

Tabel 66. Analisis DMRT Uji Perbedaan Warna (ΔE) Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

Perbandingan	N	Subset for alpha = .05	
	1	2	1
F0:F3	3	1.95000	
F0:F1	3	2.49333	
F0:F2	3		4.72467
Sig.		.277	1.000

LAMPIRAN 17. Analisis Uji Anova dan DMRT Uji Angka Lempeng Total (ALT) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

Tabel 67. Hasil Uji Angka Lempeng Total (ALT) Roti Kukus Substitusi Tepung Tempe Kacang Tanah

Pengulangan	Uji Angka Lempeng Total (ALT) Roti Kukus Substitusi Tepung Tempe Kacang Tanah : Pati umbi garut			
	0:0 (F0)	9,8:16,3 (F1)	13:13 (F2)	16,3:9,8 (F3)
1	10	0	10	0
2	0	0	10	20
3	370	10	30	0
Rata-rata	126.666	3,333	16,666	6,667

Tabel 68. Analisis ANOVA Uji Angka Lempeng Total (ALT) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	31500.000	3	10500.000	.939	.466
Within Groups	89466.667	8	11183.333		
Total	120966.667	11			

Tabel 69. Analisis DMRT Uji Angka Lempeng Total (ALT) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

Perlakuan	N	Subset for alpha = .05	
	1	1	
F1	3		3.3333
F3	3		6.6667
F2	3		16.6667
K	3		126.6667
Sig.			.216

LAMPIRAN 18. Analisis Uji Anova dan DMRT Uji Angka Kapang Khamir (AKK) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

Tabel 70. Hasil Uji Angka Kapang Khamir (AKK) Roti Kukus Substitusi Tepung Tempe Kacang Tanah

Pengulangan	Uji Angka Kapang Khamir (AKK) Roti Kukus Substitusi Tepung Tempe Kacang Tanah : Pati umbi garut			
	0:0 (F0)	9,8:16,3 (F1)	13:13 (F2)	16,3:9,8 (F3)
1	10	0	10	0
2	0	0	10	20
3	370	10	30	0
Rata-rata	126,666	3,333	16,666	6,667

Tabel 71. Analisis ANOVA Uji Angka Kapang Khamir (AKK) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.000	3	.000	.	.
Within Groups	.000	8	.000		
Total	.000	11			

LAMPIRAN 19. Analisis Uji Anova dan DMRT Uji Organoleptik Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

Tabel 72. Hasil Uji Organoleptik (Warna) Roti Kukus Substitusi Tepung Tempe Kacang Tanah

No	Uji Organoleptik (Warna) Roti Kukus Substitusi Tepung Tempe Kacang Tanah : Pati umbi garut			
	0:0 (F0)	9,8:16,3 (F1)	16,3:9,8 (F2)	13:13 (F3)
1	4	4	4	3
2	4	3	4	4
3	4	3	3	3
4	4	4	4	4
5	3	3	3	3
6	4	4	3	3
7	4	4	3	3
8	3	3	4	3
9	3	3	3	3
10	4	3	3	3
11	3	3	4	4
12	3	3	2	4
13	4	2	4	4

14	3	2	2	2
15	4	4	4	4
16	4	4	3	4
17	3	4	2	3
18	4	4	4	4
19	3	2	3	3
20	3	3	3	3
21	3	3	4	3
22	4	4	4	4
23	2	3	2	2
24	3	4	2	3
25	2	4	2	3
26	3	3	4	4
27	4	4	4	3
28	3	2	4	3
29	3	4	3	3
30	2	3	4	1
Rata-rata	3,333	3,300	3,266	3,200

Tabel 73. Hasil Uji Organoleptik (Aroma) Roti Kukus Substitusi Tepung Tempe Kacang Tanah

No	Uji Organoleptik (Aroma) Roti Kukus Substitusi Tepung Tempe Kacang Tanah : Pati umbi garut			
	0:0 (F0)	9,8:16,3 (F1)	16,3:9,8 (F2)	13:13 (F3)
1	4	4	3	3
2	3	2	3	4
3	4	3	3	3
4	3	4	4	3
5	3	4	4	3
6	3	3	3	3
7	4	4	3	3
8	3	2	3	3
9	2	2	3	3
10	4	3	3	3
11	3	4	4	3
12	2	3	3	4
13	3	2	3	2
14	2	2	3	2
15	4	3	4	4
16	3	4	3	4
17	3	4	3	3
18	3	2	3	4
19	3	3	3	3
20	3	4	2	3
21	3	3	4	2
22	4	4	4	4

23	3	4	2	2
24	3	4	2	2
25	3	3	2	2
26	2	3	2	3
27	3	4	3	2
28	3	3	4	3
29	3	4	2	4
30	3	4	2	1
Rata-rata	3.066	3.266	3.000	2.933

Tabel 74. Hasil Uji Organoleptik (Rasa) Roti Kukus Substitusi Tepung Tempe Kacang Tanah

No	Uji Organoleptik (Rasa) Roti Kukus Substitusi Tepung Tempe Kacang Tanah : Pati umbi garut			
	0:0 (F0)	9,8:16,3 (F1)	16,3:9,8 (F2)	13:13 (F3)
1	4	3	2	2
2	4	2	3	3
3	3	2	2	3
4	3	4	4	4
5	4	4	4	4
6	4	4	3	2
7	3	4	3	4
8	2	3	4	2
9	3	3	4	3
10	3	4	3	4
11	4	3	4	3
12	3	4	4	4
13	4	4	4	3
14	2	2	3	4
15	4	3	4	3
16	3	4	2	3
17	4	4	2	3
18	4	3	4	4
19	3	3	2	3
20	3	4	3	3
21	4	4	3	3
22	4	3	2	2
23	2	3	1	3
24	3	4	2	3
25	3	4	2	3
26	3	3	4	4
27	3	4	3	3
28	3	3	4	3
29	3	4	2	4
30	4	3	1	2
Rata-rata	3.300	3.400	2.933	3.133

Tabel 75. Hasil Uji Organoleptik (Tekstur) Roti Kukus Substitusi Tepung Tempe Kacang Tanah

No	Uji Organoleptik (Tekstur) Roti Kukus Substitusi Tepung Tempe Kacang Tanah : Pati umbi garut			
	0:0 (F0)	9,8:16,3 (F1)	16,3:9,8 (F2)	13:13 (F3)
1	4	3	2	2
2	3	3	4	2
3	3	3	2	3
4	4	3	3	4
5	3	3	4	3
6	4	4	3	3
7	4	3	2	3
8	3	2	2	2
9	3	3	4	4
10	4	2	2	3
11	2	3	4	4
12	2	3	3	4
13	3	2	4	4
14	2	3	4	3
15	2	3	3	2
16	3	4	4	4
17	3	3	4	3
18	2	2	3	3
19	2	2	3	3
20	3	4	3	3
21	3	2	2	1
22	3	3	4	3
23	2	4	1	3
24	2	4	2	2
25	4	3	1	3
26	4	3	4	4
27	3	4	3	3
28	3	2	4	2
29	4	4	2	4
30	3	4	1	2
Rata-rata	3.000	3.033	2.900	2.966

LAMPIRAN 20. Perhitungan Uji Kadar Lemak Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$\text{Kadar Lemak (\%)} = \frac{W_1 - W_2}{W_3} =$$

$$\begin{aligned} \text{Kadar Lemak Tepung Tempe Kacang Tanah (\%)} &= \frac{3,469 - 2,447}{2} \\ &= 51,100 \end{aligned}$$

$$\begin{aligned} \text{Kadar Lemak Tepung Tempe Kacang Tanah (\%)} &= \frac{3,959 - 2,939}{2} \\ &= 51,000 \end{aligned}$$

$$\begin{aligned} \text{Kadar Lemak Tepung Tempe Kacang Tanah (\%)} &= \frac{3,475 - 2,447}{2} \\ &= 51,400 \end{aligned}$$

$$\text{Kadar Lemak Perlakuan K (\%)} = \frac{4,377 - 4,364}{3} = 0,433$$

$$\text{Kadar Lemak Perlakuan K (\%)} = \frac{4,251 - 4,237}{3,001} = 0,467$$

$$\text{Kadar Lemak Perlakuan K (\%)} = \frac{4,302 - 4,288}{3,001} = 0,467$$

$$\text{Kadar Lemak Perlakuan A (\%)} = \frac{4,519 - 4,386}{3} = 4,433$$

$$\text{Kadar Lemak Perlakuan A (\%)} = \frac{4,274 - 4,140}{3} = 4,467$$

$$\text{Kadar Lemak Perlakuan A (\%)} = \frac{4,385 - 4,250}{3} = 4,500$$

$$\text{Kadar Lemak Perlakuan B (\%)} = \frac{4,230 - 4,016}{3} = 7,133$$

$$\text{Kadar Lemak Perlakuan B (\%)} = \frac{4,119 - 3,905}{3} = 7,133$$

$$\text{Kadar Lemak Perlakuan B (\%)} = \frac{4,204 - 3,990}{3,001} = 7,131$$

$$\text{Kadar Lemak Perlakuan C (\%)} = \frac{4,129 - 3,981}{3} = 4,933$$

$$\text{Kadar Lemak Perlakuan C (\%)} = \frac{4,008 - 3,852}{3} = 5,200$$

$$\text{Kadar Lemak Perlakuan C (\%)} = \frac{4,206 - 4,035}{3} = 5,700$$

LAMPIRAN 21. Perhitungan Uji Kadar Abu Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$\text{Kadar Abu (\%)} = \frac{W_2 - W_1}{W_3} =$$

$$\text{Kadar Abu Tepung Tempe Kacang Tanah (\%)} = \frac{16,594 - 16,577}{1} = 1,700$$

$$\text{Kadar Abu Tepung Tempe Kacang Tanah (\%)} = \frac{13,473 - 13,457}{1} = 1,600$$

$$\text{Kadar Abu Tepung Tempe Kacang Tanah (\%)} = \frac{16,551 - 16,536}{1} = 1,500$$

$$\text{Kadar Abu Perlakuan K (\%)} = \frac{16,927 - 16,922}{1,005} = 0,498$$

$$\text{Kadar Abu Perlakuan K (\%)} = \frac{16,257 - 16,253}{1,003} = 0,399$$

$$\text{Kadar Abu Perlakuan K (\%)} = \frac{13,434 - 13,430}{1} = 0,400$$

$$\text{Kadar Abu Perlakuan A (\%)} = \frac{16,255 - 16,253}{1,002} = 0,200$$

$$\text{Kadar Abu Perlakuan A (\%)} = \frac{16,925 - 16,923}{1,004} = 0,199$$

$$\text{Kadar Abu Perlakuan A (\%)} = \frac{13,731 - 13,728}{1} = 0,300$$

$$\text{Kadar Abu Perlakuan B (\%)} = \frac{16,481 - 16,477}{1,002} = 0,399$$

$$\text{Kadar Abu Perlakuan B (\%)} = \frac{16,503 - 16,499}{1} = 0,400$$

$$\text{Kadar Abu Perlakuan B (\%)} = \frac{17,400 - 17,398}{1,001} = 0,200$$

$$\text{Kadar Abu Perlakuan C (\%)} = \frac{17,606 - 17,602}{1,005} = 0,398$$

$$\text{Kadar Abu Perlakuan C (\%)} = \frac{17,400 - 17,396}{1,003} = 0,399$$

$$\text{Kadar Abu Perlakuan C (\%)} = \frac{13,551 - 13,548}{1} = 0,300$$

LAMPIRAN 22. Perhitungan Uji Kadar Serat Tidak Larut Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$\text{Kadar Serat Tidak Larut (\%)} = \frac{W_2 - W_1}{W} \times 100$$

$$\begin{aligned} \text{Kadar Serat Tidak Larut Tepung Tempe Kacang Tanah (\%)} &= \frac{1,057 - 0,956}{1,002} \\ &= 10,080 \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat Tidak Larut Tepung Tempe Kacang Tanah (\%)} &= \frac{1,083 - 0,981}{1,002} \\ &= 10,180 \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat Tidak Larut Tepung Tempe Kacang Tanah (\%)} &= \frac{1,082 - 0,967}{1,002} \\ &= 11,477 \end{aligned}$$

$$\text{Kadar Serat Tidak Larut Perlakuan K (\%)} = \frac{0,983 - 0,998}{1,002} = 2,30$$

$$\text{Kadar Serat Tidak Larut Perlakuan K (\%)} = \frac{0,998 - 0,978}{1} = 2,00$$

$$\text{Kadar Serat Tidak Larut Perlakuan K (\%)} = \frac{1,005 - 0,971}{1} = 3,40$$

$$\text{Kadar Serat Tidak Larut Perlakuan A (\%)} = \frac{1,047 - 0,991}{1} = 5,600$$

$$\text{Kadar Serat Tidak Larut Perlakuan A (\%)} = \frac{1,039 - 0,973}{1,039} = 6,600$$

$$\text{Kadar Serat Tidak Larut Perlakuan A (\%)} = \frac{1,043 - 0,987}{1} = 5,600$$

$$\text{Kadar Serat Tidak Larut Perlakuan B (\%)} = \frac{1,013 - 0,983}{1} = 3,000$$

$$\text{Kadar Serat Tidak Larut Perlakuan B (\%)} = \frac{1,013 - 0,977}{1} = 3,600$$

$$\text{Kadar Serat Tidak Larut Perlakuan B (\%)} = \frac{1,013 - 0,98}{1} = 3,300$$

$$\text{Kadar Serat Tidak Larut Perlakuan C (\%)} = \frac{1,004 - 0,969}{1,002} = 3,493$$

$$\text{Kadar Serat Tidak Larut Perlakuan C (\%)} = \frac{0,990 - 0,95}{1,002} = 3,992$$

$$\text{Kadar Serat Tidak Larut Perlakuan C (\%)} = \frac{1,008 - 0,975}{1,002} = 3,293$$

LAMPIRAN 23. Perhitungan Uji Kadar Serat Larut Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$\text{Kadar Serat Larut (\%)} = \frac{(W_2 - W_1) - \text{berat celite}}{W_3} \times 100\%$$

$$\begin{aligned} \text{Kadar Serat Larut Tepung Tempe Kacang Tanah (\%)} &= \frac{(1,295 - 0,959) - 0,250}{1,002} \\ &= 8,583 \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat Larut Tepung Tempe Kacang Tanah (\%)} &= \frac{(1,293 - 0,957) - 0,250}{1,002} \\ &= 8,583 \end{aligned}$$

$$\begin{aligned} \text{Kadar Serat Larut Tepung Tempe Kacang Tanah (\%)} &= \frac{(1,274 - 0,953) - 0,250}{1,002} \\ &= 7,086 \end{aligned}$$

$$\begin{aligned}
\text{Kadar Serat Larut Perlakuan K}(\%) &= \frac{(1,350 - 0,971) - 0,250}{1,002} = 12,874 \\
\text{Kadar Serat Larut Perlakuan K}(\%) &= \frac{(1,361 - 0,978) - 0,250}{1} = 13,300 \\
\text{Kadar Serat Larut Perlakuan K}(\%) &= \frac{(1,363 - 0,982) - 0,250}{1} = 13,100 \\
\text{Kadar Serat Larut Perlakuan A}(\%) &= \frac{(1,402 - 0,984) - 0,250}{1} = 16,800 \\
\text{Kadar Serat Larut Perlakuan A}(\%) &= \frac{(1,406 - 0,985) - 0,250}{1,039} = 17,100 \\
\text{Kadar Serat Larut Perlakuan A}(\%) &= \frac{(1,411 - 0,988) - 0,250}{1} = 17,300 \\
\text{Kadar Serat Larut Perlakuan B}(\%) &= \frac{(1,360 - 0,974) - 0,250}{1} = 13,600 \\
\text{Kadar Serat Larut Perlakuan B}(\%) &= \frac{(1,290 - 0,908) - 0,250}{1} = 13,200 \\
\text{Kadar Serat Larut Perlakuan B}(\%) &= \frac{(1,372 - 0,976) - 0,250}{1} = 14,600 \\
\text{Kadar Serat Larut Perlakuan C}(\%) &= \frac{(1,287 - 0,961) - 0,250}{1,002} = 7,585 \\
\text{Kadar Serat Larut Perlakuan C}(\%) &= \frac{(1,300 - 0,968) - 0,250}{1,002} = 8,184 \\
\text{Kadar Serat Larut Perlakuan C}(\%) &= \frac{(1,298 - 0,968) - 0,250}{1,002} = 7,984
\end{aligned}$$

LAMPIRAN 24. Perhitungan Uji Kadar Karbohidrat Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$\% \text{Karbohidrat} = 100\% - (\% \text{air} + \% \text{lemak} + \% \text{protein} + \% \text{abu})$$

$$\text{Kadar Karbohidrat Tepung Tempe Kacang Tanah}(\%) = 100 - (5.48 + 51.1 + 31.164 + 1.7) = 10.556$$

$$\text{Kadar Karbohidrat Tepung Tempe Kacang Tanah}(\%) = 100 - (4.96 + 51 + 30.025 + 1.6) = 12.415$$

$$\text{Kadar Karbohidrat Tepung Tempe Kacang Tanah}(\%) = 100 - (4.92 + 51.4 + 30.553 + 1.5) = 11.627$$

$$\text{Kadar Karbohidrat Perlakuan K}(\%) = 100 - (31.17 + 0.433 + 0.557 + 0.498) = 67.342$$

$$\text{Kadar Karbohidrat Perlakuan K}(\%) = 100 - (30.61 + 0.467 + 1.616 + 0.399) = 66.908$$

$$\text{Kadar Karbohidrat Perlakuan K}(\%) = 100 - (30.34 + 0.467 + 0.848 + 0.4) = 67.945$$

$$\text{Kadar Karbohidrat Perlakuan A}(\%) = 100 - (32.15 + 4.467 + 1.996 + 0.2) = 61.187$$

$$\text{Kadar Karbohidrat Perlakuan A}(\%) = 100 - (31.94 + 4.5 + 1.826 + 0.199) = 61.535$$

$$\text{Kadar Karbohidrat Perlakuan A}(\%) = 100 - (32.35 + 4.433 + 1.743 + 0.3) = 61.174$$

$$\text{Kadar Karbohidrat Perlakuan B (\%)} = 100 - (33.86 + 7.133 + 8.954 + 0.399) = 49.654$$

$$\text{Kadar Karbohidrat Perlakuan B (\%)} = 100 - (32.71 + 7.133 + 9.67 + 0.4) = 50.087$$

$$\text{Kadar Karbohidrat Perlakuan B (\%)} = 100 - (32.79 + 7.131 + 9.916 + 0.2) = 49.963$$

$$\text{Kadar Karbohidrat Perlakuan C (\%)} = 100 - (29.08 + 4.933 + 2.387 + 0.398) = 63.202$$

$$\text{Kadar Karbohidrat Perlakuan C (\%)} = 100 - (28.41 + 5.7 + 2.034 + 0.399) = 63.457$$

$$\text{Kadar Karbohidrat Perlakuan C (\%)} = 100 - (29.9 + 5.2 + 2.842 + 0.300) = 61.758$$

LAMPIRAN 25. Perhitungan Uji Volume Spesifik Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$SV = \frac{V}{m}$$

$$\text{Volume Spesifik Perlakuan K (\%)} = \frac{590}{232} = 2,543$$

$$\text{Volume Spesifik Perlakuan K (\%)} = \frac{580}{233} = 2,489$$

$$\text{Volume Spesifik Perlakuan K (\%)} = \frac{600}{231,5} = 2,592$$

$$\text{Volume Spesifik Perlakuan A (\%)} = \frac{620}{227,8} = 2,722$$

$$\text{Volume Spesifik Perlakuan A (\%)} = \frac{610}{228,2} = 2,673$$

$$\text{Volume Spesifik Perlakuan A (\%)} = \frac{605}{226,1} = 2,676$$

$$\text{Volume Spesifik Perlakuan B (\%)} = \frac{532}{224,3} = 2,372$$

$$\text{Volume Spesifik Perlakuan B (\%)} = \frac{536}{225,2} = 2,380$$

$$\text{Volume Spesifik Perlakuan B (\%)} = \frac{540}{224,7} = 2,403$$

$$\text{Volume Spesifik Perlakuan C (\%)} = \frac{576}{225,5} = 2,554$$

$$\text{Volume Spesifik Perlakuan C (\%)} = \frac{574}{224,8} = 2,553$$

$$\text{Volume Spesifik Perlakuan C (\%)} = \frac{568}{225,7} = 2,517$$

LAMPIRAN 26. Perhitungan Uji Warna Diagram Konica Minolta Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$x = \frac{a + 1,75L}{5,645 L + a - 3,012b}$$

$$y = \frac{1,786L}{5,645 L + a - 3,012b}$$

x Perlakuan K	y Perlakuan K
$= \frac{6,3 + 1,75 (57,4)}{5,645 (57,4) + 6,3 - 3,012(25)}$	$= \frac{1,786(57,4)}{5,645 (57,4) + 6,3 - 3,012(25)}$
= 0,362	= 0,401
x Perlakuan K	y Perlakuan K
$= \frac{6,1 + 1,75 (57,3)}{5,645 (57,3) + 6,1 - 3,012(24,6)}$	$= \frac{1,786(57,3)}{5,645 (57,3) + 6,1 - 3,012(24,6)}$
= 0,360	= 0,400
x Perlakuan K	y Perlakuan K
$= \frac{6,1 + 1,75 (57,6)}{5,645 (57,6) + 6,1 - 3,012(24,7)}$	$= \frac{1,786(57,6)}{5,645 (57,6) + 6,1 - 3,012(24,7)}$
= 0,362	= 0,400
x Perlakuan A	y Perlakuan A
$= \frac{7,6 + 1,75 (58,7)}{5,645 (58,7) + 7,6 - 3,012(27,1)}$	$= \frac{1,786(58,7)}{5,645 (58,7) + 7,6 - 3,012(27,1)}$
= 0,372	= 0,407
x Perlakuan A	y Perlakuan A
$= \frac{7,6 + 1,75 (57,3)}{5,645 (57,3) + 7,6 - 3,012(26,9)}$	$= \frac{1,786(57,3)}{5,645 (57,3) + 7,6 - 3,012(26,9)}$
= 0,374	= 0,409
x Perlakuan A	y Perlakuan A
$= \frac{7,2 + 1,75 (57,7)}{5,645 (57,7) + 7,2 - 3,012(26,3)}$	$= \frac{1,786(57,7)}{5,645 (57,7) + 7,2 - 3,012(26,3)}$
= 0,370	= 0,406
x Perlakuan B	y Perlakuan B
$= \frac{8,4 + 1,75 (57,5)}{5,645 (57,5) + 8,4 - 3,012(28,6)}$	$= \frac{1,786(57,5)}{5,645 (57,5) + 8,4 - 3,012(28,6)}$
= 0,383	= 0,416
x Perlakuan B	y Perlakuan B
$= \frac{6,1 + 1,75 (57,6)}{5,645 (57,6) + 6,1 - 3,012(24,7)}$	$= \frac{1,786(57,6)}{5,645 (57,6) + 6,1 - 3,012(24,7)}$
= 0,388	= 0,420
x Perlakuan B	y Perlakuan B
$= \frac{8,6 + 1,75 (57,1)}{5,645 (57,1) + 8,6 - 3,012(29,3)}$	$= \frac{1,786(57,1)}{5,645 (57,1) + 8,6 - 3,012(29,3)}$
= 0,383	= 0,415
x Perlakuan C	y Perlakuan C
$= \frac{6,8 + 1,75 (56,2)}{5,645 (56,2) + 6,8 - 3,012(25,4)}$	$= \frac{1,786(56,2)}{5,645 (56,2) + 6,8 - 3,012(25,4)}$
= 0,368	= 0,4054

$$\begin{aligned}
 & \text{x Perlakuan C} \\
 & \quad 7 + 1,75 (55,8) \\
 & = \frac{5,645 (55,8) + 7 - 3,012(25,4)}{7 + 1,75 (55,3)} \\
 & = 0,369 \\
 & \text{x Perlakuan C} \\
 & \quad 7 + 1,75 (55,3) \\
 & = \frac{5,645 (57,6) + 7 - 3,012(25,4)}{7 + 1,75 (55,3)} \\
 & = 0,371
 \end{aligned}$$

$$\begin{aligned}
 & \text{y Perlakuan C} \\
 & \quad 1,786(55,8) \\
 & = \frac{5,645 (55,8) + 7 - 3,012(25,4)}{1,786(55,3)} \\
 & = 0,4059 \\
 & \text{y Perlakuan C} \\
 & \quad 1,786(55,3) \\
 & = \frac{5,645 (55,3) + 7 - 3,012(25,4)}{1,786(55,3)} \\
 & = 0,4070
 \end{aligned}$$

LAMPIRAN 27. Perhitungan Uji Perbedaan Warna (ΔE) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$(\Delta E) = \sqrt[3]{(\Delta L)^2 + (\Delta a)^2 + (\Delta b)^2}$$

$$F0:F1 (\Delta E) = \sqrt[3]{(1,69)^2 + (1,69)^2 + (4,41)^2} = 2,791$$

$$F0:F1 (\Delta E) = \sqrt[3]{(0)^2 + (2,25)^2 + (5,29)^2} = 2,746$$

$$F0:F1 (\Delta E) = \sqrt[3]{(0,01)^2 + (1,21)^2 + (2,56)^2} = 1,944$$

$$F0:F2 (\Delta E) = \sqrt[3]{(0,01)^2 + (4,41)^2 + (12,96)^2} = 4,169$$

$$F0:F2 (\Delta E) = \sqrt[3]{(0,04)^2 + (6,25)^2 + (22,09)^2} = 5,327$$

$$F0:F2 (\Delta E) = \sqrt[3]{(0,25)^2 + (4,84)^2 + (16,81)^2} = 4,680$$

$$F0:F3 (\Delta E) = \sqrt[3]{(1,44)^2 + (0,25)^2 + (0,16)^2} = 1,360$$

$$F0:F3 (\Delta E) = \sqrt[3]{(2,25)^2 + (0,81)^2 + (0,64)^2} = 1,924$$

$$F0:F3 (\Delta E) = \sqrt[3]{(5,29)^2 + (0,81)^2 + (0,49)^2} = 2,567$$

LAMPIRAN 28. Perhitungan Uji Angka Lempeng Total (ALT) Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$ALT = \frac{\Sigma C}{[(1 \times n_1) + (0,1 \times n_2) + (0,011 \times n_3)] \times d}$$

Atau

$$ALT = \Sigma C \times \frac{1}{n \times d} =$$

$$ALT K = \frac{37}{[(1 \times 1) \times 0,1]}$$

$$ALT K = \frac{1}{1 \times 0,1} = 10$$

$$ALT A = \frac{1}{1 \times 0,1} = 10$$

$$\text{ALT B} = \frac{2}{1 \times 0,1} = 20$$

$$\text{ALT C} = \frac{1}{1 \times 0,1} = 10$$

$$\text{ALT C} = \frac{1}{1 \times 0,1} = 10$$

$$\text{ALT C} = \frac{3}{1 \times 0,1} = 30$$

LAMPIRAN 29. Perhitungan Kadar Protein Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

$$\%P = w(N) \times PF \times 100\%$$

$$\%P \text{ Tepung Kacang Tanah} = 0,0570 \times 5,46 \times 100\% = 31,165$$

$$\%P \text{ Tepung Kacang Tanah} = 0,0549 \times 5,46 \times 100\% = 30,025$$

$$\%P \text{ Tepung Kacang Tanah} = 0,055 \times 5,46 \times 100\% = 30,545$$

$$\%P \text{ Perlakuan K} = 0,00102 \times 5,46 \times 100\% = 0,558$$

$$\%P \text{ Perlakuan K} = 0,002 \times 5,46 \times 100\% = 1,616$$

$$\%P \text{ Perlakuan K} = 0,00155 \times 5,46 \times 100\% = 0,849$$

$$\%P \text{ Perlakuan A} = 0,00366 \times 5,46 \times 100\% = 1,996$$

$$\%P \text{ Perlakuan A} = 0,00334 \times 5,46 \times 100\% = 1,826$$

$$\%P \text{ Perlakuan A} = 0,00311 \times 5,46 \times 100\% = 1,698$$

$$\%P \text{ Perlakuan B} = 0,0164 \times 5,46 \times 100\% = 8,954$$

$$\%P \text{ Perlakuan B} = 0,01771 \times 5,46 \times 100\% = 9,670$$

$$\%P \text{ Perlakuan B} = 0,01816 \times 5,46 \times 100\% = 9,917$$

$$\%P \text{ Perlakuan C} = 0,00437 \times 5,46 \times 100\% = 2,387$$

$$\%P \text{ Perlakuan C} = 0,00373 \times 5,46 \times 100\% = 2,034$$

$$\%P \text{ Perlakuan C} = 0,00521 \times 5,46 \times 100\% = 2,842$$

LAMPIRAN 30. Hasil Uji Kadar Protein Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut



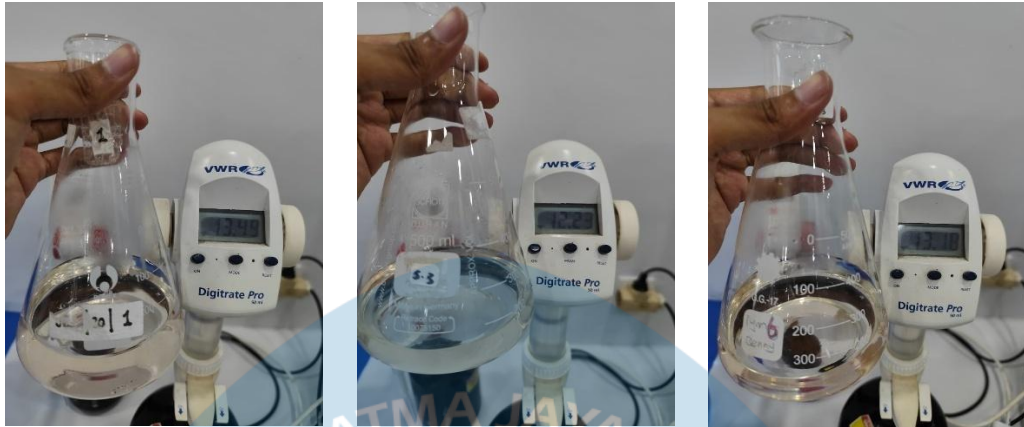
Gambar 7. Hasil Uji Kadar Protein



Gambar 8. Hasil Uji Kadar Protein Perlakuan K



Gambar 9. Hasil Kadar Protein Perlakuan A



Gambar 10. Hasil Kadar Protein Perlakuan B



Gambar 11. Hasil Kadar Protein Perlakuan C

LAMPIRAN 31. Hasil Uji Kadar Air Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut



Gambar 12. Hasil Uji Kadar Air Tepung Tempe Kacang Tanah



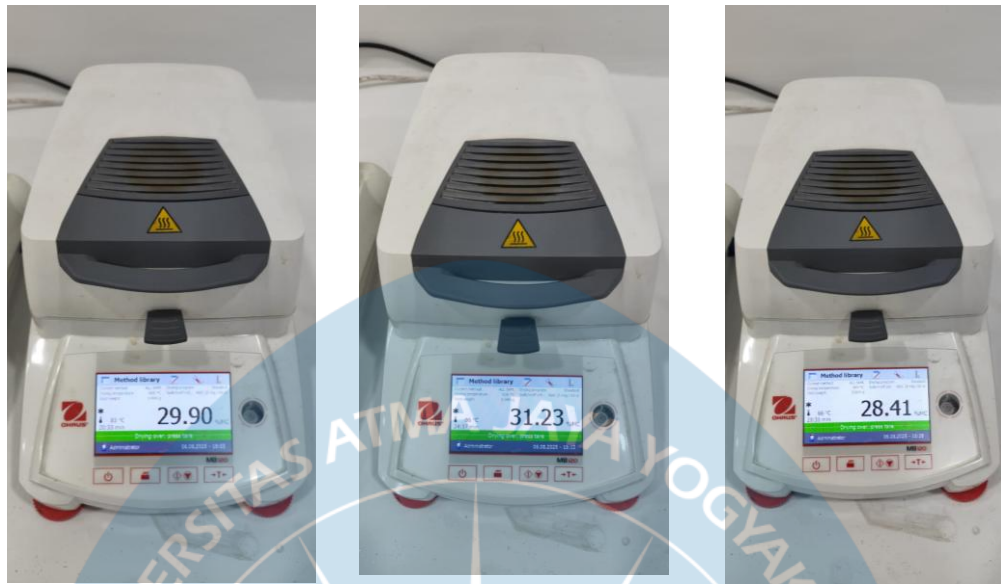
Gambar 13. Hasil Uji Kadar Air Perlakuan K



Gambar 14. Hasil Uji Kadar Air Perlakuan A



Gambar 15. Hasil Uji Kadar Air Perlakuan B



Gambar 16. Hasil Uji Kadar Air Perlakuan C

LAMPIRAN 32. Hasil Uji Kadar Abu Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut



Gambar 17. Hasil Uji Kadar Abu Tepung Tempe Kacang Tanah



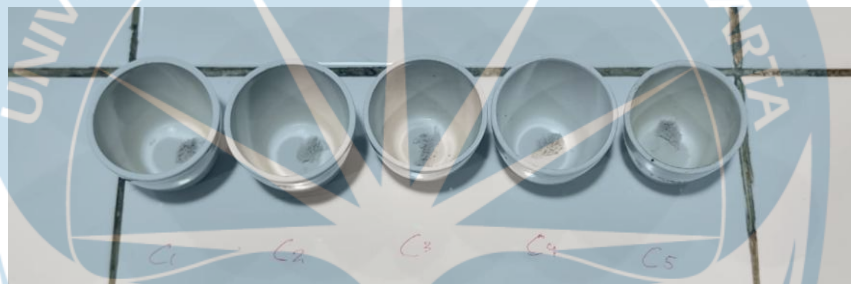
Gambar 18. Hasil Uji Kadar Abu Perlakuan K



Gambar 19. Hasil Uji Kadar Abu Perlakuan A

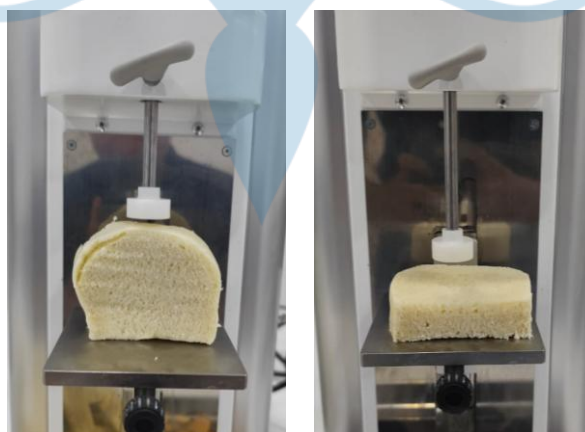


Gambar 20. Hasil Uji Kadar Abu Perlakuan B



Gambar 21. Hasil Uji Kadar Abu Perlakuan C

LAMPIRAN 33. Hasil Uji Tesktur Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut

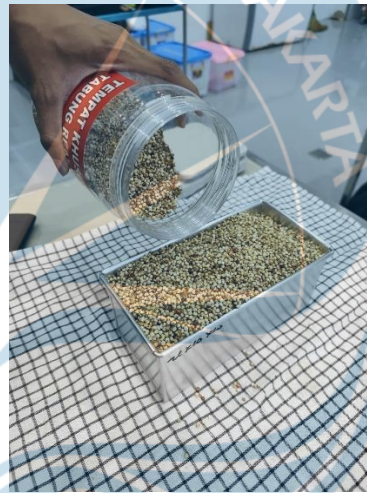


Gambar 22. Hasil Uji Tekstur

LAMPIRAN 34. Hasil Uji Volume Spesifik Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut



Gambar 23. Uji Volume Spesifik Penimbangan Produk



Gambar 24. Uji Volume Spesifik Penuangan Produk dengan Biji



Gambar 25. Uji Volume Spesifik Penyisihan Biji Berlebih



Gambar 26. Uji Volume Spesifik Perhitungan Akhir

LAMPIRAN 35. Hasil Uji Warna Diagram Konica Minolta Roti Kukus Substitusi Tepung Tempe Kacang Tanah dan Pati umbi garut



Gambar 27. Uji Warna Color Reader Diagram Konica Minolta