

Lampiran 1. Taksonomi Tanaman

HERBARIUM JATINANGOR
LABORATORIUM TAKSONOMI TUMBUHAN
JURUSAN BIOLOGI FMIPA UNPAD
Gedung D2-212, Jl. Raya Bandung Sumedang Km 21 Jatinangor
Telp. 022-7796412, email: phanerogamae@yahoo.com

LEMBAR IDENTIFIKASI TUMBUHAN
No.18/HB/12/2020

Herbarium Jatinangor, Laboratorium Taksonomi Tumbuhan, Jurusan Biologi FMIPA UNPAD, dengan ini menerangkan bahwa:

Nama : A Bangbang N.
NPM : 31117051
Instansi : STIKES BTH Tasikmalaya
Telah melakukan identifikasi tumbuhan, dengan No. Koleksi: -
Tanggal Koleksi : 17 Desember 2020
Lokasi : Tasikmalaya

Hasil Identifikasi,

Nama Ilmiah : *Musa acuminata* Colla
Sinonim : *Musa acuminata cavendish* Subgroup.
Nama Lokal : Pisang merah
Suku/Famili : Musaceae

Klasifikasi (Hirarki Taksonomi)

Kingdom	Plantae
Divisi	Magnoliophyta
Class	Liliopsida
Ordo	Zingiberales
Famili	Zingiberaceae
Genus	<i>Musa</i>
Species	<i>Musa acuminata</i> Colla

Referensi:

Backer, C. A. and Bakhuizen v/d Brink R. C Jr. 1963. *Flora of Java*. Wolter-Noordhoff NV. Groningen.
Cronquist, Arthur. 1981. *An Integrated System of Classification of Flowering Plants*. Columbia University Press. New York
The Plant List. *Website DuniaTumbuhan*. <http://www.theplantlist.org/tpl1.1/record/kew-158489>. Diakses tanggal, 21 Desember 2020.

Jatinangor, 21 Desember 2020.

Identifikator,

LABORATORIUM TAKSONOMI TUMBUHAN
JURUSAN BIOLOGI FMIPA-UNPAD

Drs. Joko Kusmoro, M.P.
NIP. 19660801 199101 1 001

Lampiran 2. Gambar Ekstraksi



Pisang Merah



Pencucian pisang



Blender Pisang



Waterbath suhu 90° C



Penyaringan



Hasil Filtrat



Penambahan etanol 96%



Sentrifugasi



Pengeringan filtrat hasil sentrifugasi



Inulin kering

Rendemen

Berat Sampel	Konsentrasi Etanol (%)	Rendemen (%)
1 kg	30	0,0004
	70	0,0007
	96	0,0009
8 kg	96	0,075

$$1) \text{ Rendemen} \quad \% = \frac{\text{Bobot akhir}}{\text{Bobot awal}} \times 100\%$$

$$\begin{aligned} \text{Rendemen} \quad \% &= \frac{4}{1000.000} \times 100\% \\ &= 0,0004\% \end{aligned}$$

$$2) \text{ Rendemen} \quad \% = \frac{\text{Bobot akhir}}{\text{Bobot awal}} \times 100\%$$

$$\begin{aligned} \text{Rendemen} \quad \% &= \frac{7}{1000.000} \times 100\% \\ &= 0,0007\% \end{aligned}$$

$$3) \text{ Rendemen} \quad \% = \frac{\text{Bobot akhir}}{\text{Bobot awal}} \times 100\%$$


$$\begin{aligned} \text{Rendemen} \quad \% &= \frac{9}{1000.000} \times 100\% \\ &= 0,0009\% \end{aligned}$$

$$\text{Rendemen} \quad \% = \frac{\text{Bobot akhir}}{\text{Bobot awal}} \times 100\%$$

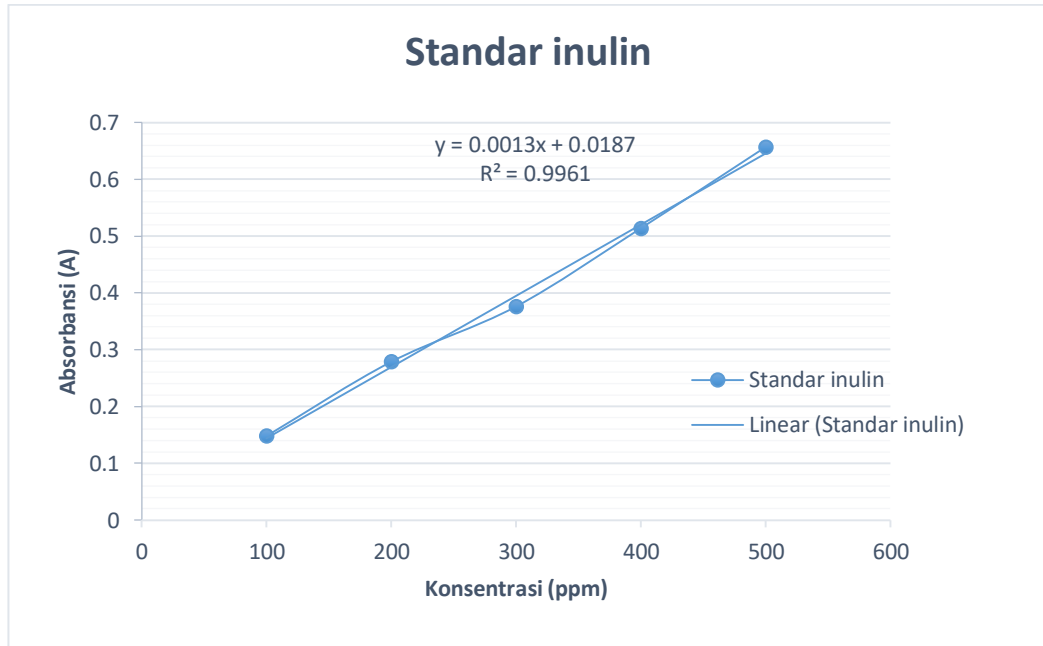
$$\begin{aligned}\text{Rendemen} \quad \% &= \frac{6}{8000} \times 100\% \\ &= 0,075\%\end{aligned}$$

$$\begin{aligned}\text{Etanol 96\%} &= \frac{8,009 \text{ gr}}{9.000 \text{ gr}} \times 100\% \\ &= 0,089\%\end{aligned}$$

Lampiran 3. Gambar Uji Seliwanof

Gambar	Keterangan
	<p>(+) Hasil uji menunjukkan Berwarna merah dan endapan merah bata</p>

Lampiran 4. Gambar Kurva Inulin



Panjang Gelombang 199 nm

Inulin Standar

Ppm	Absorbansi
100	0.1478
200	0.2786
300	0.3759
400	0.5137
500	0.6567

Inulin Pisang Merah

Ppm	Absorbansi
500	0.4004

Perhitungan Kadar Inulin

$$y = 0,0013x + 0,00187$$

$$0,4004 = 0,0013x + 0,0187$$

$$0,0013x + 0,0187 = 0,4004$$

$$0,0013x = 0,4004 - 0,0187$$

$$x = \frac{0,4004 - 0,0187}{0,0013}$$

$$x = \frac{0,3817}{0,0013}$$

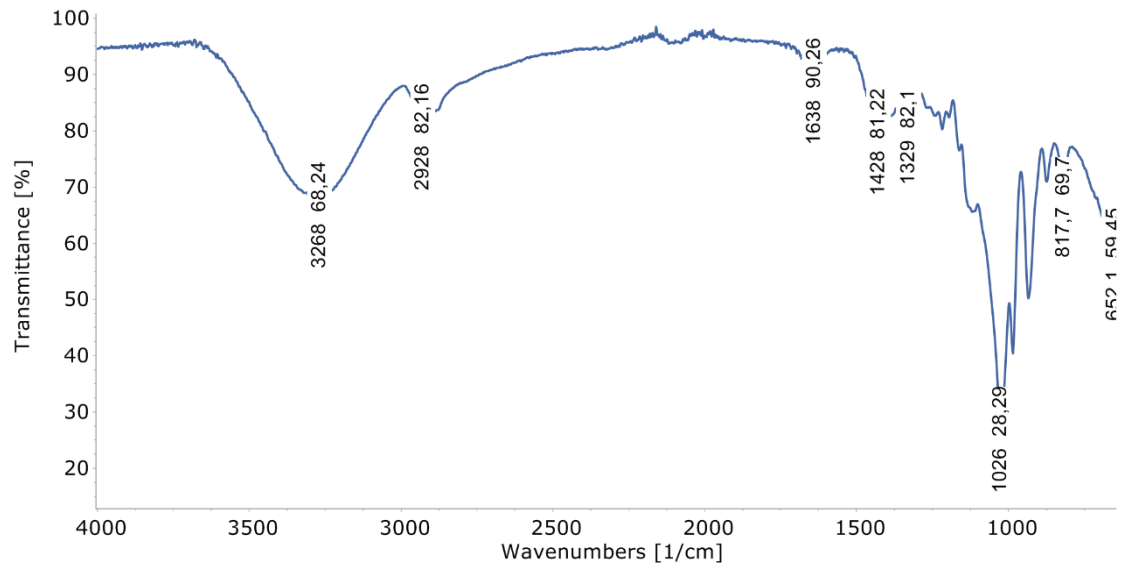
$$x = \frac{293,6}{10.000}$$

$$= 0,029$$

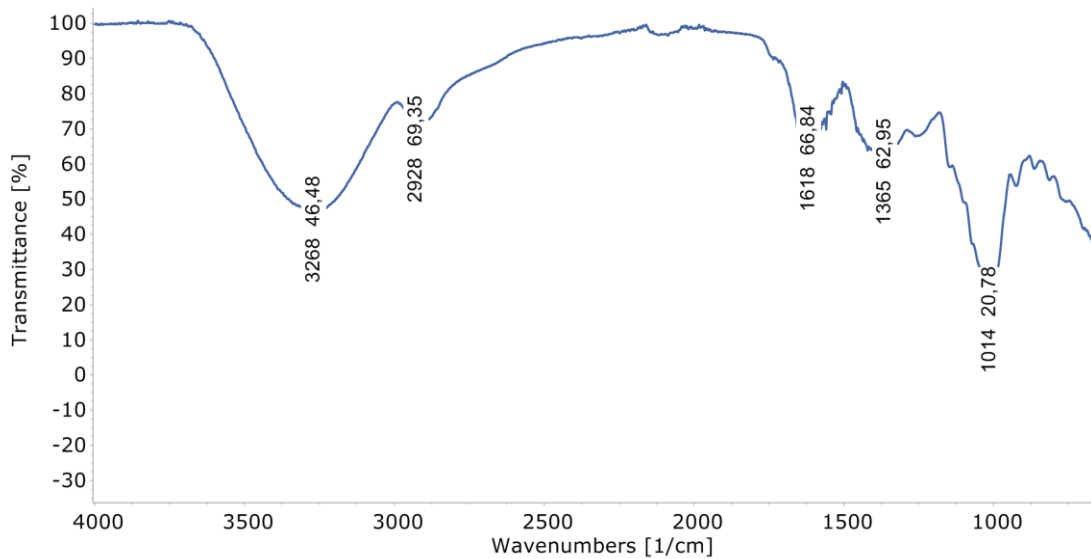
$$= 0,029 \times 100\%$$

$$= 2,9\%$$

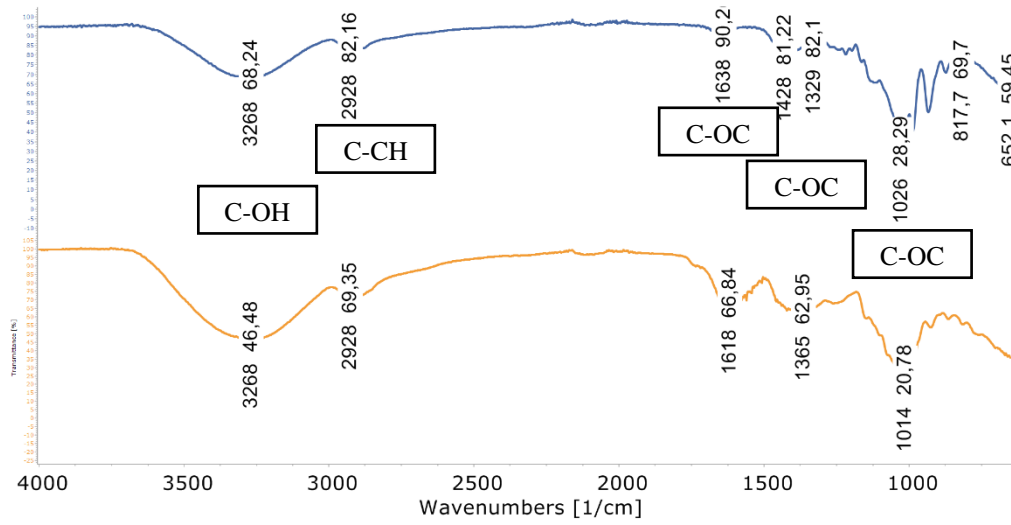
Lampiran 5. Gambar Grafik Spektrum FTIR Inulin Komersial







Lampiran 6. Gambar Grafik Spektrum FTIR Inulin Pisang Merah



Lampiran 7. Gambar Grafik Spektrum FTIR Inulin Komersial dan Inulin Pisang Merah



Lampiran 8. Gambar Kelarutan Inulin

Gambar		Keterangan
		Sebelum digunakan menyaring
		Setelah digunakan menyaring

Kelarutan Inulin

No.	Berat Awal (g)	Berat Akhir (g)	Kelarutan (%)	SD
1	0,9480	0,9908	95,52	±0,000212
2	0,9563	0,9994	95,49	
Rata-rata			95,50	

$$\begin{aligned}
 1) \text{ Kelarutan} &= \frac{(S \times T_p) - (K_2 - K_1)}{S \times T_p} \times 100\% \\
 &= \frac{(1 \times 0,9572) - (0,9908 - 0,9480)}{1 \times 0,9572} \times 100\% \\
 &= \frac{0,9572 - 0,0428}{0,9572} \times 100\%
 \end{aligned}$$

$$= \frac{0,9144}{0,9572} \times 100\%$$

$$= 95,52\%$$

$$\begin{aligned} 2) \text{ Kelarutan} &= \frac{(S \times Tp) - (K2 - K1)}{S \times Tp} \times 100\% \\ &= \frac{(1 \times 0,9569) - (0,9994 - 0,9563)}{1 \times 0,9569} \times 100\% \\ &= \frac{0,9569 - 0,0431}{0,9569} \times 100\% \end{aligned}$$


$$= \frac{0,9138}{0,9569} \times 100\%$$

$$= 95,49\%$$

$$\text{Rata-rata nilai kelarutan} = \frac{95,52\% + 95,49\%}{2} = 95,50\%$$

$$\text{SD} = \pm 0,000212$$

Lampiran 9. Gambar Daya Serap Air

Gambar		Keterangan
		Berat Awal
		Berat Akhir

Daya Serap Air

No.	Berat Awal (g)	Berat Akhir (g)	Daya Serap Air (%)	SD
1	1,0233	2,2021	115,19	±0,000283
2	1,0229	2,2008	115,15	
Rata-rata			115,17	

$$\begin{aligned}
 1) \text{ Reabsorpsi uap air} &= \frac{\text{Berat akhir} - \text{Berat awal}}{\text{Berat awal}} \times 100\% \\
 &= \frac{2,2021 - 1,0233}{1,0233} \times 100\% \\
 &= 115,19\%
 \end{aligned}$$

$$\begin{aligned} 2) \text{ Reabsorpsi uap air} &= \frac{\text{Berat akhir}-\text{Berat awal}}{\text{Berat awal}} \times 100\% \\ &= \frac{2,2008-1,0229}{1,0299} \times 100\% \\ &= 115,15\% \end{aligned}$$










$$\text{Rata-rata nilai daya serap air} = \frac{115,19+115,15}{2} = 115,17\%$$

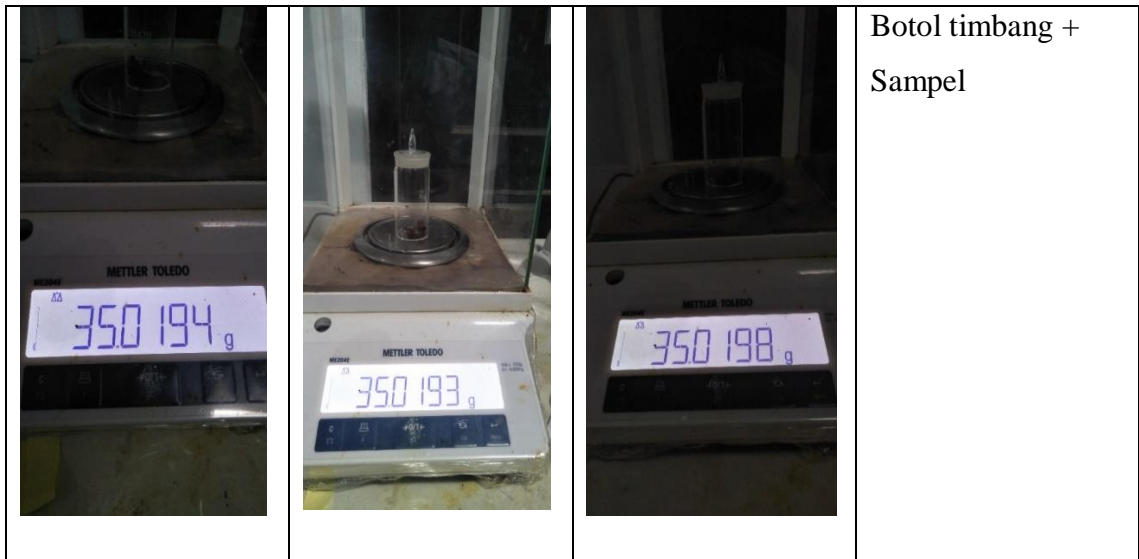
$$\text{SD} = \pm 0,000283$$

Lampiran 10. Gambar pH

Gambar	Keterangan
	Hasil pH

Lampiran 11. Gambar Kadar Air

Gambar			Keterangan
			Botol timbang kosong
			Botol timbang + Sampel
			Botol timbang kosong



Penentuan Kadar Air

No.	Botol Timbang + Sampel (g)	Botol Timbang Kosong (g)	Kadar Air (%)	SD
1	49,0254	48,1148	8,94	±0,000283
2	35,0195	34,1093	8,98	
Rata-rata			8,96	

$$\begin{aligned}
 1) \text{ Kadar Air} \quad \% &= \frac{a-b}{a} \times 100\% \\
 &= \frac{1-(49,0254-48,1148)}{1} \times 100\% \\
 &= 8,94\%
 \end{aligned}$$

$$\begin{aligned}
 2) \text{ Kadar Air} \quad \% &= \frac{a-b}{a} \times 100\% \\
 &= \frac{1-(35,0195-34,1093)}{1} \times 100\% \\
 &= 8,98\%
 \end{aligned}$$

$$\text{Rata-rata nilai kadar air} = \frac{8,94\%+8,98\%}{2} = 8,96\%$$

$$\text{SD} = 0,000283$$

Lampiran 12. Tabel Viskositas

Parameter Uji	Suhu 90°C	Suhu 60°C	Suhu 30°C
Pisang Merah	01.90	02.24	02.29
Air	01.85	02.26	02.62

Parameter Uji	Suhu (°C)	Hasil
Pisang Merah	90	0,0285
	60	0,0336
	30	0,0343
Air	90	0,0277
	60	0,0339
	30	0,0393

Pisang Merah

Suhu 90°C

$$\begin{aligned} \text{Viskositas } (v) &= K(t - v) \\ &= 0,015(01.90 - 0,00) \\ &= 0,0285 \end{aligned}$$

Suhu 60°C

$$\begin{aligned} \text{Viskositas } (v) &= K(t - v) \\ &= 0,015(02.24 - 0,00) \\ &= 0,0336 \end{aligned}$$

Suhu 30°C

$$\begin{aligned} \text{Viskositas } (v) &= K(t - v) \\ &= 0,015(02.29 - 0,00) \\ &= 0,03435 \end{aligned}$$

Air

Suhu 90°C

$$\begin{aligned}\text{Viskositas } (\nu) &= K(t - v) \\ &= 0,015(01.85 - 0,00) \\ &= 0,02775\end{aligned}$$

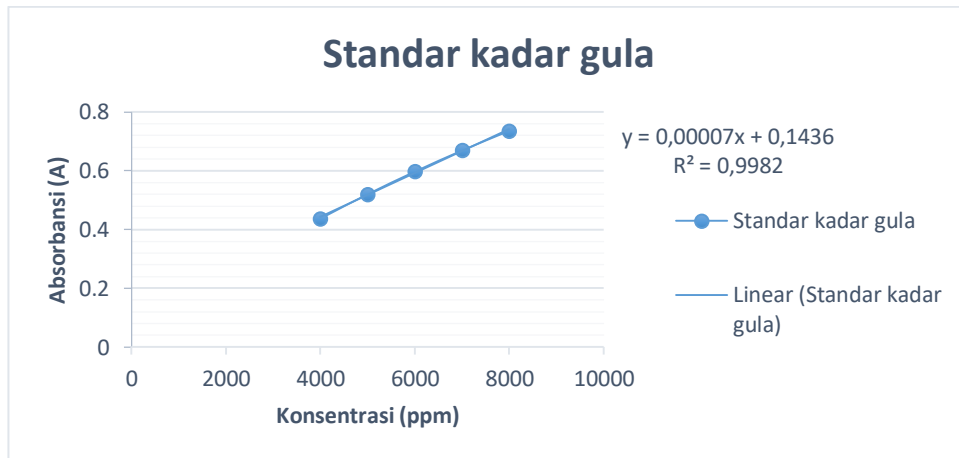
Suhu 60°

$$\begin{aligned}\text{Viskositas } (\nu) &= K(t - v) \\ &= 0,015(02.26 - 0,00) \\ &= 0,0339\end{aligned}$$

Suhu 30°C

$$\begin{aligned}\text{Viskositas } (\nu) &= K(t - v) \\ &= 0,015(02.62 - 0,00) \\ &= 0,0393\end{aligned}$$

Lampiran 13. Gambar Kurva Kadar Gula Total



Panjang Gelombang 215 nm

Standar Kadar Gula Total

Ppm	Absorbansi
4000	0.437
5000	0.520
6000	0.597
7000	0.669
8000	0.736

Pisang Merah

Ppm	Absorbansi
800	0,846

Perhitungan Kadar Gula Total

$$y = 0,00007x + 0,1436$$

$$0,846 = 0,00007x + 0,1436$$

$$0,00007x + 0,1436 = 0,846$$

$$0,00007x = 0,846 - 0,1436$$

$$x = \frac{0,846 - 0,1436}{0,00007}$$

$$x = \frac{0,7024}{0,00007}$$


$$x = \frac{1003,4}{10.000}$$

$$= 0,10034$$

$$= 0,10034 \times 100\%$$

$$= 10,034\% = 10\%$$

Lampiran 14. Gambar Organoleptik

Gambar	Keterangan
	Coklat