

LAMPIRAN

Lampiran 1 Data hasil pengujian kekuatan serat dan mulur

No	Kekuatan (N)	Berat (mg)	Kehalusan (Tex)	Tenacity (g/Tex)	$(x - \bar{x})^2$ Tex
1	216,36	62,7	1254	17,60570257	19,36311856
2	102,4	32,7	654	15,97703302	7,682236714
3	90,29	47,45	949	9,708393368	12,2286931
4	179,66	56,95	1139	16,09539338	8,35236115
5	70,49	43,85	877	8,201661508	25,03688051
6	142,46	55,7	1114	13,04913348	0,02440304
7	60,83	31,87	637,4	9,738222242	12,02096241
8	94,66	34,34	686,8	14,06404146	0,737354112
9	115,42	40,87	817,4	14,40855275	1,447701197
Σ	1072,57	406,43	8128,6	118,8481338	86,89371079
\bar{x}	119,17444	45,15888	903,17777	13,2053482	9,654856754
	44	889	8		

- **Standar Deviasi kekuatan**

$$S = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{86,89371079}{8}}$$

$$= \sqrt{10,8617139} = 3,295711433$$

- **Koefisien Variasi kekuatan**

$$CV = \frac{SD}{\bar{X}} \times 100 \%$$

$$= \frac{3,295711433}{13,2053482} \times 100 \% = 24,95 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$

$$= \frac{1,96 \times 24,95}{\sqrt{9}} = 16,3\%$$

Data hasil pengujian mulur serat

No	mulur (%)	$(x - \bar{x})^2$
1	4,2	1,44
2	2,4	0,36
3	3	0
4	3,6	0,36
5	1,8	1,44
6	2,4	0,36
7	3	0
8	2,4	0,36
9	4,2	1,44
Σ	27	5,76
\bar{x}	3	0,64

- **Standar Deviasi Mulur Serat**

$$s = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{5,76}{8}}$$
$$= \sqrt{0,72} = 0,848$$

- **Koefisien Variasi Mulur Serat**

$$CV = \frac{SD}{\bar{X}} \times 100 \%$$
$$= \frac{0,848}{3} \times 100 \% = 28,267 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$
$$= \frac{1,96 \times 28,267}{\sqrt{9}} = 18,467\%$$

Lampiran 2 Data hasil pengujian kehalusan serat

No	Berat (mg)	Kehalusan (Tex)	$(x - \bar{x})^2$
1	0,02623	5,828888889	0,940181619
2	0,03511	7,802222222	1,007421125
3	0,03044	6,764444444	0,001161043
Σ	0,09178	20,39555556	1,948763786
\bar{x}	0,030593333	6,798518519	0,649587929

- **Standar Deviasi Kehalusan Serat**

$$S = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{1,948763786}{2}}$$

$$= \sqrt{0,974381893} = 0,987107843$$

- **Koefisien Variasi Kehalusan Serat**

$$CV = \frac{SD}{\bar{X}} \times 100 \%$$

$$= \frac{0,987107843}{6,798518519} \times 100 \% = 14,33 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$

$$= \frac{1,96 \times 14,33}{\sqrt{3}} = 16,21 \%$$

Lampiran 3 Data hasil pengujian panjang serat

No	Panjang (cm)	Panjang (cm) x 80%	$(x - \bar{x})^2$
1	141	112,8	304,5025
2	127	101,6	39,0625
3	96,5	77,2	329,4225
4	139,5	111,6	264,0625
5	110	88	54,0225
6	124	99,2	14,8225
7	104	83,2	147,6225
8	111,5	89,2	37,8225
Σ	953,5	762,8	1191,34
\bar{x}	119,1875	95,35	148,9175

- **Standar Deviasi Panjang Serat**

$$S = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{1191,34}{7}}$$

$$= \sqrt{170,191429} = 13,0457437$$

- **Koefisien Variasi Panjang Serat**

$$CV = \frac{SD}{\bar{X}} \times 100 \%$$

$$= \frac{13,0457437}{95,35} \times 100 \% = 13,68 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$

$$= \frac{1,96 \times 13,68}{\sqrt{8}} = 9,479 \%$$

Lampiran 4 Data hasil pengujian MC dan MR

No	MC	MR	MC (x - \bar{x}) ²	MR(x - \bar{x}) ²
1	10,31995	11,50752	0,071899	0,1125
2	10,85622	12,17833	0,071894	0,112493
Σ	21,17617	23,68585	0,143793	0,224993
\bar{x}	10,58809	11,84293		

- **Standar Deviasi *Moisture Content***

$$S = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{0,143793}{1}}$$

$$= \sqrt{0,143793} = 0,37920047468$$

- **Koefisien Variasi *Moisture Content***

$$CV = \frac{SD}{\bar{X}} \times 100 \%$$

$$= \frac{0,37920047468}{10,58809} \times 100 \% = 3,581 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$

$$= \frac{1,96 \times 3,581}{\sqrt{2}} = 4,963 \%$$

- **Standar Deviasi *Moisture Regain***

$$S = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{0,224993}{1}}$$

$$= \sqrt{0,224993} = 0,47433427032$$

- **Koefisien Variasi *Moisture Regain***

$$CV = \frac{SD}{\bar{X}} \times 100 \%$$

$$= \frac{0,47433427032}{11,84293} \times 100 \% = 4,005 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$
$$= \frac{1,96 \times 4,005}{\sqrt{2}} = 5,550 \%$$



Lampiran 5 Data hasil percobaan ekstraksi serat *Hedychium Coronarium*

$$\text{Persentase \%} = \frac{\text{Berat akhir}}{\text{Berat awal}} \times 100 \%$$

$$\text{Persentase \%} = \frac{150 \text{ g}}{5300 \text{ g}} \times 100 \% = 2,81\%$$



Lampiran 6 Data hasil pengujian koefisien friksi

No	Nilai	$(x - \bar{x})^2$
1	0,54	6,4E-05
2	0,53	4E-06
3	0,53	4E-06
4	0,49	0,001764
5	0,57	0,001444
Σ	2,66	0,00328
\bar{x}	0,532	

- **Standar Deviasi koefisien friksi**

$$S = \sqrt{\frac{\sum(X_i - \bar{X})^2}{n-1}} = \sqrt{\frac{0,00328}{5-1}}$$
$$= \sqrt{0,00082} = 0,02863564212$$

- **Koefisien Variasi koefisien friksi**

$$CV = \frac{0,02863564212}{0,532} \times 100 \%$$
$$= \frac{0,02863564212}{0,532} \times 100 \% = 5,38 \%$$

- **Error**

$$E\% = \frac{t \times CV}{\sqrt{n}}$$
$$= \frac{1,96 \times 5,38}{\sqrt{5}} = 4,715\%$$