

## 7. LAMPIRAN

### Lampiran 1. Hasil Pengujian Sifat Kimia Susu Kacang Merah Tanpa Inokulum

Karakteristik	Minuman Probiotik Susu Kacang Merah		
	<i>L. bulgaricus</i>	<i>L. plantarum</i> EM1	<i>L. pentosus</i> EM1
pH	6,86 ± 0,00	6,86 ± 0,00	6,86 ± 0,00
Kadar gula (° brix)	8,47 ± 0,12	8,47 ± 0,12	8,47 ± 0,12
Kadar protein (%)	1,99 ± 0,02	1,99 ± 0,02	1,99 ± 0,02

### Lampiran 2. Analisa Data

#### ➤ Uji Duncan Pengaruh Lama Penyimpanan pada Minuman Probiotik Susu Kacang Merah dengan Menggunakan *L. bulgaricus*

pH\_bul

Duncan<sup>a</sup>

hari_ke_bul	N	Subset for alpha = .05
		1
5	3	4,02000
4	3	4,03333
2	3	4,05000
3	3	4,05667
1	3	4,06000
Sig.		,113

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

#### gula\_bul

Duncan<sup>a</sup>

hari_ke_bul	N	Subset for alpha = .05		
		1	2	3
5	3	6,40000		
4	3		6,83333	
2	3		6,93333	6,93333
3	3		6,96667	6,96667
1	3			7,03333
Sig.		1,000	,085	,182

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**asamlaktat\_bul**

Duncan<sup>a</sup>

hari_ke_bul	N	Subset for alpha = .05	
		1	2
1	3	,39000	
3	3		,48000
4	3		,51000
2	3		,54000
5	3		,54000
Sig.		1,000	,119

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

➤ **Uji Duncan Pengaruh Lama Penyimpanan pada Minuman Probiotik Susu Kacang Merah dengan Menggunakan *L. plantarum***

**pH\_plan**

Duncan<sup>a</sup>

hari_ke_plan	N	Subset for alpha = .05				
		1	2	3	4	5
5	3	4,00000				
4	3		4,03000			
1	3			4,07333		
2	3				4,08667	
3	3					4,15000
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 = 3,000.

**gula\_plan**

Duncan<sup>a</sup>

hari_ke_plan	N	Subset for alpha = .05			
		1	2	3	4
5	3	5,40000			
4	3		5,70000		
1	3			6,00000	
2	3				6,43333
3	3				6,60000
Sig.		1,000	1,000	1,000	,053

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**asamlaktat\_plan**

Duncan<sup>a</sup>

hari_ke_plan	N	Subset for alpha = .05		
		1	2	3
3	3	,33000		
2	3	,39000	,39000	
1	3		,45000	
4	3			,54000
5	3			,57000
Sig.		,098	,098	,383

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

➤ **Uji Duncan Pengaruh Lama Penyimpanan pada Minuman Probiotik Susu Kacang Merah dengan Menggunakan *L. pentosus***

**pH\_pen**

Duncan<sup>a</sup>

hari_ke_pen	N	Subset for alpha = .05			
		1	2	3	4
4	3	3,95333			
5	3		3,99033		
1	3			4,02000	
2	3			4,02333	
3	3				4,04000
Sig.		1,000	1,000	,291	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**gula\_pen**

Duncan<sup>a</sup>

hari_ke_pen	N	Subset for alpha = .05	
		1	2
4	3	6,83333	
5	3		7,00033
1	3		7,06667
2	3		7,10000
3	3		7,13333
Sig.		1,000	,120

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

### asamlaktat\_pen

Duncan<sup>a</sup>

hari_ke_pen	N	Subset for alpha = .05		
		1	2	3
3	3	,45000		
2	3	,48000	,48000	
1	3	,51000	,51000	
5	3		,54000	,54000
4	3			,60000
Sig.		,112	,112	,098

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

### ➤ Pengaruh Jenis Bakteri Asam Laktat pada Minuman Probiotik Susu Kacang Merah pada Perubahan pH

pH\_1

Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05		
		1	2	3
3	3	4,02000		
1	3		4,06000	
2	3			4,07333
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

pH\_10

Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05		
		1	2	3
3	3	4,02333		
1	3		4,05000	
2	3			4,08667
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**pH\_20**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05		
		1	2	3
3	3	4,04000		
1	3		4,05667	
2	3			4,15000
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**pH\_30**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
3	3	3,95333	
2	3		4,03000
1	3		4,03333
Sig.		1,000	,907

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**pH\_40**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05		
		1	2	3
3	3	3,99033		
2	3		4,00000	
1	3			4,02000
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

➤ **Uji Duncan Pengaruh Jenis Bakteri Asam Laktat pada Minuman Probiotik Susu Kacang Merah pada Perubahan Kadar Gula**

**gula\_1**

Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
2	3	6,00000	
1	3		7,03333
3	3		7,06667
Sig.		1,000	,680

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**gula\_10**

Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
2	3	6,43333	
1	3		6,93333
3	3		7,10000
Sig.		1,000	,074

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**gula\_20**

Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
2	3	6,60000	
1	3		6,96667
3	3		7,13333
Sig.		1,000	,074

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**gula\_30**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
2	3	5,70000	
1	3		6,83333
3	3		6,83333
Sig.		1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**gula\_40**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05		
		1	2	3
2	3	5,40000		
1	3		6,40000	
3	3			7,00033
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

➤ **Uji Duncan Pengaruh Jenis Bakteri Asam Laktat pada Minuman Probiotik Susu Kacang Merah pada Perubahan Total Asam (Asam Laktat)**

**asam\_laktat\_1**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
1	3	,3900	
2	3	,4500	,4500
3	3		,5100
Sig.		,134	,134

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**asam\_laktat\_10**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
2	3	,3900	
3	3		,4800
1	3		,5400
Sig.		1,000	,134

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**asam\_laktat\_20**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
2	3	,3300	
3	3		,4500
1	3		,4800
Sig.		1,000	,420

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**asam\_laktat\_30**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05	
		1	2
1	3	,5100	
2	3	,5400	,5400
3	3		,6000
Sig.		,420	,134

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

**asam\_laktat\_40**Duncan<sup>a</sup>

jenis_BAL	N	Subset for alpha = .05
		1
1	3	,5400
3	3	,5400
2	3	,5700
Sig.		,281

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.



**Lampiran 3. SNI 7552 : 2009 : Minuman Susu Fermentasi Berperisa**

Tabel Syarat Mutu Minuman Susu Fermentasi Berperisa

No	Kriteria Uji	Satuan	Persyaratan			
			Tanpa perlakuan panas setelah fermentasi		Dengan perlakuan panas setelah fermentasi	
			Normal	Tanpa lemak	Normal	Tanpa lemak
1.	Keadaan					
1.1.	Penampakan	-	Cair		cair	
1.2.	Bau	-	normal/khas		normal/khas	
1.3.	Rasa	-	asam/khas		asam/khas	
1.4.	Homogenitas	-	homogen		homogen	
2.	Lemak (b/b)	%	min 0,6	maks 0,5	min 0,6	maks 0,5
3.	Padatan susu tanpa lemak (b/b)	%	min 3,0		min 3,0	
4.	Protein (Nx6,38) (b/b)	%	min 1,0		min 1,0	
5.	Abu (b/b)	%	maks 1,0		maks 1,0	
6.	Keasaman tertitiasi (dihitung sebagai asam laktat) (b/b)	%	0,2 s.d. 0,9		0,2 s.d. 0,9	
7.	Cemaran logam					
7.1.	Timbale (Pb)	mg/kg	maks 0,02		maks 0,02	
7.2.	Merkuri (Hg)	mg/kg	maks 0,03		maks 0,03	
8.	Cemaran arsen (As)	mg/kg	maks 0,1		maks 0,1	
9.	Cemaran mikroba					
9.1.	Bakteri coliform	APM/ml	maks 10		maks 10	
9.2.	<i>Salmonella sp</i> /25 ml	-	Negative		negatif	
9.3.	<i>Listeria monocytogenes</i> /25 ml	-	Negative		negatif	
10.	Kultur starter	Koloni/ml	min 1x10 <sup>6</sup>		-	

**Lampiran 4. Standar Codex 2003 untuk Susu Fermentasi (CODEX STAN 243-200)**

	<b>Fermented Milk</b>	<b>Yoghurt, Alternative Culture Yoghurt and Acidophilus milk</b>	<b>Kefir</b>	<b>Kumys</b>
Milk protein <sup>(a)</sup> (% m/m)	min. 2,7%	min. 2,7%	min. 2,7%	
Milk fat (% m/m)	less than 10%	less than 15%	less than 10%	less than 10%
Titrateable acidity, expressed as % lactic acid (% m/m)	min. 0,3%	min. 0,6%	min. 0,6%	min. 0,7%
Ethanol (% vol/w)				min. 0,5%
Sum of microorganism constituting the starter culture defined in section 2.1. (cfu/g in total)	min. 10 <sup>7</sup>	min. 10 <sup>7</sup>	min. 10 <sup>7</sup>	min. 10 <sup>7</sup>
Labeled microorganism <sup>(b)</sup> (cfu/g total)	min. 10 <sup>6</sup>	min. 10 <sup>6</sup>		
Yeasts (cfu/g)			min. 10 <sup>4</sup>	min. 10 <sup>4</sup>