPP Maros

Maros, 31 Agustus 2022
Koordinator Laboratorium Nutrisi,

Kamaruddin, S.Pt., M.Si



DP/7.8.1/BRPBAPPP 1/1

Lampiran 2. Data Total Haemocyte Count (THC) yang diberi pakan dosis yang mengandung dosis ekstrak *Halymenia durvillei*

THC	Hari ke-0	Hari ke-5	Hari ke-10	Hari ke-15
A1	5,8	5,1	6,1	9,2
A2	5,9	5,2	6,2	7,0
A3	5,1	5,3	6,1	6,9
B1	5,0	6,5	10,1	8,4
B2	6,6	6,0	12,0	8,3
B3	5,9	6,1	12,2	11,8
C1	5,4	6,3	12,1	10,9
C2	5,5	6,2	10,7	13,4
C3	5,3	7,1	10,2	10,3
D1	5,4	8,3	11,5	9,3
D2	3,9	8,4	10,7	9,3
D3	5,8	7,8	7,4	10,2

Lampiran 3. Hasil analisis ragam *Total Haemocyte Count* (THC)

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
THCHariLima	Between Groups	13,669	3	4,556	42,716	,000
	Within Groups	,853	8	,107		
	Total	14,523	11			
THCHariSepuluh	Between Groups	52,229	3	17,410	9,892	,005
	Within Groups	14,080	8	1,760		
	Total	66,309	11			
THCHariLimaBelas	Between Groups	22,070	3	7,357	3,408	,073
	Within Groups	17,267	8	2,158		
	Total	39,337	11			

Multiple Comparisons

Tukey HSD

Dependent Variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
				Lower Bound	Upper Bound	
THCHariLima	1 2	-1,00000*	,26667	,023	-1,8540	-,1460
	3	-1,33333*	,26667	,005	-2,1873	-,4794
	4	-2,96667*	,26667	,000	-3,8206	-2,1127
	2 1	1,00000*	,26667	,023	,1460	1,8540
	3	-,33333	,26667	,616	-1,1873	,5206
	4	-1,96667*	,26667	,000	-2,8206	-1,1127
	3 1	1,33333*	,26667	,005	,4794	2,1873
	2	,33333	,26667	,616	-,5206	1,1873
	4	-1,63333*	,26667	,001	-2,4873	-,7794
	4 1	2,96667*	,26667	,000	2,1127	3,8206

		2	1,96667*	,26667	,000	1,1127	2,8206
		3	1,63333*	,26667	,001	,7794	2,4873
THCHariSepuluh	1	2	-5,30000*	1,08321	,005	-8,7688	-1,8312
		3	-4,86667*	1,08321	,009	-8,3355	-1,3979
		4	-3,73333*	1,08321	,036	-7,2021	-,2645
	2	1	5,30000*	1,08321	,005	1,8312	8,7688
		3	,43333	1,08321	,977	-3,0355	3,9021
		4	1,56667	1,08321	,508	-1,9021	5,0355
	3	1	4,86667*	1,08321	,009	1,3979	8,3355
		2	-,43333	1,08321	,977	-3,9021	3,0355
		4	1,13333	1,08321	,729	-2,3355	4,6021
	4	1	3,73333*	1,08321	,036	,2645	7,2021
		2	-1,56667	1,08321	,508	-5,0355	1,9021
		3	-1,13333	1,08321	,729	-4,6021	2,3355
THCHariLimaBelas	1	2	-1,80000	1,19954	,480	-5,6413	2,0413
		3	-3,83333	1,19954	,050	-7,6747	,0080
		4	-1,90000	1,19954	,438	-5,7413	1,9413
	2	1	1,80000	1,19954	,480	-2,0413	5,6413
		3	-2,03333	1,19954	,385	-5,8747	1,8080
		4	-,10000	1,19954	1,000	-3,9413	3,7413
	3	1	3,83333	1,19954	,050	-,0080	7,6747
		2	2,03333	1,19954	,385	-1,8080	5,8747
		4	1,93333	1,19954	,424	-1,9080	5,7747
	4	1	1,90000	1,19954	,438	-1,9413	5,7413
		2	,10000	1,19954	1,000	-3,7413	3,9413
		3	-1,93333	1,19954	,424	-5,7747	1,9080

*. The mean difference is significant at the 0.05 level.

Lampiran 4. Rata-rata *Differential Haemocyte Count* (DHC) yang diberi berbagai dosis ekstrak *Halmenia durvlliei*

HIALIN	Hari ke-0	Hari ke-5	Hari ke-10	Hari ke-15
A1	34,2	35	33,6	33
A2	33,4	29	32,6	32,6
A3	33,6	31,4	34,6	35,2
B1	33,4	39,2	36	37,2
B2	33	42,2	39,4	29,2
B3	35,4	54,2	34,6	40,8
C1	32,2	30,2	30,8	31,6
C2	30,2	37,8	32,4	40
C3	34,2	37,8	28,8	30,4
D1	33,4	21,8	21,4	37,6
D2	35,8	13	32,8	40,6
D3	32	13,8	21,2	50,8

SEMI GRANULAR	Hari ke-0	Hari ke-5	Hari ke-10	Hari ke-15
A1	33,6	33	33,6	35
A2	34,8	33,3	35,4	36
A3	34	32,2	33,4	33
B1	35,2	29,4	42	31,4
B2	34,6	32,6	31,4	38,6
B3	33,2	24,4	40	29,4
C1	34,4	37,4	44,2	45,6
C2	34,6	36,6	41	39,8
C3	33	40,4	43,8	41,2
D1	34,2	32,8	50,6	29,8
D2	32	45	40,2	39,4
D3	35	42	50,8	32,4

GRANULAR	Hari ke-0	Hari ke-5	Hari ke-10	Hari ke-15
A1	32,2	32	32,8	32
A2	31,8	32,6	32	31,4
A3	32,4	35,8	32	32
B1	31,4	31,4	24	31,4
B2	32,4	25,2	28	32,2
B3	31,4	21,4	25,4	30,8
C1	35,2	32,4	25	29,2
C2	31,2	25,6	26,6	28,6
C3	32,8	23,2	27,4	28,4
D1	32,4	46,4	28	31,6
D2	32,2	42	27	20
D3	33	44,2	28	16,8

Lampiran 5. Hasil analisis ragam *Differential Haemocyte Count* (DHC) pada Hialin, Semi Granular dan Granular

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DHCHialinHariLima	Between Groups	1303,610	3	434,537	15,107	,001
	Within Groups	230,107	8	28,763		
	Total	1533,717	11			
DHCHialinHariSepuluh	Between Groups	216,997	3	72,332	5,315	,026
	Within Groups	108,880	8	13,610		
	Total	325,877	11			
DHCHialinHariLimaBelas	Between Groups	172,410	3	57,470	2,044	,186
	Within Groups	224,907	8	28,113		
	Total	397,317	11			

Multiple Comparisons

Tukey HSD

Dependent Variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
				Lower Bound	Upper Bound	
DHCHialinHariLima	1 2	-13,40000	4,37899	,061	-27,4231	,6231
	3	-3,46667	4,37899	,856	-17,4897	10,5564
	4	15,60000*	4,37899	,030	1,5769	29,6231
	2 1	13,40000	4,37899	,061	-,6231	27,4231
	3	9,93333	4,37899	,185	-4,0897	23,9564
	4	29,00000*	4,37899	,001	14,9769	43,0231
	3 1	3,46667	4,37899	,856	-10,5564	17,4897
	2	-9,93333	4,37899	,185	-23,9564	4,0897
	4	19,06667*	4,37899	,010	5,0436	33,0897
	4 1	-15,60000*	4,37899	,030	-29,6231	-1,5769
	2	-29,00000*	4,37899	,001	-43,0231	-14,9769
	3	-19,06667*	4,37899	,010	-33,0897	-5,0436
DHCHialinHariSepuluh	1 2	-3,06667	3,01220	,744	-12,7128	6,5794
	3	2,93333	3,01220	,768	-6,7128	12,5794
	4	8,46667	3,01220	,087	-1,1794	18,1128
	2 1	3,06667	3,01220	,744	-6,5794	12,7128
	3	6,00000	3,01220	,267	-3,6461	15,6461
	4	11,53333*	3,01220	,021	1,8872	21,1794
	3 1	-2,93333	3,01220	,768	-12,5794	6,7128
	2	-6,00000	3,01220	,267	-15,6461	3,6461
	4	5,53333	3,01220	,325	-4,1128	15,1794
	4 1	-8,46667	3,01220	,087	-18,1128	1,1794
	2	-11,53333*	3,01220	,021	-21,1794	-1,8872
	3	-5,53333	3,01220	,325	-15,1794	4,1128
DHCHialinHariLimaBelas	1 2	-2,13333	4,32923	,959	-15,9970	11,7304
	3	-,40000	4,32923	1,000	-14,2637	13,4637
	4	-9,40000	4,32923	,211	-23,2637	4,4637
	2 1	2,13333	4,32923	,959	-11,7304	15,9970
	3	1,73333	4,32923	,977	-12,1304	15,5970
	4	-7,26667	4,32923	,393	-21,1304	6,5970
	3 1	,40000	4,32923	1,000	-13,4637	14,2637
	2	-1,73333	4,32923	,977	-15,5970	12,1304
	4	-9,00000	4,32923	,238	-22,8637	4,8637
	4 1	9,40000	4,32923	,211	-4,4637	23,2637
	2	7,26667	4,32923	,393	-6,5970	21,1304
	3	9,00000	4,32923	,238	-4,8637	22,8637

*. The mean difference is significant at the 0.05 level.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DHC Semi Granular Hari Lima	Between Groups	231,803	3	77,267	4,999	,031
	Within Groups	123,660	8	15,458		
	Total	355,463	11			
DHC Semi Granular Hari Sepuluh	Between Groups	296,880	3	98,960	5,442	,025
	Within Groups	145,467	8	18,183		
	Total	442,347	11			
DHC Semi Granular Hari Lima Belas	Between Groups	158,947	3	52,982	3,558	,067
	Within Groups	119,120	8	14,890		
	Total	278,067	11			

Multiple Comparisons

Tukey HSD

Dependent Variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
				Lower Bound	Upper Bound	
DHC Semi Granular Hari Lima	1 2	4,03333	3,21014	,612	-6,2467	14,3133
	3	-5,30000	3,21014	,406	-15,5800	4,9800
	4	-7,10000	3,21014	,200	-17,3800	3,1800
	2 1	-4,03333	3,21014	,612	-14,3133	6,2467
	3	-9,33333	3,21014	,076	-19,6133	,9467
	4	-11,13333*	3,21014	,034	-21,4133	-,8533
	3 1	5,30000	3,21014	,406	-4,9800	15,5800
	2	9,33333	3,21014	,076	-,9467	19,6133
	4	-1,80000	3,21014	,941	-12,0800	8,4800
	4 1	7,10000	3,21014	,200	-3,1800	17,3800
	2	11,13333*	3,21014	,034	,8533	21,4133
	3	1,80000	3,21014	,941	-8,4800	12,0800
DHC Semi Granular Hari Sepuluh	1 2	-3,66667	3,48170	,725	-14,8163	7,4830
	3	-8,86667	3,48170	,126	-20,0163	2,2830
	4	-13,06667*	3,48170	,023	-24,2163	-1,9170
	2 1	3,66667	3,48170	,725	-7,4830	14,8163
	3	-5,20000	3,48170	,483	-16,3496	5,9496
	4	-9,40000	3,48170	,102	-20,5496	1,7496
	3 1	8,86667	3,48170	,126	-2,2830	20,0163
	2	5,20000	3,48170	,483	-5,9496	16,3496
	4	-4,20000	3,48170	,640	-15,3496	6,9496
	4 1	13,06667*	3,48170	,023	1,9170	24,2163
	2	9,40000	3,48170	,102	-1,7496	20,5496

		3	4,20000	3,48170	,640	-6,9496	15,3496
DHC Semi Granular Hari Lima Belas	1	2	1,53333	3,15066	,960	-8,5562	11,6229
		3	-7,53333	3,15066	,156	-17,6229	2,5562
		4	,80000	3,15066	,994	-9,2895	10,8895
		2	1	-1,53333	3,15066	,960	-11,6229
	3	3	-9,06667	3,15066	,079	-19,1562	1,0229
		4	-,73333	3,15066	,995	-10,8229	9,3562
		3	1	7,53333	3,15066	,156	-2,5562
	2	2	9,06667	3,15066	,079	-1,0229	19,1562
		4	8,33333	3,15066	,110	-1,7562	18,4229
	4	1	-,80000	3,15066	,994	-10,8895	9,2895
		2	,73333	3,15066	,995	-9,3562	10,8229
		3	-8,33333	3,15066	,110	-18,4229	1,7562

*. The mean difference is significant at the 0.05 level.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
DHC Granular Hari Lima	Between Groups	628,383	3	209,461	14,631	,001
	Within Groups	114,533	8	14,317		
	Total	742,917	11			
DHC Granular Hari Sepuluh	Between Groups	77,797	3	25,932	16,839	,001
	Within Groups	12,320	8	1,540		
	Total	90,117	11			
DHC Granular Hari Lima Belas	Between Groups	156,227	3	52,076	3,391	,074
	Within Groups	122,853	8	15,357		
	Total	279,080	11			

Multiple Comparisons

Tukey HSD

Dependent Variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval			
				Lower Bound	Upper Bound		
DHC Granular Hari Lima	1 2	7,46667	3,08941	,151	-2,4267	17,3600	
		3	6,40000	3,08941	,241	-3,4934	16,2934
		4	-10,73333*	3,08941	,034	-20,6267	-,8400
	2 1	-7,46667	3,08941	,151	-17,3600	2,4267	
		3	-1,06667	3,08941	,985	-10,9600	8,8267
		4	-18,20000*	3,08941	,002	-28,0934	-8,3066
	3 1	-6,40000	3,08941	,241	-16,2934	3,4934	
		2	1,06667	3,08941	,985	-8,8267	10,9600
		4	-17,13333*	3,08941	,002	-27,0267	-7,2400

	4	1	10,73333*	3,08941	,034	,8400	20,6267
		2	18,20000*	3,08941	,002	8,3066	28,0934
		3	17,13333*	3,08941	,002	7,2400	27,0267
DHCGranularHariSepuluh	1	2	6,46667*	1,01325	,001	3,2219	9,7114
		3	5,93333*	1,01325	,002	2,6886	9,1781
		4	4,60000*	1,01325	,008	1,3552	7,8448
	2	1	-6,46667*	1,01325	,001	-9,7114	-3,2219
		3	-,53333	1,01325	,950	-3,7781	2,7114
		4	-1,86667	1,01325	,322	-5,1114	1,3781
	3	1	-5,93333*	1,01325	,002	-9,1781	-2,6886
		2	,53333	1,01325	,950	-2,7114	3,7781
		4	-1,33333	1,01325	,579	-4,5781	1,9114
	4	1	-4,60000*	1,01325	,008	-7,8448	-1,3552
		2	1,86667	1,01325	,322	-1,3781	5,1114
		3	1,33333	1,01325	,579	-1,9114	4,5781
DHCGranularHariLimaBelas	1	2	,33333	3,19965	1,000	-9,9131	10,5797
		3	3,06667	3,19965	,776	-7,1797	13,3131
		4	9,00000	3,19965	,087	-1,2464	19,2464
	2	1	-,33333	3,19965	1,000	-10,5797	9,9131
		3	2,73333	3,19965	,828	-7,5131	12,9797
		4	8,66667	3,19965	,100	-1,5797	18,9131
	3	1	-3,06667	3,19965	,776	-13,3131	7,1797
		2	-2,73333	3,19965	,828	-12,9797	7,5131
		4	5,93333	3,19965	,318	-4,3131	16,1797
	4	1	-9,00000	3,19965	,087	-19,2464	1,2464
		2	-8,66667	3,19965	,100	-18,9131	1,5797
		3	-5,93333	3,19965	,318	-16,1797	4,3131

*. The mean difference is significant at the 0.05 level.

Lampiran 6. Rata-rata aktivitas fagositosis

FAGOSITOSIS	Hari ke-0	Hari ke-5	Hari ke-10	Hari ke-15
A1	34,8	39,4	40,6	41
A2	35,2	39,8	40	39,4
A3	34,8	39,4	40,4	40,4
B1	35,2	50,8	46,6	48,2
B2	35	49,4	48,8	50
B3	33,4	48	47	48,4
C1	34,2	61,2	52,2	41,8
C2	34,2	51,8	58,2	46,4
C3	35,4	57	49,2	50,6
D1	35,8	48,2	57,6	45,2
D2	34,6	55	50	44
D3	34,2	56,2	52,4	42

Lampiran 7. Analisis ragam aktivitas fagositosis

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
FagositosisHariLima	Between Groups	491,317	3	163,772	15,306	,001
	Within Groups	85,600	8	10,700		
	Total	576,917	11			
FagositosisHariSepuluh	Between Groups	339,557	3	113,186	12,054	,002
	Within Groups	75,120	8	9,390		
	Total	414,677	11			
FagositosisHariLimaBelas	Between Groups	121,130	3	40,377	6,840	,013
	Within Groups	47,227	8	5,903		
	Total	168,357	11			

Multiple Comparisons

Tukey HSD

Dependent Variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
				Lower Bound	Upper Bound	
FagositosisHariNol	1 2	,40000	,60553	,909	-1,5391	2,3391
	3	,33333	,60553	,944	-1,6058	2,2725
	4	,06667	,60553	,999	-1,8725	2,0058
	2 1	-,40000	,60553	,909	-2,3391	1,5391
	3	-,06667	,60553	,999	-2,0058	1,8725
	4	-,33333	,60553	,944	-2,2725	1,6058
	3 1	-,33333	,60553	,944	-2,2725	1,6058
	2	,06667	,60553	,999	-1,8725	2,0058
	4	-,26667	,60553	,970	-2,2058	1,6725
	4 1	-,06667	,60553	,999	-2,0058	1,8725
	2	,33333	,60553	,944	-1,6058	2,2725
	3	,26667	,60553	,970	-1,6725	2,2058
FagositosisHariLima	1 2	-9,86667*	2,67083	,025	-18,4196	-1,3137
	3	-17,13333*	2,67083	,001	-25,6863	-8,5804
	4	-13,60000*	2,67083	,004	-22,1529	-5,0471
	2 1	9,86667*	2,67083	,025	1,3137	18,4196
	3	-7,26667	2,67083	,099	-15,8196	1,2863
	4	-3,73333	2,67083	,534	-12,2863	4,8196
	3 1	17,13333*	2,67083	,001	8,5804	25,6863
	2	7,26667	2,67083	,099	-1,2863	15,8196
	4	3,53333	2,67083	,575	-5,0196	12,0863
	4 1	13,60000*	2,67083	,004	5,0471	22,1529
	2	3,73333	2,67083	,534	-4,8196	12,2863
	3	-3,53333	2,67083	,575	-12,0863	5,0196

FagositosisHariSepuluh	1	2	-7,13333	2,50200	,082	-15,1456	,8789
		3	-	2,50200	,004	-20,8789	-4,8544
		4	12,86667*	2,50200	,004	-21,0123	-4,9877
	2	1	7,13333	2,50200	,082	-,8789	15,1456
		3	-5,73333	2,50200	,179	-13,7456	2,2789
		4	-5,86667	2,50200	,167	-13,8789	2,1456
	3	1	12,86667*	2,50200	,004	4,8544	20,8789
		2	5,73333	2,50200	,179	-2,2789	13,7456
		4	-,13333	2,50200	1,000	-8,1456	7,8789
	4	1	13,00000*	2,50200	,004	4,9877	21,0123
		2	5,86667	2,50200	,167	-2,1456	13,8789
		3	,13333	2,50200	1,000	-7,8789	8,1456
FagositosisHariLimaBelas	1	2	-8,60000*	1,98382	,011	-14,9529	-2,2471
		3	-6,00000	1,98382	,064	-12,3529	,3529
		4	-3,46667	1,98382	,362	-9,8196	2,8862
	2	1	8,60000*	1,98382	,011	2,2471	14,9529
		3	2,60000	1,98382	,582	-3,7529	8,9529
		4	5,13333	1,98382	,119	-1,2196	11,4862
	3	1	6,00000	1,98382	,064	-,3529	12,3529
		2	-2,60000	1,98382	,582	-8,9529	3,7529
		4	2,53333	1,98382	,601	-3,8196	8,8862
	4	1	3,46667	1,98382	,362	-2,8862	9,8196
		2	-5,13333	1,98382	,119	-11,4862	1,2196
		3	-2,53333	1,98382	,601	-8,8862	3,8196

*. The mean difference is significant at the 0.05 level.

Lampiran 8. Dokumentasi Kegiatan



Pengambilan sampel rumput laut



Pengeringan sampel rumput laut



Proses ekstraksi rumput laut



Hasil ekstraksi rumput laut



Pakan Udang Vannamei



Pengambilan Darah