

Lampiran 1. Luas Sisiran Sarang Telur

Perlakuan	Minggu ke 0				Minggu ke 1			
	Berat telur (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)	Berat telur (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)
P0U1	0.256	7.850	850.500	27.736	0.239	7.850	850.500	25.894
P0U2	0.239	7.850	850.500	25.894	0.217	7.850	850.500	23.511
P0U3	0.250	7.850	850.500	27.086	0.252	7.850	850.500	27.303
P0U4	0.230	7.850	850.500	24.919	0.305	7.850	850.500	33.045
P1U1	1.131	7.850	850.500	122.537	0.293	7.850	850.500	31.745
P1U2	1.347	7.850	850.500	145.939	0.506	7.850	850.500	54.822
P1U3	0.639	7.850	850.500	69.232	0.308	7.850	850.500	33.370
P1U4	0.858	7.850	850.500	92.959	0.389	7.850	850.500	42.146
P2U1	0.368	7.850	850.500	39.871	0.439	7.850	850.500	47.563
P2U2	0.539	7.850	850.500	58.397	0.528	7.850	850.500	57.206
P2U3	0.506	7.850	850.500	54.822	0.374	7.850	850.500	40.521
P2U4	0.468	7.850	850.500	50.705	0.363	7.850	850.500	39.329
P3U1	0.198	7.850	850.500	21.452	1.772	7.850	850.500	191.985
P3U2	0.883	7.850	850.500	95.668	0.230	7.850	850.500	24.919
P3U3	0.332	7.850	850.500	35.970	1.272	7.850	850.500	137.814
P3U4	0.787	7.850	850.500	85.267	1.077	7.850	850.500	116.686
P4U1	3.365	7.850	850.500	364.577	0.439	7.850	850.500	47.563
P4U2	0.433	7.850	850.500	46.913	0.655	7.850	850.500	70.965
P4U3	0.659	7.850	850.500	71.399	0.215	7.850	850.500	23.294
P4U4	0.317	7.850	850.500	34.345	0.305	7.850	850.500	33.045
P5U1	0.422	7.850	850.500	45.721	0.453	7.850	850.500	49.080
P5U2	0.473	7.850	850.500	51.247	0.328	7.850	850.500	35.537
P5U3	0.392	7.850	850.500	42.471	0.350	7.850	850.500	37.920
P5U4	0.598	7.850	850.500	64.790	0.689	7.850	850.500	74.649

Perlakuan	Minggu ke 2				Minggu ke 3			
	Berat telur (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)	Berat telur (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)
P0U1	0.361	7.850	850.500	39.112	0.283	7.850	850.500	30.661
P0U2	0.362	7.850	850.500	39.221	0.128	7.850	850.500	13.868
P0U3	0.230	7.850	850.500	24.919	0.313	7.850	850.500	33.912
P0U4	0.305	7.850	850.500	33.045	0.075	7.850	850.500	8.126
P1U1	0.305	7.850	850.500	33.045	1.721	7.850	850.500	186.460
P1U2	0.194	7.850	850.500	21.019	1.262	7.850	850.500	136.730
P1U3	0.388	7.850	850.500	42.037	0.748	7.850	850.500	81.041
P1U4	0.425	7.850	850.500	46.046	0.239	7.850	850.500	25.894
P2U1	0.566	7.850	850.500	61.323	0.429	7.850	850.500	46.480
P2U2	0.597	7.850	850.500	64.681	1.239	7.850	850.500	134.238
P2U3	1.942	7.850	850.500	210.404	1.927	7.850	850.500	208.779
P2U4	0.678	7.850	850.500	73.457	0.054	7.850	850.500	5.851
P3U1	0.392	7.850	850.500	42.471	2.265	7.850	850.500	245.399
P3U2	1.178	7.850	850.500	127.629	0.829	7.850	850.500	89.817
P3U3	1.074	7.850	850.500	116.361	1.895	7.850	850.500	205.312
P3U4	0.950	7.850	850.500	102.927	1.645	7.850	850.500	178.226
P4U1	0.393	7.850	850.500	42.579	2.094	7.850	850.500	226.872
P4U2	0.303	7.850	850.500	32.828	0.530	7.850	850.500	57.422
P4U3	0.326	7.850	850.500	35.320	1.019	7.850	850.500	110.402
P4U4	0.270	7.850	850.500	29.253	1.977	7.850	850.500	214.196
P5U1	0.478	7.850	850.500	51.788	0.615	7.850	850.500	66.632
P5U2	0.328	7.850	850.500	35.537	0.395	7.850	850.500	42.796
P5U3	0.351	7.850	850.500	38.029	0.517	7.850	850.500	56.014
P5U4	0.400	7.850	850.500	43.338	1.218	7.850	850.500	131.963

Tabel Rata – rata Pertambahan Luas Sisiran Telur

Perlakuan	Ulangan				Jumlah	Rata-Rata Perlakuan	Standar Deviasi
	1	2	3	4			
P0	30.851	25.623	28.305	24.784	109.563	27.391	±2.753
P1	93.447	89.628	56.42	51.761	291.256	72.814	±21.759
P2	48.809	78.631	128.631	42.335	298.406	74.602	±39.335
P3	125.327	84.508	123.864	120.776	454.475	113.619	±19.500
P4	170.398	52.032	60.104	77.71	360.244	90.061	±54.621
P5	53.305	41.279	43.608	78.685	216.877	54.219	±17.122
Jumlah	522.137	371.701	440.932	396.051	1730.821	432.705	±66.158

Perhitungan

$$\begin{aligned}
 FK &= (\Sigma Y_{ij})^2 / (nxt) \\
 &= (1730,821)^2 / 24 \\
 &= 124822,556
 \end{aligned}$$

$$\begin{aligned}
 JK_{total} &= (\Sigma Y_{ij}^2) - FK \\
 &= (30,851^2 + 25,623^2 + \dots + 78,685^2) - 124822,556 \\
 &= 34542,563
 \end{aligned}$$

$$\begin{aligned}
 JK_{per} &= (\Sigma Y_{ij})^2 / (nxt) - Fk \\
 &= (109,563^2 + 291,256^2 + \dots + 216,877^2) / 24 - \\
 &124822,556 \\
 &= 17487,231
 \end{aligned}$$

$$\begin{aligned}
 JK_{gal} &= JK_{tot} - JK_{per} \\
 &= 34542,563 - 17487,231 \\
 &= 17055,332
 \end{aligned}$$

$$KT_{per} = JK_{per} / db_{per}$$

$$\begin{aligned}
&= 17487,231 / 5 \\
&= 3497,446 \\
KT_{gal} &= JK_{gal} / db_{gal} \\
&= 17055,332 / 18 \\
&= 947,51 \\
F_{hitung} &= KT_{per} / KT_{gal} \\
&= 3497,446 / 947,518 \\
&= 3,691
\end{aligned}$$

Tabel Hasil Analisis Ragam Luas Sisiran Telur

SK	Db	JK	KT	Fhitung	F0,05	F0,01
Perlakuan	5	17487,231	3497,446	3,691	2,77	4,25
Galat	18	17055,332	947,518			
Total	23	34542,563				

Keterangan : Fhitung > F0,05 maka perlakuan yang dicobakan memiliki perbedaan nyata (P<0,05)

$$\begin{aligned}
D P2 &= 2,97 \times \sqrt{947,518/24} \\
&= 18,661
\end{aligned}$$

$$\begin{aligned}
D P3 &= 3,12 \times \sqrt{947,518/24} \\
&= 19,604
\end{aligned}$$

$$\begin{aligned}
D P4 &= 3,21 \times \sqrt{947,518/24} \\
&= 20,169
\end{aligned}$$

$$D P5 = 3,27 \times \sqrt{947,518/24}$$

$$= 20,546$$

$$D P6 = 3,32 \times \sqrt{947,518/24}$$

$$= 20,861$$

Tabel Pembanding Uji Duncan

Pembandin g	P=2	P=3	P=4	P=5	P=6
$d_{0,05(18)}$	2,97	3,12	3,21	3,27	3,32
D	18,66 1	19,60 4	20,16 9	20,54 6	20,86 1

Tabel Notasi Uji duncan

Perlakuan	Rata-rata pertambahan luas sisiran sarang telur (cm ²)
P0	27,39 ±2,75 ^a
P5	54,21 ±17,12 ^b
P1	72,81 ±21,75 ^{bc}
P2	74,60 ±39,33 ^c
P4	90,06 ±54,62 ^c
P3	113,61 ±19,50 ^d

**Lampiran 2. Perhitungan Rata – rata Pertumbuhan Relatif
Luas Sisiran Sarang Telur Terhadap P0**

$$\begin{aligned} P1 &= \frac{P1 - P0}{P0} \times 100\% \\ &= \frac{72,81 - 27,39}{27,39} \times 100\% \\ &= 166\% \end{aligned}$$

$$\begin{aligned} P2 &= \frac{P2 - P0}{P0} \times 100\% \\ &= \frac{74,6 - 27,39}{27,39} \times 100\% \\ &= 172\% \end{aligned}$$

$$\begin{aligned} P3 &= \frac{P3 - P0}{P0} \times 100\% \\ &= \frac{113,61 - 27,39}{27,39} \times 100\% \\ &= 315\% \end{aligned}$$

$$\begin{aligned} P4 &= \frac{P4 - P0}{P0} \times 100\% \\ &= \frac{90,06 - 27,39}{27,39} \times 100\% \\ &= 229\% \end{aligned}$$

$$\begin{aligned} P5 &= \frac{P5 - P0}{P0} \times 100\% \\ &= \frac{54,21 - 27,39}{27,39} \times 100\% \\ &= 98\% \end{aligned}$$

Tabel Pertumbuhan Relatif terhadap P0

Perlakuan	Rata – rata pertambahan luas sisiran sarang telur (cm ²)	Prosentase Pertumbuhan Relatif Terhadap P0
P0	27.391	
P1	72.814	166%
P2	74.602	172%
P3	113.619	315%
P4	90.061	229%
P5	54.219	98%

Lampiran 3. Perhitungan Rata – rata Pertumbuhan Relatif Luas Sisiran Sarang Telur Terhadap Masing – masing Perlakuan

$$\begin{aligned} P0:P1 &= \frac{P1 - P0}{P0} \times 100\% \\ &= \frac{72,81 - 27,39}{27,39} \times 100\% \\ &= 166\% \end{aligned}$$

$$\begin{aligned} P1:P2 &= \frac{P2 - P1}{P1} \times 100\% \\ &= \frac{74,60 - 72,81}{74,60} \times 100\% \\ &= 2\% \end{aligned}$$

$$\begin{aligned} P2:P3 &= \frac{P3 - P2}{P2} \times 100\% \\ &= \frac{113,61 - 74,60}{74,60} \times 100\% \\ &= 52\% \end{aligned}$$

$$\begin{aligned} P4:P3 &= \frac{P3 - P4}{P4} \times 100\% \\ &= \frac{113,61 - 90,06}{90,06} \times 100\% \\ &= 26\% \end{aligned}$$

$$\begin{aligned} P5:P4 &= \frac{P4 - P5}{P5} \times 100\% \\ &= \frac{90,06 - 54,21}{54,21} \times 100\% \\ &= 66\% \end{aligned}$$

Tabel Pertumbuhan Relatif Terhadap Masing – masing Perlakuan

Perlakuan	Rata – rata pertambahan luas sisiran sarang telur (cm ²)	Prosentase Pertumbuhan Relatif Terhadap Masing – masing Perlakuan
P0	27.391	
P1	72.814	166%
P2	74.602	2%
P3	113.619	52%
P4	90.061	26%
P5	54.219	66%

Lampiran 4. Luas Sisiran Sarang Larva

Perlakuan	Minggu ke 0				Minggu ke 1			
	Berat larva (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)	Berat larva (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)
P0U1	0.310	7.850	850.500	33.587	0.579	7.850	850.500	62.731
P0U2	1.915	7.850	850.500	207.479	0.202	7.850	850.500	21.885
P0U3	0.418	7.850	850.500	45.288	0.431	7.850	850.500	46.696
P0U4	1.928	7.850	850.500	42.898	1.914	7.850	850.500	38.745
P1U1	0.061	7.850	850.500	6.609	3.246	7.850	850.500	351.684
P1U2	0.185	7.850	850.500	20.044	0.915	7.850	850.500	99.135
P1U3	3.469	7.850	850.500	375.845	0.150	7.850	850.500	16.252
P1U4	0.507	7.850	850.500	54.930	0.242	7.850	850.500	26.219
P2U1	0.253	7.850	850.500	27.411	0.519	7.850	850.500	56.231
P2U2	1.618	7.850	850.500	175.301	0.760	7.850	850.500	82.341
P2U3	2.546	7.850	850.500	275.844	0.646	7.850	850.500	69.990
P2U4	1.788	7.850	850.500	193.719	0.878	7.850	850.500	95.126
P3U1	1.961	7.850	850.500	212.462	0.547	7.850	850.500	59.264
P3U2	2.038	7.850	850.500	220.805	1.450	7.850	850.500	157.099
P3U3	1.279	7.850	850.500	138.572	1.125	7.850	850.500	121.887
P3U4	0.998	7.850	850.500	108.127	1.265	7.850	850.500	137.055
P4U1	1.204	7.850	850.500	130.446	0.270	7.850	850.500	29.253
P4U2	1.750	7.850	850.500	189.602	0.351	7.850	850.500	38.029
P4U3	1.761	7.850	850.500	190.794	0.444	7.850	850.500	48.105
P4U4	1.437	7.850	850.500	155.690	0.988	7.850	850.500	107.044
P5U1	0.303	7.850	850.500	32.828	0.483	7.850	850.500	52.330
P5U2	0.305	7.850	850.500	33.045	0.435	7.850	850.500	47.130
P5U3	0.237	7.850	850.500	25.678	0.304	7.850	850.500	32.937
P5U4	0.435	7.850	850.500	47.130	1.194	7.850	850.500	129.363

Perlakuan	Minggu ke 2				Minggu ke 3			
	Berat larva (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)	Berat larva (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)
POU1	0.059	7.850	850.500	6.392	0.661	7.850	850.500	71.615
POU2	0.653	7.850	850.500	70.749	1.717	7.850	850.500	186.027
POU3	0.244	7.850	850.500	26.436	0.547	7.850	850.500	59.264
POU4	1.415	7.850	850.500	43.987	1.284	7.850	850.500	37.945
P1U1	0.217	7.850	850.500	23.511	0.440	7.850	850.500	47.671
P1U2	0.384	7.850	850.500	41.604	0.324	7.850	850.500	35.103
P1U3	0.415	7.850	850.500	44.963	1.066	7.850	850.500	115.495
P1U4	0.383	7.850	850.500	41.496	1.871	7.850		202.712
P2U1	0.058	7.850	850.500	6.284	1.085	7.850		117.553
P2U2	1.334	7.850	850.500	144.531	1.224	7.850		132.613
P2U3	0.202	7.850	850.500	21.885	1.195	7.850	850.500	129.471
P2U4	0.825	7.850	850.500	89.384	1.113	7.850	850.500	120.587
P3U1	0.745	7.850	850.500	80.716	1.127	7.850	850.500	122.104
P3U2	0.193	7.850	850.500	20.910	1.765	7.850	850.500	191.227
P3U3	1.195	7.850	850.500	129.471	1.244	7.850	850.500	134.780
P3U4	1.308	7.850	850.500	141.714	0.304	7.850	850.500	32.937
P4U1	0.284	7.850	850.500	30.770	1.093	7.850	850.500	118.420
P4U2	0.353	7.850	850.500	38.245	0.775	7.850	850.500	83.967
P4U3	1.296	7.850	850.500	140.414	1.205	7.850	850.500	130.554
P4U4	1.045	7.850	850.500	113.219	1.404	7.850	850.500	152.115
P5U1	0.106	7.850	850.500	11.484	0.435	7.850	850.500	47.130
P5U2	0.304	7.850	850.500	32.937	0.020	7.850	850.500	2.167
P5U3	0.284	7.850	850.500	30.770	0.404	7.850	850.500	43.771
P5U4	0.806	7.850	850.500	87.325	0.110	7.850	850.500	11.918

Tabel Rata – rata Pertambahan Luas Sisiran Larva

Perlakuan	Ulangan				Jumlah	Rata-Rata Perlakuan	Standar Deviasi
	1	2	3	4			
P0	43.581	121.535	44.421	40.894	250.431	62.607	±39.31362
P1	107.369	48.971	138.139	81.339	375.818	93.954	±37.92486
P2	51.87	133.696	124.298	124.704	434.568	108.642	±38.09576
P3	188.637	147.51	131.177	104.958	572.282	143.070	±35.07151
P4	77.222	87.461	127.467	132.017	424.167	106.041	±27.74633
P5	35.943	39.037	33.289	120.816	229.085	57.271	±42.42824
Jumlah	504.622	578.21	598.791	604.728	2286.351	95.264	±46.06719

Perhitungan

$$\begin{aligned}
 FK &= (\Sigma Y_{ij})^2 / (nxt) \\
 &= (2286,351)^2 / 24 \\
 &= 217808.371
 \end{aligned}$$

$$\begin{aligned}
 JK_{total} &= (\Sigma Y_{ij}^2) - FK \\
 &= (43,581^2 + 151,535^2 + \dots + 229,085^2) - \\
 &217808,371 \\
 &= 45074.252
 \end{aligned}$$

$$\begin{aligned}
 JK_{per} &= (\Sigma Y_{ij})^2 / (nxt) - Fk \\
 &= (250,431^2 + 375,818^2 + \dots + 229,085^2) / 24 \\
 &- 217808,371 \\
 &= 20368.747
 \end{aligned}$$

$$\begin{aligned}
 JK_{gal} &= JK_{tot} - JK_{per} \\
 &= 45074.252 - 20368.747
 \end{aligned}$$

$$= 24705.505$$

$$\begin{aligned} \text{KT}_{\text{per}} &= \text{JK}_{\text{per}} / \text{db}_{\text{per}} \\ &= 20368.747 / 5 \\ &= 4073.749 \end{aligned}$$

$$\begin{aligned} \text{KT}_{\text{gal}} &= \text{JK}_{\text{gal}} / \text{db}_{\text{gal}} \\ &= 24705.505 / 18 \\ &= 1372.528 \end{aligned}$$

$$\begin{aligned} \text{F}_{\text{hitung}} &= \text{KT}_{\text{per}} / \text{KT}_{\text{gal}} \\ &= 4073.749 / 1372.528 \\ &= 2.968 \end{aligned}$$

Tabel Hasil Analisis Ragam Luas Sisiran Larva

SK	Db	JK	KT	Fhitung	F0.05	F0.01
Perlakuan	5	20368.747	4073.749	2,968	2,77	4,25
Galat	18	24705.505	1372.528			
Total	23	45074.252				

Keterangan : Fhitung > F0,05 maka perlakuan yang dicobakan memiliki perbedaan nyata (P<0,05)

Tabel Pembandingan Uji Duncan

Pembanding	P=2	P=3	P=4	P=5	P=6
$d_{0.05(18)}$	2,97	3,12	3,21	3,27	3,32
D	22.460	23.594	24.275	24.729	25.107

$$D P2 = 2,97 \times \sqrt{1372.528/24}$$

$$= 22.460$$

$$D P3 = 3,12 \times \sqrt{1372.528/24}$$

$$= 23.594$$

$$D P4 = 3,21 \times \sqrt{1372.528/24}$$

$$= 24.275$$

$$D P5 = 3,27 \times \sqrt{1372.528/24}$$

$$= 24.729$$

$$D P6 = 3,32 \times \sqrt{1372.528/24}$$

$$= 25.107$$

Tabel Notasi Uji Duncan

Perlakuan	Rata – rata pertambahan luas sisiran sarang larva (cm ²)
P5	57,27 ±42,42 ^a
P0	62,60 ±39,31 ^a
P1	93,95 ±37,92 ^b
P4	106,04 ±27,74 ^b
P2	108,64 ±38,09 ^b
P3	143,07 ±35,07 ^c

Lampiran 5. Perhitungan Rata – rata Pertumbuhan Relatif Luas Sisiran Sarang Larva Terhadap P0

$$\begin{aligned} P1 &= \frac{P1 - P0}{P0} \times 100\% \\ &= \frac{93,95 - 62,60}{62,60} \times 100\% \\ &= 50\% \end{aligned}$$

$$\begin{aligned} P2 &= \frac{P2 - P0}{P0} \times 100\% \\ &= \frac{108,64 - 62,60}{62,60} \times 100\% \\ &= 74\% \end{aligned}$$

$$\begin{aligned} P3 &= \frac{P3 - P0}{P0} \times 100\% \\ &= \frac{143,07 - 62,60}{62,60} \times 100\% \\ &= 129\% \end{aligned}$$

$$\begin{aligned} P4 &= \frac{P4 - P0}{P0} \times 100\% \\ &= \frac{106,04 - 62,60}{62,60} \times 100\% \\ &= 69\% \end{aligned}$$

$$\begin{aligned} P5 &= \frac{P5 - P0}{P0} \times 100\% \\ &= \frac{57,27 - 62,60}{62,60} \times 100\% \\ &= -9\% \end{aligned}$$

Tabel Pertumbuhan Relatif Terhadap P0

Perlakuan	Rata – rata pertambahan luas sisiran sarang larva (cm ²)	Prosentase Pertumbuhan Relatif Terhadap P0
P0	62.60775	
P1	93.9545	50%
P2	108.642	74%
P3	143.0705	129%
P4	106.04175	69%
P5	57.27125	-9%

Lampiran 6. Perhitungan Rata – rata Pertumbuhan Relatif Luas Sisiran Sarang Larva Terhadap Masing – masing Perlakuan

$$\begin{aligned} P0:P1 &= \frac{P1 - P0}{P0} \times 100\% \\ &= \frac{93,95 - 62,60}{62,60} \times 100\% \\ &= 50\% \end{aligned}$$

$$\begin{aligned} P1:P2 &= \frac{P2 - P1}{P1} \times 100\% \\ &= \frac{108,64 - 93,95}{93,95} \times 100\% \\ &= 16\% \end{aligned}$$

$$\begin{aligned} P2:P3 &= \frac{P3 - P2}{P2} \times 100\% \\ &= \frac{143,07 - 108,64}{108,64} \times 100\% \\ &= 32\% \end{aligned}$$

$$\begin{aligned} P4:P3 &= \frac{P3 - P4}{P4} \times 100\% \\ &= \frac{143,07 - 106,04}{106,04} \times 100\% \\ &= 35\% \end{aligned}$$

$$\begin{aligned} P5:P4 &= \frac{P4 - P5}{P5} \times 100\% \\ &= \frac{106,04 - 57,27}{57,27} \times 100\% \end{aligned}$$

= 85%

Tabel Pertumbuhan Relatif Terhadap Masing – masing Perlakuan

Perlakuan	Rata – rata pertumbuhan luas sisiran sarang larva (cm ²)	Prosentase Pertumbuhan relatif terhadap masing - masing perlakuan
P0	62.60775	
P1	93.9545	50%
P2	108.642	16%
P3	143.0705	32%
P4	106.04175	35%
P5	57.27125	85%

Lampiran 7. Luas Sisiran Sarang Pupa

Perlakuan	Minggu ke 0				Minggu ke 1			
	Berat Pupa (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)	Berat Pupa (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)
POU1	0.354	7.850	850.500	38.354	2.852	7.850	850.500	308.997
POU2	0.714	7.850	850.500	77.358	2.412	7.850	850.500	261.326
POU3	0.097	7.850	850.500	10.509	1.940	7.850	850.500	210.187
POU4	1.389	7.850	850.500	150.490	1.879	7.850	850.500	203.578
P1U1	0.805	7.850	850.500	87.217	3.150	7.850	850.500	341.283
P1U2	0.943	7.850	850.500	102.168	4.810	7.850	850.500	521.134
P1U3	1.419	7.850	850.500	153.740	3.393	7.850	850.500	367.611
P1U4	0.683	7.850	850.500	73.999	1.091	7.850	850.500	118.203
P2U1	1.476	7.850	850.500	159.916	1.133	7.850	850.500	122.754
P2U2	1.255	7.850	850.500	135.972	2.488	7.850	850.500	269.560
P2U3	0.877	7.850	850.500	95.018	2.491	7.850	850.500	269.885
P2U4	0.610	7.850	850.500	66.090	3.069	7.850	850.500	332.508
P3U1	2.261	7.850	850.500	244.966	2.220	7.850	850.500	240.524
P3U2	1.947	7.850	850.500	210.946	3.349	7.850	850.500	362.844
P3U3	0.332	7.850	850.500	35.970	0.203	7.850	850.500	21.994
P3U4	1.199	7.850	850.500	129.904	2.468	7.850	850.500	267.393
P4U1	0.324	7.850	850.500	35.103	4.223	7.850	850.500	457.536
P4U2	1.002	7.850	850.500	108.561	1.639	7.850	850.500	177.576
P4U3	0.547	7.850	850.500	59.264	1.248	7.850	850.500	135.213
P4U4	1.786	7.850	850.500	193.502	0.084	7.850	850.500	9.101
P5U1	2.130	7.850	850.500	230.773	0.282	7.850	850.500	30.553
P5U2	1.920	7.850	850.500	208.020	2.555	7.850	850.500	276.819
P5U3	1.747	7.850	850.500	189.277	0.089	7.850	850.500	9.643
P5U4	1.994	7.850	850.500	216.038	3.686	7.850	850.500	399.356

Perlakuan	Minggu ke 2				Minggu ke 3			
	Berat Pupa (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)	Berat Pupa (g)	Berat mika (g)	Luas mika (cm ²)	Total luas (cm ²)
P0U1	2.865	7.850	850.500	310.405	0.639	7.850	850.500	69.232
P0U2	2.214	7.850	850.500	239.874	1.109	7.850	850.500	120.153
P0U3	3.978	7.850	850.500	430.992	0.484	7.850	850.500	52.438
P0U4	1.837	7.850	850.500	199.028	2.206	7.850	850.500	239.007
P1U1	2.234	7.850	850.500	242.040	1.475	7.850	850.500	159.807
P1U2	4.133	7.850	850.500	447.786	1.495	7.850	850.500	161.974
P1U3	1.514	7.850	850.500	164.033	1.064	7.850	850.500	115.278
P1U4	0.928	7.850	850.500	100.543	2.360	7.850	850.500	255.692
P2U1	3.655	7.850	850.500	395.997	1.944	7.850	850.500	210.621
P2U2	1.357	7.850	850.500	147.023	2.457	7.850	850.500	266.201
P2U3	2.779	7.850	850.500	301.088	2.656	7.850	850.500	287.762
P2U4	2.687	7.850	850.500	291.120	1.288	7.850	850.500	139.547
P3U1	2.574	7.850	850.500	278.877	0.651	7.850	850.500	70.532
P3U2	3.034	7.850	850.500	328.716	3.217	7.850	850.500	348.542
P3U3	3.449	7.850	850.500	373.678	3.993	7.850	850.500	432.617
P3U4	3.964	7.850	850.500	429.475	1.984	7.850	850.500	214.954
P4U1	1.204	7.850	850.500	130.446	2.642	7.850	850.500	286.245
P4U2	1.713	7.850	850.500	185.593	3.258	7.850	850.500	352.985
P4U3	4.603	7.850	850.500	498.707	1.695	7.850	850.500	183.643
P4U4	1.254	7.850	850.500	135.863	2.874	7.850	850.500	311.381
P5U1	1.217	7.850	850.500	131.855	2.188	7.850	850.500	237.057
P5U2	2.485	7.850	850.500	269.235	2.254	7.850	850.500	244.207
P5U3	0.906	7.850	850.500	98.160	2.504	7.850	850.500	271.293
P5U4	1.374	7.850	850.500	148.865	2.711	7.850	850.500	293.720

Tabel Rata – rata Pertambahan Luas Sisiran Pupa

Perlakuan	Ulangan				Jumlah	Rata-Rata Perlakuan	Standar Deviasi
	1	2	3	4			
P0	181.747	174.678	176.032	198.026	730.483	182.620	±10.717
P1	207.587	308.266	200.165	137.109	853.127	213.281	±70.778
P2	222.322	204.689	238.438	207.316	872.765	218.191	±15.573
P3	208.725	312.762	216.065	260.432	997.984	249.496	±47.965
P4	227.333	206.179	219.207	162.462	815.181	203.795	±28.900
P5	157.559	249.57	142.093	264.495	813.717	203.429	±62.514
Jumlah	1205.27	1456.14	1192	1229.84	5083.26	211.802	±124,543

Perhitungan

$$FK = (\sum Y_{ij})^2 / (nxt)$$

$$= (5083,257)^2 / 24$$

$$= 1076646$$

$$JK_{total} = (\sum Y_{ij}^2) - FK$$

$$= (157,559^2 + 249,570^2 + \dots + 207,316^2) - 1076646$$

$$= 47031,326$$

$$JK_{per} = (\sum Y_{ij})^2 / (nxt) - Fk$$

$$= (813,717^2 + 853,127^2 + \dots + 872,765^2) / 24 \\ - 1076646$$

$$= 9798,425$$

$$JK_{gal} = JK_{tot} - JK_{per}$$

$$= 47031,326 - 9798,425$$

$$= 37232,901$$

$$KT_{per} = JK_{per} / db_{per}$$

$$= 9798,425 / 5$$

$$= 1959,685$$

$$KT_{gal} = JK_{gal} / db_{gal}$$

$$= 37232,901 / 18$$

$$= 2068,495$$

$$F_{hitung} = KT_{per} / KT_{gal}$$

$$= 1959,685 / 2068,495$$

$$= 0,947$$

Tabel Hasil Analisis Ragam Luas Sisiran Pupa

SK	db	JK	KT	Fhitung	F0.05	F0.01
Perlakuan	5	9798,425	1959,685	0,947	2,77	4,25
Galat	18	37232,901	2068,495			
Total	23	47031,326				

Keterangan : Fhitung < F0,05 maka perlakuan tidak berbeda nyata ($P>0,05$)

Lampiran 8. Perhitungan Rata – rata Pertumbuhan Relatif Luas Sisiran Sarang Pupa Terhadap P0

$$\begin{aligned} P1 &= \frac{P1 - P0}{P0} \times 100\% \\ &= \frac{213,28 - 182,62}{182,62} \times 100\% \\ &= 17\% \end{aligned}$$

$$\begin{aligned} P2 &= \frac{P2 - P0}{P0} \times 100\% \\ &= \frac{218,19 - 182,62}{182,62} \times 100\% \\ &= 19\% \end{aligned}$$

$$\begin{aligned} P3 &= \frac{P3 - P0}{P0} \times 100\% \\ &= \frac{249,49 - 182,62}{182,62} \times 100\% \\ &= 37\% \end{aligned}$$

$$\begin{aligned} P4 &= \frac{P4 - P0}{P0} \times 100\% \\ &= \frac{203,79 - 182,62}{182,62} \times 100\% \\ &= 12\% \end{aligned}$$

$$\begin{aligned} P5 &= \frac{P5 - P0}{P0} \times 100\% \\ &= \frac{203,42 - 182,62}{182,62} \times 100\% \\ &= 11\% \end{aligned}$$

Tabel Pertumbuhan Relatif Terhadap P0

Perlakuan	Rata – rata pertambahan luas sisiran sarang pupa (cm ²)	Prosentase Pertumbuhan Relatif Terhadap P0
P0	182.621	
P1	213.282	17%
P2	218.191	19%
P3	249.496	37%
P4	203.795	12%
P5	203.429	11%

Lampiran 9. Perhitungan Rata – rata Pertumbuhan Relatif Luas Sisiran Sarang Pupa Terhadap Masing – masing Perlakuan

$$\begin{aligned} P0:P1 &= \frac{P1 - P0}{P0} \times 100\% \\ &= \frac{213,28 - 182,62}{182,62} \times 100\% \\ &= 17\% \end{aligned}$$

$$\begin{aligned} P1:P2 &= \frac{P2 - P1}{P1} \times 100\% \\ &= \frac{218,19 - 213,28}{213,28} \times 100\% \\ &= 2\% \end{aligned}$$

$$\begin{aligned} P2:P3 &= \frac{P3 - P2}{P2} \times 100\% \\ &= \frac{249,49 - 218,19}{218,19} \times 100\% \\ &= 14\% \end{aligned}$$

$$\begin{aligned} P4:P3 &= \frac{P3 - P4}{P4} \times 100\% \\ &= \frac{249,49 - 203,79}{203,79} \times 100\% \\ &= 22\% \end{aligned}$$

$$\begin{aligned} P5:P4 &= \frac{P4 - P5}{P5} \times 100\% \\ &= \frac{203,79 - 203,42}{203,42} \times 100\% \end{aligned}$$

= 0,2%

Tabel Pertumbuhan Relatif Terhadap Masing – masing Perlakuan

Perlakuan	Rata – rata pertumbuhan luas sisiran sarang pupa (cm ²)	Prosentase Pertumbuhan relatif terhadap masing - masing perlakuan
P0	182.621	
P1	213.282	17%
P2	218.191	2%
P3	249.496	14%
P4	203.795	22%
P5	203.429	0,2%

Lampiran 10. Analisis Usaha Pemberian Pakan Tambahan Tepung Tempe Kedelai

A. Koloni tanpa pemberian pakan tambahan (100 stup)

$$\begin{aligned} \text{Kebutuhan gula} &= 1\text{ kg/stup/minggu} \times \text{Rp } 12.000 \\ &= \text{Rp } 12.000/\text{stup/minggu} \times 100 \text{ stup} \\ &= \text{Rp } 1.200.000/100 \text{ stup/minggu} \times \\ &\text{4kali pemberian} \\ &= \text{Rp } 4.800.000/100 \text{ stup/bulan} \end{aligned}$$

B. Koloni dengan pakan tambahan (100 stup)

$$\begin{aligned} \text{Kebutuhan gula dalam=} &0,75 \text{ kg/stup/minggu} \times \text{Rp } 12.000 \\ \text{Feeder frame} &= \text{Rp } 9000/\text{stup/minggu} \times 100 \text{ stup} \\ &= \text{Rp } 900.000/100 \text{ stup/minggu} \times \\ &\text{4kali pemberian} \\ &= \text{Rp } 3.600.000/100 \text{ stup/bulan} \end{aligned}$$

$$\begin{aligned} \text{Kebutuhan gula dalam=} &75 \text{ gr} \times 10 \text{ kali pemberian/bulan} \\ \text{Pakan tambahan} &= 750 \text{ gr/1 stup/bulan} \times 100 \text{ stup} \\ &= 75 \text{ kg/100 stup/bulan} \times \text{Rp } 12.000 \\ &= \text{Rp } 900.000/100 \text{ stup/bulan} \end{aligned}$$

Untuk 1 kg kedelai akan menjadi 3 kg tempe

$$\text{Harga kedelai} = \text{Rp } 8000/\text{kg}$$

$$\begin{aligned} \text{Kebutuhan tempe} &= 150 \text{ gr/1stup/bulan} \times 100 \\ &= 15 \text{ kg/100stup/bulan} \end{aligned}$$

$$\begin{aligned} \text{Biaya penggunaan tempe=} &\text{Rp } 8.000 \times 15 \text{ kg kedelai} \\ &= \text{Rp } 120.000/100 \text{ stup/bulan} \end{aligned}$$

$$\begin{aligned} \text{Kebutuhan polen alam=} &100 \text{ gr/stup/bulan} \\ &= 10 \text{ kg/100stup/bulan} \end{aligned}$$

Kebutuhan gas	= Rp 18.000 / bulan
Kebutuhan ragi tempe	= Rp 5.000 / bulan
Total biaya kebutuhan	= Rp 3.600.000 + Rp 900.000 + Rp 40.000 + Rp 18.000 + Rp 5000
stup/bulan	= Rp 4.563.000/100

Lampiran 11. Dokumentasi Penelitian



1. Mengamati luas sisiran sarang anakan



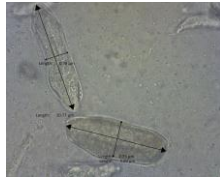
2. Menggambar luas sisiran sarang anakan



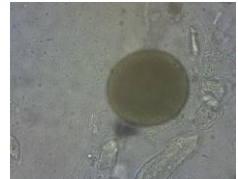
3. Pemberian pakan



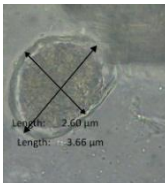
4. Pakan setelah 3 hari



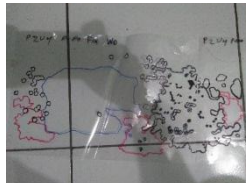
5. Bentuk dan diameter tepung tempe kedelai



6. Bentuk polen alam



7. bentuk dan diameter tepung tempe kedelai



8. Gambar luas sisiran sarang anakan



9. Menimbang sarang anakan