

Lampiran 12. Data dan Analisis Ragam Warna L* (*Lightness*) Nori Selada Air1. Data Warna L* (*Lightness*) Nori Selada Air

Perlakuan	Ulangan			Total	Rata-Rata
	I	II	III		
A1U1	44,43	45,36	56,11	145,90	48,63
A1U2	41,59	42,54	42,97	127,10	42,37
A1U3	46,00	39,99	44,73	130,72	43,57
A2U1	47,37	43,87	43,67	134,91	44,97
A2U2	45,35	41,77	44,59	131,71	43,90
A2U3	49,49	41,46	46,88	137,83	45,94
A3U1	45,73	43,05	47,31	136,09	45,36
A3U2	41,79	42,76	47,01	131,56	43,85
A3U3	43,96	38,50	29,12	111,58	37,19
Total	405,71	379,30	402,39	1187,40	

Tabel 2 Arah

A	U			Total	Rata-Rata
	U1	U2	U3		
A1	145,90	127,10	130,72	403,72	44,86
A2	134,91	131,71	137,83	404,45	44,94
A3	136,09	131,56	111,58	379,23	42,14
Total	416,90	390,37	380,13	1187,40	
Rata-Rata	46,32	43,37	42,24		

2. Analisis Ragam

- Faktor Koreksi (FK)

$$\begin{aligned}
 FK &= \frac{(1187,40)^2}{3 \times 3 \times 3} \\
 &= \frac{140991,87}{27} \\
 &= 52219,21
 \end{aligned}$$

- Jumlah Kuadrat (JK)

$$\begin{aligned}
 JK_{Total} &= \sum_{i=1}^c \sum_{j=1}^e \sum_{k=1}^r Y_{ijk}^2 - FK \\
 &= (44,43^2 + 45,36^2 + 56,11^2 + \dots + 29,12^2) - 52219,21 \\
 &= 523,80
 \end{aligned}$$

$$\begin{aligned}
 JK_{Kelompok} &= \frac{\sum_{k=1}^r Y_{..k}^2}{ab} - FK \\
 &= \frac{(405,71^2 + 379,30^2 + 402,39^2)}{3 \times 3} - 52219,21 \\
 &= 45,99
 \end{aligned}$$

$$\begin{aligned}
 JK_{Perlakuan} &= \sum_{i=1}^c \sum_{j=1}^e Y_{ij}^2 - FK \\
 &= \frac{(145,90^2 + 127,10^2 + 130,72^2 + \dots + 111,58^2)}{3} - 52219,21 \\
 &= 231,75
 \end{aligned}$$

$$JK_{Perlakuan A} = \frac{\sum_{i=1}^p Y_i^2}{f.r} - FK$$

$$= \frac{(403,72^2 + 404,45^2 + 379,23^2)}{3 \times 3} - 52219,21$$

$$= 45,79$$

$$JK_{Perlakuan\ U} = \frac{\sum_{j=1}^f Y_j^2}{p.r} - FK$$

$$= \frac{(416,90^2 + 390,37^2 + 380,13^2)}{3 \times 3} - 52219,21$$

$$= 80,03$$

$$JK_{AxU} = JKP - JKP_A - JKP_U$$

$$= 231,75 - 45,79 - 80,03$$

$$= 105,94$$

$$JK_{Galat} = JK_{Total} - JK_{Kelompok} - JK_{Perlakuan}$$

$$= 523,80 - 45,99 - 231,75$$

$$= 246,06$$

- Kuadrat Tengah (KT)

$$KT = \frac{JK_x}{dbx}$$

- F hitung

$$F_{hitung} = \frac{KT_x}{KT_{galat}}$$

3. Tabel Analysis of Variance (ANOVA)

Sumber Jenis	d.b	J.K.	K.T.	F hitung	F tabel 5%	F tabel 1%	Notasi
Kelompok	2	45,99	22,99	1,50	3,63	6,23	tn
Perlakuan	8	231,75	28,97	1,88	2,59	3,89	tn
A	2	45,79	22,90	1,49	3,63	6,23	tn
U	2	80,03	40,01	2,60	2,20	6,23	tn
AxU	4	105,94	26,48	1,72	3,01	4,77	tn
Galat	16	246,06	15,38				
Total	26	523,80	20,15				

Keterangan: tn (tidak nyata)

Lampiran 13. Data dan Analisis Ragam serta BNJ 5% Warna a* (Redness) Nori Selada Air

1. Data Warna a* (Redness) Nori Selada Air

Perlakuan	Ulangan			Total	Rata-Rata
	I	II	III		
A1U1	1,68	2,28	2,73	6,69	2,23
A1U2	1,49	2,02	2,15	5,66	1,89
A1U3	1,18	1,99	2,17	5,34	1,78
A2U1	1,16	1,10	2,49	4,75	1,58
A2U2	0,63	0,74	1,14	2,51	0,84
A2U3	1,07	1,86	2,63	5,56	1,85
A3U1	1,04	1,68	1,80	4,52	1,51
A3U2	1,02	1,14	2,24	4,40	1,47
A3U3	2,94	3,46	3,69	10,09	3,36
Total	12,21	16,27	21,04	49,52	

Tabel 2 Arah

A	U			Total	Rata-Rata
	U1	U2	U3		
A1	6,69	5,66	5,34	17,69	1,97
A2	4,75	2,51	5,56	12,82	1,42
A3	4,52	4,40	10,09	19,01	2,11
Total	15,96	12,57	20,99	49,52	
Rata-Rata	1,77	1,40	2,33		

2. Analisis Ragam

- Faktor Koreksi (FK)

$$\begin{aligned}
 FK &= \frac{(49,52)^2}{3 \times 3 \times 3} \\
 &= \frac{24522,30}{27} \\
 &= 90,82
 \end{aligned}$$

- Jumlah Kuadrat (JK)

$$\begin{aligned}
 JK_{Total} &= \sum_{i=1}^c \sum_{j=1}^e \sum_{k=1}^r Y_{ijk}^2 - FK \\
 &= (1,68^2 + 2,28^2 + 2,73^2 + \dots + 3,69^2) - 90,82 \\
 &= 16,89
 \end{aligned}$$

$$\begin{aligned}
 JK_{Kelompok} &= \frac{\sum_{k=1}^r Y_{..k}^2}{ab} - FK \\
 &= \frac{(12,21^2 + 16,27^2 + 21,04^2)}{3 \times 3} - 90,82 \\
 &= 4,34
 \end{aligned}$$

$$\begin{aligned}
 JK_{Perlakuan} &= \sum_{i=1}^c \sum_{j=1}^e Y_{ij}^2 - FK \\
 &= \frac{(6,69^2 + 5,66^2 + 5,34^2 + \dots + 4,75^2)}{3} - 90,82 \\
 &= 11,40
 \end{aligned}$$

$$JK_{Perlakuan A} = \frac{\sum_{i=1}^p Y_i^2}{f.r} - FK$$

$$= \frac{(17,69^2 + 12,82^2 + 91,01^2)}{3 \times 3} - 90,82$$

$$= 2,36$$

$$JK_{Perlakuan\ U} = \frac{\sum_{j=1}^f Y_j^2}{p.r} - FK$$

$$= \frac{(15,96^2 + 12,57^2 + 20,99^2)}{3 \times 3} - 90,82$$

$$= 3,99$$

$$JK_{AxU} = JKP - JKP_A - JKP_U$$

$$= 11,40 - 2,36 - 3,99$$

$$= 5,05$$

$$JK_{Galat} = JK_{Total} - JK_{Kelompok} - JK_{Perlakuan}$$

$$= 16,89 - 4,34 - 11,40$$

$$= 1,14$$

- Kuadrat Tengah (KT)

$$KT = \frac{JKx}{dbx}$$

- F hitung

$$F_{hitung} = \frac{KTx}{KT_{galat}}$$

3. Tabel Analysis of Variance (ANOVA)

Sumber Jenis	d.b	J.K.	K.T.	F hitung	F tabel 5%	F tabel 1%	Notasi
Kelompok	2	4,34	2,17	30,36	3,63	6,23	**
Perlakuan	8	11,40	1,43	19,94	2,59	3,89	**
A	2	2,36	1,18	16,52	3,63	6,23	**
U	2	3,99	1,99	27,89	215,71	6,23	**
AxU	4	5,05	1,26	17,67	3,01	4,77	**
Galat	16	1,14	0,07				
Total	26	16,89	0,65				

Keterangan: tn (tidak nyata)

** (sangat nyata)

Uji BNJ 5% Faktor A dan Faktor U

$$= Q_{5(3;16)} \times \sqrt{\frac{KTG}{r}}$$

$$= 3,65 \times \sqrt{\frac{1,63}{3 \times 3}}$$

$$= 3,65 \times 0,09$$

$$= 0,33$$

Uji BNJ 5% Interaksi AxU

$$\begin{aligned}
 BNJ_5 &= Q_{5(p;dbGalat)} \times \sqrt{\frac{KTG}{r}} \\
 &= Q_{5(9;16)} \times \sqrt{\frac{KTG}{r}} \\
 &= 5,031 \times \sqrt{\frac{0,07}{3}} \\
 &= 5,031 \times 0,15 \\
 &= 0,78
 \end{aligned}$$

Lampiran 14. Data dan Analisis Ragam serta BNJ 5% Warna b* (Yellowness) Nori Selada Air

1. Data Warna b* (Yellowness) Nori Selada Air

Perlakuan	Ulangan			Total	Rata-Rata
	I	II	III		
A1U1	3,29	4,46	10,15	17,90	5,97
A1U2	11,45	11,53	14,03	37,01	12,34
A1U3	11,26	16,46	17,28	45,00	15,00
A2U1	10,89	12,66	15,25	38,80	12,93
A2U2	11,48	11,89	11,74	35,11	11,70
A2U3	11,07	11,10	15,47	37,64	12,55
A3U1	10,22	11,67	11,75	33,64	11,21
A3U2	11,44	11,67	12,02	35,13	11,71
A3U3	10,05	11,02	11,56	32,63	10,88
Total	91,15	102,46	119,25	312,86	

Tabel 2 Arah

A	U			Total	Rata-Rata
	U1	U2	U3		
A1	17,90	37,01	45,00	99,91	11,10
A2	38,80	35,11	37,64	111,55	12,39
A3	33,64	35,13	32,63	101,40	11,27
Total	90,34	107,25	115,27	312,86	
Rata-Rata	10,04	11,92	12,81		

2. Analisis Ragam

- Faktor Koreksi (FK)

$$\begin{aligned}
 FK &= \frac{(312,86)^2}{3 \times 3 \times 3} \\
 &= \frac{97881,37}{27} \\
 &= 3625,24
 \end{aligned}$$

- Jumlah Kuadrat (JK)

$$\begin{aligned}
 JK_{Total} &= \sum_{i=1}^c \sum_{j=1}^e \sum_{k=1}^r Y_{ijk}^2 - FK \\
 &= (3,29^2 + 4,46^2 + 10,15^2 + \dots + 11,56^2) - 3625,24 \\
 &= 219,52
 \end{aligned}$$

$$\begin{aligned}
 JK_{Kelompok} &= \frac{\sum_{k=1}^r Y_{..k}^2}{ab} - FK \\
 &= \frac{(91,15^2 + 102,46^2 + 119,25^2)}{3 \times 3} - 3625,24 \\
 &= 44,42
 \end{aligned}$$

$$\begin{aligned}
 JK_{Perlakuan} &= \sum_{i=1}^c \sum_{j=1}^e Y_{ij}^2 - FK \\
 &= \frac{(17,90^2 + 37,01^2 + 45,00^2 + \dots + 28,22^2)}{3} - 3625,24 \\
 &= 141,62
 \end{aligned}$$

$$JK_{Perlakuan A} = \frac{\sum_{i=1}^p Y_i^2}{f.r} - FK$$

$$= \frac{(99,91^2 + 111,55^2 + 101,40^2)}{3 \times 3} - 3625,24$$

$$= 8,92$$

$$JK_{Perlakuan\ U} = \frac{\sum_{j=1}^f Y_j^2}{p.r} - FK$$

$$= \frac{(90,34^2 + 107,25^2 + 115,28^2)}{3 \times 3} - 3625,24$$

$$= 35,99$$

$$JK_{PxF} = JKP - JKP_A - JKP_U$$

$$= 141,62 - 8,92 - 35,99$$

$$= 96,71$$

$$JK_{Galat} = JK_{Total} - JK_{Kelompok} - JK_{Perlakuan}$$

$$= 219,52 - 44,42 - 141,62$$

$$= 33,48$$

- Kuadrat Tengah (KT)

$$KT = \frac{JK_x}{dbx}$$

- F hitung

$$F_{hitung} = \frac{KT_x}{KT_{galat}}$$

3. Tabel Analysis of Variance (ANOVA)

Sumber Jenis	d.b	J.K.	K.T.	F hitung	F tabel 5%	F tabel 1%	Notasi
Kelompok	2	44,42	22,21	10,61	3,63	6,23	**
Perlakuan	8	141,62	17,70	8,46	2,59	3,89	**
A	2	8,92	4,46	2,13	3,63	6,23	tn
U	2	35,99	18,00	8,60	3,63	6,23	**
AxU	4	96,71	24,18	11,55	3,01	4,77	**
Galat	16	33,48	2,09				
Total	26	219,52	8,44				

Keterangan: tn (tidak nyata)

** (sangat nyata)

4. Uji BNJ 5% Faktor U

$$BNJ_5 = Q_{5(p; dbGalat)} \times \sqrt{\frac{KTG}{r}}$$

$$= Q_{5(3; 16)} \times \sqrt{\frac{KTG}{r}}$$

$$= 3,65 \times \sqrt{\frac{33,48}{3 \times 3}}$$

$$= 3,65 \times 0,48$$

$$= 1,76$$

5. Uji BNJ 5% Faktor AxU

$$BNJ_5 = Q_{5(p; dbGalat)} \times \sqrt{\frac{KTG}{r}}$$

$$= Q_{5(9; 16)} \times \sqrt{\frac{KTG}{r}}$$

$$\begin{aligned} &= 5,031 \times \sqrt{\frac{33,48}{3 \times 3}} \\ &= 5,031 \times 0,84 \\ &= 4,20 \end{aligned}$$