
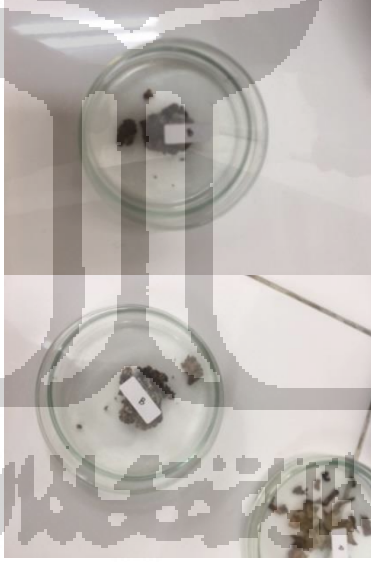


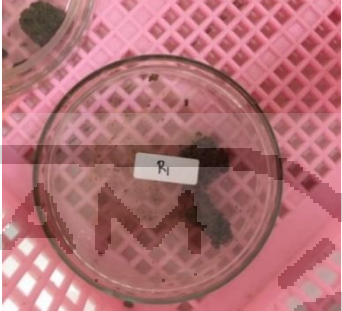
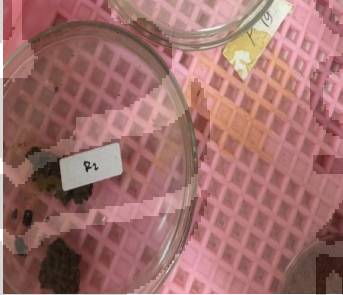
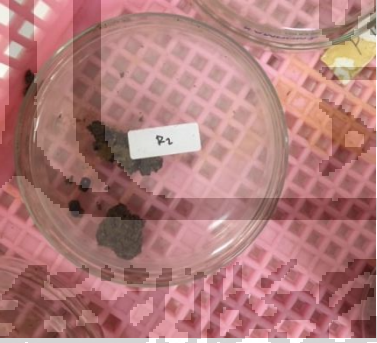
## LAMPIRAN

### Lampiran 1 Alat Pengomposan

Alat yang digunakan	Keterangan
	pH digital
	Termometer

## Lampiran 2 Pengukuran Kadar Air

Sampel	Pengukuran	Hasil Pengukuran	Keterangan
Sampah sayuran kubis	Awal		Sebelum dan sesudah di oven
Limbah Kotoran Ayam			Sebelum dan sesudah di oven



Sampel	Pengukuran	Hasil Pengukuran	Keterangan
Sampel 1		 A petri dish containing a dark, moist soil sample, labeled 'P1', resting on a pink grid surface.	
Sampel 2	Sesudah	 A petri dish containing a dark, moist soil sample, labeled 'P1', resting on a pink grid surface.	Sesudah di oven
Sampel 3		 A petri dish containing a dark, moist soil sample, labeled 'P1', resting on a pink grid surface.	




## Lampiran 3 : Pengambilan Kotoran Ayam





Hasil Pengamatan	Keterangan
	<p data-bbox="751 546 1018 618">Pengambilan sampel kotoran ayam</p>

## Lampiran 4 :

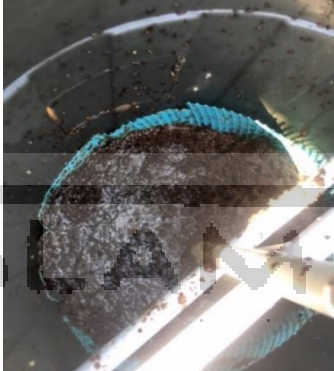


- Pengamatan kompos pada hari ke 7

Sampel	Hasil Pengamatan	Keterangan
<p data-bbox="400 1261 512 1294">Sampel 1</p>		<p data-bbox="1066 1451 1190 1480">Hari ke 7</p>
<p data-bbox="400 1630 512 1664">Sampel 2</p>		


Sampel	Hasil Pengamatan	Keterangan
Sampel 3		Hari ke 7
Sampel 1		Hari ke 14
Sampel 2		

Sampel	Hasil Pengujian	Keterangan
Sampel 3	 A petri dish containing a green mesh filter over a layer of dark brown soil. A white tool is positioned across the filter.	Hari ke 14
Sampel 1	 A petri dish containing a blue mesh filter over a layer of dark brown soil. A white tool is positioned across the filter.	
Sampel 2	 A petri dish containing a yellow mesh filter over a layer of dark brown soil. A white tool is positioned across the filter.	Hari ke 21
Sampel 3	 A petri dish containing a green mesh filter over a layer of dark brown soil. A white tool is positioned across the filter.	

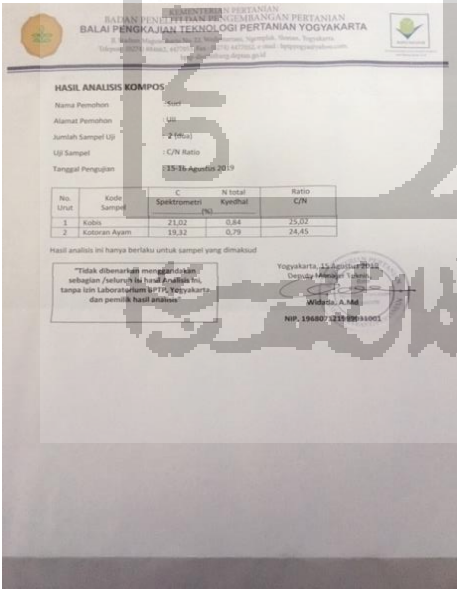


Sampel	Hasil Pengujian	Keterangan
Sampel 1		
Sampel 2		Hari ke 28
Sampel 3		

## Lampiran 5 Pengujian warna pada kompos menggunakan mussel color chart

Pengujian warna	Keterangan
	<p>Indikator pewarna pada kompos</p>

## Lampiran 6 Lembar uji rasio c/n pada awal pengomposan

Pengujian rasio C/N pada awal bahan	Keterangan															
 <p><b>HASIL ANALISIS KOMPOS:</b></p> <p>Nama Pemohon: _____    Alamat Pemohon: _____    Jumlah Sampel Uji: 2 (dua)    Uji Sampel: C/N Ratio    Tanggal Pengujian: 15/10 Agustus 2019</p> <table border="1"> <thead> <tr> <th>No. Urut</th> <th>Kode Sampel</th> <th>C Spektrometri (%)</th> <th>N total Kjeldahl</th> <th>Rasio C/N</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Kibis</td> <td>21,02</td> <td>0,94</td> <td>22,32</td> </tr> <tr> <td>2</td> <td>Kotoran Ayam</td> <td>13,82</td> <td>0,79</td> <td>17,45</td> </tr> </tbody> </table> <p>Hasil analisis ini hanya berlaku untuk sampel yang dimaksud</p> <p>"Tidak dibenarkan menggunakan sebagian data ini hasil analisis tanpa izin Laboratorium BPTP Yogyakarta dan pemilik hasil analisis"</p> <p>Yogyakarta, 15 Agustus 2019    Direktur Manaj. Lab. Lit. dan Pengkaj. Tek. Pertanian    Widhi, A. Adh    NIP. 1968071219893001</p>	No. Urut	Kode Sampel	C Spektrometri (%)	N total Kjeldahl	Rasio C/N	1	Kibis	21,02	0,94	22,32	2	Kotoran Ayam	13,82	0,79	17,45	<p>Lembar uji rasio c/n pada awal pengomposan</p>
No. Urut	Kode Sampel	C Spektrometri (%)	N total Kjeldahl	Rasio C/N												
1	Kibis	21,02	0,94	22,32												
2	Kotoran Ayam	13,82	0,79	17,45												

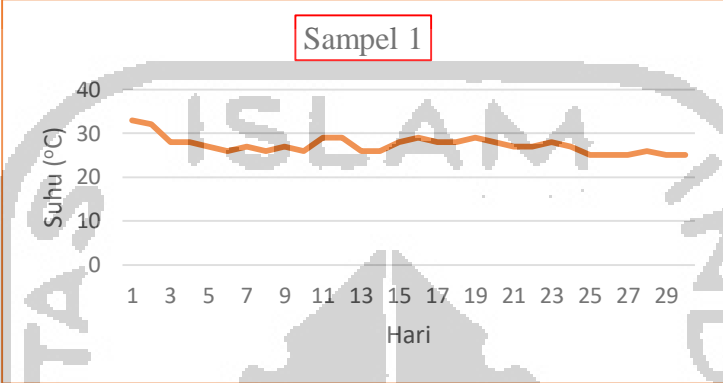
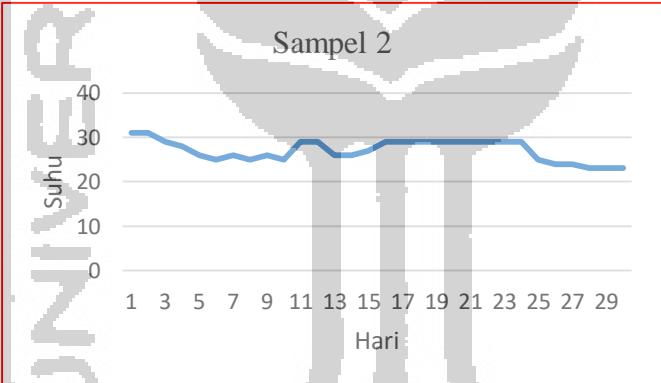
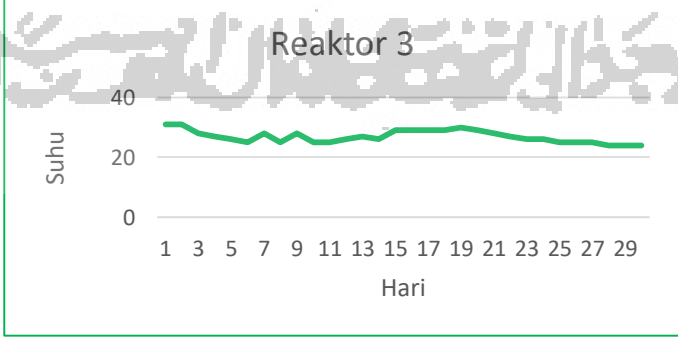


## Lampiran 7

- Tabel 7.1 Variasi masing-masing sampel

Hari	Perlakuan	Suhu	Hari	Perlakuan	Suhu	Hari	Perlakuan	Suhu
1	Sampel 1	33	11	Sampel 1	29	21	Sampel 1	27
	Sampel 2	31		Sampel 2	29		Sampel 2	29
	Sampel 3	31		Sampel 3	25		Sampel 3	28
2	Sampel 1	32	12	Sampel 1	26	22	Sampel 1	27
	Sampel 2	31		Sampel 2	26		Sampel 2	29
	Sampel 3	31		Sampel 3	27		Sampel 3	27
3	Sampel 1	28	13	Sampel 1	26	23	Sampel 1	28
	Sampel 2	29		Sampel 2	26		Sampel 2	29
	Sampel 3	28		Sampel 3	27		Sampel 3	26
4	Sampel 1	28	14	Sampel 1	26	24	Sampel 1	27
	Sampel 2	28		Sampel 2	26		Sampel 2	29
	Sampel 3	27		Sampel 3	26		Sampel 3	26
5	Sampel 1	27	15	Sampel 1	28	25	Sampel 1	25
	Sampel 2	26		Sampel 2	27		Sampel 2	25
	Sampel 3	26		Sampel 3	29		Sampel 3	25
6	Sampel 1	26	16	Sampel 1	29	26	Sampel 1	25
	Sampel 2	25		Sampel 2	29		Sampel 2	24
	Sampel 3	25		Sampel 3	29		Sampel 3	24
7	Sampel 1	27	17	Sampel 1	28	27	Sampel 1	25
	Sampel 2	26		Sampel 2	29		Sampel 2	24
	Sampel 3	28		Sampel 3	29		Sampel 3	24
8	Sampel 1	26	18	Sampel 1	28	28	Sampel 1	26
	Sampel 2	25		Sampel 2	29		Sampel 2	23
	Sampel 3	25		Sampel 3	29		Sampel 3	23
9	Sampel 1	27	19	Sampel 1	29	29	Sampel 1	25
	Sampel 2	26		Sampel 2	29		Sampel 2	23
	Sampel 3	28		Sampel 3	30		Sampel 3	23
10	Sampel 1	26	20	Sampel 1	28	30	Sampel 1	25
	Sampel 2	25		Sampel 2	29		Sampel 2	23
	Sampel 3	25		Sampel 3	29		Sampel 3	23

## Lampiran 8 Grafik suhu tiap sampel

Sampel	Hasil Pengujian	Keterangan																																
Sampel 1	 <p style="text-align: center;">Sampel 1</p> <table border="1"> <caption>Data for Sampel 1</caption> <thead> <tr> <th>Hari</th> <th>Suhu (°C)</th> </tr> </thead> <tbody> <tr><td>1</td><td>33</td></tr> <tr><td>3</td><td>28</td></tr> <tr><td>5</td><td>26</td></tr> <tr><td>7</td><td>27</td></tr> <tr><td>9</td><td>26</td></tr> <tr><td>11</td><td>29</td></tr> <tr><td>13</td><td>26</td></tr> <tr><td>15</td><td>29</td></tr> <tr><td>17</td><td>27</td></tr> <tr><td>19</td><td>29</td></tr> <tr><td>21</td><td>27</td></tr> <tr><td>23</td><td>27</td></tr> <tr><td>25</td><td>25</td></tr> <tr><td>27</td><td>26</td></tr> <tr><td>29</td><td>25</td></tr> </tbody> </table>	Hari	Suhu (°C)	1	33	3	28	5	26	7	27	9	26	11	29	13	26	15	29	17	27	19	29	21	27	23	27	25	25	27	26	29	25	Grafik suhu pada sampel 1
Hari	Suhu (°C)																																	
1	33																																	
3	28																																	
5	26																																	
7	27																																	
9	26																																	
11	29																																	
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21	27																																	
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25	25																																	
27	26																																	
29	25																																	
Sampel 2	 <p style="text-align: center;">Sampel 2</p> <table border="1"> <caption>Data for Sampel 2</caption> <thead> <tr> <th>Hari</th> <th>Suhu (°C)</th> </tr> </thead> <tbody> <tr><td>1</td><td>32</td></tr> <tr><td>3</td><td>28</td></tr> <tr><td>5</td><td>25</td></tr> <tr><td>7</td><td>26</td></tr> <tr><td>9</td><td>25</td></tr> <tr><td>11</td><td>28</td></tr> <tr><td>13</td><td>25</td></tr> <tr><td>15</td><td>29</td></tr> <tr><td>17</td><td>29</td></tr> <tr><td>19</td><td>29</td></tr> <tr><td>21</td><td>29</td></tr> <tr><td>23</td><td>29</td></tr> <tr><td>25</td><td>25</td></tr> <tr><td>27</td><td>24</td></tr> <tr><td>29</td><td>23</td></tr> </tbody> </table>	Hari	Suhu (°C)	1	32	3	28	5	25	7	26	9	25	11	28	13	25	15	29	17	29	19	29	21	29	23	29	25	25	27	24	29	23	Grafik suhu pada sampel 2
Hari	Suhu (°C)																																	
1	32																																	
3	28																																	
5	25																																	
7	26																																	
9	25																																	
11	28																																	
13	25																																	
15	29																																	
17	29																																	
19	29																																	
21	29																																	
23	29																																	
25	25																																	
27	24																																	
29	23																																	
Sampel 3	 <p style="text-align: center;">Reaktor 3</p> <table border="1"> <caption>Data for Reaktor 3</caption> <thead> <tr> <th>Hari</th> <th>Suhu (°C)</th> </tr> </thead> <tbody> <tr><td>1</td><td>30</td></tr> <tr><td>3</td><td>28</td></tr> <tr><td>5</td><td>26</td></tr> <tr><td>7</td><td>25</td></tr> <tr><td>9</td><td>27</td></tr> <tr><td>11</td><td>25</td></tr> <tr><td>13</td><td>27</td></tr> <tr><td>15</td><td>28</td></tr> <tr><td>17</td><td>29</td></tr> <tr><td>19</td><td>29</td></tr> <tr><td>21</td><td>27</td></tr> <tr><td>23</td><td>26</td></tr> <tr><td>25</td><td>25</td></tr> <tr><td>27</td><td>24</td></tr> <tr><td>29</td><td>23</td></tr> </tbody> </table>	Hari	Suhu (°C)	1	30	3	28	5	26	7	25	9	27	11	25	13	27	15	28	17	29	19	29	21	27	23	26	25	25	27	24	29	23	Grafik suhu pada sampel 3
Hari	Suhu (°C)																																	
1	30																																	
3	28																																	
5	26																																	
7	25																																	
9	27																																	
11	25																																	
13	27																																	
15	28																																	
17	29																																	
19	29																																	
21	27																																	
23	26																																	
25	25																																	
27	24																																	
29	23																																	

## Lampiran 9 pH pada masing-masing sampel

Tabel 9.1 Variasi pH masing-masing sampel



Hari	Perlakuan	pH	Hari	Perlakuan	pH	Hari	Perlakuan	pH
1	Sampel 1	8,3	11	Sampel 1	9,1	21	Sampel 1	4
	Sampel 2	8,3		Sampel 2	8,9		Sampel 2	5
	Sampel 3	8,3		Sampel 3	8,7		Sampel 3	6
2	Sampel 1	8,3	12	Sampel 1	8,9	22	Sampel 1	4,5
	Sampel 2	8,3		Sampel 2	9,1		Sampel 2	5
	Sampel 3	8,3		Sampel 3	9		Sampel 3	6
3	Sampel 1	8,7	13	Sampel 1	8,9	23	Sampel 1	4,6
	Sampel 2	8,7		Sampel 2	9,1		Sampel 2	5,5
	Sampel 3	8,9		Sampel 3	9		Sampel 3	6
4	Sampel 1	8,7	14	Sampel 1	8,6	24	Sampel 1	4,7
	Sampel 2	8,7		Sampel 2	8,7		Sampel 2	5
	Sampel 3	8,8		Sampel 3	8,4		Sampel 3	6
5	Sampel 1	8,8	15	Sampel 1	8,6	25	Sampel 1	4,8
	Sampel 2	8,8		Sampel 2	8,7		Sampel 2	5,5
	Sampel 3	8,7		Sampel 3	8,6		Sampel 3	6
6	Sampel 1	8,8	16	Sampel 1	6	26	Sampel 1	5
	Sampel 2	8,9		Sampel 2	6,5		Sampel 2	6
	Sampel 3	8,9		Sampel 3	6		Sampel 3	7,1
7	Sampel 1	8,9	17	Sampel 1	5,6	27	Sampel 1	5
	Sampel 2	8,6		Sampel 2	6,2		Sampel 2	6
	Sampel 3	8,9		Sampel 3	7		Sampel 3	7,1
8	Sampel 1	8,9	18	Sampel 1	6,7	28	Sampel 1	5
	Sampel 2	8,9		Sampel 2	6,9		Sampel 2	6,5
	Sampel 3	8,9		Sampel 3	6		Sampel 3	7
9	Sampel 1	8,9	19	Sampel 1	4	29	Sampel 1	5,5
	Sampel 2	8,6		Sampel 2	5,5		Sampel 2	6,9
	Sampel 3	8,9		Sampel 3	6,1		Sampel 3	7
10	Sampel 1	8,6	20	Sampel 1	4	30	Sampel 1	5
	Sampel 2	8,9		Sampel 2	5		Sampel 2	6,9
	Sampel 3	8,7		Sampel 3	6		Sampel 3	7,2

Lampiran 10 Variasi nilai pH pada tiap sampel

Sampel	Hasil Pengujian	Keterangan
Sampel 1	<p>Detailed description: This line graph plots pH against time (Hari) for Sample 1. The y-axis ranges from 0 to 10 with increments of 1. The x-axis ranges from 1 to 29 with increments of 2. The data points are approximately: (1, 8.2), (3, 8.5), (5, 8.6), (7, 8.6), (9, 8.5), (11, 8.8), (13, 8.6), (15, 8.5), (17, 5.5), (19, 4.2), (21, 4.2), (23, 4.8), (25, 4.8), (27, 5.0), (29, 4.8).</p>	Grafik pH pada sampel 1
Sampel 2	<p>Detailed description: This line graph plots pH against time (Hari) for Sample 2. The y-axis ranges from 0 to 10 with increments of 2. The x-axis ranges from 1 to 29 with increments of 2. The data points are approximately: (1, 8.2), (3, 8.5), (5, 8.6), (7, 8.5), (9, 8.6), (11, 8.8), (13, 8.8), (15, 8.5), (17, 6.2), (19, 5.0), (21, 5.0), (23, 5.5), (25, 6.0), (27, 6.5), (29, 6.8).</p>	Grafik pH pada sampel 2
Sampel 3	<p>Detailed description: This line graph plots pH against time (Hari) for Sample 3. The y-axis ranges from 0 to 10 with increments of 2. The x-axis ranges from 1 to 29 with increments of 2. The data points are approximately: (1, 8.2), (3, 8.8), (5, 8.8), (7, 8.8), (9, 8.8), (11, 8.8), (13, 8.8), (15, 8.5), (17, 6.0), (19, 6.0), (21, 6.0), (23, 6.0), (25, 7.2), (27, 7.2), (29, 7.0).</p>	Grafik pH pada sampel 3

## Lampiran 11

- Hasil berat akhir pada pengamatan ukuran

Sampel	Hasil Pengujian	Keterangan
Sampel 1		Berat Akhir sampel 1
Sampel 2		Berat Akhir sampel 2
Sampel 3		Berat Akhir sampel 3

## Lampiran 12

- C-organik

Tabel 12.1 Kurva Standar

Sample	Konsentrasi (x)	Panjang gelombang (y)	XY	X <sup>2</sup>
Standar 1	5	0.00	0.02	25
Standar 2	25	0.04	0.90	625
Standar 3	50	0.08	3.90	2500
Standar 4	250	0.37	93.50	62500
Total	330	0.49	98.32	65650

Dari tabel di atas dapat dihitung nilai a dan b untuk mendapatkan persamaan berikut:

$$a = \frac{(\sum y)(\sum x^2) - (\sum x)(\sum xy)}{n(\sum x^2) - (\sum x)^2}$$

$$= \frac{(0.49)(65650) - (330)(98.32)}{4(65650) - (330)^2}$$

$$= -0.0009$$

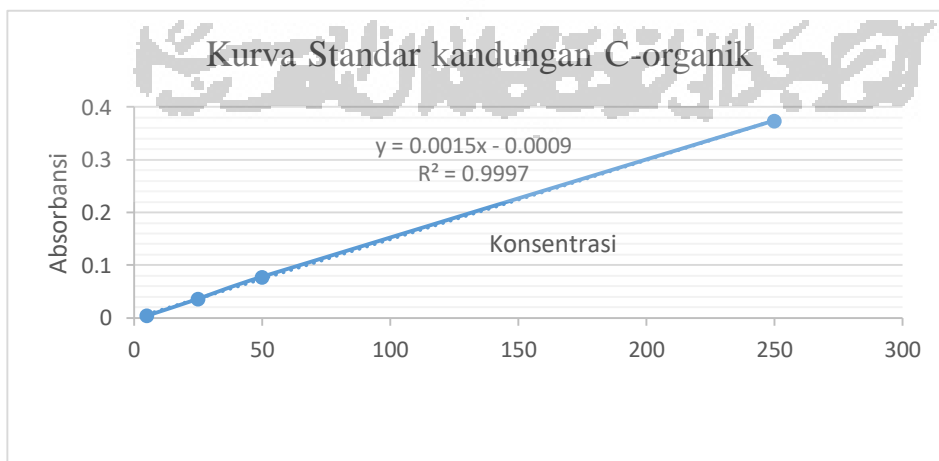
$$b = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

$$= \frac{4(98.32) - (330)(0.49)}{4(65650) - (330)^2}$$

$$= 0.0015$$

$$Y = bX + a$$

$$Y = 0.0015X - 0.0009$$



Gambar 12.1 kurva Standar



Kurva kalibrasi dapat diterima apabila linieritasnya lebih besar atau sama dengan 0,995. Dari gambar diatas diketahui linieritas standar sebesar 0,9997 sehingga kurva kalibrasi dapat diterima.

Tabel 12.2 Perhitungan Kandungan C-organik

Sample	Absorbansi	Konsentrasi	Berat Sampel (g)	Konsentrasi Carbon	fk	C(%)
				lm ppm mg/kg		
R1	0.32	213.93	0.1	215376	1.01	21.54
R2	0.29	194.60	0.1	195244	1.00	19.52
R3	0.29	192.6	0.1	193238	1.00	19.32

Contoh perhitungan:

- konsentrasi pada sampel R<sub>1</sub>:  

$$\text{ppm kurva} = (y + 0.00090) / 0.00150$$

$$= (0.32 + 0.00090) / 0.00150$$

$$= 213.93$$
- Konsentrasi Carbon dlm ppm sampel R<sub>1</sub>:  

$$= \text{Konsentrasi} \times 0.1 / \text{berat sampel} \times 1000 \times \text{kadar air}$$

$$= 213.93 \times 0.1 / 0.1 \times 1000 \times 1.01$$

$$= 215376 \text{ mg/kg}$$

Dimana : 0,1 adalah volume 100ml = 0,1 liter

- $C(\%) = \text{Konsentrasi Carbon dlm ppm} / 10000$   

$$= 215376 / 10000$$

$$= 21.54$$

Lampiran 13

- N- total

Tabel 13.1 Kurva Kalibrasi

Sampel	Konsentrasi (X)	Panjang Gelombang (Y)	XY	X <sup>2</sup>
	mg/l			
Standar 1	0.1	0.034	0.0034	0.01
Standar 2	0.2	0.055	0.011	0.04
Standar 3	0.3	0.08	0.024	0.09
Standar 4	0.4	0.1	0.04	0.16

Sampel	Konsentrasi (X)	Panjang Gelombang (Y)	XY	X <sup>2</sup>
	mg/l			
Standar 5	0.5	0.126	0.063	0.25
Standar 6	0.7	0.165	0.1155	0.49
Standar 7	1	0.242	0.242	1
Standar 8	3	0.738	2.214	9
Total	6.2	6.2	2.7129	11.04

Dari tabel di atas dapat dihitung nilai a dan b untuk mendapatkan persamaan berikut:

$$a = \frac{(\sum y)(\sum x^2) - (\sum x)(\sum xy)}{n(\sum x^2) - (\sum x)^2}$$

$$= \frac{(1.54)(11.04) - (6.2)(2.7129)}{8(11.04) - (6.2)^2}$$

$$= 0.0036$$

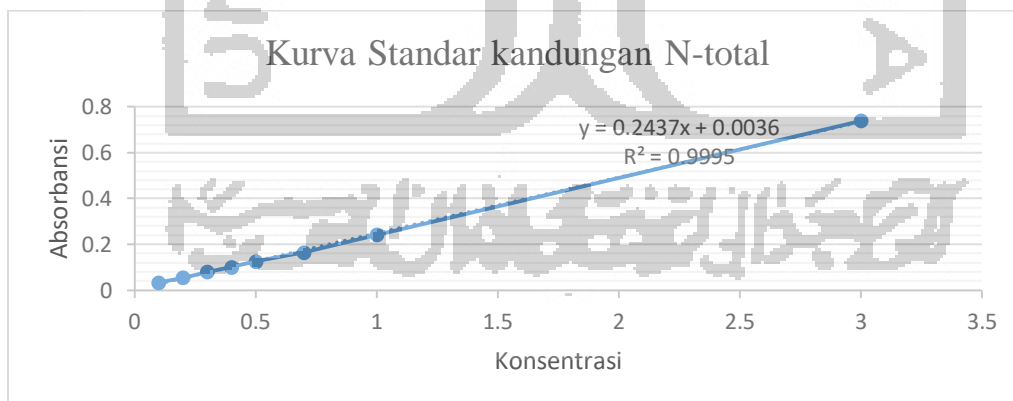
$$b = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

$$= \frac{8(2.7129) - (6.2)(6.2)}{8(11.04) - (6.2)^2}$$

$$= 0.2437$$

$$Y = bX + a$$

$$Y = 0.2437X - 0.0036$$



Gambar 13.1 Kurva Standar

Kurva kalibrasi dapat diterima apabila linieritasnya lebih besar atau sama dengan 0,995. Dari gambar di atas diketahui linieritas standar sebesar 0,9995 sehingga kurva kalibrasi dapat diterima.

Tabel 13.2 Perhitungan Kandungan N

Sampel	Perlakuan	Absorbansi	Konsentrasi	Volume sampel	Berat sampel	Berat Molekul Nitrogen	Berat Molekul NH <sub>3</sub>	C (mg/kg)
				150 (l)	0.25			
1	Anorganik	0.13	0.51	1690	0.17	14.01	17	0.64
	Organik	0.35	1.43	4751	0.48			
2	Anorganik	0.52	2.14	3486	0.35			
	Organik	0.25	1.02	1657	0.17			
3	Anorganik	0.49	2.01	3285	0.33			
	Organik	0.32	1.28	2085	0.21			0.54

Contoh perhitungan:

- Konsentrasi sampel 1 (Anorganik):  

$$\text{ppm kurva} = (y - 0.00372) / 0.24356$$

$$= (0.13 - 0.00372) / 0.24356$$

$$= 0.51$$
- Volume sampel 1 (Anorganik)  

$$= \text{Konsentrasi} \times \text{Berat molekul Nitrogen} / \text{berat molekul NH}_3 \times 0,15 \times$$

$$1000 / 0,25 \times 10 \times \text{kadar air}$$

$$= 0,51 \times 14,01 / 17 \times 0,15 \times 1000 / 0,25 \times 10 \times 0,67$$

$$= 1690$$
- Berat sampel  

$$= \text{Volume sampel} / 10000$$

$$= 1690 / 10000$$

$$= 0,17$$
- C -Total  

$$= \text{Berat anorganik} + \text{organik}$$

$$= 0,17 + 0,48$$

$$= 0,6$$

## Lampiran 14

- Kandungan P

Tabel 14.1 Kalibrasi

Sample	Konsentrasi X	Panjang Gelombang 880 (Y)	XY	X <sup>2</sup>
Standar 1	0.00	0.03	0	0.00
Standar 2	0.20	0.18	0.036	0.04
Standar 3	0.80	0.63	0.5008	0.64
Standar 4	1.00	0.74	0.742	1.00
Total	2.00	1.58	1.28	1.68

Dari tabel di atas dapat dihitung nilai a dan b untuk mendapatkan persamaan berikut:

$$a = \frac{(\sum y)(\sum x^2) - (\sum x)(\sum xy)}{n(\sum x^2) - (\sum x)^2}$$

$$= \frac{(1,58)(1,68) - (2,00)(1,28)}{4(1,68) - (2,00)^2}$$

$$= 0,0344$$

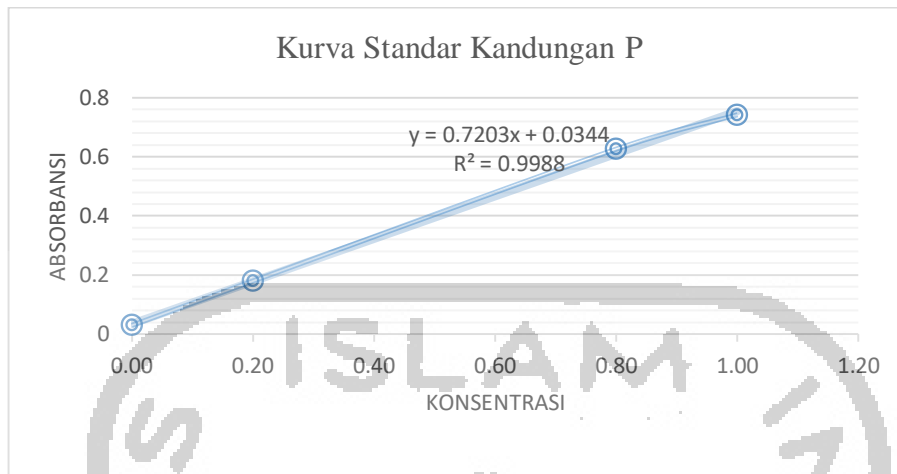
$$b = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

$$= \frac{4(1,28) - (2,00)(1,58)}{4(1,68) - (2,00)^2}$$

$$= 0,7203$$

$$Y = bX + a$$

$$Y = 0,0344X - 0,7203$$



Gambar 14.1 Kurva Standar

Kurva kalibrasi dapat diterima apabila linieritasnya lebih besar atau sama dengan 0,995. Dari gambar diatas diketahui linieritas standar sebesar 0,9988 sehingga kurva kalibrasi dapat diterima.

Tabel 14.2 Perhitungan Kandungan P

Sampel	Abs	Konsentrasi	fk	Konsentrasi $P_2O_5$ (%)	P TOTAL (%)
R1	0.30	0.37	1.01	1.48	0.65
R2	0.17	0.19	1.00	0.76	0.33
R3	0.10	0.10	1.00	0.39	0.17

Contoh Perhitungan:

Konsentrasi pada sampel 1 :

$$\begin{aligned} \text{ppm kurva} &= (y - 0.0344) / 0.7203 \\ &= (0.30 - 0.0344) / 0.7203 \\ &= 0.37 \end{aligned}$$

$$\begin{aligned} \text{fk} &= 100 / (100 - \text{kadar air sampel 1}) \\ &= 100 / (100 - 0,67) \\ &= 1,01 \end{aligned}$$

$$\begin{aligned} \text{Konsentrasi } P_2O_5 &= \text{Konsentrasi} \times 100 \times \text{fk} / 500 \times 20 \\ &= 0,37 \times 100 \times 1,01 / 500 \times 20 \\ &= 1,48 \end{aligned}$$

$$\begin{aligned}
 P\text{- Total} &= \text{Konsentrasi} \times 62/142 \\
 &= 1,48 \times 62 / 142 \\
 &= 0,65
 \end{aligned}$$

## Lampiran 14

Tabel 14.1 Kalibrasi

Sampel	Konsentrasi (X)	Panjang Gelombang (Y)	XY	X <sup>2</sup>
	mg/l			
Standar 1	0	0	0	0
Standar 2	0.2	0.0351	0.00702	0.04
Standar 3	0.4	0.0771	0.03084	0.16
Standar 4	1	0.205	0.205	1
Standar 5	2	0.3912	0.7824	4
Total	3.6	0.7084	1.02526	5.2

Dari tabel di atas dapat dihitung nilai a dan b untuk mendapatkan persamaan berikut:

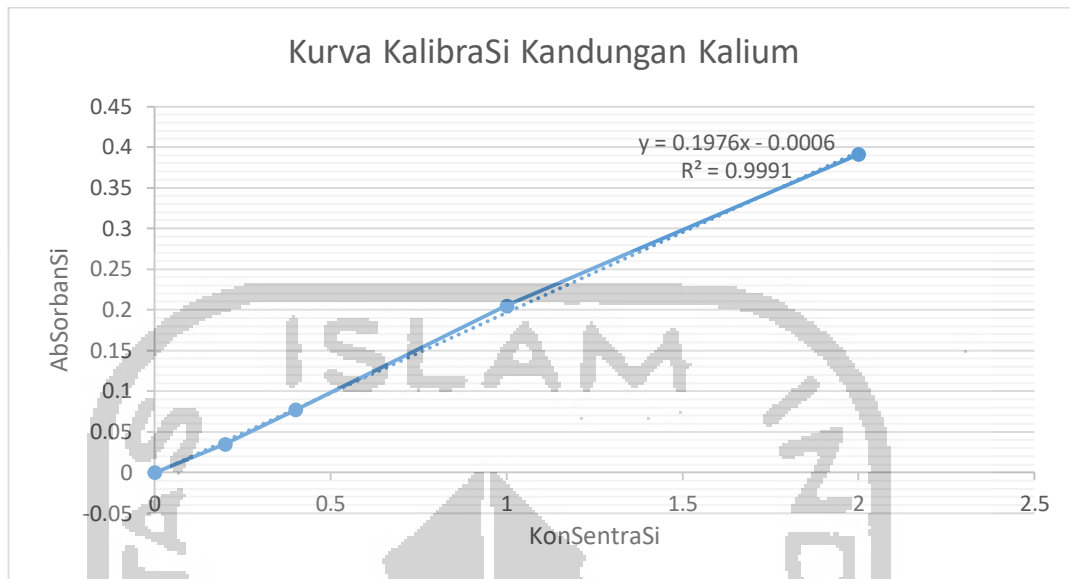
$$\begin{aligned}
 a &= \frac{(\sum Y)(\sum X^2) - (\sum X)(\sum XY)}{n(\sum X^2) - (\sum X)^2} \\
 &= \frac{(0,7084)(5,2) - (3,6)(1,02526)}{5(5,2) - (3,6)^2} \\
 &= -0,0006
 \end{aligned}$$

$$\begin{aligned}
 b &= \frac{n(\sum XY) - (\sum X)(\sum Y)}{n(\sum X^2) - (\sum X)^2} \\
 &= \frac{5(1,02526) - (3,6)(0,7084)}{5(5,2) - (3,6)^2} \\
 &= 0.1976
 \end{aligned}$$

$$Y = bX + a$$

$$Y = 0.1976X - 0.0006$$





Gambar 14.1 Kurva Kalibrasi kandungan kalium

Kurva kalibrasi dapat diterima apabila linieritasnya lebih besar atau sama dengan 0,995. Dari gambar diatas diketahui linieritas standar sebesar 0,9991 sehingga kurva kalibrasi dapat diterima.

Tabel 14.2 Perhitungan Kandungan Kalium

Sampel	C absorbansi	Volume (ml)	Berat (g)	C konsentrasi K	K%
R1	1.4	10	0.1	140	1.4
R2	1.2	10	0.1	120	1.2
R3	1.2	10	0.1	120	1.2

Konsentrasi pada sampel 1 :

$$\begin{aligned} \text{C Konsentrasi K} &= C \text{ absorbansi} \times 0,01 \times 1000 / 0,1 \\ &= 1,4 \times 0,01 \times 1000 / 0,1 \\ &= 140 \end{aligned}$$

$$\begin{aligned} \text{K (\%)} &= \text{C konsentrasi K} / 1000 \times 100 \\ &= 140 / 1000 \times 100 \\ &= 1,4 \end{aligned}$$

