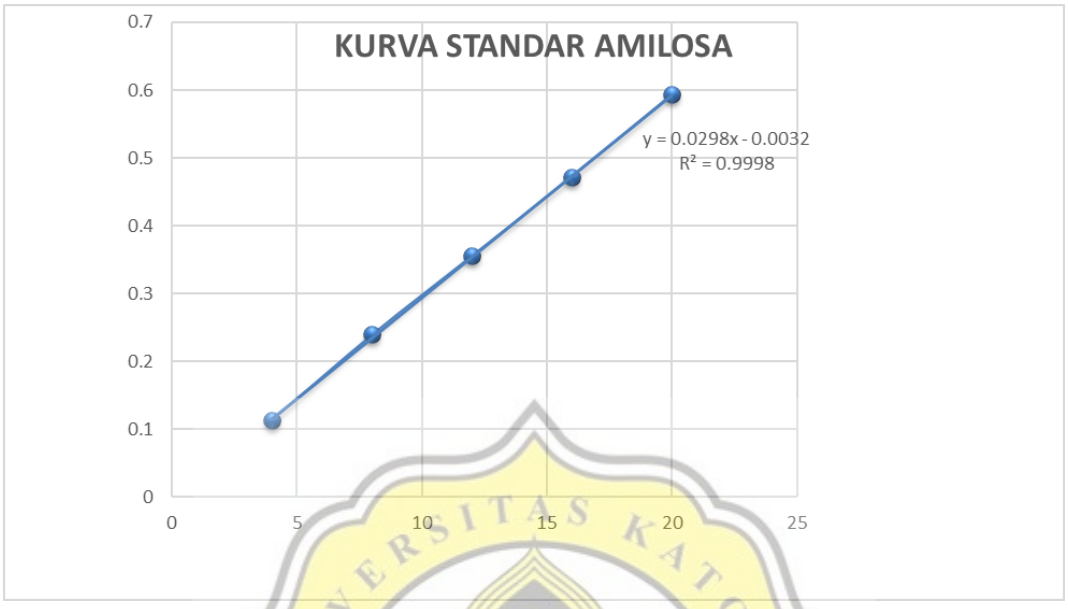
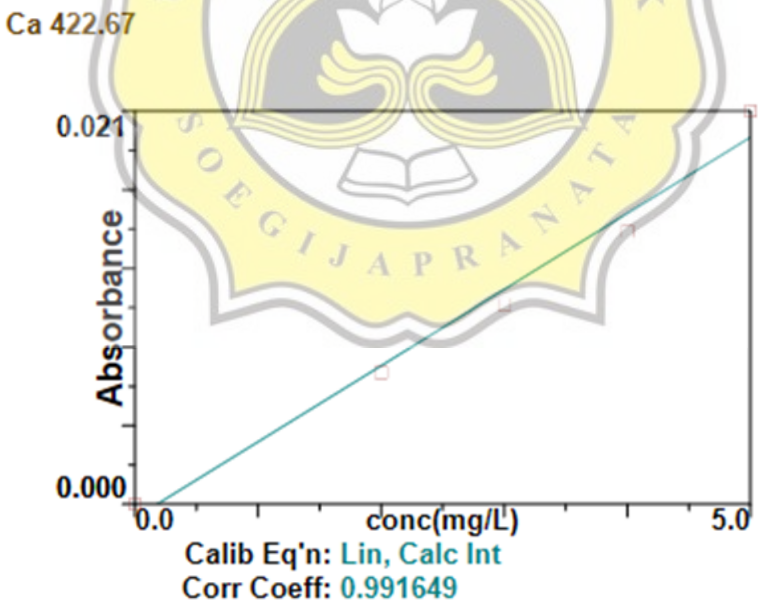
7. LAMPIRAN

Lampiran 1. Kurva Standar



Gambar 16. Kurva Standar Amilosa



Gambar 17. Kurva Standar Kalsium

Lampiran 2. Analisa Data Fermentasi Tepung Jali

7.1. Uji Normalitas

Tests of Normality[a]

		Kolmogorov-Smirnov[b]			Shapiro-Wilk		
	Fermentasi	Statistic	df	Sig.	Statistic	df	Sig.
derajat_brix	JF	.304	6	.088	.795	6	.053
nilai_pH	JNF	.282	6	.147	.841	6	.134
	JF	.275	6	.177	.798	6	.057
kadar_amilosa	JNF	.270	6	.196	.905	6	.405
	JF	.211	6	.200*	.944	6	.693
kadar_pati	JNF	.159	6	.200*	.958	6	.801
	JF	.145	6	.200*	.971	6	.901
kadar_amilopektin	JNF	.160	6	.200*	.954	6	.775
	JF	.144	6	.200*	.974	6	.921

*. This is a lower bound of the true significance.

a. derajat_brix is constant when Fermentasi = JNF. It has been omitted.

b. Lilliefors Significance Correction

7.2. Uji Paired Sample T-Test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	derajat_brix - Fermentasi	10.25000	11.75975	3.39475	2.77821	17.72179	3.019	11	.012
Pair 2	nilai_pH - Fermentasi	3.87917	2.99772	.86537	1.97451	5.78383	4.483	11	.001
Pair 3	kadar_amilosa - Fermentasi	.36724	1.19977	.34634	-.39506	1.12954	1.060	11	.312
Pair 4	kadar_pati - Fermentasi	39.90000	20.93740	6.04411	26.59701	53.20299	6.601	11	.000
Pair 5	kadar_amilopektin - Fermentasi	38.03276	20.26281	5.84937	25.15839	50.90713	6.502	11	.000

Lampiran 3. Analisa Data Produk *Crackers*

7.3. Uji Normalitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Sampel	Statistic	df	Sig.	Statistic	df	Sig.
Hardness	Kontrol	.146	6	.200*	.967	6	.873
	CJ30	.263	6	.200*	.862	6	.197
	CJ40	.249	6	.200*	.924	6	.533
	CJ50	.193	6	.200*	.957	6	.800
Kadar_air	Kontrol	.159	6	.200*	.989	6	.988
	CJ30	.262	6	.200*	.919	6	.499
	CJ40	.140	6	.200*	.995	6	.998
	CJ50	.160	6	.200*	.978	6	.941
Kadar_abu	Kontrol	.231	6	.200*	.911	6	.441
	CJ30	.154	6	.200*	.933	6	.604
	CJ40	.220	6	.200*	.938	6	.642
	CJ50	.182	6	.200*	.955	6	.782
Kadar_protein	Kontrol	.185	6	.200*	.967	6	.875
	CJ30	.201	6	.200*	.966	6	.861
	CJ40	.337	6	.032	.813	6	.077
	CJ50	.165	6	.200*	.927	6	.559
Kadar_lemak	Kontrol	.221	6	.200*	.944	6	.692
	CJ30	.257	6	.200*	.875	6	.246
	CJ40	.182	6	.200*	.961	6	.826
	CJ50	.242	6	.200*	.863	6	.201
Kadar_karbohidrat	Kontrol	.202	6	.200*	.971	6	.900
	CJ30	.170	6	.200*	.970	6	.889
	CJ40	.289	6	.128	.838	6	.126
	CJ50	.233	6	.200*	.932	6	.593
Kadar_kalsium	Kontrol	.295	6	.112	.842	6	.136
	CJ30	.315	6	.064	.709	6	.008
	CJ40	.284	6	.142	.781	6	.039
	CJ50	.308	6	.077	.730	6	.013
Total_kalori	Kontrol	.175	6	.200*	.946	6	.712
	CJ30	.165	6	.200*	.952	6	.753
	CJ40	.156	6	.200*	.965	6	.855
	CJ50	.184	6	.200*	.944	6	.688

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

7.4. Transformasi Data Kadar Kalsium

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Sampel	Statistic	df	Sig.	Statistic	df	Sig.
kadar_kalsium	CJ30	.291	6	.122	.842	6	.137
	CJ40	.288	6	.130	.842	6	.135
	CJ50	.277	6	.167	.825	6	.097

a. Lilliefors Significance Correction

7.5. Uji Anova dan Uji Duncan

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Hardness	Between Groups	908947.196	3	302982.399	25.149	.000
	Within Groups	240945.598	20	12047.280		
	Total	1149892.794	23			
Kadar_air	Between Groups	1.515	3	.505	21.318	.000
	Within Groups	.474	20	.024		
	Total	1.989	23			
Kadar_abu	Between Groups	2.344	3	.781	50.079	.000
	Within Groups	.312	20	.016		
	Total	2.656	23			
Kadar_protein	Between Groups	679.702	3	226.567	148.301	.000
	Within Groups	30.555	20	1.528		
	Total	710.257	23			
Kadar_lemak	Between Groups	4.057	3	1.352	8.982	.001
	Within Groups	3.011	20	.151		
	Total	7.068	23			
Kadar_karbohidrat	Between Groups	693.477	3	231.159	190.888	.000
	Within Groups	24.219	20	1.211		
	Total	717.696	23			
Kadar_kalsium	Between Groups	167.482	3	55.827	3.107	.050
	Within Groups	359.327	20	17.966		
	Total	526.809	23			
Total_kalori	Between Groups	67.318	3	22.439	5.003	.009
	Within Groups	89.709	20	4.485		
	Total	157.026	23			

Hardness

Duncan[a]

Sampel	N	Subset for alpha = 0.05		
		1	2	3
CJ30	6	1431.9537		
CJ40	6		1704.5065	
Kontrol	6			1884.5203
CJ50	6			1925.7333
Sig.		1.000	1.000	.523

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Kadar_air

Duncan[a]

Sampel	N	Subset for alpha = 0.05		
		1	2	3
CJ50	6	5.2571		
CJ40	6		5.5696	
CJ30	6			5.7956
Kontrol	6			5.9173
Sig.		1.000	1.000	.186

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Kadar_abu

Duncan[a]

Sampel	N	Subset for alpha = 0.05		
		1	2	3
Kontrol	6	2.3382		
CJ30	6		2.9477	
CJ40	6		3.0382	3.0382
CJ50	6			3.1411
Sig.		1.000	.223	.169

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Kadar_protein

Duncan[a]

Sampel	N	Subset for alpha = 0.05		
		1	2	3
Kontrol	6	10.1328		
CJ30	6		20.0148	
CJ40	6			22.4049
CJ50	6			23.6956
Sig.		1.000	1.000	.086

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Kadar_lemak

Duncan[a]

Sampel	N	Subset for alpha = 0.05	
		1	2
CJ50	6	12.2692	
CJ40	6	12.5751	
Kontrol	6	12.7010	
CJ30	6		13.3926
Sig.		.082	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Kadar_karbohidrat

Duncan[a]

Sampel	N	Subset for alpha = 0.05		
		1	2	3
CJ50	6	55.6370		
CJ40	6	56.4123		
CJ30	6		57.8493	
Kontrol	6			68.9107
Sig.		.237	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Kadar_kalsium

Duncan[a]

Sampel	N	Subset for alpha = 0.05	
		1	2
Kontrol	6	18.7349	
CJ30	6	22.7703	22.7703
CJ40	6		24.4932
CJ50	6		25.7310
Sig.		.115	.266

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Total_kalori

Duncan[a]

Sampel	N	Subset for alpha = 0.05		
		1	2	3
CJ50	6	427.7532		
CJ40	6	428.4441	428.4441	
Kontrol	6		430.4830	430.4830
CJ30	6			431.9899
Sig.		.578	.111	.232

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 6.000.

Lampiran 4. Uji Korelasi

Correlations

		Hardness	Kadar_air	Kadar_abu	Kadar_protein	Kadar_lemak	Kadar_karbohidrat	Kadar_kalsium
Hardness	Pearson Correlation	1	-.272	-.291	-.187	-.596**	.277	.182
	Sig. (2-tailed)		.199	.168	.382	.002	.190	.393
	N	24	24	24	24	24	24	24
Kadar_air	Pearson Correlation	-.272	1	-.653**	-.733**	.466*	.670**	-.448*
	Sig. (2-tailed)	.199		.001	.000	.022	.000	.028
	N	24	24	24	24	24	24	24
Kadar_abu	Pearson Correlation	-.291	-.653**	1	.903**	-.138	-.911**	.325
	Sig. (2-tailed)	.168	.001		.000	.521	.000	.122
	N	24	24	24	24	24	24	24
Kadar_protein	Pearson Correlation	-.187	-.733**	.903**	1	-.190	-.992**	.596**
	Sig. (2-tailed)	.382	.000	.000		.374	.000	.002
	N	24	24	24	24	24	24	24
Kadar_lemak	Pearson Correlation	-.596**	.466*	-.138	-.190	1	.074	-.291
	Sig. (2-tailed)	.002	.022	.521	.374		.733	.167
	N	24	24	24	24	24	24	24
Kadar_karbohidrat	Pearson Correlation	.277	.670**	-.911**	-.992**	.074	1	-.560**
	Sig. (2-tailed)	.190	.000	.000	.000	.733		.004
	N	24	24	24	24	24	24	24
Kadar_kalsium	Pearson Correlation	.182	-.448*	.325	.596**	-.291	-.560**	1
	Sig. (2-tailed)	.393	.028	.122	.002	.167	.004	
	N	24	24	24	24	24	24	24

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

*. Correlation is significant at the 0.05 level (2-tailed).

Report #13278669

PENDAHULUAN Latar Belakang Di era yang semakin maju ini, banyak sekali inovasi baru dalam pembuatan produk bakery dengan melakukan substitusi tepung terigu menggunakan bahan pangan lokal. Tujuan dilakukan substitusi tepung terigu yaitu selain untuk menambah nilai gizi dari suatu produk yang akan dihasilkan, juga untuk mengurangi impor gandum yang mana semakin tahun terus meningkat. Masyarakat juga cenderung memilih makanan siap saji dan praktis seperti snack atau camilan. Salah satu camilan produk bakery yang banyak dikonsumsi dari semua kalangan yaitu crackers. Menurut Keputusan Kepala BPOM tahun 2006, krekers (crackers) merupakan jenis biskuit dengan bahan berupa adonan terigu dan air, yang dapat difermentasi maupun tidak, memiliki rasa asin, bentuk pipih dan bertekstur renyah. Di Indonesia sendiri gandum sulit untuk ditanam dan dikembangkan karena beriklim tropis dan juga kontur tanah yang berbukit-bukit sehingga tidak cocok untuk menanam gandum. Hal tersebut mengakibatkan Indonesia harus mengimpor