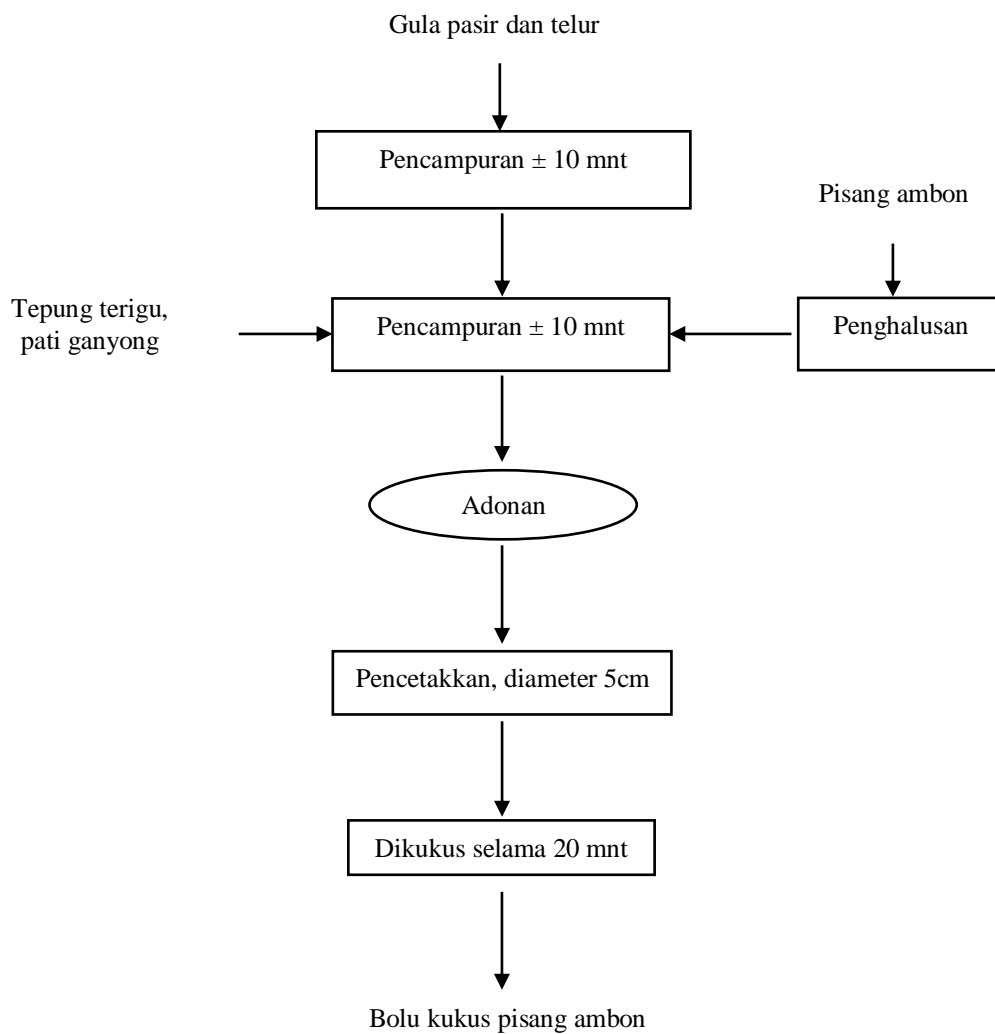
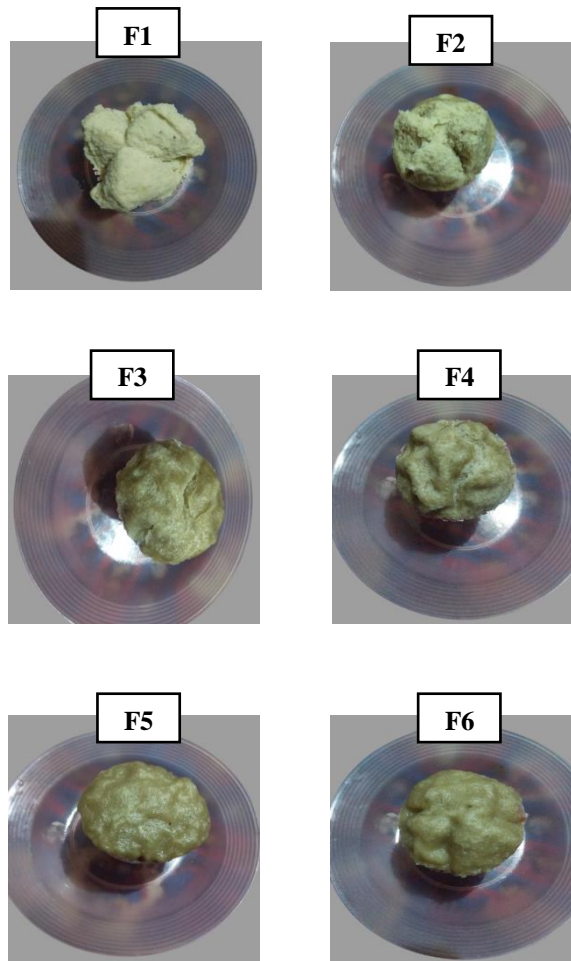


# LAMPIRAN

**Lampiran 1.** Diagram alir pembuatan bolu kukus

Sumber : Sari (2015) yang telah disesuaikan

**Lampiran 2.** Foto sampel bolu kukus pisang ambon**Keterangan :**

- F1 = Tepung terigu 100% dan pati ganyong 0% (250g : 0g)
- F2 = Tepung terigu 90% dan pati ganyong 10% (225g : 25g)
- F3 = Tepung terigu 80% dan pati ganyong 20% (200g : 50g)
- F4 = Tepung terigu 70% dan pati ganyong 30% (175g : 75g)
- F5 = Tepung terigu 60% dan pati ganyong 40% (150g : 100g)
- F6 = Tepung terigu 50% dan pati ganyong 50% (125g : 125g)

**Lampiran 3. Analisa tekstur**Tabel 3.1. Data nilai tekstur (*gf*)

Perlakuan	Ulangan			Jumlah	Rerata
	1	2	3		
F1	29,00	24,40	22,40	75,80	25,27
F2	30,20	26,40	29,80	86,40	28,80
F3	39,60	29,20	34,20	103,00	34,33
F4	38,80	33,60	33,80	106,20	35,40
F5	43,20	33,60	30,60	107,40	35,80
F6	39,80	36,70	33,00	109,50	36,50
Total	220,60	183,90	183,80	588,30	
Rerata	36,77	30,65	30,63		32,68

**Pengolahan data analisa tekstur (*gf*)**

$$\begin{aligned} \text{Faktor Koreksi (FK)} &= \frac{(\text{Total})^2}{t \cdot r} \\ &= \frac{346096.89}{18} \\ &= 19227,61 \end{aligned}$$

$$\begin{aligned} \text{JK Total (JKT)} &= (F1U1^2 + F1U2 + \dots + F6U3^2) - FK \\ &= (29,00^2 + 24,40^2 + \dots + 33,00^2) - 19227,61 \\ &= 526,33 \end{aligned}$$

$$\begin{aligned} \text{JK Perlakuan (JKP)} &= \frac{(JF1)^2 + \dots + (JF6)^2}{r} - FK \\ &= \frac{5745.64 + \dots + 11990.25}{3} - 19227,61 \\ &= 313,41 \end{aligned}$$

$$\begin{aligned} \text{JK Error (JKE)} &= \text{JKT} - \text{JKP} \\ &= 526,33 - 313,41 \\ &= 212,91 \end{aligned}$$

Tabel 3.2. Analisa keragaman tekstur

SK	db	JK	KT	F hitung	F tabel 5% 0.05
Perlakuan	5	313,41	62,68	3,53*	3,11
Error	12	212,91	17,74		
Total	17	526,33			

Keterangan : \*= berpengaruh nyata

**Lampiran 3.** (Lanjutan)

$$KK = \frac{\sqrt{KTE}}{X} \times 100 \% = \frac{\sqrt{17.74}}{32.68} \times 100\% = 12,89\%$$

Uji lanjut BNJ

$$S_y = \sqrt{\frac{KTE}{K}} = 2,43$$

$$\begin{aligned} \text{BNJ } \alpha 0,05 &= Q_{\alpha}(P, V) \times S_y \\ &= Q_{\alpha}(6, 12) \times 2,43 \\ &= 4,51 \times 2,43 \\ &= 10,97 \end{aligned}$$

Tabel 3.3. Uji BNJ 5% pengaruh substitusi pati tepung ganyong terhadap nilai tekstur kue bolu kukus

Perlakuan	Tekstur ( <i>gf</i> ) Rerata	BNJ 5% = 10,97
F1 (100:0)	25,27	a
F2 (90:10)	28,80	ab
F3 (80:20)	34,33	ab
F4 (70:30)	35,40	ab
F5 (60:40)	35,80	ab
F6 (50:50)	36,50	b

**Lampiran 4. Analisa *lightness* (%) Kue bolu kukus**Tabel 4.1. Data nilai *lightness* (%) Kue bolu kukus

Perlakuan	Ulangan			Jumlah	Rerata
	1	2	3		
F1	80,60	81,00	80,80	242,40	80,80
F2	81,00	81,70	79,60	242,30	80,77
F3	75,60	81,10	76,00	232,70	77,57
F4	75,20	74,30	74,00	223,50	74,50
F5	70,00	72,50	78,00	220,50	73,50
F6	73,10	73,10	72,90	219,10	73,03
Total	455,50	463,70	461,30	1380,50	
Rerata	75,92	77,28	76,88		76,69

**Pengolahan data analisa *lightness* (%)**

$$\begin{aligned} \text{Faktor Koreksi(FK)} &= \frac{(\text{Total})^2}{t \cdot r} \\ &= \frac{1380,50^2}{18} \\ &= 105876,68 \\ \\ \text{JK Total (JKT)} &= (F1U1^2 + F1U2 + \dots + F6U3^2) - FK \\ &= (80,60^2 + 81,00^2 + \dots + 72,90^2) - 105876,68 \\ &= 243,5 \\ \\ \text{JK Perlakuan (JKP)} &= \frac{(JF1)^2 + \dots + (JF6)^2}{r} - FK \\ &= \frac{242,40^2 + \dots + 219,10^2}{3} - 105876,68 \\ &= 187,87 \\ \\ \text{JK Error (JKE)} &= \text{JKT} - \text{JKP} \\ &= 243,5 - 187,87 \\ &= 55,48 \end{aligned}$$

Tabel 4.2. Analisa keragaman *lightness* kue bolu kukus

SK	db	JK	KT	F hitung	F tabel5% 0.05
Perlakuan	5	187,87	37,57	8,13*	3,11
Error	12	55,48	4,62		
Total	17	243,5			

Keterangan : \*= berpengaruh nyata

**Lampiran 4.** (Lanjutan)

$$KK = \frac{\sqrt{KTE}}{\bar{x}} \times 100 = \frac{\sqrt{4,62}}{76,69} \times 100\% = 2,80 \%$$

Uji lanjut BNJ

$$Sy = \sqrt{\frac{KTE}{K}} = 1,24$$

$$\begin{aligned} \text{BNJ}_{\alpha 0,05} &= Q_{\alpha}(P, V) \times Sy \\ &= Q_{\alpha}(5, 12) \times 1,24 \\ &= 4,51 \times 1,24 \\ &= 5,60 \end{aligned}$$

Tabel 4.3. Uji BNJ 5% pengaruh substitusi pati ganyong terhadap nilai *lightness* bolu kukus pisang ambon

Perlakuan	Lighness (%) Rerata	BNJ 5% = 5,60
F6	73,03	a
F5	73,50	a
F4	74,50	a
F3	77,57	ab
F2	80,77	b
F1	80,80	b

**Lampiran 5.** Analisa *chroma* (%) Kue bolu kukusTabel 5.1. Data nilai *chroma* (%) Kue bolu kukus

Perlakuan	Ulangan			Jumlah	Rerata
	1	2	3		
F1	26,40	25,50	26,20	78,10	26,03
F2	23,30	25,30	23,50	72,10	24,03
F3	22,90	22,80	24,70	70,40	23,47
F4	24,20	22,30	23,40	69,90	23,30
F5	22,60	20,30	22,60	65,50	21,83
F6	20,50	19,30	22,40	62,20	20,73
Total	139,90	135,50	142,80	418,20	139,40
Rerata	23,32	22,58	24,08		23,23

**Pengolahan data analisa *chroma* (%)**

$$\begin{aligned} \text{Faktor Koreksi(FK)} &= \frac{(\text{Total})^2}{t \cdot r} \\ &= \frac{418,20^2}{18} \\ &= 9716,18 \end{aligned}$$

$$\begin{aligned} \text{JK Total (JKT)} &= (F1U1^2 + F1U2 + \dots + F6U3^2) - \text{FK} \\ &= (26,40^2 + 25,50^2 + \dots + 22,40^2) - 9716,18 \\ &= 65,54 \end{aligned}$$

$$\begin{aligned} \text{JK Perlakuan (JKP)} &= \frac{(JF1)^2 + \dots + (JF6)^2}{r} - \text{FK} \\ &= \frac{78,10^2 + \dots + 62,20^2}{3} - 9716,18 \\ &= 50,25 \end{aligned}$$

$$\begin{aligned} \text{JK Error (JKE)} &= \text{JKT} - \text{JKP} \\ &= 65,54 - 50,25 \\ &= 15,39 \end{aligned}$$



**Lampiran 5.** (Lanjutan)Tabel 5.2. Analisa keragaman *chroma* kue bolu kukus

SK	db	JK	KT	F hitung	F tabel5%
					0.05
Perlakuan	5	50,25	10,05	7,83*	3,11
Error	12	15,39	1,28		
Total	17	65,64			

Keterangan : \*= berpengaruh nyata

$$KK = \frac{\sqrt{KTE}}{\bar{x}} \times 100 = \frac{\sqrt{1,28}}{23,23} \times 100\% = 4,87\%$$

Uji lanjut BNJ

$$Sy = \sqrt{\frac{KTE}{K}} = 0,65$$

$$\begin{aligned} \text{BNJ}_{\alpha 0,05} &= Q_{\alpha}(P, V) \times Sy \\ &= Q_{\alpha}(5, 12) \times 0,65 \\ &= 4,51 \times 0,65 \\ &= 2,95 \end{aligned}$$

Tabel 5.3. Uji BNJ 5% pengaruh substitusi pati ganyong terhadap nilai *chroma* kue bolu kukus

Perlakuan	<i>chroma</i> (%) Rerata	BNJ 5% = 2,95
F6	20,73	a
F5	21,83	ab
F4	23,30	abc
F3	23,47	abc
F2	24,03	bc
F1	26,03	c

**Lampiran 6.** Analisa *Hue* (%) Kue bolu kukusTabel 6.1. Data nilai *Hue* (%) Kue bolu kukus

Perlakuan	Ulangan			Jumlah	Rerata
	1	2	3		
F1	71,60	71,50	71,00	214,10	71,37
F2	72,10	73,20	72,60	217,90	72,63
F3	74,40	74,10	74,00	222,50	74,17
F4	76,60	75,40	73,90	225,90	75,30
F5	75,40	75,30	75,80	226,50	75,50
F6	75,80	75,80	75,10	226,70	75,57
Total	445,90	445,30	442,40	1333,60	
Rerata	74,32	74,22	73,73		74,09

**Pengolahan data analisa *Hue* (%)**

$$\begin{aligned} \text{Faktor Koreksi(FK)} &= \frac{(\text{Total})^2}{t \cdot r} \\ &= \frac{1333,60^2}{18} \\ &= 98804,94 \end{aligned}$$

$$\begin{aligned} \text{JK Total (JKT)} &= (F1U1^2 + F1U2 + \dots + F6U3^2) - \text{FK} \\ &= (71,60^2 + 71,50^2 + \dots + 75,10^2) - 98804,94 \\ &= 50,56 \end{aligned}$$

$$\begin{aligned} \text{JK Perlakuan (JKP)} &= \frac{(JF1)^2 + \dots + (JF6)^2}{r} - \text{FK} \\ &= \frac{214,10^2 + \dots + 226,70^2}{3} - 98804,94 \\ &= 45,53 \end{aligned}$$

$$\begin{aligned} \text{JK Error (JKE)} &= \text{JKT} - \text{JKP} \\ &= 50,56 - 45,53 \\ &= 5,03 \end{aligned}$$

Tabel 6.2. Analisa keragaman *Hue* kue bolu kukus

SK	db	JK	KT	F hitung	F tabel5%
Perlakuan	5	45,53	9,11	21,74*	3,11
Error	12	5,03	0,42		
Total	17	50,56			

Keterangan : \*= berpengaruh nyata

**Lampiran 6.** (Lanjutan)

$$KK = \frac{\sqrt{KTE}}{\bar{x}} \times 100 = \frac{\sqrt{0,42}}{74,09} \times 100\% = 7,52 \%$$

Uji lanjut BNJ

$$S_y = \sqrt{\frac{KTE}{K}} = 0,37$$

$$\begin{aligned} \text{BNJ}_{\alpha 0,05} &= Q_{\alpha}(P, V) \times S_y \\ &= Q_{\alpha}(5, 12) \times 0,37 \\ &= 4,51 \times 0,37 \\ &= 1,69 \end{aligned}$$

Tabel 6.3. Uji BNJ 5% pengaruh substitusi pati ganyong terhadap nilai *hue* bolu kukus pisang ambon

Perlakuan	<i>Hue</i> (%) Rerata	BNJ 5% = 1,69
F1	71,37	a
F2	72,63	ab
F3	74,17	bc
F4	75,30	c
F5	75,50	c
F6	75,57	c

### Lampiran 7. Analisa Kadar Air

Tabel 7.1. Data nilai kadar air kue bolu kukus

perlakuan	ulangan			jumlah	rerata
	U1	U2	U3		
F1	51,9058	57,4220	49,7401	159,07	53,02
F2	36,7927	63,8953	61,6048	162,29	54,10
F3	54,8791	56,6350	52,8859	164,40	54,80
F4	50,2714	63,9172	60,9362	175,12	58,37
F5	60,4642	65,4398	58,6522	184,56	61,52
F6	59,7358	66,5663	62,3484	188,65	62,88
Total	314,05	373,88	346,17	1034,09	
rerata	52,34	62,31	57,69		57,45

Pengolahan data analisa kadar air

#### Pengolahan data analisa kadar air

$$\begin{aligned} \text{Faktor Koreksi (FK)} &= \frac{(\text{Total})^2}{t \cdot r} \\ &= \frac{1069342.13}{18} \\ &= 59408,17 \end{aligned}$$

$$\begin{aligned} \text{JK Total (JKT)} &= (F1U1^2 + F1U2 + \dots + F6U3^2) - FK \\ &= (51,90^2 + 57,42^2 + \dots + 62,34^2) - 59408,17 \\ &= 896,02 \end{aligned}$$

$$\begin{aligned} \text{JK Perlakuan (JKP)} &= \frac{(JF1)^2 + \dots + (JF6)^2}{r} - FK \\ &= \frac{25303.26 + \dots + 35588.82}{3} - 59408,17 \\ &= 254,39 \end{aligned}$$

$$\begin{aligned} \text{JK Error (JKE)} &= \text{JKT} - \text{JKP} \\ &= 896,02 - 254,39 \\ &= 641,63 \end{aligned}$$

Tabel 7.2. Analisa keragaman kadar air

SK	db	JK	KT	F hitung	F tabel 5%
					0.05
Perlakuan	5	254,39	50,88	0,95	3,11
Error	12	641,63	53,47		
Total	17	896,02			

**Lampiran 7.** (Lanjutan)

$$KK = \frac{\sqrt{KTE}}{X} \times 100 \% = \frac{\sqrt{53,47}}{57,45} \times 100\% = 12,73\%$$

**Tidak dilakukan Uji lanjut BNJ karena berpengaruh tidak nyata**

**Lampiran 8. Analisa Kadar Abu**

Tabel 8.1. Data nilai kadar abu kue bolu kukus

perlakuan	ulangan			jumlah	rerata
	U1	U2	U3		
F1	1,78	3,59	3,03	8,40	2,08
F2	3,48	3,94	1,53	8,95	2,98
F3	3,38	3,15	2,60	9,12	3,04
F4	2,88	3,60	2,91	9,39	3,13
F5	3,77	2,79	3,18	9,74	3,25
F6	4,07	3,18	2,73	9,98	3,33
Total	19,35	20,24	15,98	55,58	
rerata	3,23	3,37	2,66		3,09

**Pengolahan data analisa kadar abu**

$$\begin{aligned} \text{Faktor Koreksi (FK)} &= \frac{(\text{Total})^2}{t \cdot r} \\ &= \frac{3089.13}{18} \\ &= 171,61 \end{aligned}$$

$$\begin{aligned} \text{JK Total (JKT)} &= (F1U1^2 + F1U2 + \dots + F6U3^2) - FK \\ &= (1,78^2 + 3,59^2 + \dots + 2,73^2) - 171,61 \\ &= 7,613 \end{aligned}$$

$$\begin{aligned} \text{JK Perlakuan (JKP)} &= \frac{(JF1)^2 + \dots + (JF6)^2}{r} - FK \\ &= \frac{70.56 + \dots + 99.60}{3} - 171,61 \\ &= 0,54 \end{aligned}$$

$$\begin{aligned} \text{JK Error (JKE)} &= \text{JKT} - \text{JKP} \\ &= 7,613 - 0,54 \\ &= 7,07 \end{aligned}$$

Tabel 8.2. Analisa keragaman kadar abu

SK	db	JK	KT	F hitung	F tabel 5%
Perlakuan	5	0,54	0,11	0,18	3,11
Error	12	7,07	0,59		
Total	17	7,61			

$$KK = \frac{\sqrt{KTE}}{X} \times 100 \% = \frac{\sqrt{0,59}}{3,09} \times 100\% = 24,86\%$$

**Tidak dilakukan Uji lanjut BNJ karena berpengaruh tidak nyata**