LAMPIRAN

Lampiran 1. Alat dan bahan penelitian




Timbangan Digital Timbangan Bak Fiber Selang Aerasi





Selang sifon Skopnet Penggaris Jaring Toples



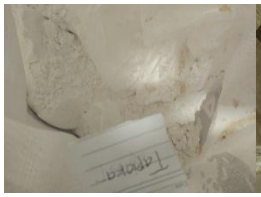

Rombong *Hammer mill* *Mixer* *Twin screw extruder*




Conveyor *Flavour Machine* *Roller DGT* *Belt Conveyor*

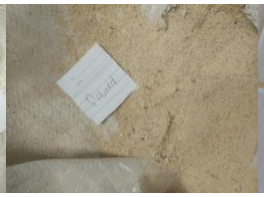



Tepung Ikan Tepung SBM Tepung PMM Tepung CGM



Tepung Tapioka

Tepung MBM



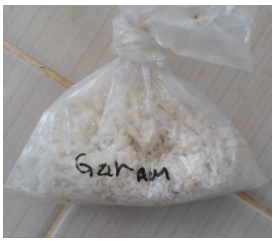
Tepung Pollard

Metionin

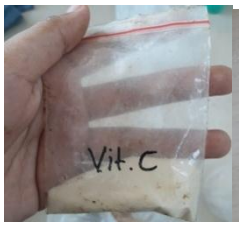
Taurin

Anti Mold

Anti Oksidan



Garam

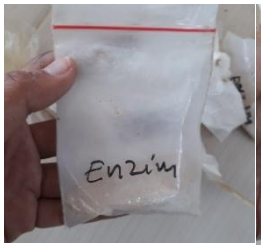


Vitamin C

Mineral Mix

Lesitin

Vitamin Pre-mix



Enzim

Lisin

Kobia

Lampiran 2. Cara pembuatan pakan

Hammer mill

Mixer

Twin screw exstruder

Conveyor

Oven

Roller DGT

Belt Conveyor

Lampiran 3. Hasil analisis proksimat pakan dan ikan

Tabel 6. Hasil analisis proksimat pakan

Parameter	Pakan Perlakuan		
	K	P1	P2
Kadar air (%)	5,45	11,03	11,45
Kadar protein (%)	44,08	44,20	44,44
Kadar lemak (%)	13,15	8,26	8,26
Serat kasar (%)	1,78	1,31	1,31
BETN (%)	21,38	17,38	16,13
Kadar abu (%)	13,66	17,31	18,41

Tabel 7. Hasil analisis proksimat ikan

Parameter	Sampel ikan			
	Ikan awal	K	P1	P2
Kadar air (%)	76,28	67,67	70,54	71,35
Kadar protein (%)	15,86	17,54	17,01	17,71
Kadar lemak (%)	3,21	11,93	8,24	6,82
Serat kasar (%)	0,02	0,47	0,45	0,30
BETN (%)	0,37	0,21	0,42	0,39
Kadar abu (%)	4,25	2,18	3,34	3,43

Lampiran 4. Hasil analisis asam amino pakan dan ikan

Tabel 8. Hasil analisis asam amino pakan

Parameter	Pakan Perlakuan		
	K	P1	P2
Arginine	2,85	2,40	2,37
Histidine	0,95	0,86	0,80
Isoleucine	1,86	1,56	1,55
Leucine	4,00	2,91	2,80
Lysine	2,23	3,00	3,14
Methionine	0,91	0,99	1,16
Phenylalanine	2,16	1,75	1,75
Valine	2,64	1,80	1,74
Threonine	1,85	1,29	1,24

Tabel 9. Hasil analisis asam amino ikan

Parameter	Pakan Perlakuan			
	Awal	K	P1	P2
Arginine	1,10	1,05	1,16	1,10
Histidine	0,43	0,34	0,65	0,38
Isoleucine	0,82	0,74	0,76	0,74
Leucine	1,41	1,17	1,17	1,19
Lysine	1,90	1,41	1,63	1,52
Methionine	0,52	0,47	0,50	0,46
Phenylalanine	0,71	0,65	0,66	0,68
Valine	0,87	0,81	0,87	0,83
Threonine	0,76	0,68	0,82	0,71

Lampiran 5. Hasil analisis proksimat dan asam amino pakan komersil.

Tabel 10. Hasil analisis proksimat dan asam amino pakan komersil

Parameter	Hasil proksimat
	K
Kadar Air (%)	5,45
Protein (%)*	44,08
Lemak (%)*	13,15
Kadar Abu (%)*	13,66
Serat (%)*	1,76
BETN (%)*	21,38
Metionin	0,91
GE***	465,41
C/P	10,55

Sumber: * Laboratorium Nutrisi, Kesehatan dan Lingkungan BBPBL, 2018
** Laboratorium Kimia Terpadu Institut Pertanian Bogor, 2018
*** GE dihitung berdasarkan; protein 5,6 kkal/g, lemak 9,4 kkal/g, karbohidrat 4,1 kkal/g.

Lampiran 6. Analisis statistik pertumbuhan berat mutlak

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
Berat Mutlak	P1	.201	3	.	.994	3	.856
	P2	.242	3	.	.973	3	.684

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Berat Mutlak

Levene Statistic	df1	df2	Sig.
.128	1	4	.739

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BM	Equal variances assumed	.128	.739	2.005	4	.116	8.26333	4.12216	-3.18162	19.70829
	Equal variances not assumed			2.005	3.894	.117	8.26333	4.12216	-3.30572	19.83239

Lampiran 7. Analisis statistik laju pertumbuhan harian

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
LPH	P1	.314	3	.	.893	3	.363
	P2	.236	3	.	.977	3	.712

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

LPH

Levene Statistic	df1	df2	Sig.
.079	1	4	.793

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
LPH	Equal variances assumed	.079	.793	.324	4	.762	.02333	.07196	-.17645	.22312
	Equal variances not assumed			.324	3.862	.763	.02333	.07196	-.17929	.22596

Lampiran 8. Analisis statistik rasio konversi pakan

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
RKP	P1	.219	3	.	.987	3	.780
	P2	.302	3	.	.910	3	.417

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

RKP

Levene Statistic	df1	df2	Sig.
6.493	1	4	.063

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
RKP	Equal variances assumed	6.493	.063	-1.663	4	.172	-.11333	.06815	-.30255	.07588
	Equal variances not assumed			-1.663	2.190	.227	-.11333	.06815	-.38348	.15681

Lampiran 9. Analisis statistik retensi protein

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
RP	P1	.359	3	.	.810	3	.139
	P2	.304	3	.	.907	3	.408

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

RP

Levene Statistic	df1	df2	Sig.
.549	1	4	.500

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
RP	Equal variances assumed	.549	.500	.282	4	.792	.57333	2.03546	-5.07800	6.22466
	Equal variances not assumed			.282	3.644	.793	.57333	2.03546	-5.30286	6.44953

Lampiran 10. Analisis statistik metionin

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Perlakuan	Statistic	Df	Sig.	Statistic	df	Sig.
Metionin	P1	.250	3	.	.967	3	.650
	P2	.316	3	.	.890	3	.354

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

Metionin

Levene Statistic	df1	df2	Sig.
4.933	1	4	.091

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Metionin	Equal variances assumed	4.933	.091	9.073	4	.001	9.58333	1.05630	6.65056	12.51610
	Equal variances not assumed			9.073	2.424	.006	9.58333	1.05630	5.72178	13.44489

Lampiran 11. Analisis statistik tingkat kelangsungan hidup

Tests of Normality[b]

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
TKH	K	,385	3	.	,750	3	,000
	P2	,385	3	.	,750	3	,000

a. Lilliefors Significance Correction

b. TKH is constant when Perlakuan = P1. It has been omitted.

Test of Homogeneity of Variances

TKH

Levene Statistic	df1	df2	Sig.
9,600	2	6	,013

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
TKH	Equal variances assumed	16,000	,016	1,000	4	,374	1,33333	1,33333	-2,36859	5,03526
	Equal variances not assumed			1,000	2,000	,423	1,33333	1,33333	-4,40354	7,07020