

LAMPIRAN

Lampiran 1. Perhitungan

KADAR AIR

Sampel	Berat Kosong (gram)	Berat isi (gram)	Berat sampel basah (gram)	Berat Kering (gram)	Kadar Air (%)	Rata-rata (%)
Kontrol	5,211	7,2288	2,018	5,441	11,399	11,386
	5,127	7,1302	2,003	5,347	10,982	
	4,943	7,106	2,163	5,202	11,974	
	5,081	7,119	2,038	5,309	11,187	
P1	5,188	7,225	2,037	5,453	13,009	13,119
	4,943	7,026	2,083	5,217	13,154	
	5,127	7,185	2,058	5,397	13,120	
	5,081	7,173	2,092	5,357	13,193	
P2	4,942	7,026	2,084	5,194	12,092	12,027
	5,081	7,128	2,047	5,327	12,018	
	5,188	7,207	2,019	5,413	11,144	
	5,211	7,319	2,108	5,482	12,856	
P3	5,081	7,176	2,095	5,356	13,126	12,886
	5,148	7,263	2,115	5,429	13,286	
	5,127	7,132	2,005	5,371	12,170	
	5,148	7,223	2,075	5,417	12,964	

Contoh Perhitungan Kadar Air

Kontrol 1

$$\text{Kadar air} = \frac{\text{Berat awal} - \text{Berat akhir}}{\text{Berat sampel}} \times 100\%$$

$$\text{Kadar air} = \frac{5,441 - 5,211}{2,018} \times 100\%$$

$$\text{Kadar air} = 11,399\%$$

$$\text{Rata - Rata Sampel Kontrol} = \frac{11,399 + 10,98 + 11,974 + 11,187}{4}$$

$$\text{Rata - Rata Sampel Kontrol} = 11,386$$

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n - 1)}}$$

$$S = \sqrt{\frac{(11,399 - 11,3855)^2 + (10,982 - 11,3855)^2 + (11,974 - 11,3855)^2 + (11,187 - 11,3855)^2}{(4 - 1)}}$$

$$S = \sqrt{\frac{0,5487}{3}} \quad S = \sqrt{0,1829} = 0,4277 \%$$

KADAR ABU

Sampel	Berat Kosong (gram)	Berat isi (gram)	Berat sampel basah (gram)	Berat Kering	Kadar Abu (%)	Rata-rata (%)
Kontrol	14,09	16,27	2,18	14,133	1,972	1,910
	12,13	14,17	2,04	12,167	1,814	
	11,67	13,78	2,11	11,711	1,943	
P1	12,64	14,76	2,12	12,661	0,991	1,099
	12,12	14,3	2,18	12,143	1,055	
	12,23	14,47	2,24	12,258	1,250	
P2	14,06	16,147	2,087	14,090	1,418	1,453
	12,141	14,278	2,137	12,175	1,591	
	11,7	13,773	2,073	11,728	1,351	
P3	12,622	14,828	2,206	12,657	1,573	1,263
	12,119	14,141	2,022	12,142	1,133	
	12,24	14,324	2,084	12,263	1,084	

Kontrol 1

$$\text{Kadar Abu} = \frac{\text{Berat awal} - \text{Berat akhir}}{\text{Berat sampel}} \times 100\%$$

$$\text{Kadar Abu} = \frac{14,133 - 14,09}{2,18} \times 100\%$$

$$\text{Kadar air} = 1,972\%$$

$$\text{Rata - Rata Sampel Kontrol} = \frac{1,972 + 1,814 + 1,943}{3}$$

$$\text{Rata - Rata Sampel Kontrol} = 1,910$$

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n - 1)}}$$

$$S = \sqrt{\frac{(1,972 - 1,9097)^2 + (1,814 - 1,9097)^2 + (1,943 - 1,9097)^2}{(3 - 1)}}$$

$$S = \sqrt{\frac{0,014152}{2}} \quad S = \sqrt{0,007076} = 0,0841 \%$$

Perhitungan Kadar Lemak

Sampel	Berat Kosong (gram)	Berat sampel (gram)	Berat Kering (gram)	Kadar Lemak (%)	Rata-rata (%)
Kontrol	55,677	2,145	55,768	4,256	4,237
	51,515	2,093	51,596	3,870	
	43,922	2,273	44,026	4,586	
P1	52,25	2,172	52,338	4,051	3,802
	55,676	2,193	55,759	3,785	
	51,464	2,171	51,541	3,570	
P2	55,686	2,104	55,759	3,470	3,647
	51,379	2,097	51,453	3,529	
	43,938	2,054	44,019	3,943	
P3	55,686	2,191	55,736	2,282	2,536
	51,46	2,148	51,5223	2,901	
	43,932	2,017	43,981	2,426	

$$\text{Kadar Lemak} = \frac{\text{Berat kering} - \text{Berat kosong}}{\text{Berat sampel}} \times 100\%$$

$$\text{Kadar Abu} = \frac{55,768 - 55,677}{2,145} \times 100\%$$

$$\text{Kadar air} = 4,25\%$$

$$\text{Rata - Rata Sampel Kontrol} = \frac{4,256 + 3,870 + 4,586}{3}$$

$$\text{Rata - Rata Sampel Kontrol} = 4,237$$

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n - 1)}}$$

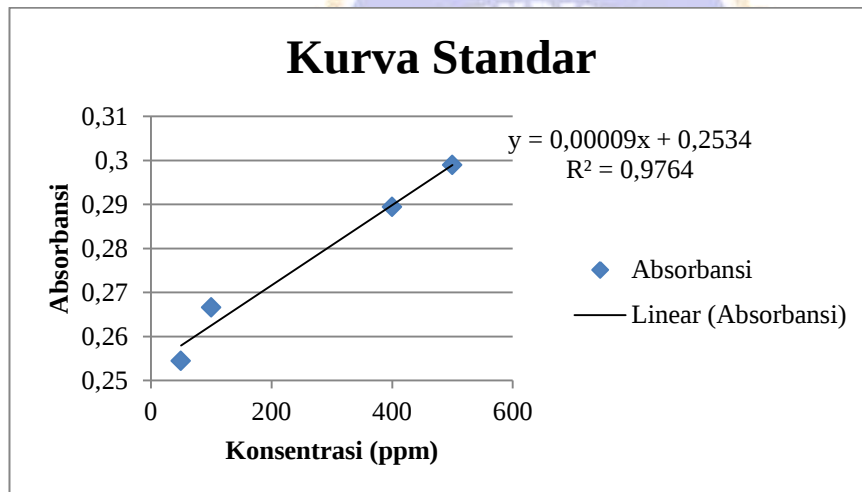
$$S = \sqrt{\frac{(4,256 - 4,237)^2 + (3,870 - 4,237)^2 + (4,586 - 4,237)^2}{(3 - 1)}}$$

$$S = \sqrt{\frac{0,256611}{2}} \quad S = \sqrt{0,1283} = 0,358 \%$$

Perhitungan Protein Terlarut

📊 Data Hasil Pengukuran Kadar Protein Terlarut

Sampel	Absorbansi	% Protein terlarut	Rata-rata
Kontrol 1	0,2779	5,402	5,366
Kontrol 2	0,2773	5,329	
P1 (A)	0,2788	5,662	5,673
P1 (A)	0,2789	5,684	
P2 (A)	0,2863	7,329	7,329
P2 (B)	0,2863	7,329	
P3 (A)	0,2996	10,284	10,262
P3 (B)	0,2994	10,240	



Kontrol 1

$$y = 0,0009x + 0,2534$$

$$0,2779 = 0,00009x + 0,2534$$

$$X = \frac{0,2779 - 0,2534}{0,0009} = 270,109$$

Karena Pengenceran dilakukan 200 kali

$$270,109 \times 200 = 54021,98 \text{ ppm} = 5,402 \%$$

$$\text{Rata - Rata Sampel Kontrol} = \frac{5,402 + 5,329}{2} = 5,366$$

$$S = \sqrt{\frac{\sum(x_i - \bar{x})^2}{(n - 1)}}$$

$$S = \sqrt{\frac{0,000756 + 0,000756}{(2 - 1)}} = \sqrt{0,00152} = 0,0389$$

Hasil Pengujian Kadar Protein Kasar

Sampel	Berat Sampel (mg)	V titran	Konsentrasi HCl	Protein Kasar	Rata-Rata	SD
K1	519,6	28,1	0,186	11,959	11,952	0,009846983
K2	509,3	27,6	0,186	11,945		
P1 (A)	531	30,3	0,186	12,781	13,052	0,383621148
P1 (B)	517,2	30,7	0,186	13,324		
P2 (A)	511,8	29,7	0,186	12,955	13,163	0,294337649
P2 (B)	517,3	30,8	0,186	13,371		
P3 (A)	531,9	32,9	0,186	14,033	14,235	0,285115325
P3 (B)	538,7	34,1	0,186	14,436		

Perhitungan K1

$$\text{Protein Kasar (\%)} = \frac{V \times N \times 14,007 \times 6,25 \times 100}{\text{Berat Sampel (mg)}}$$

$$\text{Protein Kasar (\%)} = \frac{28,1 \times 0,186 \times 14,007 \times 6,25 \times 100}{519,6}$$

$$\text{Protein Kasar (\%)} = \frac{45683,37}{519,6}$$

$$\text{Protein Kasar} = 11,95\%$$

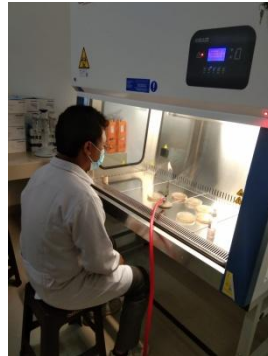
$$\text{Rata - Rata Sampel Kontrol} = \frac{11,959 + 11,945}{2} = 11,952$$

$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{(n - 1)}}$$

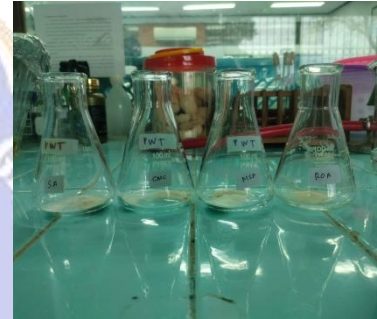
$$S = \sqrt{\frac{0,073711 + 0,073711}{(2 - 1)}} = \sqrt{0,147422} = 0,3836$$

Lampiran 2. Dokumentasi Kegiatan

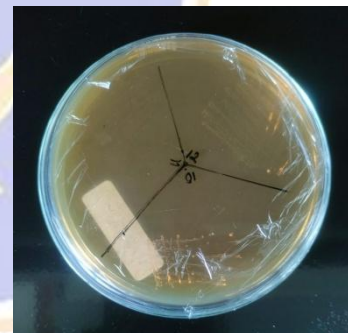
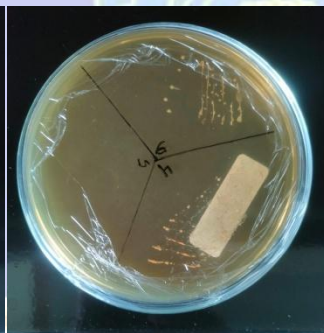
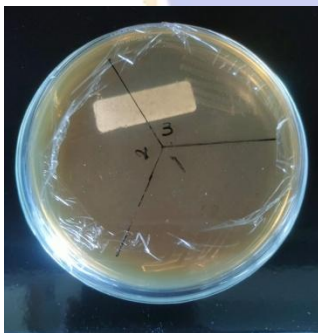
Isolasi Bakteri Asam Laktat



Pembuatan Media Uji Enzim Ekstraseluler



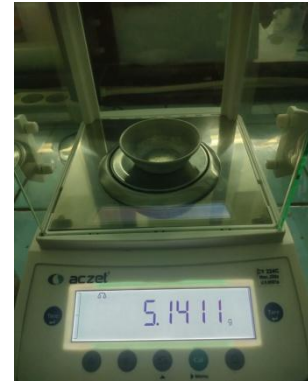
Perbanyakan Koloni



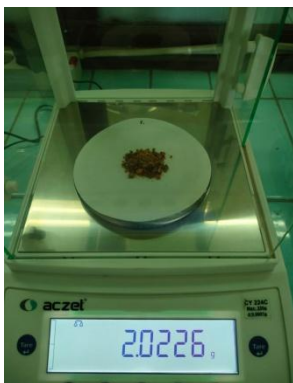
Preparasi Sampel Pakan ayam



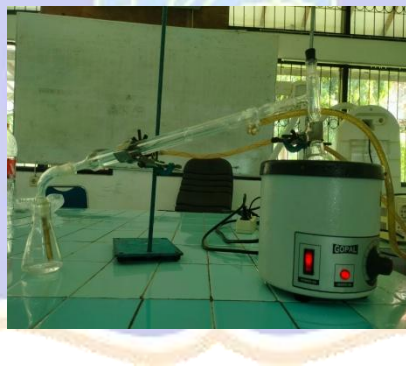
Uji Kadar Air Pakan



Analisis Kadar Lemak



Analisis Protein Kasar



Analisis Protein Terlarut

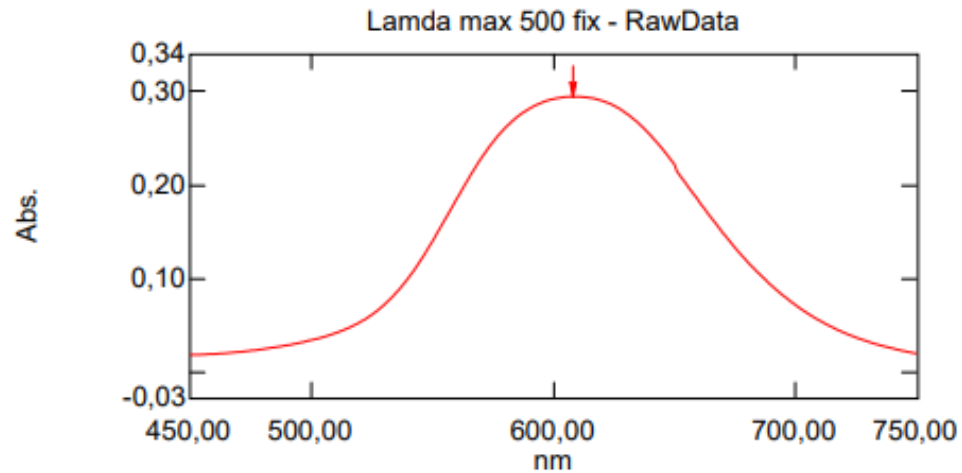


Lampiran 3. Hasil Pengujian λ Maks Menggunakan Spektrofotometri UV Vis

Spectrum Point Pick

Print Date : 13/06/2025 14:47:09

File Name: Lamda max 500 fix - RawData



[Summary]

Data Information

Data is: Measurement Data
Data Set Name: RawData
Sample Name: Lamda max 500 fix
Sample ID: 1
Option:
Analyst:
Date/Time: 13/06/2025 14:44:51
Comments:
Parameter File Name: D:\januarta\lamda maksimum uji
protein.vspn

Software Information

Software Name: LabSolutions UV-Vis
Version: 1,15

Instrument Information

Instrument Name: UV-2600i
Instrument Type: UV-2600 Series
Model (S/N): UV-2600i (A12596280396ML)

Report File Name:

[Point Pick Table]

No.	Wavelength nm.	Absorbance	Description
1	608,0	0,2941	

Lampiran 4. Hasil Pengukuran Absorbansi Sampel Menggunakan Spektrofotometri UV Vis

Quantitation Sample Table

Print Date : 13/06/2025 16:57:24

[Summary]

File Information
 Filename: D:\januarta\kurva kalibrasi 130625.vqud
 Parameter File Name: D:\januarta\kurva kalibrasi protein 130625.vqum

Analyst:
 Date/Time: 13/06/2025 16:56:41
 Comments:
 Report File Name:

Instrument Information
 Instrument Name: UV-2600i

[Measurement Parameters]

[Wavelengths]
 Type of Measuring Mode: Absorbance
 rounded: OFF
 Column Name: WL608,0
 Measuring Method: Point (608,00nm)

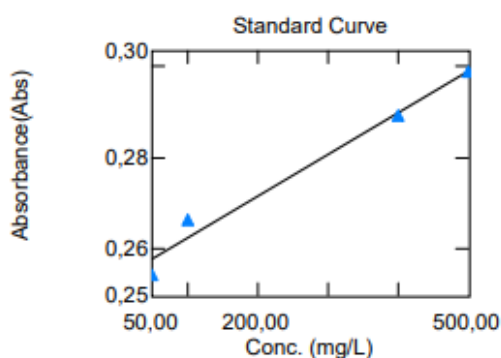
[Calibration Curve]
 Calibration Curve Creation: Sample
 Measurement
 Calculation Method: 1,0000 *
 Raw_WL608,0
 Column Name: Result
 Calibration Curve Formula: Calculated Value
 = K1 *
 Concentration +
 K0
 Pass Origin: OFF
 Unit of Concentration: mg/L
 Pass/Fail Judgment: OFF

[Formula]

[Standard]
 Acquiring Method: Measurement
 Repeat: OFF

[Unknown Sample]
 Acquiring Method: Measurement
 Repeat: OFF

[Instrument]
 Slit Width: 2.0 nm
 Accumulation Time (sec.): 0.1



$y = 9,13622e-005 x + 0,253322$
 $r^2 = 0,97649$
 $r(m)^2 = 0,97649$

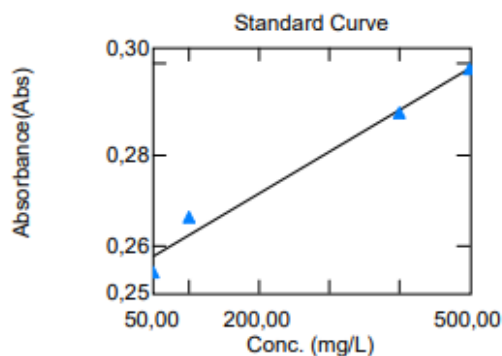
[Sample Table]

	Sample Name	Sample ID	Option	Type	Ex	Conc	Raw_WL608,0	Result
1	Kontrol			UNK		269,001	0,2779	0
2	Kontrol 2			UNK		262,957	0,2773	0
3	P1			UNK		279,319	0,2788	0
4	P1 (2)			UNK		279,810	0,2789	0
5	P2			UNK		360,953	0,2863	0
6	P2 (2)			UNK		360,464	0,2863	0
7	P3			UNK		726,271	0,3197	0
8	P3 (2)			UNK		713,499	0,3185	0
9	P3 new			UNK		526,796	0,3015	0
10	P3 new (2)			UNK		506,190	0,2996	0

Quantitation Sample Table

Print Date : 13/06/2025 16:57:24

[Summary]



[Measurement Parameters]

[Wavelengths]
 Type of Measuring Mode: Absorbance
 rounded: OFF
 Column Name: WL608,0
 Measuring Method: Point (608,00nm)

[Calibration Curve]
 Calibration Curve Creation: Sample
 Measurement
 Calculation Method: 1.0000 *
 Raw_WL608,0
 Result
 Column Name: Calculated Value
 Calibration Curve Formula: = K1 *
 Concentration +
 K0
 Pass Origin: OFF
 Unit of Concentration: mg/L
 Pass/Fail Judgment: OFF

[Formula]

[Standard]
 Acquiring Method: Measurement
 Repeat: OFF

[Unknown Sample]
 Acquiring Method: Measurement
 Repeat: OFF

[Instrument]
 Slit Width: 2.0 nm
 Accumulation Time (sec.): 0.1

[Sample Table]

	Sample Name	Sample ID	Option	Type	Ex	Conc	Raw_WL608,0	Result
11	P3 new (3)			UNK		504,329	0,2994	0
12	P3 new (4)			UNK		507,631	0,2997	0

