





LAMPIRAN**Lampiran 1. Lampiran kegiatan**





	Larva instar III dan Pupa <i>(Hermetia illucens)</i>
	Larva instar III <i>(Hermetia illucens)</i>
	Pupa <i>(Hermetia illucens)</i>



	<p>Proses pematian sampel Larva instar III menggunakan air mendidih dengan suhu kurang lebih 100 drajat selsius</p>
	<p>Setelah di rendam sampel di diamkan selama satu menit</p>
	<p>Proses pematian sampel dari fase Pupa menggunakan air mendidih dengan suhu sekitar 100 drajat selsius</p>

	<p>Setelah di rendam sampel di diamkan selama satu menit</p>
	<p>Setelah sampel di rendam,sampel di saring kembali menggunakan saringan stainlis untuk memisahkan kotoran pakan</p>
	<p>Setelah sampel di saring,sampel di letakkan kedalam Loyang oven untuk menuju proses pengeringan di dalam oven</p>

	<p>Setelah itu sampel masuk ke oven dengan suhu 60-70 drajad selsius</p>
	<p>Setelah itu dilakukan penimbangan sampel menggunakan timbangan analitik</p>
	<p>Setelah sampel di timbang,di lanjutkan ke proses pengovenan lemak dan BK</p>

	<p>Setelah sampel di oven sampel di dinginkan dengan exicator</p>
	<p>Distruksi lemak</p>
	<p>Pembakaran abu</p>
	<p>Distruksi protein</p>

	Pengenceran protein
	Distilasi protein
	Titration protein
	Pemanasan serat kasar

		Penyaringan serat kasar
		Pembakaran serat kasar

Lampiran 2. Analisis proksimat Lengkap



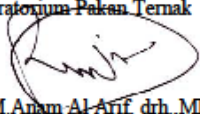
**FAKULTAS KEDOKTERAN HEWAN UNIVERSITAS AIRLANGGA
UNIT LAYANAN PEMERIKSAAN LABORATORIS
KONSULTASI DAN PELATIHAN
UNIT PENGUJIAN VETERINER DAN ANALISIS PAKAN**

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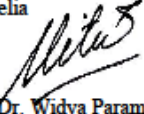
Nomor : 09/ULPLKP/UA.FKH/02/2023
Nama Pemilik : Sdr.Mukhammad Zakkiyah Ilham (Mhsw)
Alamat :
Jumlah Sampel : Enam (6)
Jenis Analisis : Proksimat Lengkap
Kode Sampel : Maggot (BSF)
Tanggal Penerimaan : 13-02-2023
Tanggal Selesai : 14-02-2023
Bersama ini Kami sampaikan Hasil Analisis Sampel sebagai berikut :

NO	KODE SAMPEL	HASIL ANALISIS (%)							
		Bahan Kering	Abu	Protein Kasar	Lemak Kasar	Serat Kasar	Ca	BETN	ME (Kcal/kg)
1	Maggot 1.1	97.4693	15.2477	32.3767	15.4256	21.4173	3.6263	13.0020	2718.8964
2	Maggot 1.2	97.6988	15.0771	32.7715	14.9782	21.3826	3.7181	13.4894	2717.7026
3	Maggot 1.3	97.1730	15.0100	32.1331	14.1642	21.4062	3.8439	14.4595	2673.5817
4	Maggot 2.1	97.1216	26.4220	29.5608	12.8183	27.4571	4.9463	0.8634	2005.3607
5	Maggot 2.2	97.0441	26.4180	29.6965	12.1518	28.2296	5.2968	0.5482	1952.1734
6	Maggot 2.3	97.2395	26.4265	29.7731	12.2075	28.5939	5.4241	0.2385	1948.2160
7									

Manajer Teknis
Laboratorium Pakan Ternak


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Surabaya, 17-02-2023
Penyelia


Prof. Dr. Widya Paramita L, drh, MP
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Lampiran 3. Hasil uji normalitas

			Case Summaries ^a								
			Bahan Kering	Abu	Protein Kasar	Lemak Kasar	Serat Kasar	Ca	BETN	ME	
Perlakuan	Magot 1	1	97.4693	15.2477	32.3767	15.4256	21.4173	3.6263	13.0020	2718.8964	
		2	97.6988	15.0771	32.7715	14.9782	21.3826	3.7181	13.4894	2717.7026	
		3	97.1730	15.0100	32.1331	14.1642	21.4062	3.8439	14.4595	2673.5817	
		Total	N	3	3	3	3	3	3	3	3
		Mean	97.447033	15.111600	32.427100	14.856000	21.402033	3.729433	13.650300	2703.393567	
		Std. Deviation	.2636063	.1225480	.3221704	.6395171	.0177213	.1092418	.7419523	25.8247330	
	Magot 2	1	97.1216	26.4220	29.5608	12.8183	27.4571	4.9463	.8634	2005.3607	
		2	97.0441	26.4180	29.6965	12.1518	28.2296	5.2968	.5482	1952.1734	
		3	97.2395	26.4265	29.7731	12.2075	28.5939	5.4241	.2385	1948.2160	
		Total	N	3	3	3	3	3	3	3	3
		Mean	97.135067	26.422167	29.676800	12.392533	28.093533	5.222400	.550033	1968.583367	
		Std. Deviation	.0983936	.0042525	.1075123	.3697750	.5804861	.2474363	.3124540	31.9115095	
	Total	N	6	6	6	6	6	6	6	6	
		Mean	97.291050	20.766883	31.051950	13.624267	24.747783	4.475917	7.100167	2335.988467	
		Std. Deviation	.2467079	6.1955379	1.5216393	1.4278959	3.6834444	.8354330	7.1933542	403.3087075	

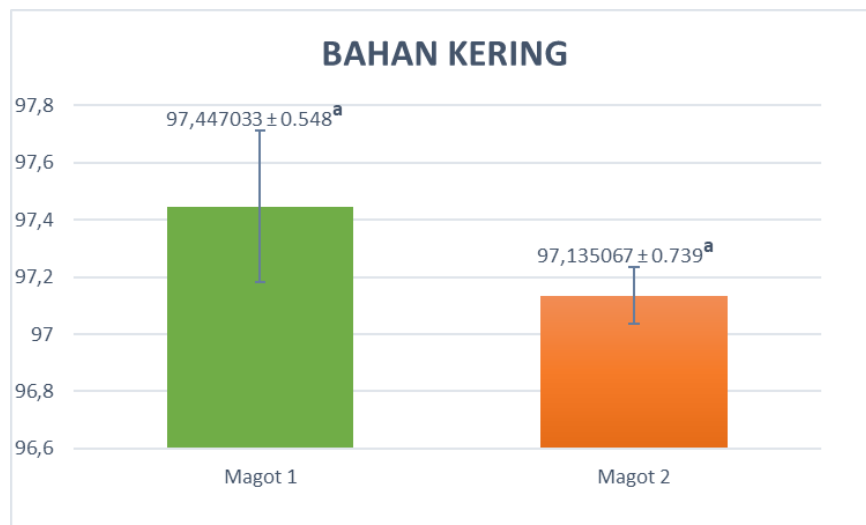
a. Limited to first 100 cases.

Lampiran 4. Hasil T-test dan grafik dari bahan kering, abu, protein kasar, lemak kasar, serat kasar, Ca, BETN, dan ME

a. Bahan kering

Group Statistics					
	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Bahan Kering	Magot 1	3	97.447033	.2636063	.1521931
	Magot 2	3	97.135067	.0983936	.0568076

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Bahan Kering	Equal variances assumed	1.756	.256	1.920	4	.127	.3119667	.1624495	-.1390656	.7629989
	Equal variances not assumed			1.920	2.547	.167	.3119667	.1624495	-.2611893	.8851227



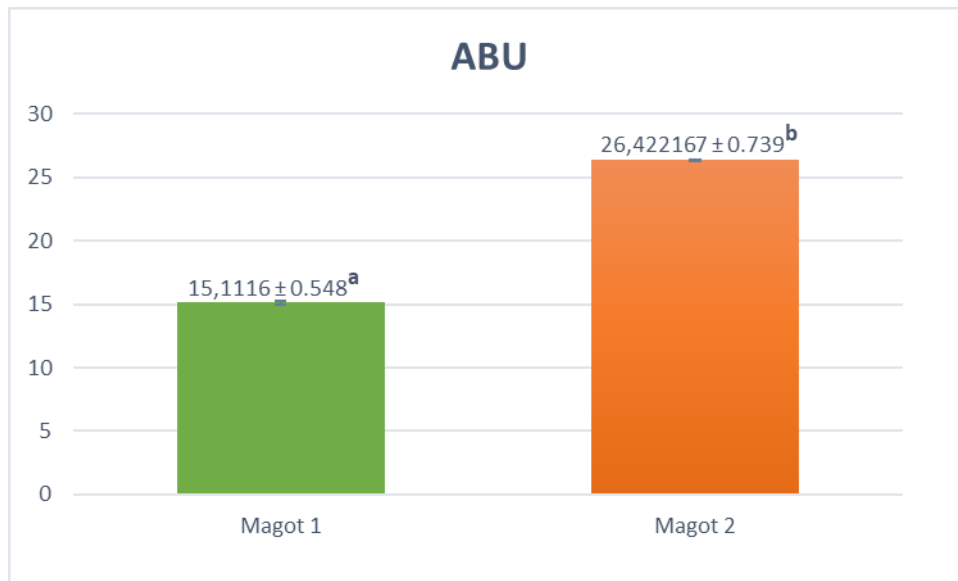
b. Abu

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Abu	Magot 1	3	15.111600	.1225480	.0707531
	Magot 2	3	26.422167	.0042525	.0024552

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Abu	Equal variances assumed	8.655	.042	-159.763	4	.000	-11.3105667	.0707957	-11.5071270	-11.1140063
	Equal variances not assumed			-159.763	2.005	.000	-11.3105667	.0707957	-11.6144758	-11.0066576



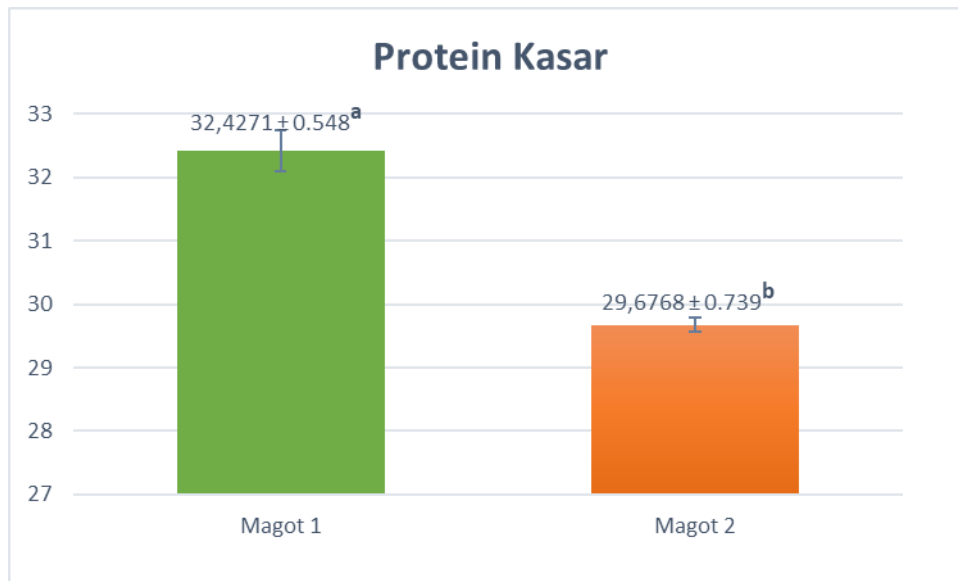
c. Protein kasar

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Protein Kasar	Magot 1	3	32.427100	.3221704	.1860052
	Magot 2	3	29.676800	.1075123	.0620722

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Protein Kasar	Equal variances assumed	2.547	.186	14.026	4	.000	2.7503000	.1960890	2.2058697	3.2947303
	Equal variances not assumed			14.026	2.440	.002	2.7503000	.1960890	2.0368622	3.4637378



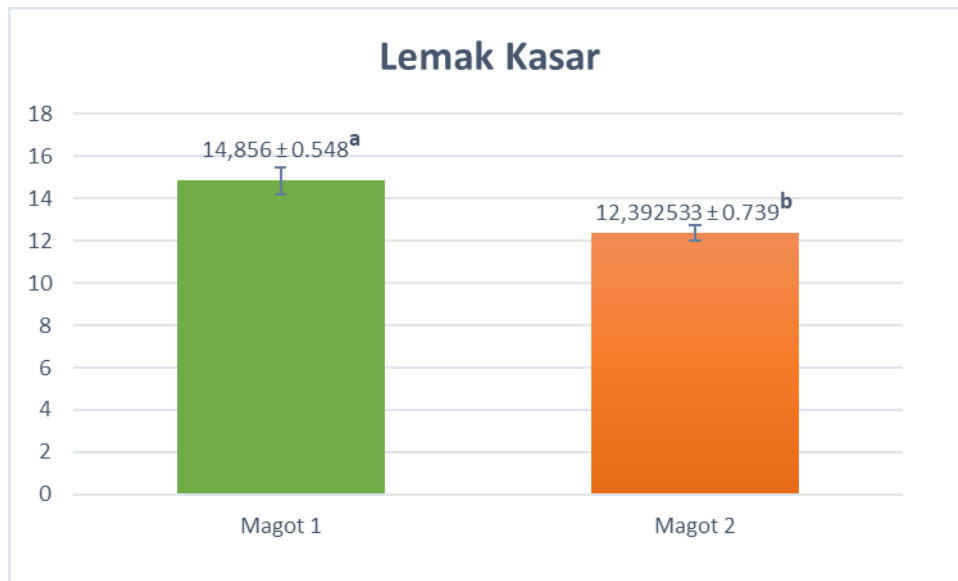
d. lemak kasar

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Lemak Kasar	Magot 1	3	14.856000	.6395171	.3692254
	Magot 2	3	12.392533	.3697750	.2134897

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Lemak Kasar	Equal variances assumed	.892	.398	5.776	4	.004	2.4634667	.4265035	1.2793031	3.6476302
	Equal variances not assumed			5.776	3.203	.009	2.4634667	.4265035	1.1535036	3.7734298



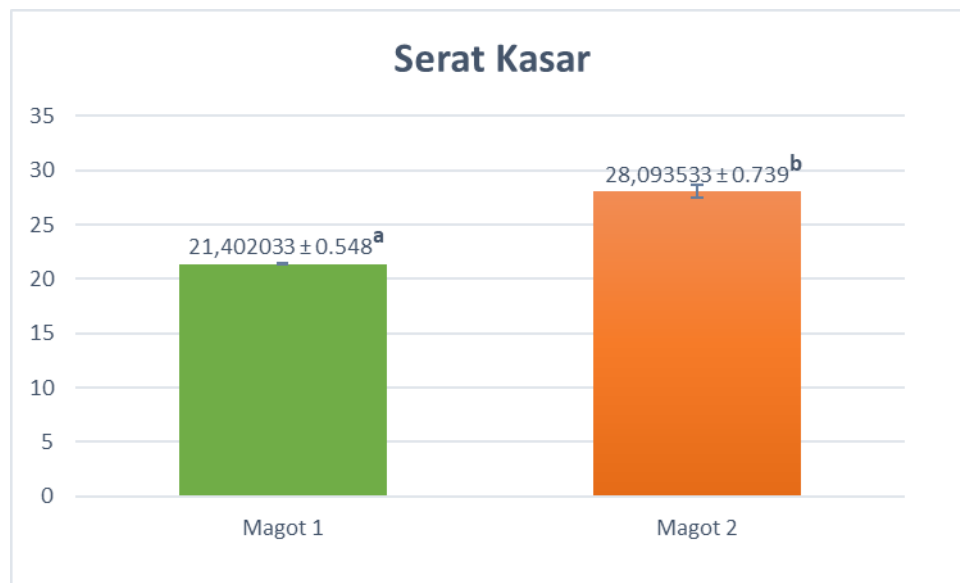
e. Serat kasar

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Serat Kasar	Magot 1	3	21.402033	.0177213	.0102314
	Magot 2	3	28.093533	.5804861	.3351438

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Serat Kasar	Equal variances assumed	7.576	.051	-19.957	4	.000	-6.6915000	.3353000	-7.6224420	-5.7605580
	Equal variances not assumed			-19.957	2.004	.002	-6.6915000	.3353000	-8.1316102	-5.2513898



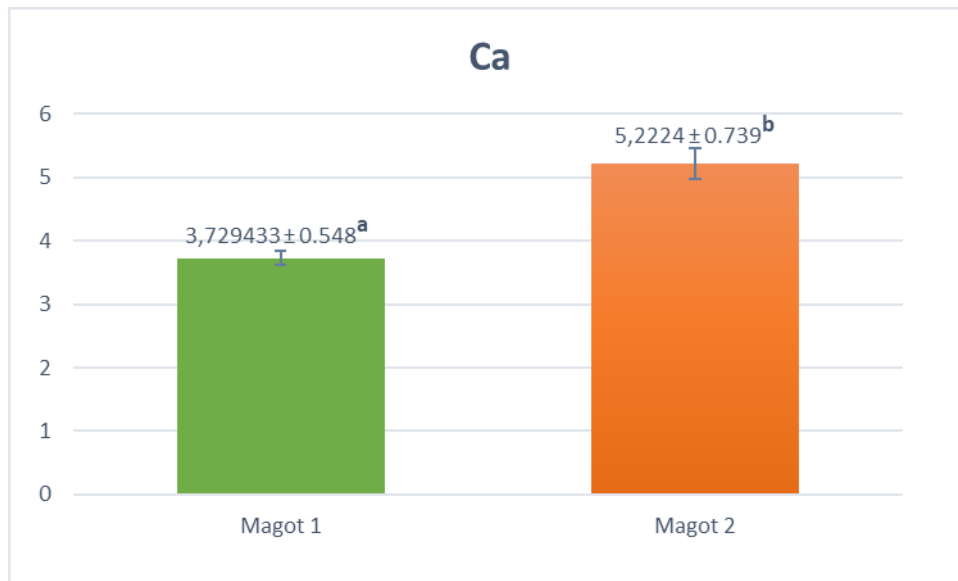
f. Ca (kalsium)

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
Ca	Magot 1	3	3.729433	.1092418	.0630708
	Magot 2	3	5.222400	.2474363	.1428574

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Ca	Equal variances assumed	2.561	.185	-9.560	4	.001	-1.4929667	.1561607	-1.9265383	-1.0593950
	Equal variances not assumed			-9.560	2.751	.003	-1.4929667	.1561607	-2.0163663	-.9695671



g. BETN

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
BETN	Magot 1	3	13.650300	.7419523	.4283663
	Magot 2	3	.550033	.3124540	.1803954

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
BETN	Equal variances assumed	2.243	.209	28.185	4	.000	13.1002667	.4648013	11.8097714	14.3907619
	Equal variances not assumed			28.185	2.688	.000	13.1002667	.4648013	11.5189286	14.6816047



h. ME

Group Statistics

	Perlakuan	N	Mean	Std. Deviation	Std. Error Mean
ME	Magot 1	3	2703.393567	25.8247330	14.9099166
	Magot 2	3	1968.583367	31.9115095	18.4241186

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ME	Equal variances assumed	.339	.592	31.003	4	.000	734.8102000	23.7013451	669.0047165	800.6156835
	Equal variances not assumed			31.003	3.833	.000	734.8102000	23.7013451	667.8606740	801.7597260





KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI
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SURAT KETERANGAN PENELITIAN

Bersama ini kami menerangkan bahwa Saudara/Saudari berikut :

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NPM : 19820039

Supervisi : Dr. Siti Gusti Ningrum, drh

Status Mahasiswa : Mahasiswa S1 Kedokteran Hewan

Asal Instansi : Fakultas Kedokteran Hewan Universitas Wijaya Kusuma Surabaya

Telah melaksanakan penelitian dan menggunakan fasilitas penelitian dengan judul **ANALISIS KANDUNGAN LARVA BLACK SOLDIER FLY (*Hermetia illucens*) SEBAGAI PAKAN ALTERNATIF BURUNG WALET (*Aerodramus fuciphagus*)** di Laboratorim Makanan Ternak, Fakultas Kedokteran Hewan, Universitas Airlangga Surabaya pada tanggal 13 Februari 2023.

Demikian atas perhatiannya disampaikan terima kasih

Manager Puncak,



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 195908081987012001

Surabaya, 13 Februari 2023
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