



LAMPIRAN



Lampiran 1. Analisa Data Persentase Keberhasilan Stek Pucuk (%)

Tabel 5. Persentase Keberhasilan Stek Pucuk (%) dalam Rancangan Acak Lengkap Pola Faktorial 3x2 dengan Empat Ulangan.

Umur tanaman	Letak tunas	Ulangan				Total	Rata-rata
		1	2	3	4		
U ₁	L ₁	60.000	100.000	60.000	60.000	280.000	70.000
	L ₂	60.000	100.000	40.000	40.000	240.000	60.000
U ₂	L ₁	40.000	20.000	20.000	20.000	100.000	25.000
	L ₂	80.000	60.000	20.000	40.000	200.000	50.000
U ₃	L ₁	80.000	40.000	40.000	40.000	200.000	50.000
	L ₂	60.000	20.000	60.000	80.000	220.000	55.000
Total		380.000	340.000	240.000	280.000	1240.000	310.000
Rata-rata		63.333	56.667	40.000	46.667	206.667	51.667

Tabel 6. Transformasi Data Persentase Keberhasilan Stek Pucuk (%) Menggunakan Transformasi Arcsin X.

Umur tanaman	Letak tunas	Ulangan				Total	Rata-rata
		1	2	3	4		
U ₁	L ₁	50.768	89.744	50.768	50.768	242.048	60.512
	L ₂	50.768	89.744	39.232	39.232	218.976	54.744
U ₂	L ₁	39.232	26.565	26.565	26.565	118.927	29.732
	L ₂	63.435	50.768	26.565	39.232	180.000	45.000
U ₃	L ₁	63.435	39.232	39.232	39.232	181.131	45.283
	L ₂	50.768	26.565	50.768	63.435	191.536	47.884
Total		318.406	322.618	233.130	258.464	1132.618	283.155
Rata-rata		53.068	53.770	38.855	43.077	188.770	47.192

Tabel 7. Umur Tanaman Induk X Letak Tunas Dihitung dari Data Persentase Keberhasilan Stek Pucuk (%).

Umur tanaman	Letak tunas		Total	Rata-rata
	L ₁	L ₂		
U ₁	242.048	218.976	461.024	57.628
U ₂	118.927	180.000	298.927	37.366
U ₃	181.131	191.536	372.667	46.583
Total	542.106	590.512	1132.618	141.577
Rata-rata	45.176	49.209	94.385	47.192

Faktor Koreksi

$$FK = \frac{Y_{...}^2}{a \times b \times n} = \frac{(1132.618)^2}{3 \times 2 \times 4} = 53450.981$$

Jumlah Kuadrat

$$JKT = \sum_{ijk} Y_{ijk}^2 - FK = (50.768^2 + 50.768^2 + \dots + 63.435^2) - 53450.981 = 60524.242 - 53450.981 = 7073.261$$

$$JKP = \frac{\sum_{ij} Y_{ij.}^2}{n} - FK = \frac{(242.048^2 + 218.976^2 + \dots + 191.536^2)}{4} - 53450.981 = 55643.958 - 53450.981 = 2192.977$$

$$JKG = JKT - JKP = 7073.261 - 2192.977 = 4880.284$$

$$JKA = \frac{\sum_i Y_{i..}^2}{b \times n} - FK = \frac{(461.024^2 + 298.927^2 + 372.667^2)}{2 \times 4} - 53450.891 = 55097.647 - 53450.981 = 1646.666$$

$$JKB = \frac{\sum_j Y_{.j.}^2}{a \times n} - FK = \frac{(542.106^2 + 590.512^2)}{3 \times 4} - 53450.891 = 53548.611 - 53450.981 = 97.630$$

$$JKAB = JKP - JKA - JKB = 2192.977 - 1646.666 - 97.630 = 448.681$$

Derajat Bebas

$$DbT = (a \times b \times n) - 1 = (3 \times 2 \times 4) - 1 = 23$$

$$DbP = (a \times b) - 1 = (3 \times 2) - 1 = 5$$

$$DbG = a \times b (n - 1) = 3 \times 2 (4 - 1) = 18$$

$$DbA = a - 1 = 3 - 1 = 2$$

$$DbB = b - 1 = 2 - 1 = 1$$

$$DbAB = (a - 1)(b - 1) = (3 - 1)(2 - 1) = 2$$

Tabel 8. Analisa Variasi Data Persentase Keberhasilan Stek Pucuk (%)

SK	DB	JK	KT	Fhit	Ftab 5 %
Perlakuan	5	2192.977	438.595	1.618	2.770
A	2	1646.666	823.333	3.037	3.550
B	1	97.630	97.630	0.360	4.410
AB	2	448.681	224.341	0.827	3.550
Galat	18	4880.284	271.127		
Total	23	7073.261	307.533		

$$KK = 34,891 \%$$

F hitung < F tabel sehingga terima Ho, tidak ada beda nyata

Lampiran 2. Analisa Data Jumlah Akar

Tabel 9. Jumlah Akar Tiga Umur Tanaman Induk dengan Dua Letak Tunas dalam Rancangan Acak Lengkap Pola Faktorial 3x2 dengan Empat Ulangan dan Lima Sub Sampling.

Umur tanaman	Letak tunas	Ulangan				Total	
		1	2	3	4		
U ₁	L ₁	0.000	3.000	0.000	0.000	3.000	
		0.000	1.000	4.000	0.000	5.000	
		0.000	0.000	0.000	0.000	0.000	
			0.000			0.000	
			0.000			0.000	
	Jumlah	0.000	4.000	4.000	0.000	8.000	
	L ₂	1.000	2.000	1.000	0.000	4.000	
		1.000	2.000	1.000	1.000	5.000	
		1.000	1.000			2.000	
			1.000			1.000	
			2.000			2.000	
	Jumlah	3.000	8.000	2.000	1.000	14.000	
	U ₂	L ₁	3.000	1.000	0.000	1.000	5.000
			2.000				2.000
						0.000	
						0.000	
						0.000	
Jumlah		5.000	1.000	0.000	1.000	7.000	
L ₂		0.000	2.000	1.000	0.000	3.000	
		0.000	2.000		0.000	2.000	
		0.000	0.000			0.000	
		0.000				0.000	
						0.000	
Jumlah		0.000	4.000	1.000	0.000	5.000	
U ₃		L ₁	0.000	0.000	0.000	3.000	3.000
			0.000	4.000	1.000	0.000	5.000
	2.000					2.000	
	0.000					0.000	
						0.000	
	Jumlah	2.000	4.000	1.000	3.000	10.000	
	L ₂	0.000	0.000	3.000	4.000	7.000	
		0.000		0.000	1.000	1.000	
		1.000		3.000	1.000	5.000	
					1.000	1.000	
						0.000	
	Jumlah	1.000	0.000	6.000	7.000	14.000	
	Total		11.000	21.000	14.000	12.000	58.000

Tabel 10. Transformasi Data Jumlah Akar Menggunakan Transformasi Akar Kuadrat $(X+0,5)^{1/2}$.

Umur tanaman	Letak tunas	Ulangan				Total
		1	2	3	4	
U ₁	L ₁	0.707	1.871	0.707	0.707	3.992
		0.707	1.225	2.121	0.707	4.760
		0.707	0.707	0.707	0.707	2.828
			0.707			0.707
			0.707			0.707
	Jumlah	2.121	5.217	3.535	2.121	12.994
	L ₂	1.225	1.581	1.225	0.707	4.738
		1.225	1.581	1.225	1.225	5.256
		1.225	1.225			2.450
			1.225			1.225
Jumlah	3.675	7.193	2.450	1.932	15.250	
U ₂	L ₁	1.871	1.225	0.707	1.225	5.028
		1.581				1.581
						0.000
						0.000
						0.000
	Jumlah	3.452	1.225	0.707	1.225	6.609
	L ₂	0.707	1.581	1.225	0.707	4.220
		0.707	1.581		0.707	2.995
		0.707	0.707			1.414
		0.707				0.707
Jumlah	2.828	3.869	1.225	1.414	9.336	
U ₃	L ₁	0.707	0.707	0.707	1.871	3.992
		0.707	2.121	1.225	0.707	4.760
		1.581				1.581
		0.707				0.707
						0.000
	Jumlah	3.702	2.828	1.932	2.578	11.040
	L ₂	0.707	0.707	1.871	2.121	5.406
		0.707		0.707	1.225	2.639
		1.225		1.871	1.225	4.321
					1.225	1.225
Jumlah	2.639	0.707	4.449	5.796	13.591	
Total		18.417	21.039	14.298	15.066	68.820

Tabel 11. Umur Tanaman Induk X Letak Tunas Dihitung dari Data Jumlah Akar

Umur tanaman	Letak tunas		Total
	L ₁	L ₂	
U ₁	12.994	15.250	28.244
U ₂	6.609	9.336	15.945
U ₃	11.040	13.591	24.631
Total	30.643	38.177	68.820

Faktor Koreksi

$$FK = \frac{Y_{\dots}^2}{\sum_{ijk} m_{ijk}} = \frac{(68.820)^2}{62} = 76.390$$

Jumlah Kuadrat

$$JKT = \sum_{ijkl} Y_{ijkl}^2 - FK = (0.707^2 + 0.707^2 + \dots + 1.225^2) - 76.390$$

$$= 89.002 - 76.390 = 12.612$$

$$JKP = \sum_{ij} \frac{Y_{ij\cdot}^2}{m_{ij}} - FK = \left(\frac{12.994^2}{14} + \frac{15.250^2}{12} + \dots + \frac{13.591^2}{11} \right) - 76.390$$

$$= 77.873 - 76.390 = 1.483$$

$$JKG_1 = \sum_{ijk} \frac{Y_{ijk}^2}{m_{ijk}} - FK = \left(\frac{2.121^2}{3} + \frac{5.217^2}{5} + \dots + \frac{5.796^2}{4} \right) - 76.390$$

$$= 81.706 - 76.390 = 3.833$$

$$JKG_2 = JKT - JKP - JKG_1 = 12.612 - 1.483 - 3.833 = 7.296$$

$$JKA = \sum_i \frac{Y_{i\dots}^2}{m_i} - FK = \left(\frac{28.244^2}{26} + \frac{15.945^2}{15} + \frac{23.631^2}{21} \right) - 76.390$$

$$= 76.521 - 76.390 = 0.131$$

$$JKB = \sum_j \frac{Y_{\cdot j\dots}^2}{m_j} - FK = \left(\frac{30.643^2}{29} + \frac{38.177^2}{33} \right) - 76.390$$

$$= 76.545 - 76.390 = 0.155$$

$$JKAB = JKP - JKA - JKB = 1.483 - 0.131 - 0.155 = 1.197$$

Derajat Bebas

$$DbT = m_{ijk} - 1 = 62 - 1 = 61$$

$$DbP = (a \times b) - 1 = (3 \times 2) - 1 = 5$$

$$DbG_1 = a \times b (n - 1) = 3 \times 2 (4 - 1) = 18$$

$$DbG_2 = m_{ijk} - (a \times b \times n) = 62 - (3 \times 2 \times 4) = 38$$

$$DbA = a - 1 = 3 - 1 = 2$$

$$DbB = b - 1 = 2 - 1 = 1$$

$$DbAB = (a - 1)(b - 1) = (3 - 1)(2 - 1) = 2$$

Tabel 12. Analisa Variasi Data Jumlah Akar.

SK	DB	JK	KT	Fhit	Ftab 5 %
Perlakuan	5	1.483	0.297	1.394	2.77
A	2	0.131	0.066	0.310	3.55
B	1	0.155	0.155	0.728	4.41
AB	2	1.197	0.599	2.812	3.55
Galat ₁	18	3.833	0.213		
Galat ₂	38	7.296	0.192		
Total	61	12.612	0.207		

KK = 40,734 %

F hitung < F tabel sehingga terima Ho, tidak ada beda nyata

Lampiran 3. Analisa Data Panjang Akar (cm)

Tabel 13. Panjang Akar (cm) Tiga Umur Tanaman Induk dengan Dua Letak Tunas dalam Rancangan Acak Lengkap Pola Faktorial 3x2 dengan Empat Ulangan dan Lima Sub Sampling.

Umur tanaman	Letak Tunas	Ulangan				Total
		1	2	3	4	
U ₁	L ₁	0.000	5.000	0.000	0.000	5.000
		0.000	1.000	3.000	0.000	4.000
		0.000	0.000	0.000	0.000	0.000
			0.000			0.000
			0.000			0.000
	Jumlah	0.000	6.000	3.000	0.000	9.000
	L ₂	0.600	1.500	0.500	0.000	2.600
		0.600	9.000	0.300	0.400	10.300
		0.200	0.500			0.700
			3.700			3.700
	0.300			0.300		
Jumlah	1.400	15.000	0.800	0.400	17.600	
U ₂	L ₁	3.500	3.100	0.000	0.100	6.700
		0.400				0.400
						0.000
						0.000
						0.000
	Jumlah	3.900	3.100	0.000	0.100	7.100
	L ₂	0.000	1.300	0.200	0.000	1.500
		0.000	7.600		0.000	7.600
		0.000	0.000			0.000
		0.000				0.000
				0.000		
Jumlah	0.000	8.900	0.200	0.000	9.100	
U ₃	L ₁	0.000	0.000	0.000	0.300	0.300
		0.000	3.900	0.700	0.000	4.600
		3.500				3.500
		0.000				0.000
						0.000
	Jumlah	3.500	3.900	0.700	0.300	8.400
	L ₂	0.000	0.000	1.700	0.400	2.100
		0.000		0.000	0.100	0.100
		2.500		6.600	1.300	10.400
					1.800	1.800
				0.000		
Jumlah	2.500	0.000	8.300	3.600	14.400	
Total		11.300	36.900	13.000	4.400	65.600

Tabel 14. Transformasi Data Panjang Akar (cm) Menggunakan Transformasi Akar Kuadrat $(X+0,5)^{1/2}$.

Umur tanaman	Letak tunas	Ulangan				Total
		1	2	3	4	
U ₁	L ₁	0.707	2.345	0.707	0.707	4.466
		0.707	1.225	1.871	0.707	4.510
		0.707	0.707	0.707	0.707	2.828
			0.707			0.707
			0.707			0.707
	Jumlah	2.121	5.691	3.285	2.121	13.218
	L ₂	1.049	1.414	1.000	0.707	4.170
		1.049	3.082	0.894	0.949	5.974
		0.837	1.000			1.837
			2.049			2.049
Jumlah	2.935	8.439	1.894	1.656	14.924	
U ₂	L ₁	2.000	1.897	0.707	0.775	5.379
		0.949				0.949
						0.000
						0.000
						0.000
	Jumlah	2.949	1.897	0.707	0.775	6.328
	L ₂	0.707	1.342	0.837	0.707	3.593
		0.707	2.846		0.707	4.260
		0.707	0.707			1.414
		0.707				0.707
Jumlah	2.828	4.895	0.837	1.414	9.974	
U ₃	L ₁	0.707	0.707	0.707	0.894	3.015
		0.707	2.098	1.095	0.707	4.607
		2.000				2.000
		0.707				0.707
						0.000
	Jumlah	4.121	2.805	1.802	1.601	10.329
	L ₂	0.707	0.707	1.483	0.949	3.846
		0.707		0.707	0.775	2.189
		1.732		2.665	1.342	5.739
					1.517	1.517
Jumlah	3.146	0.707	4.855	4.583	13.291	
Total		18.100	24.434	13.380	12.150	68.064

Tabel 15. Umur Tanaman Induk X Letak Tunas Dihitung dari Data Panjang Akar (cm).

Umur Tanaman	Letak tunas		Total
	L ₁	L ₂	
U ₁	13.218	14.924	28.142
U ₂	6.328	9.974	16.302
U ₃	10.329	13.291	23.620
Total	29.875	38.189	68.064

Faktor Koreksi

$$FK = \frac{Y_{\dots}^2}{\sum_{ijk} m_{ijk}} = \frac{(68.064)^2}{62} = 74.721$$

Jumlah Kuadrat

$$JKT = \sum_{ijkl} Y_{ijkl}^2 - FK = (0.707^2 + 0.707^2 + \dots + 1.517^2) - 74.721$$

$$= 96.598 - 74.721 = 1.004$$

$$JKP = \sum_{ij} \frac{Y_{ij.}^2}{m_{ij}} - FK = \left(\frac{13.218^2}{14} + \frac{14.924^2}{12} + \dots + \frac{13.291^2}{11} \right) - 74.721$$

$$= 75.725 - 74.721 = 1.004$$

$$JKG_1 = \sum_{ijk} \frac{Y_{ijk.}^2}{m_{ijk}} - FK = \left(\frac{2.121^2}{3} + \frac{5.691^2}{5} + \dots + \frac{4.583^2}{4} \right) - 74.721$$

$$= 82.079 - 74.721 = 6.354$$

$$JKG_2 = JKT - JKP - JKG_1 = 1.004 - 1.004 - 6.354 = -2.354$$

$$JKA = \sum_i \frac{Y_{i..}^2}{m_i} - FK = \left(\frac{28.142^2}{26} + \frac{16.302^2}{15} + \frac{23.620^2}{21} \right) - 74.721$$

$$= 74.744 - 74.721 = 0.023$$

$$JKB = \sum_j \frac{Y_{.j.}^2}{m_j} - FK = \left(\frac{29.875^2}{29} + \frac{38.189^2}{33} \right) - 74.721$$

$$= 74.970 - 74.721 = 0.249$$

$$JKAB = JKP - JKA - JKB = 1.004 - 0.023 - 0.249 = 0.732$$

Derajat Bebas

$$DbT = m_{ijk} - 1 = 62 - 1 = 61$$

$$DbP = (a \times b) - 1 = (3 \times 2) - 1 = 5$$

$$DbG_1 = a \times b (n - 1) = 3 \times 2 (4 - 1) = 18$$

$$DbG_2 = m_{ijk} - (a \times b \times n) = 62 - (3 \times 2 \times 4) = 38$$

$$DbA = a - 1 = 3 - 1 = 2$$

$$DbB = b - 1 = 2 - 1 = 1$$

$$DbAB = (a - 1)(b - 1) = (3 - 1)(2 - 1) = 2$$

Tabel 16. Analisa Variasi Data Panjang Akar (cm).

SK	DB	JK	KT	Fhit	Ftab 5 %
Perlakuan	5	1.004	0.201	0.569	2.77
A	2	0.023	0.012	0.034	3.55
B	1	0.249	0.249	0.705	4.41
AB	2	0.732	0.366	1.037	3.55
Galat ₁	18	6.354	0.353		
Galat ₂	38	14.519	0.382		
Total	61	21.877	0.359		

KK = 53,286 %

F hitung < F tabel sehingga terima Ho, tidak ada beda nyata

Lampiran 4. Analisa Data Berat Basah Stek Pucuk (gram)

Tabel 17. Berat Basah Stek Pucuk (gram) Tiga Umur Tanaman Induk dengan Dua Letak Tunas dalam Rancangan Acak Lengkap Pola Faktorial 3x2 dengan Empat Ulangan dan Lima Sub Sampling.

Umur tanaman	Letak tunas	Ulangan				Total	
		1	2	3	4		
U ₁	L ₁	0.820	1.520	1.180	0.820	4.340	
		1.420	1.020	0.870	0.710	4.020	
		0.920	1.360	0.610	0.760	3.650	
			0.820			0.820	
			0.710			0.710	
	Jumlah	3.160	5.430	2.660	2.290	13.540	
	L ₂	1.330	1.120	0.620	0.940	4.010	
		0.880	1.080	0.930	1.030	3.920	
		0.890	0.620			1.510	
			0.740			0.740	
			0.580			0.580	
	Jumlah	3.100	4.140	1.550	1.970	10.760	
	U ₂	L ₁	0.920	0.680	0.830	0.880	3.310
			1.180				1.180
						0.000	
						0.000	
						0.000	
Jumlah		2.100	0.680	0.830	0.880	4.490	
L ₂		1.280	1.040	0.920	0.760	4.000	
		0.960	0.980		0.680	2.620	
		0.960	0.870			1.830	
		1.340				1.340	
						0.000	
Jumlah		4.540	2.890	0.920	1.440	9.790	
U ₃		L ₁	1.380	0.830	0.820	0.670	3.700
			0.860	0.860	0.720	0.600	3.040
	0.880					0.880	
	0.790					0.790	
						0.000	
	Jumlah	3.910	1.690	1.540	1.270	8.410	
	L ₂	1.000	0.820	1.020	0.920	3.760	
		0.600		1.420	0.540	2.560	
		0.860		1.360	0.760	2.980	
					0.820	0.820	
						0.000	
	Jumlah	2.460	0.820	3.800	3.040	10.120	
	Total		19.270	15.650	11.300	10.890	57.110

Tabel 18. Umur Tanaman Induk X Letak Tunas Dihitung dari Data Berat Basah Stek Pucuk (gram).

Umur tanaman	Letak tunas		Total
	L ₁	L ₂	
U ₁	13.540	10.760	24.300
U ₂	4.490	9.790	14.280
U ₃	8.410	10.120	18.530
Total	26.440	30.670	57.110

Faktor Koreksi

$$FK = \frac{Y_{...}^2}{\sum_{ijk} m_{ijk}} = \frac{(57.110)^2}{62} = 52.606$$

Jumlah Kuadrat

$$JKT = \sum_{ijkl} Y_{ijkl}^2 - FK = (0.820^2 + 1.420^2 + \dots + 0.820^2) - 52.606 = 56.070 - 52.606 = 3.464$$

$$JKP = \sum_{ij} \frac{Y_{ij.}^2}{m_{ij}} - FK = \left(\frac{13.540^2}{14} + \frac{10.760^2}{12} + \dots + \frac{10.120^2}{11} \right) - 52.606 = 52.743 - 52.606 = 0.137$$

$$JKG_1 = \sum_{ijk} \frac{Y_{ijk.}^2}{m_{ijk}} - FK = \left(\frac{3.160^2}{3} + \frac{5.430^2}{5} + \dots + \frac{3.040^2}{4} \right) - 52.606 = 55.120 - 52.606 = 2.377$$

$$JKG_2 = JKT - JKP - JKG_1 = 3.464 - 0.137 - 2.377 = 0.950$$

$$JKA = \sum_i \frac{Y_{i..}^2}{m_i} - FK = \left(\frac{24.300^2}{26} + \frac{14.280^2}{15} + \frac{18.530^2}{21} \right) - 52.606 = 52.656 - 52.606 = 0.050$$

$$JKB = \sum_j \frac{Y_{.j.}^2}{m_j} - FK = \left(\frac{26.440^2}{29} + \frac{30.670^2}{33} \right) - 52.606 = 52.610 - 52.606 = 0.004$$

$$JKAB = JKP - JKA - JKB = 0.137 - 0.050 - 0.004 = 0.083$$

Derajat Bebas

$$DbT = m_{ijk} - 1 = 62 - 1 = 61$$

$$DbP = (a \times b) - 1 = (3 \times 2) - 1 = 5$$

$$DbG_1 = a \times b (n - 1) = 3 \times 2 (4 - 1) = 18$$

$$DbG_2 = m_{ijk} - (a \times b \times n) = 62 - (3 \times 2 \times 4) = 38$$

$$DbA = a - 1 = 3 - 1 = 2$$

$$DbB = b - 1 = 2 - 1 = 1$$

$$DbAB = (a - 1)(b - 1) = (3 - 1)(2 - 1) = 2$$

Tabel 19. Analisa Variasi Data Berat Basah Stek Pucuk (Gram).

SK	DB	JK	KT	Fhit	Ftab 5 %
Perlakuan	5	0.137	0.027	0.205	2.77
A	2	0.050	0.025	0.189	3.55
B	1	0.004	0.004	0.030	4.41
AB	2	0.083	0.042	0.318	3.55
Galat ₁	18	2.377	0.132		
Galat ₂	38	0.950	0.025		
Total	61	3.464	0.057		

KK = 39,620 %

F hitung < F tabel sehingga terima Ho, tidak ada beda nyata

Lampiran 5. Data Pengukuran Suhu dan Kelembaban Selama Penelitian.

Tabel 20. Data Pengukuran Suhu dan Kelembaban Selama Penelitian.

Minggu ke	Suhu (°C)	Kelembaban (%)
1	29.4	85.0
2	25.7	87.0
3	25.4	87.0
4	25.0	89.0
5	24.7	92.0
Rata-rata	26.0	88.0

