

7. LAMPIRAN

7.1.1. Analisa Fisik Produk

7.1.1.1. Intensitas Warna

Lampiran 1. Tabel Normalitas, Tabel Anova dan Tabel Duncan Intensitas Warna Ekstrudat

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Produk		Statistic	df	Sig.	Statistic	df	Sig.
Parameter_L	Bm	.142	20	.200 [*]	.925	20	.126
	BmJw 25	.136	20	.200 [*]	.951	20	.389
	BmJw 50	.177	20	.102	.949	20	.358
	BmJw 75	.147	20	.200 [*]	.960	20	.549
	BmJw 100	.127	20	.200 [*]	.959	20	.516
Parameter_a	Bm	.166	20	.153	.934	20	.185
	BmJw 25	.134	20	.200 [*]	.967	20	.699
	BmJw 50	.119	20	.200 [*]	.971	20	.768
	BmJw 75	.130	20	.200 [*]	.962	20	.593
	BmJw 100	.153	20	.200 [*]	.954	20	.425
Parameter_b	Bm	.190	20	.057	.917	20	.088
	BmJw 25	.149	20	.200 [*]	.958	20	.513
	BmJw 50	.162	20	.181	.965	20	.642
	BmJw 75	.140	20	.200 [*]	.977	20	.886
	BmJw 100	.126	20	.200 [*]	.940	20	.241

a. Lilliefors Significance Correction

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

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Parameter_L	Between Groups	203.090	4	50.773	68.496	.000
	Within Groups	70.419	95	.741		
	Total	273.509	99			
Parameter_a	Between Groups	72.554	4	18.139	128.835	.000
	Within Groups	13.375	95	.141		
	Total	85.929	99			
Parameter_b	Between Groups	49.779	4	12.445	52.831	.000
	Within Groups	22.378	95	.236		
	Total	72.157	99			

Parameter_L

Duncan

Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
BmJw 100	20	62.2460				
BmJw 75	20		63.5915			
BmJw 50	20			64.5790		
BmJw 25	20				65.1985	
Bm	20					66.4475
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Parameter_a

Duncan						
Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
BmJw 100	20	3.7650				
BmJw 75	20		4.1710			
BmJw 50	20			4.9540		
BmJw 25	20				5.6640	
Bm	20					6.0055
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Parameter_b

Duncan						
Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
Bm	20	9.0405				
BmJw 25	20		9.9475			
BmJw 50	20			10.3085		
BmJw 75	20				10.7355	
BmJw 100	20					11.0860
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

7.1.1.2. Pengembangan Axial

Lampiran 2. Tabel Normalitas, Tabel Anova dan Tabel Duncan Pengembangan Axial Ekstradat

Tests of Normality

Produk	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Axial Bm	.034	200	.200*	.994	200	.569
BmJw 25	.042	200	.200*	.992	200	.389
BmJw 50	.059	200	.084	.989	200	.145
BmJw 75	.071	200	.017	.988	200	.089
BmJw 100	.044	200	.200*	.988	200	.101

a. Lilliefors Significance Correction

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

ANOVA

Axial					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25.430	4	6.358	237.835	.000
Within Groups	26.597	995	.027		
Total	52.027	999			

Axial

Duncan

Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
BmJw 100	200	2.6009				
BmJw 75	200		2.7781			
BmJw 50	200			2.8675		
BmJw 25	200				2.9311	
Bm	200					3.0804
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

7.1.1.3. Pengembangan Radial

Lampiran 3. Tabel Normalitas, Tabel Anova dan Tabel Duncan Pengembangan Radial Ekstrudat

Tests of Normality

Produk	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Radial Bm	.056	200	.200*	.990	200	.180
BmJw 25	.054	200	.200*	.988	200	.100
BmJw 50	.064	200	.044	.987	200	.056
BmJw 75	.067	200	.030	.992	200	.350
BmJw 100	.060	200	.077	.988	200	.083

a. Lilliefors Significance Correction

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

ANOVA

Radial

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.213	4	.303	70.651	.000
Within Groups	4.270	995	.004		
Total	5.483	999			

Radial

Duncan

Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
Bm	200	1.0166				
BmJw 25	200		1.0430			
BmJw 50	200			1.0639		
BmJw 75	200				1.0911	
BmJw 100	200					1.1155
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

7.1.1.4. Rasio Pengembangan

Lampiran 4. Tabel Normalitas, Tabel Anova dan Tabel Duncan Rasio Pengembangan Ekstrudat

Tests of Normality

Produk	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Rasio_pengembangan Bm	.038	200	.200 [*]	.992	200	.360
BmJw 25	.042	200	.200 [*]	.989	200	.116
BmJw 50	.064	200	.047	.988	200	.093
BmJw 75	.048	200	.200 [*]	.993	200	.479
BmJw 100	.045	200	.200 [*]	.990	200	.182

a. Lilliefors Significance Correction

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

ANOVA

Rasio_pengembangan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	62819.159	4	15704.790	71.256	.000
Within Groups	219297.593	995	220.400		
Total	282116.753	999			

Rasio_pengembangan

Duncan

Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
Bm	200	2.3102E2				
BmJw 25	200		2.3702E2			
BmJw 50	200			2.4182E2		
BmJw 75	200				2.4797E2	
BmJw 100	200					2.5355E2
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

7.1.1.5. Bulk Density

Lampiran 5. Tabel Normalitas, Tabel Anova dan Tabel Duncan *Bulk Density* Ekstrudat

Tests of Normality

Produk	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Bulk_Density Bm	.181	20	.086	.941	20	.250
BmJw 25	.179	20	.092	.895	20	.033
BmJw 50	.169	20	.135	.933	20	.180
BmJw 75	.123	20	.200 [*]	.943	20	.278
BmJw 100	.175	20	.109	.904	20	.048

a. Lilliefors Significance Correction

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

ANOVA

Bulk Density					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.008	4	.002	216.385	.000
Within Groups	.001	95	.000		
Total	.009	99			

Bulk_Density

Duncan						
Produk	N	Subset for alpha = 0.05				
		1	2	3	4	5
BmJw 100	20	.05785				
BmJw 75	20		.06719			
BmJw 50	20			.07551		
BmJw 25	20				.07824	
Bm	20					.08339
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

7.1.1.6. Hardness

Lampiran 6. Tabel Normalitas, Tabel Anova dan Tabel Duncan Nilai *Hardness* Ekstrudat

Tests of Normality

Produk	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Hardness Bm	.212	10	.200 [*]	.869	10	.097
BmJw 25	.202	10	.200 [*]	.909	10	.277
BmJw 50	.182	10	.200 [*]	.941	10	.559
BmJw 75	.195	10	.200 [*]	.825	10	.029
BmJw 100	.257	10	.061	.894	10	.189

a. Lilliefors Significance Correction

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

ANOVA

Hardness					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.140E7	4	2849293.743	97.454	.000
Within Groups	1315676.007	45	29237.245		
Total	1.271E7	49			

Hardness

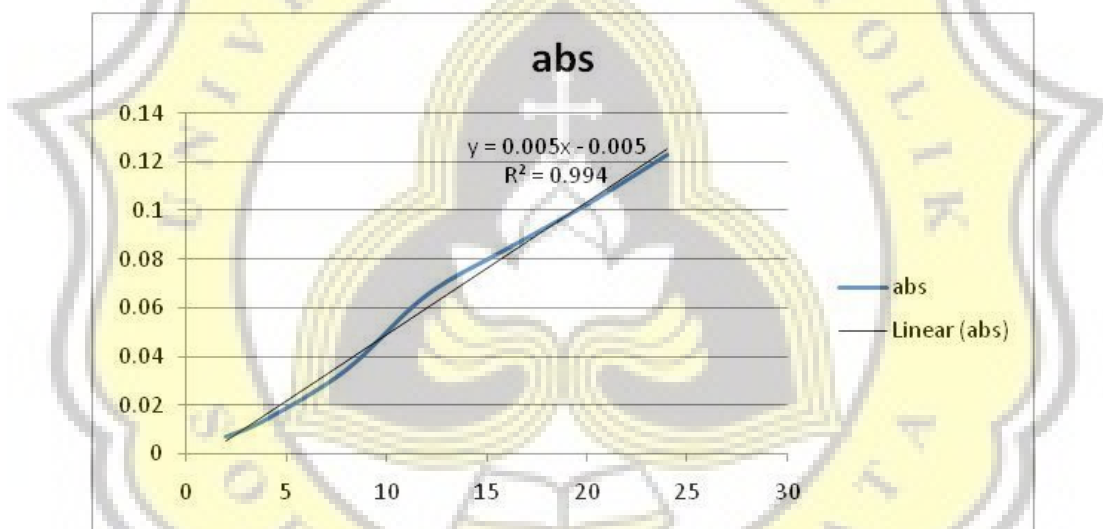
Duncan		Subset for alpha = 0.05				
Produk	N	1	2	3	4	5
BmJw 100	10	3,496.69 00				
BmJw 75	10		3,732.31 00			
BmJw 50	10			4,182.24 00		
BmJw 25	10				4,440.84 00	
Bm	10					4,823.73 00
Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

7.1.2. Analisa Kimia Bahan Baku

7.1.2.1. Kadar Amilosa

Kurva Standar Amilosa



Lampiran 7. Tabel Normalitas Analisa Amilosa Bahan Baku

Tests of Normality

Bahan baku	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Kadar_amilosa Beras Merah	.250	9	.109	.890	9	.199
Jewawut	.177	9	.200*	.958	9	.782

a. Lilliefors Significance Correction

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

7.1.2.2. Kadar Protein

Lampiran 8. Tabel Normalitas Analisa Protein Bahan Baku

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kadar_protein	Beras Merah	.238	6	.200 [*]	.949	6	.735
	Jewawut	.226	6	.200 [*]	.912	6	.452

a. Lilliefors Significance Correction

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

7.1.2.3. Kadar Air

Lampiran 9. Tabel Normalitas Analisa Kadar Air Bahan Baku

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Kadar_air	Beras Merah	.186	6	.200 [*]	.937	6	.636
	Jewawut	.262	6	.200 [*]	.875	6	.248

a. Lilliefors Significance Correction

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

7.1.3. Analisa Kimia Produk

7.1.3.1. Aktivitas Antioksidan

Lampiran 10. Tabel Normalitas, Tabel Anova dan Tabel Duncan Aktivitas Antioksidan (% *Discoloration*) Ekstrudat

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Aktivitas_antioksidan	Bm	.264	6	.200 [*]	.834	6	.117
	BmJw 25	.205	6	.200 [*]	.956	6	.787
	BmJw 50	.303	6	.090	.738	6	.015
	BmJw 75	.261	6	.200 [*]	.863	6	.199
	BmJw 100	.209	6	.200 [*]	.933	6	.601
	Bahan Baku (beras merah)	.208	6	.200 [*]	.939	6	.648

a. Lilliefors Significance Correction

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

ANOVA

Aktivitas antioksidan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15964.202	5	3192.840	182.318	.000
Within Groups	525.374	30	17.512		
Total	16489.576	35			

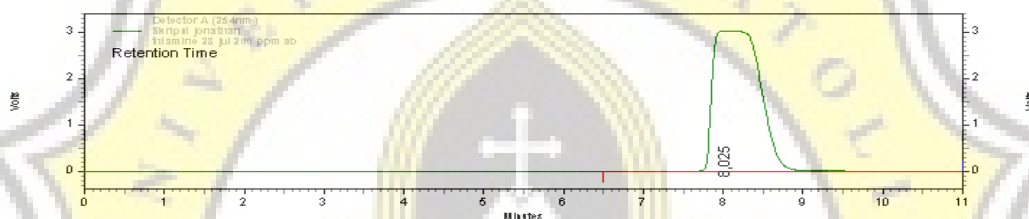
Aktivitas_antioksidan

Duncan

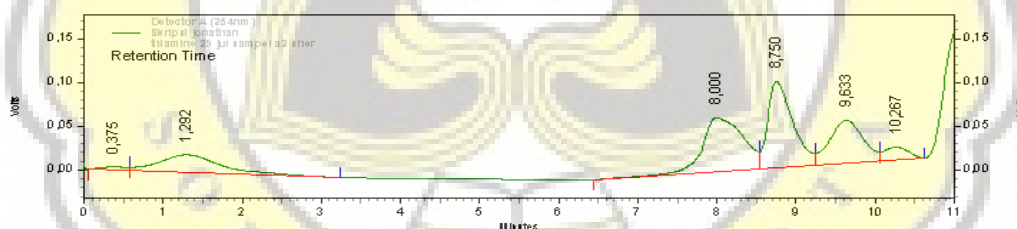
Produk	N	Subset for alpha = 0.05					
		1	2	3	4	5	6
BmJw 100	6	20.9897					
BmJw 75	6		26.7268				
BmJw 50	6			32.0480			
BmJw 25	6				39.2710		
Bm	6					44.6913	
Bahan Baku (beras merah)	6						85.2868
Sig.		1.000	1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

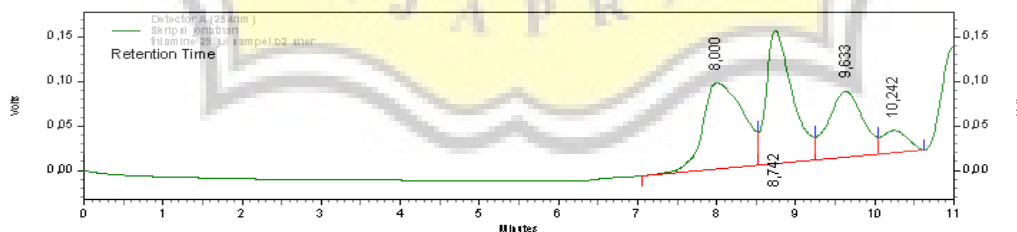
7.1.3.2. Kadar Tiamin

Lampiran 11. Profil *Peak* Tiamin

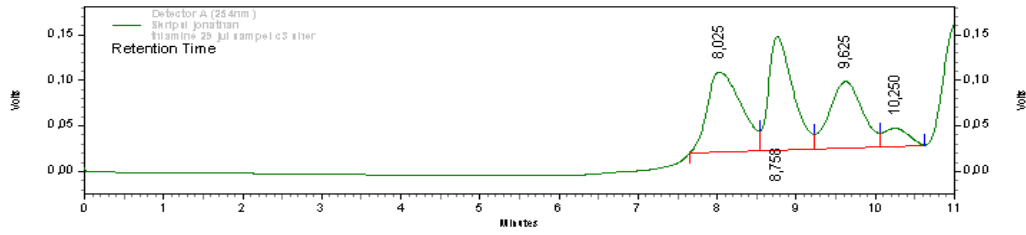
(a) Standar tiamin 200 ppm



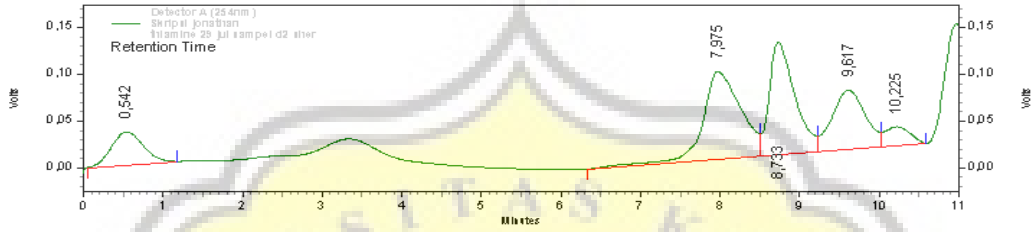
(b) Ekstrudat Bm



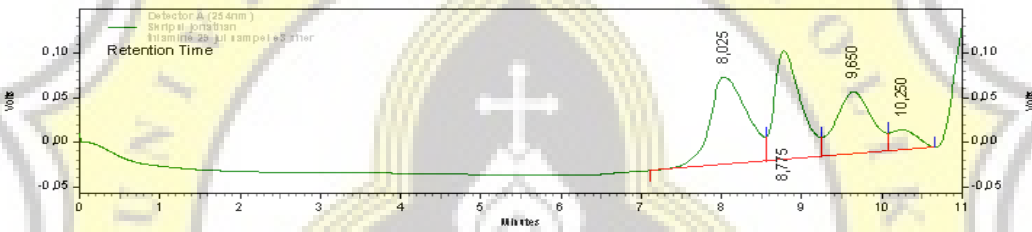
(c) Ekstrudat BmJw 25



(d) Ekstrudat BmJw 50



(e) Ekstrudat BmJw 75



(f) Ekstrudat BmJw 100