7. LAMPIRAN

Lampiran 1. Syarat Mutu Es Krim (SNI 01-3713-1995)

No	Kriteria Uji	Satuan	Persyaratan
1.	Keadaan		
	1.1. Penampakan	-	Normal
	1.2. Bau	-	Normal
	1.3. Rasa	-	Normal
2.	Lemak	% b/b	Minimum 5,0
3.	Gula dihitung sebagai sakarosa	% b/b	Minimum 8,0
4.	Protein	% b/b	Minimum 2,7
5.	Jumlah padatan	% b/b	Minimum 3,4
6.	Bahan tambahan makanan		
	6.1. Pewarna tambahan	Sesuai SNI 01 – 0222 – 1995	
	6.2. Pemanis buatan	-	Negatif
	6.3. Pemantap dan pengemulsi	Sesuai SNI 01 – 0222 – 1995	
7.	Cemaran logam		
	7.1. Timbal (Pb)	mg/kg	Maksimum 1,0
	7.2. Tembaga (Cu)	mg/kg	Maksimum 20,0
8.	Cemaran Arsen (Ars)	mg/kg	Maksimum 0,5
9.	Cemaran mikroba		
	9.1. Angka lempeng total	koloni/g	Maksimum $2,0 \times 10^5$
	9.2. MPN Coliform	APM/g	< 3
	9.3. Salmonella	koloni/25 g	Negatif
	9.4. *Listeria SPP*	koloni/25 g	Negatif

Sumber : Badan Standarisasi Nasional Indonesia (1995)

Lampiran 2. *Scoresheet* Sensori

UJI RANKING HEDONIK

Es Krim Kolang Kaling

No. : _____ Tanggal : _____
Nama : _____ Id line : _____

Dihadapan Anda tersedia 5 sampel es krim dengan kode yang berbeda. Anda diminta untuk mencicipi sampel tersebut secara berurutan dari kiri ke kanan. Saat mencicipi sampel, biarkan es krim meleleh dengan sendirinya di dalam mulut Anda. Bilaslah mulut Anda dengan cara berkumur menggunakan air mineral yang telah disediakan untuk menetralkan rasa sebelum mencicipi sampel dan setiap akan berganti pada sampel selanjutnya. Kemudian Anda diminta untuk memberikan skor terhadap **rasa, warna, tekstur, dan keseluruhan (*overall*)** kepada masing-masing sampel dengan menggunakan skala sebagai berikut:
1: sangat suka, 2: suka, 3: agak suka, 4: tidak suka, 5: sangat tidak suka
Penilaian antara 1 sampel dengan sampel lainnya **TIDAK BOLEH SAMA.**

	Kode Sampel				
Aftertaste					
Warna					
Tekstur					
Overall					

- TERIMA KASIH –

Lampiran 3. Data Hasil Pengujian SPSS

1. Analisis Fisikokimiawi : Uji Normalitas & Homogenitas

1.1. Uji Normalitas Data

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
melting_rate	es krim komersial	,250	4	.	,949	4	,710
	es krim kolang-kaling kontrol	,214	4	.	,940	4	,654
	penambahan telang 30 ml	,246	4	.	,920	4	,538
	penambahan telang 40 ml	,275	4	.	,936	4	,632
	penambahan telang 50 ml	,132	4	.	,998	4	,995
L	es krim komersial	,279	4	.	,860	4	,260
	es krim kolang-kaling kontrol	,272	4	.	,946	4	,691
	penambahan telang 30 ml	,245	4	.	,924	4	,561
	penambahan telang 40 ml	,302	4	.	,920	4	,535
	penambahan telang 50 ml	,382	4	.	,789	4	,084
a	es krim komersial	,215	4	.	,941	4	,659
	es krim kolang-kaling kontrol	,269	4	.	,867	4	,285
	penambahan telang 30 ml	,246	4	.	,931	4	,602
	penambahan telang 40 ml	,171	4	.	,994	4	,976
	penambahan telang 50 ml	,286	4	.	,864	4	,276
b	es krim komersial	,277	4	.	,833	4	,176
	es krim kolang-kaling kontrol	,328	4	.	,805	4	,112
	penambahan telang 30 ml	,185	4	.	,980	4	,903
	penambahan telang 40 ml	,291	4	.	,804	4	,110
	penambahan telang 50 ml	,226	4	.	,936	4	,630
overrun	es krim komersial	,259	4	.	,824	4	,153
	es krim kolang-kaling kontrol	,262	4	.	,831	4	,171
	penambahan telang 30 ml	,324	4	.	,901	4	,435
	penambahan telang 40 ml	,262	4	.	,831	4	,171
	penambahan telang 50 ml	,324	4	.	,901	4	,435

a. Lilliefors Significance Correction

Tests of Normality

	perlakuan	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
air	es krim komersial	,260	4	.	,857	4	,251
	es krim kolang-kaling kontrol	,311	4	.	,799	4	,101
	penambahan telang 30 ml	,256	4	.	,884	4	,354
	penambahan telang 40 ml	,252	4	.	,925	4	,566
	penambahan telang 50 ml	,320	4	.	,781	4	,073
padatan	es krim komersial	,260	4	.	,857	4	,251
	es krim kolang-kaling kontrol	,311	4	.	,799	4	,101
	penambahan telang 30 ml	,256	4	.	,884	4	,354
	penambahan telang 40 ml	,252	4	.	,925	4	,566
	penambahan telang 50 ml	,320	4	.	,781	4	,073
abu	es krim komersial	,295	4	.	,856	4	,245
	es krim kolang-kaling kontrol	,243	4	.	,934	4	,619
	penambahan telang 30 ml	,195	4	.	,971	4	,850
	penambahan telang 40 ml	,298	4	.	,922	4	,547
	penambahan telang 50 ml	,291	4	.	,910	4	,480
lemak	es krim komersial	,275	4	.	,886	4	,366
	es krim kolang-kaling kontrol	,281	4	.	,911	4	,485
	penambahan telang 30 ml	,341	4	.	,793	4	,090
	penambahan telang 40 ml	,239	4	.	,939	4	,650
	penambahan telang 50 ml	,285	4	.	,924	4	,562

a. Lilliefors Significance Correction

Tests of Normality

	perlakuan	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
protein	es krim komersial	,154	4	.	,996	4	,986
	es krim kolang-kaling kontrol	,279	4	.	,863	4	,272
	penambahan telang 30 ml	,263	4	.	,947	4	,696
	penambahan telang 40 ml	,241	4	.	,938	4	,640
	penambahan telang 50 ml	,163	4	.	,987	4	,942
karbo	es krim komersial	,266	4	.	,878	4	,329
	es krim kolang-kaling kontrol	,281	4	.	,879	4	,333
	penambahan telang 30 ml	,266	4	.	,936	4	,632
	penambahan telang 40 ml	,195	4	.	,986	4	,939
	penambahan telang 50 ml	,271	4	.	,851	4	,231
sakarosa	es krim komersial	,260	4	.	,912	4	,492
	es krim kolang-kaling kontrol	,305	4	.	,789	4	,084
	penambahan telang 30 ml	,343	4	.	,835	4	,182
	penambahan telang 40 ml	,226	4	.	,976	4	,880
	penambahan telang 50 ml	,318	4	.	,873	4	,310
antioksidan	es krim komersial	,213	4	.	,980	4	,903
	es krim kolang-kaling kontrol	,285	4	.	,811	4	,123
	penambahan telang 30 ml	,208	4	.	,985	4	,931
	penambahan telang 40 ml	,286	4	.	,863	4	,270
	penambahan telang 50 ml	,222	4	.	,971	4	,848

a. Lilliefors Significance Correction

1.2. Uji Homogenitas Data

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
melting_rate	1,223	4	15	,343
L	,537	4	15	,711
a	3,408	4	15	,036
b	10,087	4	15	,000
overrun	4,005	4	15	,021

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
air	3,476	4	15	,034
padatan	3,476	4	15	,034
abu	2,269	4	15	,110
lemak	1,099	4	15	,393
protein	1,554	4	15	,237
karbo	1,078	4	15	,402
sakarosa	,155	4	15	,958
antioksidan	1,877	4	15	,167

2. Analisis Fisikokimiawi : Uji *One Way* ANOVA dan Uji Duncan

2.1. Analisis Fisik

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
melting_rate	Between Groups	195,689	4	48,922	2475,816	,000
	Within Groups	,296	15	,020		
	Total	195,985	19			
L	Between Groups	5040,566	4	1260,142	6508,211	,000
	Within Groups	2,904	15	,194		
	Total	5043,471	19			
a	Between Groups	38,778	4	9,694	508,942	,000
	Within Groups	,286	15	,019		
	Total	39,064	19			
b	Between Groups	3684,126	4	921,031	1077,749	,000
	Within Groups	12,819	15	,855		
	Total	3696,945	19			
overrun	Between Groups	5162,841	4	1290,710	3630,193	,000
	Within Groups	5,333	15	,356		
	Total	5168,174	19			

melting_rate

Duncan[a]

perlakuan	N	Subset for alpha = .05		
		1	2	3
es krim komersial	4	17,3600		
es krim kolang-kaling kontrol	4		24,4150	
penambahan telang 30 ml	4			25,2850
penambahan telang 40 ml	4			25,3500
penambahan telang 50 ml	4			25,4500
Sig.		1,000	1,000	,135

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

overrun

Duncan[a]

perlakuan	N	Subset for alpha = .05	
		1	2
penambahan telang 50 ml	4	41,5608	
penambahan telang 30 ml	4	41,6328	
es krim kolang-kaling kontrol	4	41,6705	
penambahan telang 40 ml	4	41,6705	
es krim komersial	4		81,8005
Sig.		,814	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

L

Duncan[a]

perlakuan	N	Subset for alpha = .05			
		1	2	3	4
penambahan telang 50 ml	4	52,3450			
penambahan telang 40 ml	4		56,8425		
penambahan telang 30 ml	4			59,0650	
es krim komersial	4				88,0325
es krim kolang-kaling kontrol	4				88,3400
Sig.		1,000	1,000	1,000	,339

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

a

Duncan[a]

perlakuan	N	Subset for alpha = .05		
		1	2	3
penambahan telang 30 ml	4	-6,3100		
penambahan telang 40 ml	4		-4,8375	
es krim kolang-kaling kontrol	4		-4,7425	
es krim komersial	4			-2,7925
penambahan telang 50 ml	4			-2,5950
Sig.		1,000	,346	,061

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

b

Duncan[a]

perlakuan	N	Subset for alpha = .05				
		1	2	3	4	5
penambahan telang 50 ml	4	-1,2025				
penambahan telang 40 ml	4		3,4175			
penambahan telang 30 ml	4			6,4300		
es krim komersial	4				21,8475	
es krim kolang-kaling kontrol	4					35,5000
Sig.		1,000	1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

2.2. Analisis Kimia

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
air	Between Groups	25,538	4	6,384	57,392	,000
	Within Groups	1,669	15	,111		
	Total	27,206	19			
padatan	Between Groups	25,538	4	6,384	57,392	,000
	Within Groups	1,669	15	,111		
	Total	27,206	19			
abu	Between Groups	,013	4	,003	18,723	,000
	Within Groups	,003	15	,000		
	Total	,016	19			
lemak	Between Groups	129,548	4	32,387	107,751	,000
	Within Groups	4,509	15	,301		
	Total	134,057	19			
protein	Between Groups	7,718	4	1,930	11,630	,000
	Within Groups	2,489	15	,166		
	Total	10,207	19			
karbo	Between Groups	364,712	4	91,178	117,164	,000
	Within Groups	11,673	15	,778		
	Total	376,385	19			
sakarosa	Between Groups	410,495	4	102,624	65,577	,000
	Within Groups	23,474	15	1,565		
	Total	433,969	19			
antioksidan	Between Groups	115,762	4	28,940	27,799	,000
	Within Groups	15,616	15	1,041		
	Total	131,378	19			

air

Duncan[a]

perlakuan	N	Subset for alpha = .05			
		1	2	3	4
es krim komersial	4	61,9703			
es krim kolang-kaling kontrol	4		63,6632		
penambahan telang 30 ml	4			64,4783	
penambahan telang 40 ml	4			64,7850	64,7850
penambahan telang 50 ml	4				65,1430
Sig.		1,000	1,000	,213	,150

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

padatan

Duncan[a]

perlakuan	N	Subset for alpha = .05			
		1	2	3	4
penambahan telang 50 ml	4	34,8570			
penambahan telang 40 ml	4	35,2150	35,2150		
penambahan telang 30 ml	4		35,5218		
es krim kolang-kaling kontrol	4			36,3368	
es krim komersial	4				38,0298
Sig.		,150	,213	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

abu

Duncan[a]

perlakuan	N	Subset for alpha = .05		
		1	2	3
penambahan telang 50 ml	4	,1503		
penambahan telang 40 ml	4	,1543		
es krim kolang-kaling kontrol	4	,1629	,1629	
penambahan telang 30 ml	4		,1760	
es krim komersial	4			,2213
Sig.		,219	,185	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

lemak

Duncan[a]

perlakuan	N	Subset for alpha = .05	
		1	2
es krim komersial	4	5,2488	
es krim kolang-kaling kontrol	4		11,3676
penambahan telang 50 ml	4		11,5695
penambahan telang 30 ml	4		11,6418
penambahan telang 40 ml	4		11,8248
Sig.		1,000	,294

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

protein

Duncan[a]

perlakuan	N	Subset for alpha = .05		
		1	2	3
penambahan telang 30 ml	4	3,4285		
es krim komersial	4		4,0960	
es krim kolang-kaling kontrol	4		4,6268	4,6268
penambahan telang 50 ml	4			4,7803
penambahan telang 40 ml	4			5,2385
Sig.		1,000	,085	,061

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

karbo

Duncan[a]

perlakuan	N	Subset for alpha = .05		
		1	2	3
penambahan telang 40 ml	4	17,0068		
penambahan telang 50 ml	4	17,2025		
penambahan telang 30 ml	4		19,6270	
es krim kolang-kaling kontrol	4		20,0447	
es krim komersial	4			28,6935
Sig.		,758	,513	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

sakarosa

Duncan[a]

perlakuan	N	Subset for alpha = .05			
		1	2	3	4
penambahan telang 40 ml	4	30,7088			
penambahan telang 30 ml	4	31,7063	31,7063		
penambahan telang 50 ml	4		32,8463	32,8463	
es krim kolang-kaling kontrol	4			34,6988	
es krim komersial	4				43,3200
Sig.		,277	,217	,054	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

antioksidan

Duncan[a]

perlakuan	N	Subset for alpha = .05			
		1	2	3	4
es krim komersial	4	,3543			
es krim kolang-kaling kontrol	4		3,4238		
penambahan telang 40 ml	4		3,9598	3,9598	
penambahan telang 30 ml	4			5,1433	
penambahan telang 50 ml	4				7,7535
Sig.		1,000	,469	,122	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 4,000.

3. Analisis Sensori : Uji Kruskal-Wallis dan Uji Mann-Whitney

Test Statistics[a,b]

	rasa_ aftertaste	warna	tekstur	overall
Chi-Square	23,542	5,530	15,728	24,602
df	4	4	4	4
Asymp. Sig.	,000	,237	,003	,000

a. Kruskal Wallis Test

b. Grouping Variable: perlakuan

K vs K0

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	191,000	323,000	218,500	149,500
Wilcoxon W	656,000	788,000	683,500	614,500
Z	-3,953	-1,921	-3,506	-4,555
Asymp. Sig. (2-tailed)	,000	,055	,000	,000

a. Grouping Variable: perlakuan

K vs A

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	247,000	416,000	370,000	244,000
Wilcoxon W	712,000	881,000	835,000	709,000
Z	-3,103	-,515	-1,215	-3,139
Asymp. Sig. (2-tailed)	,002	,607	,224	,002

a. Grouping Variable: perlakuan

K vs B

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	289,500	412,000	383,000	266,000
Wilcoxon W	754,500	877,000	848,000	731,000
Z	-2,455	-,575	-1,016	-2,804
Asymp. Sig. (2-tailed)	,014	,565	,310	,005

a. Grouping Variable: perlakuan

K vs C

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	262,500	379,000	348,500	240,500
Wilcoxon W	727,500	844,000	813,500	705,500
Z	-2,863	-1,076	-1,538	-3,190
Asymp. Sig. (2-tailed)	,004	,282	,124	,001

a. Grouping Variable: perlakuan

K0 vs A

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	332,000	341,000	262,000	310,500
Wilcoxon W	797,000	806,000	727,000	775,500
Z	-1,798	-1,647	-2,848	-2,120
Asymp. Sig. (2-tailed)	,072	,100	,004	,034

a. Grouping Variable: perlakuan

K0 vs B

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	248,000	325,500	248,500	295,500
Wilcoxon W	713,000	790,500	713,500	760,500
Z	-3,060	-1,886	-3,058	-2,349
Asymp. Sig. (2-tailed)	,002	,059	,002	,019

a. Grouping Variable: perlakuan

K0 vs C

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	309,000	390,500	321,000	354,500
Wilcoxon W	774,000	855,500	786,000	819,500
Z	-2,153	-,904	-1,972	-1,458
Asymp. Sig. (2-tailed)	,031	,366	,049	,145

a. Grouping Variable: perlakuan

A vs B

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	334,500	445,500	424,000	415,500
Wilcoxon W	799,500	910,500	889,000	880,500
Z	-1,763	-,068	-,395	-,524
Asymp. Sig. (2-tailed)	,078	,946	,693	,600

a. Grouping Variable: perlakuan

A vs C

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	410,500	400,500	412,000	409,000
Wilcoxon W	875,500	865,500	877,000	874,000
Z	-,599	-,748	-,574	-,622
Asymp. Sig. (2-tailed)	,549	,454	,566	,534

a. Grouping Variable: perlakuan

B vs C

Test Statistics[a]

	rasa_ aftertaste	warna	tekstur	overall
Mann-Whitney U	397,000	391,000	400,500	395,000
Wilcoxon W	862,000	856,000	865,500	860,000
Z	-,808	-,892	-,748	-,830
Asymp. Sig. (2-tailed)	,419	,372	,455	,406

a. Grouping Variable: perlakuan

Lampiran 5. Pengujian Korelasi Antar Parameter : Uji Korelasi Bivariate (Pearson)

Correlations

		perlakuan	overrun	time_to_melt	air	padatan	abu	lemak	protein	karbo	sakarosa
perlakuan	Pearson Correlation	1	-,708**	,773**	,905**	-,905**	-,756**	,716**	,392	-,848**	-,757**
	Sig. (2-tailed)		,000	,000	,000	,000	,000	,000	,087	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
overrun	Pearson Correlation	-,708**	1	-,992**	-,875**	,875**	,853**	-,978**	-,235	,940**	,932**
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,000	,319	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
time_to_melt	Pearson Correlation	,773**	-,992**	1	,917**	-,917**	-,863**	,978**	,226	-,958**	-,953**
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,000	,339	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
air	Pearson Correlation	,905**	-,875**	,917**	1	-1,000**	-,808**	,860**	,289	-,940**	-,917**
	Sig. (2-tailed)	,000	,000	,000		,000	,000	,000	,216	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
padatan	Pearson Correlation	-,905**	,875**	-,917**	-1,000**	1	,808**	-,860**	-,289	,940**	,917**
	Sig. (2-tailed)	,000	,000	,000	,000		,000	,000	,216	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
abu	Pearson Correlation	-,756**	,853**	-,863**	-,808**	,808**	1	-,860**	-,417	,877**	,775**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000	,068	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
lemak	Pearson Correlation	,716**	-,978**	,978**	,860**	-,860**	-,860**	1	,249	-,950**	-,907**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000		,290	,000	,000
	N	20	20	20	20	20	20	20	20	20	20
protein	Pearson Correlation	,392	-,235	,226	,289	-,289	-,417	,249	1	-,436	-,199
	Sig. (2-tailed)	,087	,319	,339	,216	,216	,068	,290		,055	,400
	N	20	20	20	20	20	20	20	20	20	20
karbo	Pearson Correlation	-,848**	,940**	-,958**	-,940**	,940**	,877**	-,950**	-,436	1	,920**
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,055		,000
	N	20	20	20	20	20	20	20	20	20	20
sakarosa	Pearson Correlation	-,757**	,932**	-,953**	-,917**	,917**	,775**	-,907**	-,199	,920**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	,000	,400	,000	
	N	20	20	20	20	20	20	20	20	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

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85 PENDAHULUANLatar Belakang Kolang-kaling merupakan buah hasil olahan dari pohon aren (Arenga pinnata Merr.). Buah yang akan diolah menjadi kolang-kaling memiliki ciri-ciri, kulit biji buah yang tipis, berwarna kuning, teksturnya lunak, endosperm (inti biji) berwarna putih sedikit bening dan kenyal. Setiap 100 g kolang-kaling mengandung energi sebesar 27 kkal dengan kadar air 93,75%, protein 0,4 gram, lemak 0,2 gram, karbohidrat 6 gram, serat 1,6 gram, kalsium 91 mg, fosfor 243 mg, dan zat besi 0,5 mg (Purwati & Nugrahini, 2018). Oleh karena kandungan gizinya yang cukup lengkap, kolang-kaling sering dimanfaatkan oleh masyarakat menjadi aneka olahan produk pangan, seperti manisan, permen jelly, atau sebagai campuran es buah dan kolak serta minuman segar lainnya. Kolang-kaling yang biasanya diolah sebagai produk pangan adalah kolang-kaling yang memiliki tekstur yang lunak, sedangkan kolang-kaling tua jarang sekali dimanfaatkan dan bahkan dibuang karena teksturnya yang cenderung keras dan kurang diminati. Kolang-kaling tua yang tidak diminati oleh masyarakat dapat dimanfaatkan menjadi olahan produk pangan. 82 Salah satu alternatif pemanfaatan kolang-kaling tua adalah dengan dijadikan bahan baku dalam pembuatan es krim. Es krim merupakan salah satu produk olahan yang banyak digemari oleh masyarakat, khususnya anak-anak