

LAMPIRAN DATA

Lampiran Data Kuesioner

No Panelis	Rasa			Tekstur			Warna			Aroma			Jumlah	Rata- rata
	p1	p2	p3	p1	p2	p3	p1	p2	p3	p1	p2	p3		
1	3	3	5	4	4	5	5	5	5	3	3	3	48	4,00
2	4	4	4	5	5	4	5	5	5	5	3	4	53	4,42
3	5	5	5	5	3	4	4	4	4	3	4	3	49	4,08
4	1	2	2	1	3	3	4	2	5	5	5	1	34	2,83
5	4	5	5	5	5	4	4	3	2	3	2	3	45	3,75
6	2	4	5	3	4	5	4	4	4	3	3	3	44	3,67
7	2	2	5	2	3	4	1	4	2	1	2	3	31	2,58
8	5	3	5	5	4	4	4	5	5	4	4	4	52	4,33
9	3	5	5	4	5	5	5	3	4	3	4	3	49	4,08
10	4	4	3	4	4	4	4	5	3	4	4	4	47	3,92
11	4	5	5	3	5	4	3	4	4	3	4	4	48	4,00
12	4	5	2	3	5	3	5	4	3	3	3	2	42	3,50
13	4	5	4	4	5	3	1	5	4	1	3	2	41	3,42
14	4	4	4	5	5	5	5	5	5	2	2	2	48	4,00
15	4	4	4	4	4	4	4	3	4	3	3	3	44	3,67
16	3	5	4	2	5	5	5	5	5	3	3	3	48	4,00
Jumlah	56	65	67	59	69	66	63	66	64	49	52	47	723	60,25
Rata-rata	3,50	4,06	4,19	3,69	4,31	4,13	3,94	4,13	4,00	3,06	3,25	2,94	45,19	

Lampiran Data Hasil Uji Organoleptik Hedonik

1. Rasa

No Panelis	Rasa			Jumlah	Rata- rata
	p1	p2	p3		
1	3	3	5	11	3,67
2	4	4	4	12	4,00
3	5	5	5	15	5,00
4	1	2	2	5	1,67
5	4	5	5	14	4,67
6	2	4	5	11	3,67
7	2	2	5	9	3,00
8	5	3	5	13	4,33
9	3	5	5	13	4,33
10	4	4	3	11	3,67
11	4	5	5	14	4,67
12	4	5	2	11	3,67
13	4	5	4	13	4,33
14	4	4	4	12	4,00
15	4	4	4	12	4,00
16	3	5	4	12	4,00
Jumlah	56	65	67	188	62,67
Rata- rata	3,50	4,06	4,19	11,75	

Faktor Koreksi (FK)

$$\begin{aligned}FK &= (\sum X)^2 / N \\&= 188^2 / 48 \\&= 736,33\end{aligned}$$

Jumlah Kuadrat Total

$$\begin{aligned}JKT &= \sum X^2 - FK \\&= 792 - 736,33 \\&= 55,67\end{aligned}$$

Jumlah Kuadrat Perlakuan (JK Perlakuan / SSB)

$$\begin{aligned}JKP &= \sum Ti^2 / R - FK \\&= (56^2/16 + 65^2/16 + 67^2/16) - 736,33 \\&= (196 + 264,06 + 280,56) - 736,33 \\&= 740,62 - 736,33 \\&= 4,29\end{aligned}$$

Jumlah Kuadrat Galat (JK Error / SSE)

$$\begin{aligned}JK G &= JKT - JKP \\&= 55,6 - 4,29 \\&= 51,38\end{aligned}$$

Derajat Bebas (DB)

- Perlakuan = $T - 1$
 $= 3 - 1$
 $= 2$
- Galat = $T (R-1)$
 $= 3 (16 - 1)$
 $= 3 \times 15$
 $= 45$

- $\text{Total} = (T \times R) - 1$
 $= (3 \times 16) - 1$
 $= 48 - 1$
 $= 47$

Kuadrat Tengah (KT)

- $\text{KTperlakuan} = \text{JKP} / \text{DBP}$
 $= 4,29/2$
 $= 2,15$

- $\text{KT Galat} = \text{JKG} / \text{Galat}$
 $= 51,38/45$
 $= 1,14$

F Hitung

$$F = \text{KTP} / \text{KTG}$$

$$= 2,15 / 1,14$$

$$= 1,88$$

F Tabel

$$5\% = 0,05; \text{db } 2,45)$$

$$= 3,20$$

$$1\% = 0,01; 2,45)$$

$$= 5,12$$

TABEL ANOVA

SK	DB	JK	KT	F Hitung	F Tabel	
					5%	1%
Perlakuan	2	4,29	2,15	1,88	3,20	5,12
Galat	45	51,38	1,14			
Total	47	55,67				

Uji Lanjut (Tukey / BNJ)

$$BNJ = \alpha \sqrt{KTG / N}$$

$$= 3,47 \sqrt{\frac{1,14}{16}}$$

$$= 0,93$$

Rata – rata

P3 : 4,19

P2 : 4,06

P1 : 0,13

Nilai	2	2	3
SSR	0,13	0,56	0,69
LSR	0,76	0,76	0,93

Notasi :

P3 ————— P2
a

P2 ————— P1
a

P3 ————— P1
a

2. Tekstur

No Panelis	Tekstur			Jumlah	Rata- rata
	p1	p2	p3		
1	4	4	5	13	4,33
2	5	5	4	14	4,67
3	5	3	4	12	4,00
4	1	3	3	7	2,33
5	5	5	4	14	4,67
6	3	4	5	12	4,00
7	2	3	4	9	3,00
8	5	4	4	13	4,33
9	4	5	5	14	4,67
10	4	4	4	12	4,00
11	3	5	4	12	4,00
12	3	5	3	11	3,67
13	4	5	3	12	4,00
14	5	5	5	15	5,00
15	4	4	4	12	4,00
16	2	5	5	12	4,00
Jumlah	59	69	66	194	64,67
Rata-rata	3,69	4,31	4,13	12,13	

Faktor Koreksi (FK)

$$FK = (\sum X)^2 / N$$

$$= 194^2 / 48$$

$$= 784.08$$

Jumlah Kuadrat Total

$$JKT = \sum X^2 - FK$$

$$= 827 - 784.08$$

$$= 43.96$$

Jumlah Kuadrat Perlakuan (JK Perlakuan / SSB)

$$JKP = \sum Ti^2 / R - FK$$

$$= (59^2/16 + 69^2/16 + 66^2/16) - 784.08$$

$$= 217.56 + 297.56 + 272.25 - 783.04$$

$$= 3.33$$

Jumlah Kuadrat Galat (JK Error / SSE)

$$\begin{aligned} JKG &= JKT - JKP \\ &= 43.96 - 3.33 \\ &= 40.63 \end{aligned}$$

Derajat Bebas (DB)

- Perlakuan = $T - 1$
 $= 3 - 1$
 $= 2$
- Galat = $T (R - 1)$
 $= 3 (16 - 1)$
 $= 3 \times 15$
 $= 45$
- Total = $(T \times R) - 1$
 $= (3 \times 16) - 1$
 $= 48 - 1$
 $= 47$

Kuadrat Tengah (KT)

$$\begin{aligned} KT_{\text{perlakuan}} &= JKP / DBP \\ &= 3.33 / 2 \\ &= 1.665 \end{aligned}$$

$$\begin{aligned} KT_{\text{Galat}} &= JKG / \text{Galat} \\ &= 40.63 / 45 \\ &= 0.903 \end{aligned}$$

F Hitung

$$\begin{aligned} F &= \text{KTP} / \text{KTG} \\ &= 1.665 / 0.903 \\ &= 1.84 \end{aligned}$$

F Tabel

$$\begin{aligned} 5\% &= 0,05; \text{ db } 2,45) \\ &= 3,20 \\ 1\% &= 0,01; 2,45) \\ &= 5,12 \end{aligned}$$

ANOVA

SK	DB	JK	KT	F Hitung	F Tabel	
					5%	1%
Perlakuan	2	3,33	1,665	1,84	3,20	5,12
galat	45	40,63	0,903			
Total	47	43,96				

Nilai yang digunakan

- q tabel ($\alpha = 0,05$; $k=3$; $db=45$) = 3.40
- KT galat = 0.903
- $n = 16$

Uji Lanjut (Tukey / BNJ)

$$\begin{aligned} \text{BNJ} &= \alpha \sqrt{\text{KTG} / N} \\ &= 3.40 \sqrt{0.903 / 16} \\ &= 3.40 \times 0.237 \\ &= 0.81 \end{aligned}$$

Rata – rata

$$P1 = 3.67$$

$$P2 = 4.00$$

$$P3 = 3.87$$

Nilai	1	2	3
SSR	0,13	0,20	0,33
LSR	0,81	0,81	0,81

Notasi :

P2 ————— P1
a

P3 ————— P1
a

P2 ————— P3
a

3. Warna

No Panelis	warna			Jumlah	Rata- rata
	p1	p2	p3		
1	5	5	5	15	5,00
2	5	5	5	15	5,00
3	4	4	4	12	4,00
4	4	2	5	11	3,67
5	4	3	2	9	3,00
6	4	4	4	12	4,00
7	1	4	2	7	2,33
8	4	5	5	14	4,67
9	5	3	4	12	4,00
10	4	5	3	12	4,00
11	3	4	4	11	3,67
12	5	4	3	12	4,00
13	1	5	4	10	3,33
14	5	5	5	15	5,00
15	4	3	4	11	3,67
16	5	5	5	15	5,00
Jumlah	63	66	64	193	64,33
Rata-rata	3,94	4,13	4,00	12,06	

Faktor Koreksi (FK)

$$\begin{aligned}
 FK &= (\sum X)^2 / N \\
 &= 193^2 / 48 \\
 &= 776.02
 \end{aligned}$$

Jumlah Kuadrat Total

$$\begin{aligned}
 JKT &= \sum X^2 - FK \\
 &= 46.92
 \end{aligned}$$

Jumlah Kuadrat Perlakuan (JK Perlakuan / SSB)

$$\begin{aligned}
 JKP &= \sum Ti^2 / R - FK \\
 &= (63^2/16 + 66^2/16 + 64^2/16) - 776.02 \\
 &= (248.0625 + 272.25 + 256) - 776.02 \\
 &= 0.29
 \end{aligned}$$

Jumlah Kuadrat Galat (JK Error / SSE)

$$\begin{aligned} JKG &= JKT - JKP \\ &= 46.92 - 0.29 \\ &= 46.63 \end{aligned}$$

Derajat Bebas (DB)

- Perlakuan = $T - 1$
 $= 3 - 1$
 $= 2$
- Galat = $T (R - 1)$
 $= 3 (16 - 1)$
 $= 3 \times 15$
 $= 45$
- Total = $(T \times R) - 1$
 $= (3 \times 16) - 1$
 $= 48 - 1$
 $= 47$

Kuadrat Tengah (KT)

$$\begin{aligned} KT_{\text{perlakuan}} &= JKP / DBP \\ &= 0,29 / 2 \\ &= 0.145 \end{aligned}$$

$$\begin{aligned} KT_{\text{Galat}} &= JKG / Galat \\ &= 46.63 / 45 \\ &= 1,04 \end{aligned}$$

F Hitung

$$\begin{aligned} F &= KTP / KTG \\ &= 0.145 / 1,04 \\ &= 0,139 \end{aligned}$$

F Tabel

$$5\% = (0,05; db\ 2,45)$$

$$= 3,20$$

$$1\% = (0,01; 2,45)$$

$$= 5,12$$

ANOVA

SK	DB	JK	KT	F Hitung	F Tabel	
					5%	1%
Perlakuan	2	0,29	0,145	0,139	3,20	5,12
galat	45	46.63	1.04			
Total	47	46,92				

Nilai yang digunakan

- $q\text{ tabel } (\alpha = 0,05; k=3; db=45) = 3.40$
- $KT\text{ galat} = 1.04$
- $n = 16$

Uji Lanjut (Tukey / BNJ)

$$\begin{aligned} BNJ &= \alpha \sqrt{KTG / N} \\ &= 3.40 \sqrt{1.04 / 16} \\ &= 3.40 \times 0.065 \\ &= 0.87 \end{aligned}$$

Rata – rata

$$P1 = 3.94$$

$$P2 = 4.13$$

$$P3 = 4.00$$

Nilai	1	2	3
SSR	0,06	0,13	0,19
LSR	0,87	0,87	0,87

Notasi :

P2 ————— P3
a

P2 ————— P1
a

P3 ————— P1
a

4. Aroma

No Panelis	Aroma			Jumlah	Rata- rata
	p1	p2	p3		
1	3	3	3	9	3,00
2	5	3	4	12	4,00
3	3	4	3	10	3,33
4	5	5	1	11	3,67
5	3	2	3	8	2,67
6	3	3	3	9	3,00
7	1	2	3	6	2,00
8	4	4	4	12	4,00
9	3	4	3	10	3,33
10	4	4	4	12	4,00
11	3	4	4	11	3,67
12	3	3	2	8	2,67
13	1	3	2	6	2,00
14	2	2	2	6	2,00
15	3	3	3	9	3,00
16	3	3	3	9	3,00
Jumlah	49	52	47	148	49,33
Rata-rata	3,06	3,25	2,94	9,25	

Faktor Koreksi (FK)

$$\begin{aligned}
 FK &= (\sum X)^2 / N \\
 &= 148^2 / 48 \\
 &= 456,33
 \end{aligned}$$

Jumlah Kuadrat Total

$$\begin{aligned}
 JKT &= \sum X^2 - FK \\
 &= 341,67
 \end{aligned}$$

Jumlah Kuadrat Perlakuan (JK Perlakuan / SSB)

$$\begin{aligned}
 JKP &= \sum Ti^2 / N - FK \\
 &= (49^2/16 + 52^2/16 + 47^2/16) - 456,33
 \end{aligned}$$

$$= 0.79$$

Jumlah Kuadrat Galat (JK Error / SSE)

$$\begin{aligned} JKG &= JKT - JKP \\ &= 341.67 - 0.79 \\ &= 340.88 \end{aligned}$$

Derajat Bebas (DB)

- Perlakuan = $T - 1$
 $= 3 - 1$
 $= 2$
- Galat = $T (R - 1)$
 $= 3 (16 - 1)$
 $= 3 \times 15$
 $= 45$
- Total = $(T \times R) - 1$
 $= (3 \times 16) - 1$
 $= 48 - 1$
 $= 47$

Kuadrat Tengah (KT)

$$\begin{aligned} KT_{\text{perlakuan}} &= JKP / DBP \\ &= 0.79 / 2 \\ &= 0.39 \end{aligned}$$

$$\begin{aligned} KT_{\text{Galat}} &= JKG / \text{Galat} \\ &= 340.88 / 45 \\ &= 7.57 \end{aligned}$$

F Hitung

$$\begin{aligned} F &= KTP / KTG \\ &= 0.39 / 7.57 \\ &= 0.05 \end{aligned}$$

F Tabel

$$5\% = 0,05; \text{ db } 2,45)$$

$$= 3,20$$

$$1\% = 0,01; 2,45)$$

$$= 5,12$$

ANOVA

SK	DB	JK	KT	F Hitung	F Tabel	
					5%	1%
Perlakuan	2	0.79	0.39	0.05	3,20	5,12
galat	45	340.88	7.57			
Total	47	341.67				

Nilai yang digunakan

- q tabel ($\alpha = 0,05; k=3; \text{ db}=45$) = 3.40
- KT galat = 7.57
- n = 16

Uji Lanjut (Tukey / BNJ)

$$\begin{aligned}
 \text{BNJ} &= \alpha \sqrt{KTG / N} \\
 &= 3.40 \sqrt{7.57 / 16} \\
 &= 3.40 \times 6.87 \\
 &= 2.33
 \end{aligned}$$

Rata – rata

$$P1 = 3.06$$

$$P2 = 3.25$$

$$P3 = 2.94$$

Nilai	1	2	3
SSR	0.12	0,19	0,31
LSR	2.33	2.33	2.33

Notasi :

P2 ————— P1
a

P2 ————— P3
a

P1 ————— P3
a

LAMPIRAN GAMBAR



Proses pengambilan ubi jalar



Ubi dari ketiga lokasi



Pencucian ubi jalar



Pengukusan ubi jalar



Pengecilan ukuran



Uji organoleptik ubi jalar



Pengirisan ukuran ubi jalar



Pengeringan



Pengilingan



pengayakan tepung



Tepung ubi jalar



Tepung Ubi dari ketiga lokasi