

LAMPIRAN

Lampiran 1. Rata-rata tinggi tanaman sawi per minggu

Perlakuan	Minggu				Jumlah	Rata-rata
	1	2	3	4		
A : Tanpa Mulsa + PL	3.92	10.52	18.17	24.88	57.48	14.37
B : Tanpa Mulsa + PG	3.71	10.40	17.29	22.67	54.06	13.52
C : Mulsa Plastik + PL	4.33	10.58	19.08	25.83	59.83	14.96
D : Mulsa Plastik + PG	4.13	10.56	18.81	25.08	58.58	14.65

Perlakuan (t) = 4

Ulangan (r) = 6

Total satuan percobaan (tr) = 4 x 6 = 24

DERAJAT BEBAS

DB total: (t.r) – 1 = 24 – 1 = 23

DB perlakuan: (t) – 1 = 4 – 1 = 3

DB galat = DB total – DB perlakuan = 23 – 3 = 20

PERHITUNGAN JUMLAH KUADRA

Faktor koreksi

$FK = (\text{jumlah total seluruh data})^2 \div tr$

$FK = (229,95)^2 \div 24$

$FK = 52877,0025 \div 24 = \mathbf{2203,2084}$

Jumlah kuadrat total

JKT = jumlah seluruh kuadrat – FK

$JKT = 2237,9241 - 2203,2084 = \mathbf{34,7157}$

Jumlah kuadrat perlakuan

$JKP = [(57,48^2 + 54,06^2 + 59,83^2 + 58,58^2) \div 6] - FK$

$JKP = [(3303,93 + 2922,48 + 3579,63 + 3431,62) \div 6] - 2203,2084$

$$JKP = (13237,68 \div 6) - 2203,2084$$

$$JKP = 2206,28 - 2203,2084 = \mathbf{3,0716}$$

Jumlah kuadrat galat

$$JKG = JKT - JKP$$

$$JKG = 34,7157 - 3,0716 = \mathbf{31,6441}$$

KUADRAT TENGAH DAN NILAI F

- Kuadrat tengah perlakuan = $JKP \div DB \text{ perlakuan} = 3,0716 \div 3 = \mathbf{1,0239}$
- Kuadrat tengah galat = $JKG \div DB \text{ galat} = 31,6441 \div 20 = \mathbf{1,5822}$
- F hitung = $KTP \div KTG = 1,0239 \div 1,5822 = \mathbf{0,647}$
- F tabel 5% (db 3 : 20) = $\mathbf{3,10}$

TABEL ANALISI VARIAN (ANOVA)

SK	DB	JK	KT	F hitung	F tabel 5%
Perlakuan	3	3,0716	1,0239	0,647	3,10
Galat	20	31,6441	1,5822	-	-
Total	23	34,7157	-	-	-

UJI LANJUTAN UJI JARAK BERGANDA DUCAN

Nilai berbeda nyata jarak

$$BNJ = \text{nilai tabel rentang ducan} \times \sqrt{(KTG \div r)}$$

Nilai tabel ducan taraf 5% db galat 20:

- Urutan 2 = 2,95
- Urutan 3 = 3,10
- Urutan 4 = 3,18

Perhitungan:

$$\sqrt{(1,5822 \div 6)} = \sqrt{0,2637} = 0,5135$$

$$BNJ \text{ urutan 2} = 2,95 \times 0,5135 = 1,515$$

$$BNJ \text{ urutan 3} = 3,10 \times 0,5135 = 1,592$$

$$BNJ \text{ urutan 4} = 3,18 \times 0,5135 = 1,633$$

Urutan rata-rata tinggi ke terendah

1. C = 14,96
2. D = 14,65
3. A = 14,37
4. B = 13,52

TABEL HASIL AKHIR UJI DUCAN

Perlakuan	Rata-rata tinggitanaman cm	Notasi
A = tanpa mulsa plastik + POC lamtoro	14,37	ab
B = tanpa mulsa plastik + POC gamal	13,52	b
C = mulsa plastik + POC lamtoro	14,96	a
D = tanpa mulsa plastik + POC gamal	14,65	ab

Lampiran 2. Rata-rata Jumlah dauh tanaman sawi per minggu

Perlakuan	Minggu				Jumlah	Rata-rata
	1	2	3	4		
A : Tanpa Mulsa + PL	3.63	5.46	6.66	8.22	23.96	5.99
B : Tanpa Mulsa + PG	3.63	5.54	6.96	8.67	24.79	6.20
C : Mulsa Plastik + PL	3.67	5.58	7.25	8.67	25.17	6.29
D : Mulsa Plastik + PG	3.71	5.54	7.29	9.08	25.63	6.41

Perlakuan (t) = 4

Ulangan (r) = 6

Total satuan percobaan (tr) = 4 x 6 = 24

DERAJAT BEBAS

DB total: (t.r) – 1 = 24 – 1 = 23

DB perlakuan: (t) – 1 = 4 – 1 = 3

DB galat = DB total – DB perlakuan = 23 – 3 = 20

BPERHITUNGAN JUMLAH KUADRAT

Faktor koreksi

$FK = (\text{Jumlah total seluruh data})^2 \div tr$

$FK = (99,55)^2 \div 24$

$FK = 9910,2025 \div 24 = \mathbf{412,9251}$

Jumlah kuadrat total

$JKT = \text{Jumlah seluruh kuadrat data} - FK$

$JKT = 422,7031 - 412,9251 = \mathbf{9,7780}$

Jumlah kuadrat perlakuan

$JKP = [(23,96^2 + 24,79^2 + 25,17^2 + 25,63^2) \div 6] - FK$

$$JKP = [(574,0816 + 614,5441 + 633,5289 + 656,8969) \div 6] - 412,9251$$

$$JKP = (2479,0515 \div 6) - 412,9251$$

$$JKP = 413,1753 - 412,9251 = \mathbf{0,2502}$$

jumlah kuadrat galat

$$JKG = JKT - JKP$$

$$JKG = 9,7780 - 0,2502 = \mathbf{9,5278}$$

KUADRAT TENGAH DAN NILAI F

$$\text{Kuadrat tengah perlakuan} = JKP \div DB \text{ perlakuan} = 0,2502 \div 3 = 0,0839$$

$$\text{Kuadrat tengah galat} = JKG \div DB \text{ galat} = 9,5278 \div 20 = \mathbf{0,4764}$$

$$F \text{ hitung} = KTP \div KTG = 0,0834 \div 0,4764 = \mathbf{0,175}$$

$$F \text{ tabel } 5\% (db \ 3 ; 20) = \mathbf{3,10}$$

TABEL ANALISI VARIAN (ANOVA)

SK	DB	JK	KT	F hitung	F tabel 5%
Perlakuan	3	0,2502	0,0834	0,175	3,10
Galat	20	9,5278	0,4764	-	-
Total	23	9,7780	-	-	-

RATA-RATA JUMLAH DAUN SETIAP PERLAKUAN

Perlakuan	Jumlah total pengamatan	Rata-rata
A tanpa mulsa + POC lamtoro	23.96	5.99
B tanpa mulsa + POC gamal	24.79	6.20
C mulsa plastik + POC lamtoro	25.17	6.29
D mulsa plastik + POC gamal	25.63	6.41

UJI LANJUTAN UJI JARAK BERGANDA DUCAN

Nilai berbeda nyata

$$BNJ = \text{nilai tabel ducan} \times \sqrt{(KTG \div r)}$$

Nilai tabel ducan taraf 5% db galat 20:

- Urutan 2 = 2,95
- Urutan 3 = 3,10

- Urutan 4 = 3,18

Perhitungan:

$$\sqrt{(0,4764 \div 6)} = \sqrt{0,0794} = 0,2818$$

- BNJ urutan 2 = $2,95 \times 0,2818 = \mathbf{0,831}$
- BNJ urutan 3 = $3,10 \times 0,2818 = \mathbf{0,874}$
- BNJ urutan 4 = $3,18 \times 0,2818 = \mathbf{0,896}$

Urutan rata-rata tertinggi ke terendah

4. D = 6,41
5. C = 6,29
6. B = 6,20
7. A = 5,99

TABEL HASIL AKHIR UJI DUCAN

Perlakuan	Rata-rata tinggitanaman cm	Notasi
A = tanpa mulsa plastik + POC lamtoro	5,99	b
B = tanpa mulsa plastik + POC gamal	6,20	ab
C = mulsa plastik + POC lamtoro	6,29	ab
D = tanpa mulsa plastik + POC gamal	6,41	a

Lampiran 3. Rata-rata Lebar daun tanaman sawi per minggu

Perlakuan	Minggu				Jumlah	Rata-rata
	1	2	3	4		
A : Tanpa Mulsa + PL	2.48	6.00	7.83	11.50	27.81	6.95
B : Tanpa Mulsa + PG	2.48	6.08	6.71	11.67	26.94	6.73
C : Mulsa Plastik + PL	2.64	6.13	8.83	11.71	29.31	7.33
D : Mulsa Plastik + PG	2.54	6.38	8.27	11.92	29.10	7.28

Perlakuan (t) = 4

Ulangan (r) = 6

Total satuan percobaan (tr) = 4 x 6 = 24

DERAJAT BEBAS

DB total: (t.r) – 1 = 24 – 1 = 23

DB perlakuan: (t) – 1 = 4 – 1 = 3

DB galat = DB total – DB perlakuan = 23 – 3 = 20

PERHITUNGAN JUMLAH KUADRAT

Faktor koreksi

$FK = (\text{jumlah total seluruh data})^2 \div tr$

$FK = (133,16)^2 \div 24$

$FK = 12805,1856 \div 24 = \mathbf{533,5494}$

Jumlah kuadrat total

$JKT = \text{jumlah seluruh kuadrat data} - FK$

$FKT = 539,7768 - 533,5494 = \mathbf{6,2274}$

Jumlah kuadrat perlakuan

$JKP = [(27,81^2 + 26,94^2 + 29,31^2 + 29,10^2) \div 6] - FK$

$$JKP = [(773,3961 + 725,7636 + 859,0761 + 846,8100) \div 6] - 533,5494$$

$$JKP = 534,1743 - 533,5494 = \mathbf{0,6249}$$

Jumlah kuadrat galat

$$JKG = JKT - JKP$$

$$JKG = 6,2274 - 0,6249 = \mathbf{5,6025}$$

KUADRAT TENGAH DAN NILAI F

$$\text{Kuadrat tengah perlakuan} = JKP \div DB \text{ perlakuan} = 0,6249 \div 3 = \mathbf{0,2083}$$

$$\text{Kuadrat tengah galat} = JKG \div DB \text{ galat} = 5,6025 \div 20 = \mathbf{0,2801}$$

$$F \text{ hitung} = KTP \div KTG = 0,2083 \div 0,2801 = \mathbf{0,744}$$

$$F \text{ tabel } 5\% (\text{db } 3;20) = \mathbf{3,10}$$

TABEL ANALISI VARIAN (ANOVA)

SK	DB	JK	KT	F hitung	F tabel 5%
Perlakuan	3	0,6249	0,2083	0,744	3,10
Galat	20	5,6025	0,2801	-	-
Total	23	6,2274	-	-	-

RATA-RATA JUMLAH DAUN SETIAP PERLAKUAN

Perlakuan	Jumlah total pengamatan	Rata-rata
A tanpa mulsa + POC lamtoro	27.81	6.95
B tanpa mulsa + POC gamal	26.94	6.73
C mulsa plastik + POC lamtoro	29.31	7.33
D mulsa plastik + POC gamal	29.10	7.28

UJI LANJUTAN UJI JARAK BERGANDA DUCAN

Nilai berbeda nyata

$$BNJ = \text{nilai tabel ducan} \times \sqrt{(KTG \div r)}$$

Nilai tabel ducan taraf 5% db galat 20:

- Urutan 2 = 2,95
- Urutan 3 = 3,10

- Urutan 4 = 3,18

Perhitungan:

$$\sqrt{(0,2801 \div 6)} = \sqrt{0,0467} = 0,2161$$

- BNJ urutan 2 = $2,95 \times 0,2161 = \mathbf{0,638}$
- BNJ urutan 3 = $3,10 \times 0,2161 = \mathbf{0,670}$
- BNJ urutan 4 = $3,18 \times 0,2161 = \mathbf{0,687}$

Urutan rata-rata tertinggi ke terendah

1. C = 7,33
2. D = 7,28
3. A = 6,95
4. B = 6,73

TABEL HASIL AKHIR UJI DUCAN

Perlakuan	Rata-rata tinggitanaman cm	Notasi
A = tanpa mulsa plastik + POC lamtoro	6,95	ab
B = tanpa mulsa plastik + POC gamal	6,73	b
C = mulsa plastik + POC lamtoro	7,33	a
D = tanpa mulsa plastik + POC gamal	7,28	a

Lampiran 4. Rata-rata berat panrn tanaman sawi per minggu

Perlakuan	ULANGAN						Jumlah	Rata-rata
	1	2	3	4	5	6		
A : Tanpa Mulsa + PL	178.84	194.92	295.14	186.17	196.88	172.70	1,224.65	204.11
B : Tanpa Mulsa + PG	180.06	234.35	197.70	229.10	199.10	191.08	1,231.39	205.23
C : Mulsa Plastik + PL	283.57	225.37	237.85	232.48	207.56	218.17	1,405.00	234.17
D : Mulsa Plastik + PG	301.48	280.50	252.25	235.64	226.35	219.86	1,516.08	252.68

Perlakuan (t) = 4

Ulangan (r) = 6

Total satuan percobaan (tr) = 4 x 6 = 24

DERAJAT BEBAS

DB total: (t.r) – 1 = 24 – 1 = 23

DB perlakuan: (t) – 1 = 4 – 1 = 3

DB galat = DB total – DB perlakuan = 23 – 3 = 20

FAKTOR KOREKSI

Faktor kreasi (FK) : $\sum(\text{skor } S = 28913419,49$

Jumlah kuadrat total (JKT) : $\sum(\text{skor})^2 - FK = 1204725,812$

Jumlah kuadrat perlakuan (JKP) : $\sum(\text{total perlakuan} - FK = 27708693,6821$

Jumlah kuadrat galat (JKA) : JKT – JKP = 3614177,4368

RINGKASAN DATA

Kelompok	Jumlah pengamatan	Jumlah nilai	Rata-rata
A:tanpa mulsa +PL	6	1224,65	204.11
B:tanpa mulsa +PG	6	1231,39	205.23
C:mulsa plastik+PL	6	1405	234.17
D:mulsa plastik+PG	6	1516,08	252.68

HASIL ANALISIS VARIAN

SK	JK	DB	KT	Nilai F	Nilai peluang	F tabel
Perlakuan	10.042,94	3	3.347,647	3,124171	0,048805	4,938193
Galat	21.430,63	20	1.071,531			
Total	31.473,57	23				

TABEL HASIL AKHIR UJI DUCAN

Perlakuan	Rata-rata tinggitanaman cm	Notasi
A = tanpa mulsa plastik + POC lamtoro	204,11	c
B = tanpa mulsa plastik + POC gamal	205,23	c
C = mulsa plastik + POC lamtoro	234,17	b
D = tanpa mulsa plastik + POC gamal	252,68	a

Lampiran 5. Dokumentasi kegiatan penelitian

Gambar 1. persiapan lahan dan pemasangan mulsa



Gambar 2. Aplikasi POC lamtoro dan POC gamal pada tanaman



Gambar 3. Pengukuran tanaman dan pengambilan data



Gambar 4. Penimbangan hasil panen tanaman sawi

