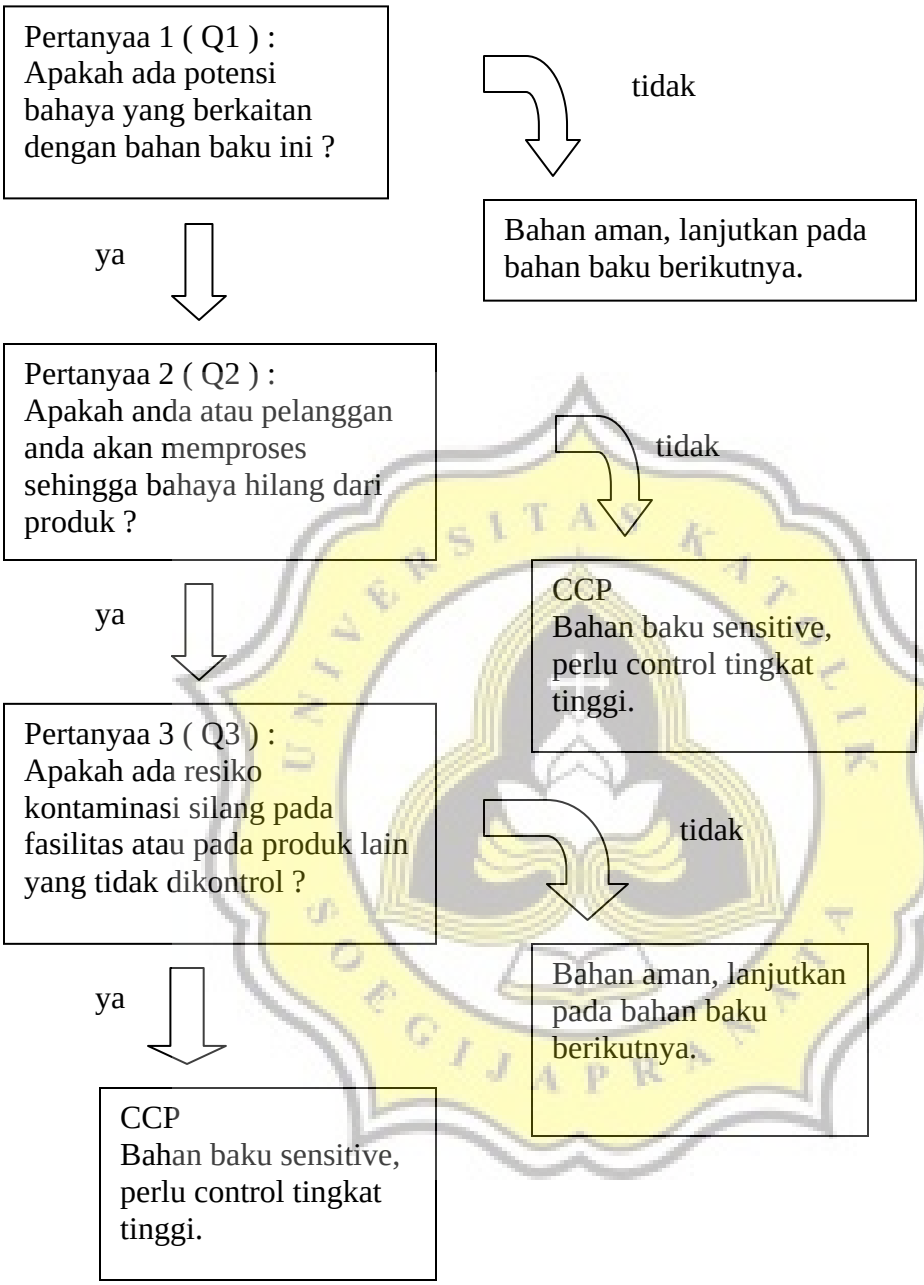
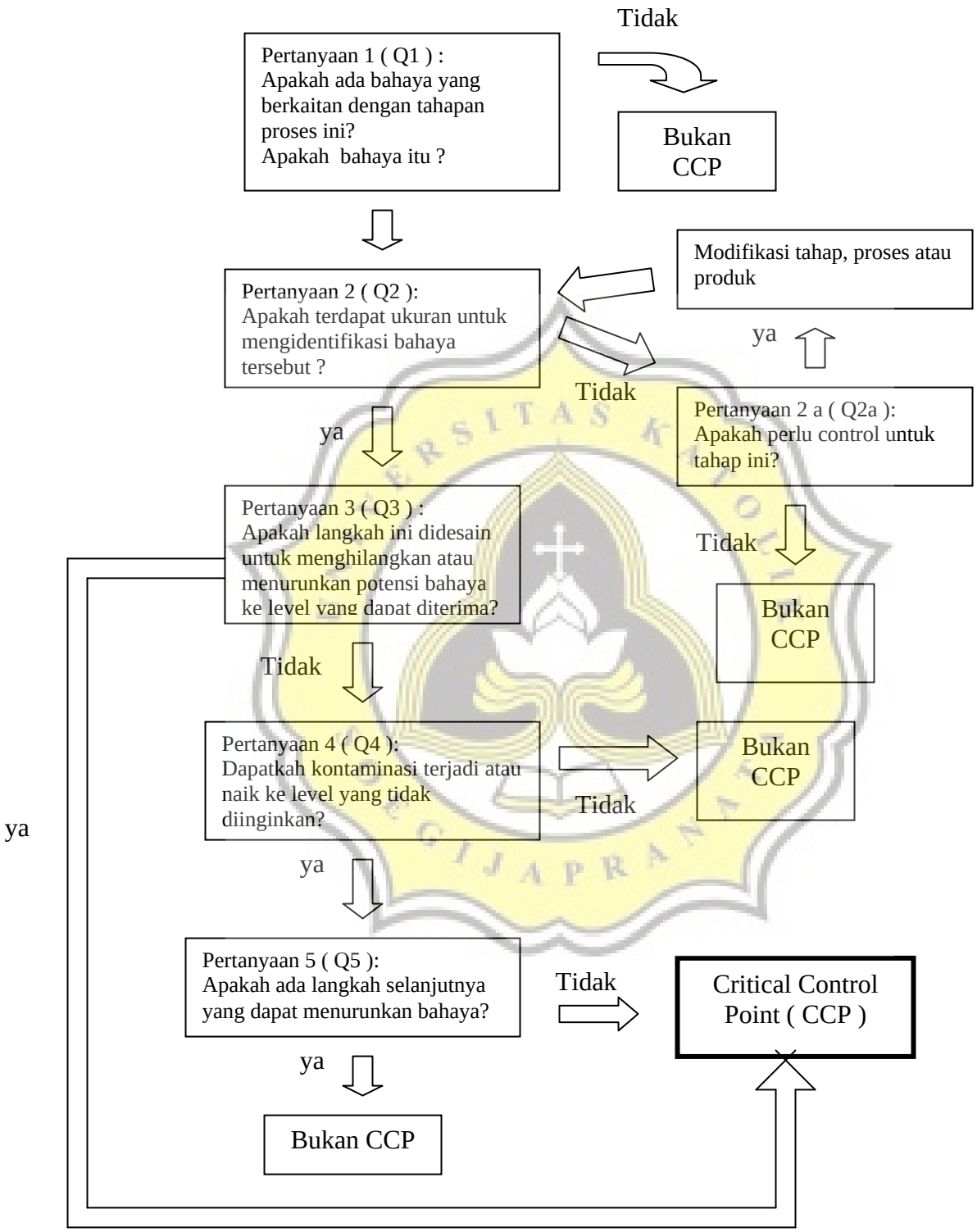
LAMPIRAN

Lampiran 1. Pohon penentuan CCP untuk bahan baku

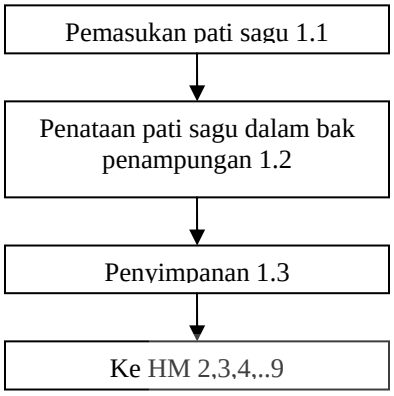


Lampiran 2. Pohon penentuan CCP untuk proses produksi

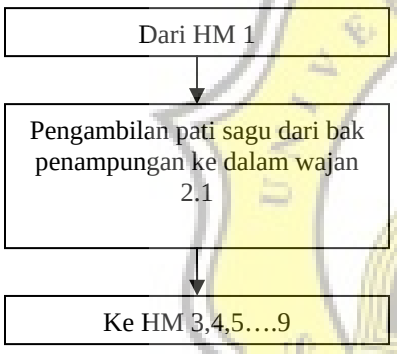


Lampiran 3. Rincian diagram alir proses (HACCP Module / HM)

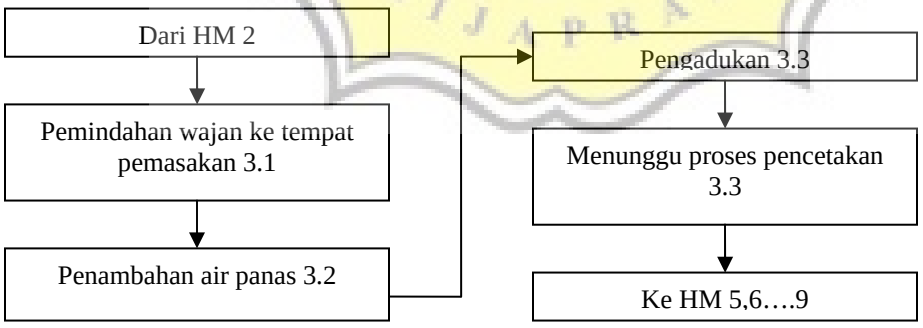
HM 1 Penerimaan dan penyimpanan bahan baku



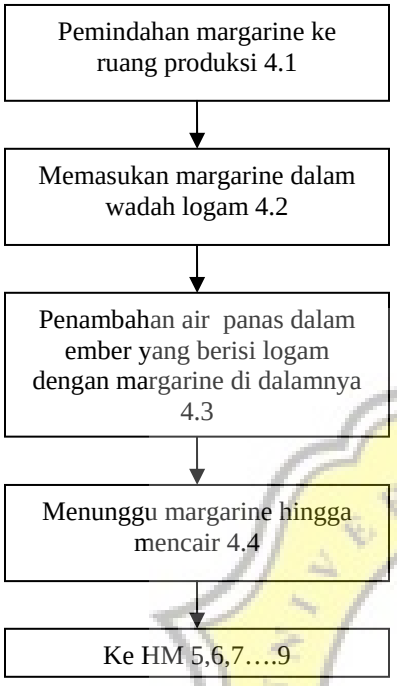
HM 2 Pentakaran



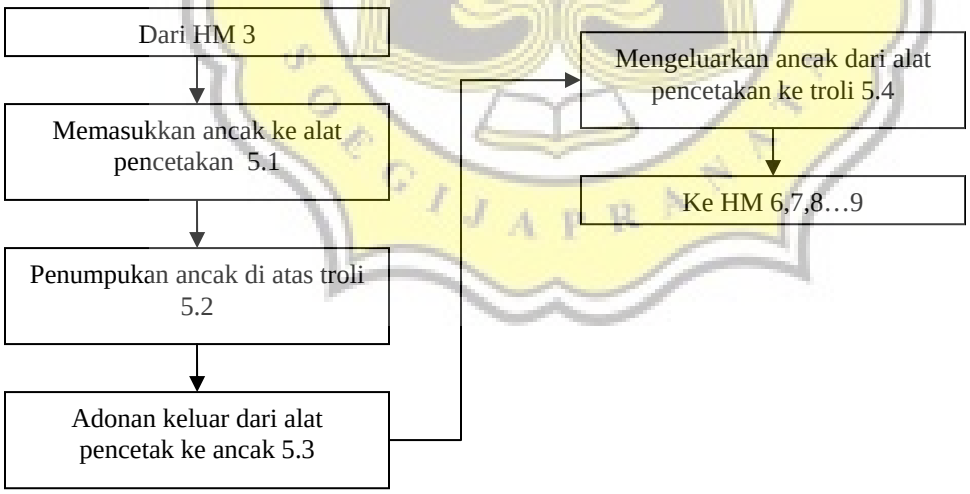
HM 3 Pemasakan



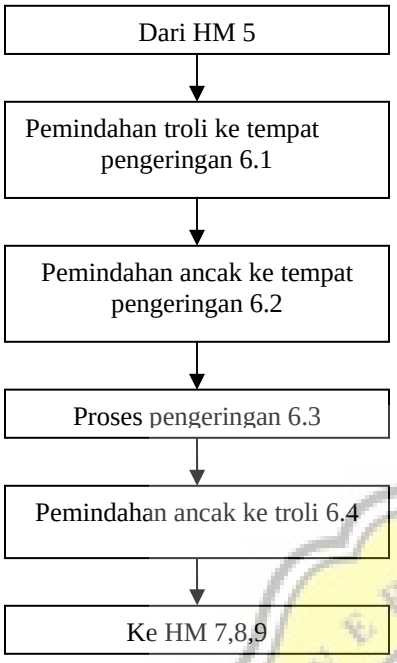
HM 4 Penyiapan margarin



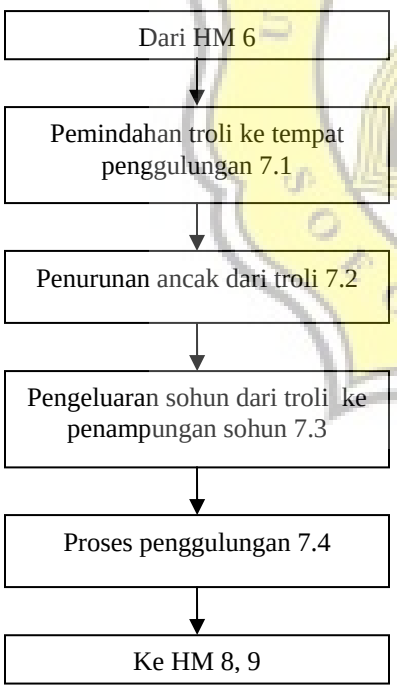
HM 5 Pencetakan



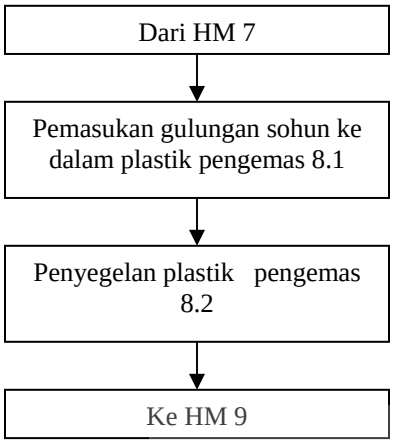
HM 6 Pengeringan



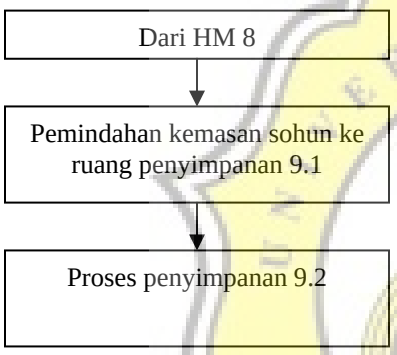
HM 7 Penggulungan



HM 8 Pengemasan



HM 9 Penyimpanan

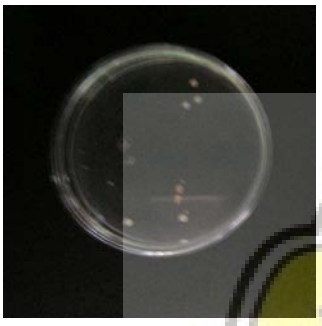


Lampiran 4. Hasil observasi mikrobiologi sohun

Uji mikrobiologi ini dilakukan pada tanggal 5 hingga 11 September 2007 dengan inokulasi selama 5 hari. Mikroorganisme yang didapat pada masing-masing pengenceran untuk tiap sampel dan ulangan dapat dilihat pada gambar di bawah ini.

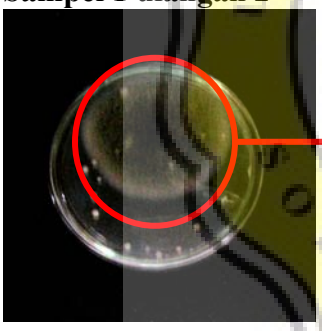
Pengenceran 10^{-1}

- **Sampel 1 ulangan 1**



Jenis mikroorganisme : khamir
Jumlah mikroorganisme khamir : 17 x 10^2 CFU

- **Sampel 1 ulangan 2**



Jenis mikroorganisme : kapang dan khamir
Ciri – cirri kapang :

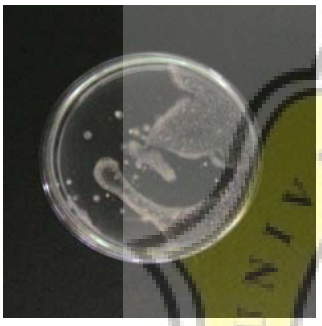
- Mempunyai miselia
- koloni kompak,
- memiliki kepala pembawa konidia yang besar, padat, bulat dan berwarna hitam.

Jumlah khamir : 19 x 10^2 CFU
Jumlah kapang : 1 x 10^2 CFU

- **Sampel 1 ulangan 3**

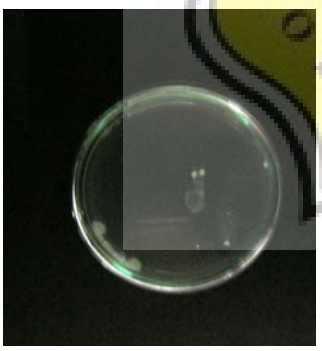
Jenis mikroorganisme : khamir
Jumlah khamir : 22 x 10^2 CFU

- **Sampel 2 ulangan 1**



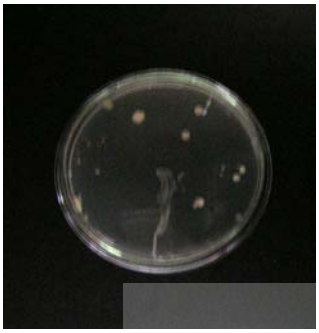
Jenis mikroorganisme : khamir
Jumlah mikroorganisme khamir : 22 x 10^2

- **Sampel 2 ulangan 2**



Jenis mikroorganisme : khamir
Jumlah khamir : 6 x 10^2 CFU

- **Sampel 2 ulangan 3**



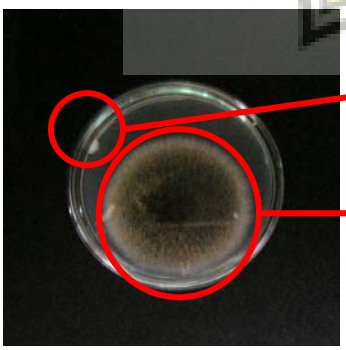
Jenis mikroorganisme : khamir
Jumlah khamir : 17 x 10^2 CFU

Pengenceran 10^{-2}

- **Sampel 1 ulangan 1**

Jenis mikroorganisme : khamir
Jumlah khamir : 3 x 10^3 CFU

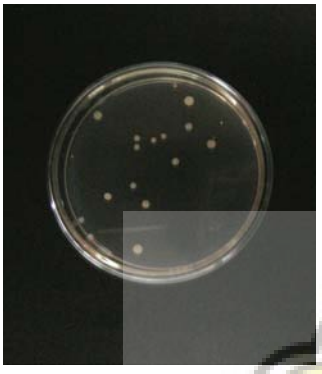
- **Sampel 1 ulangan 2**



Jenis mikroorganisme : kapang dan khamir
Jumlah kapang : 1 x 10^3 CFU
Jumlah khamir : 5 x 10^3 CFU
Cirri-ciri kapang :

- Mempunyai miselia
- koloni kompak,
- memiliki kepala pembawa konidia yang besar, padat, bulat dan berwarna hitam.

- **Sampel 1 ulangan 3**

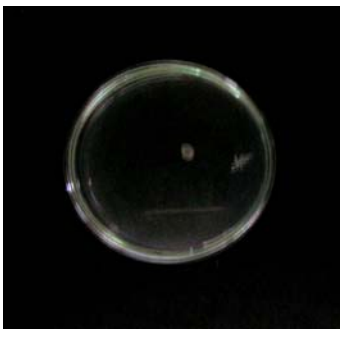


Jenis mikroorganisme : khamir
Jumlah khamir : 16 x 10^3 CFU

- **Sampel 2 ulangan 1**

Jenis mikroorganisme : khamir
Jumlah khamir : 9 x 10^3 CFU

- **Sampel 2 ulangan 2**



Jenis mikroorganisme : khamir

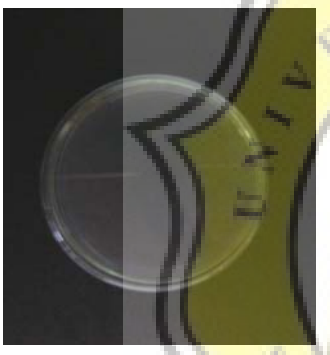
Jumlah khamir : 3 x 10^3 CFU

- **Sampel 2 ulangan 3**

Jenis mikroorganisme : khamir
Jumlah khamir : 1 x 10^3 CFU

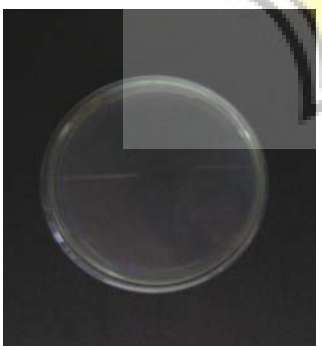
Pengenceran 10^{-3}

- **Sampel 1 ulangan 1**



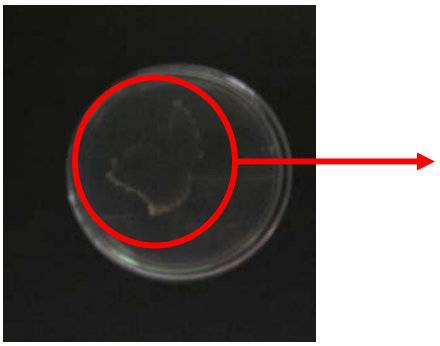
Tidak terdapat mikroorganisme

- **Sampel 1 ulangan 2**



Tidak terdapat mikroorganisme

- **Sampel 1 ulangan 3**



Jenis mikroorganisme : khamir
Jumlah khamir : 1 x 10^4 CFU

- **Sampel 2 ulangan 1**

Tidak terdapat mikroorganisme

- **Sampel 2 ulangan 2**

Tidak terdapat mikroorganisme

- **Sampel 2 ulangan 3**

Tidak terdapat mikroorganisme

Lampiran 5. Hasil analisa uji kadar air, A_w, dan kelentingan dengan berbagai metode pengeringan

Uji kadar air, aktivitas air dan kelentingan sohun ini dilakukan pada tanggal 28 Agustus hingga 18 September 2007 di Laboratorium Ilmu Pangan UNIKA Soegijapranata.

Hasil analisa diskriptif antara pengujian terhadap sampel

Descriptives

	sampel			Statistic	Std. Error
kad_air	1	Mean		13.1667	.34451
		95% Confidence Interval for Mean	Lower Bound	12.4084	
			Upper Bound	13.9249	
		5% Trimmed Mean		13.1852	
		Median		13.0000	
		Variance		1.424	
		Std. Deviation		1.19342	
		Minimum		11.00	
		Maximum		15.00	
		Range		4.00	
		Interquartile Range		1.75	
		Skewness		.007	.637
		Kurtosis		-.203	1.232
	2	Mean		12.0833	.65665
		95% Confidence Interval for Mean	Lower Bound	10.6381	
			Upper Bound	13.5286	
		5% Trimmed Mean		12.0926	
		Median		12.0000	
		Variance		5.174	
		Std. Deviation		2.27470	
		Minimum		9.00	
		Maximum		15.00	
		Range		6.00	
		Interquartile Range		4.00	
		Skewness		-.067	.637
		Kurtosis		-1.649	1.232
AW	1	Mean		.6038	.00496
		95% Confidence Interval for Mean	Lower Bound	.5929	
			Upper Bound	.6148	
		5% Trimmed Mean		.6034	
		Median		.6000	

		Variance		.000	
		Std. Deviation		.01720	
		Minimum		.58	
		Maximum		.64	
		Range		.05	
		Interquartile Range		.03	
		Skewness		.599	.637
		Kurtosis		-.701	1.232
	2	Mean		.6145	.00651
		95% Confidence Interval for Mean	Lower Bound	.6002	
			Upper Bound	.6288	
		5% Trimmed Mean		.6147	
		Median		.6175	
		Variance		.001	
		Std. Deviation		.02256	
		Minimum		.58	
		Maximum		.65	
		Range		.07	
		Interquartile Range		.04	
		Skewness		-.138	.637
		Kurtosis		-1.649	1.232
Tekstur	1	Mean		22.8064	1.65195
		95% Confidence Interval for Mean	Lower Bound	19.1705	
			Upper Bound	26.4423	
		5% Trimmed Mean		22.7942	
		Median		21.4977	
		Variance		32.747	
		Std. Deviation		5.72251	
		Minimum		14.62	
		Maximum		31.21	
		Range		16.59	
		Interquartile Range		11.53	
		Skewness		.276	.637
		Kurtosis		-1.401	1.232
	2	Mean		22.1817	1.37860
		95% Confidence Interval for Mean	Lower Bound	19.1474	
			Upper Bound	25.2160	
		5% Trimmed Mean		22.2387	
		Median		21.9516	
		Variance		22.807	
		Std. Deviation		4.77562	
		Minimum		13.89	
		Maximum		29.44	
		Range		15.55	

	Interquartile Range	8.63	
	Skewness	-.136	.637
	Kurtosis	-.989	1.232

Uji normalitas antara pengujian terhadap sampel

Tests of Normality

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	sampel	Statistic	df	Sig.	Statistic	df	Sig.
kad_air	1	.222	12	.105	.929	12	.372
	2	.217	12	.124	.893	12	.130
AW	1	.172	12	.200(*)	.938	12	.467
	2	.179	12	.200(*)	.917	12	.264
Tekstur	1	.183	12	.200(*)	.914	12	.237
	2	.139	12	.200(*)	.964	12	.835

* This is a lower bound of the true significance.
a Lilliefors Significance Correction

nilai signifikansi lebih dari 0,05 untuk masing-masing sampel menunjukkan variance data yang normal

Hasil analisa diskriptif antara pengujian terhadap perlakuan pengeringan

Descriptives

	perlakuan			Statistic	Std. Error
kad_air	kontrol	Mean		14.3333	.33333
		95% Confidence Interval for Mean	Lower Bound	13.4765	
			Upper Bound	15.1902	
		5% Trimmed Mean		14.3704	
		Median		14.5000	
		Variance		.667	
		Std. Deviation		.81650	
		Minimum		13.00	
		Maximum		15.00	
		Range		2.00	
		Interquartile Range		1.25	
		Skewness		-.857	.845
		Kurtosis		-.300	1.741
	SD	Mean		13.5000	.42817
		95% Confidence Interval for Mean	Lower Bound	12.3993	
			Upper Bound	14.6007	
		5% Trimmed Mean		13.5000	
		Median		13.5000	
		Variance		1.100	
		Std. Deviation		1.04881	
		Minimum		12.00	
		Maximum		15.00	

		Range		3.00	
		Interquartile Range		1.50	
		Skewness		.000	.845
		Kurtosis		-.248	1.741
	STD	Mean		11.3333	.84327
		95% Confidence Interval for Mean	Lower Bound	9.1656	
			Upper Bound	13.5010	
		5% Trimmed Mean		11.3148	
		Median		11.5000	
		Variance		4.267	
		Std. Deviation		2.06559	
		Minimum		9.00	
		Maximum		14.00	
		Range		5.00	
		Interquartile Range		4.25	
		Skewness		-.053	.845
		Kurtosis		-1.721	1.741
	D	Mean		11.3333	.49441
		95% Confidence Interval for Mean	Lower Bound	10.0624	
			Upper Bound	12.6043	
		5% Trimmed Mean		11.3148	
		Median		11.5000	
		Variance		1.467	
		Std. Deviation		1.21106	
		Minimum		10.00	
		Maximum		13.00	
		Range		3.00	
		Interquartile Range		2.25	
		Skewness		.075	.845
		Kurtosis		-1.550	1.741
AW	kontrol	Mean		.6200	.00577
		95% Confidence Interval for Mean	Lower Bound	.6052	
			Upper Bound	.6348	
		5% Trimmed Mean		.6200	
		Median		.6200	
		Variance		.000	
		Std. Deviation		.01414	
		Minimum		.60	
		Maximum		.64	
		Range		.04	
		Interquartile Range		.03	
		Skewness		.000	.845
		Kurtosis		-.300	1.741
	SD	Mean		.6317	.00601

		95% Confidence Interval for Mean	Lower Bound	.6162	
			Upper Bound	.6471	
		5% Trimmed Mean		.6319	
		Median		.6350	
		Variance		.000	
		Std. Deviation		.01472	
		Minimum		.61	
		Maximum		.65	
		Range		.04	
		Interquartile Range		.03	
		Skewness		-.418	.845
		Kurtosis		-.859	1.741
	STD	Mean		.5883	.00307
		95% Confidence Interval for Mean	Lower Bound	.5804	
			Upper Bound	.5962	
		5% Trimmed Mean		.5881	
		Median		.5900	
		Variance		.000	
		Std. Deviation		.00753	
		Minimum		.58	
		Maximum		.60	
		Range		.02	
		Interquartile Range		.01	
		Skewness		.313	.845
		Kurtosis		-.104	1.741
	D	Mean		.5967	.00333
		95% Confidence Interval for Mean	Lower Bound	.5881	
			Upper Bound	.6052	
		5% Trimmed Mean		.5963	
		Median		.5950	
		Variance		.000	
		Std. Deviation		.00816	
		Minimum		.59	
		Maximum		.61	
		Range		.02	
		Interquartile Range		.01	
		Skewness		.857	.845
		Kurtosis		-.300	1.741
Tekstur	kontrol	Mean		18.3833	1.14054
		95% Confidence Interval for Mean	Lower Bound	15.4515	
			Upper Bound	21.3152	
		5% Trimmed Mean		18.4637	
		Median		18.6250	

	Variance		7.805	
	Std. Deviation		2.79373	
	Minimum		13.89	
	Maximum		21.43	
	Range		7.54	
	Interquartile Range		4.70	
	Skewness		-.696	.845
	Kurtosis		-.148	1.741
SD	Mean		18.5333	1.06970
	95% Confidence Interval for Mean	Lower Bound	15.7836	
		Upper Bound	21.2831	
	5% Trimmed Mean		18.5820	
	Median		18.6500	
	Variance		6.866	
	Std. Deviation		2.62023	
	Minimum		14.62	
	Maximum		21.57	
	Range		6.95	
	Interquartile Range		4.34	
	Skewness		-.414	.845
	Kurtosis		-1.082	1.741
STD	Mean		27.1783	1.28568
	95% Confidence Interval for Mean	Lower Bound	23.8734	
		Upper Bound	30.4833	
	5% Trimmed Mean		27.1804	
	Median		27.5200	
	Variance		9.918	
	Std. Deviation		3.14927	
	Minimum		23.11	
	Maximum		31.21	
	Range		8.10	
	Interquartile Range		5.90	
	Skewness		-.112	.845
	Kurtosis		-1.678	1.741
D	Mean		25.8800	1.77556
	95% Confidence Interval for Mean	Lower Bound	21.3158	
		Upper Bound	30.4442	
	5% Trimmed Mean		26.0506	
	Median		27.0100	
	Variance		18.916	
	Std. Deviation		4.34921	
	Minimum		18.46	
	Maximum		30.23	
	Range		11.77	

	Interquartile Range	7.41	
	Skewness	-1.100	.845
	Kurtosis	.728	1.741

Uji normalitas pengujian terhadap perlakuan pengeringan

Tests of Normality

		Kolmogorov-Smirnov(a)			Shapiro-Wilk		
	perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
kad_air	kontrol	.293	6	.117	.822	6	.091
	SD	.183	6	.200(*)	.960	6	.820
	STD	.204	6	.200(*)	.918	6	.493
	D	.209	6	.200(*)	.907	6	.415
AW	kontrol	.167	6	.200(*)	.982	6	.960
	SD	.214	6	.200(*)	.958	6	.804
	STD	.254	6	.200(*)	.866	6	.212
	D	.293	6	.117	.822	6	.091
Tekstur	kontrol	.170	6	.200(*)	.946	6	.704
	SD	.210	6	.200(*)	.939	6	.651
	STD	.190	6	.200(*)	.953	6	.765
	D	.261	6	.200(*)	.905	6	.407

* This is a lower bound of the true significance.
a Lilliefors Significance Correction

Nilai signifikansi diatas 0,05 menunjukkan variance data yang normal

Hasil analisa oneway anova

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
kad_air	kontrol	6	14.3333	.81650	.33333	13.4765	15.1902	13.00	15.00
	SD	6	13.5000	1.04881	.42817	12.3993	14.6007	12.00	15.00
	STD	6	11.3333	2.06559	.84327	9.1656	13.5010	9.00	14.00
	D	6	11.3333	1.21106	.49441	10.0624	12.6043	10.00	13.00
	Total	24	12.6250	1.86063	.37980	11.8393	13.4107	9.00	15.00
AW	kontrol	6	.6200	.01414	.00577	.6052	.6348	.60	.64
	SD	6	.6317	.01472	.00601	.6162	.6471	.61	.65
	STD	6	.5883	.00753	.00307	.5804	.5962	.58	.60
	D	6	.5967	.00816	.00333	.5881	.6052	.59	.61
	Total	24	.6092	.02083	.00425	.6004	.6180	.58	.65
Tekstur	kontrol	6	18.3833	2.79373	1.14054	15.4515	21.3152	13.89	21.43
	SD	6	18.5333	2.62023	1.06970	15.7836	21.2831	14.62	21.57
	STD	6	27.1783	3.14927	1.28568	23.8734	30.4833	23.11	31.21
	D	6	25.8800	4.34921	1.77556	21.3158	30.4442	18.46	30.23
	Total	24	22.4938	5.16457	1.05421	20.3129	24.6746	13.89	31.21

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
kad_air	Between Groups	42.125	3	14.042	7.489	.002
	Within Groups	37.500	20	1.875		
	Total	79.625	23			
AW	Between Groups	.007	3	.002	17.984	.000
	Within Groups	.003	20	.000		
	Total	.010	23			
Tekstur	Between Groups	395.955	3	131.985	12.135	.000
	Within Groups	217.520	20	10.876		
	Total	613.475	23			

Post Hoc Tests

Homogenous Subsets

kad_air

Duncan

perlakuan	N	Subset for alpha = .05	
		1	2
STD	6	11.3333	
D	6	11.3333	
SD	6		13.5000
kontrol	6		14.3333
Sig.		1.000	.304

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 6.000.

AW

Duncan

perlakuan	N	Subset for alpha = .05	
		1	2
STD	6	.5883	
D	6	.5967	
kontrol	6		.6200
SD	6		.6317
Sig.		.229	.097

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 6.000.

Tekstur

Duncan

perlakuan	N	Subset for alpha = .05	
		1	2
kontrol	6	18.3833	
SD	6	18.5333	
D	6		25.8800
STD	6		27.1783
Sig.		.938	.503

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 6.000.

Lampiran 6. SNI cara uji cemaran mikrobiologi SNI 19-2897-1992

Lampiran 7. SNI Sohun SNI 01-3723-1995

Lampiran 8. Lembar kuesioner, *worksheet*, dan data hasil uji sensoris *different from control test*

DIFFERENT FROM CONTROL TEST

Nama : Tanggal :

Sampel : Sohun

Kriteria : Keseluruhan mutu sensori

Instruksi :

Di hadapan anda terdapat 3 sampel sohun matang. Sampel (R) merupakan sampel acuan/ control. Berikan penilaian tingkat perbedaan keseluruhan mutu sensori sampel terhadap control secara berurut dari kiri ke kanan. Jangan membandingkan antar sampel. Berilah tanda √ pada kolom yang sesuai.

Tingkat perbedaan 0 = tidak berbeda
1 = perbedaannya sedikit
2 = perbedaannya sedang
3 = berbeda
4 = sangat berbeda

Soun Mentah

Kode sampel	Perbedaan				
	0	1	2	3	4

Soun Matang

Kode sampel	Perbedaan				
	0	1	2	3	4

WORKSHEET DIFFERENT FROM CONTROL TEST

Tanggal Pengujian :

Jenis sampel : Sohun

Identifikasi sampel	**Kode**
Sohun dengan metode pengeringan *sun drying*	S
Sohun dengan metode pengeringan *solar tunnel dryer*	T
Sohun dengan metode pengeringan *dehumidifier*	D

PenyajianSoun Mentah

Booth	**Panelis**	**Sampel**		
I	1	S 131	T 241	D 351
II	2	T 415	D 961	S 246
III	3	D 524	S 453	T 719
IV	4	S 197	T 541	D 835
V	5	T 382	D 462	S 752
VI	6	D 573	S 974	T 749
VII	7	S 836	T 494	D 569
VIII	8	T 716	D 876	S 427
IX	9	D 252	S 764	T 362
X	10	S 532	T 124	D 961
XI	11	T 425	D 542	S 819
XII	12	S 971	T 593	D 341
XIII	13	T 315	D 639	S 464
XIV	14	D 295	S 469	T 641
XV	15	S 413	T 824	D 247
XVI	16	T 391	D 697	S 584
XVII	17	D 529	S 369	T 186

XVIII	18	S 313	T 473	D 631
Booth	**Panelis**	**Sampel**		
XIX	19	T 924	D 842	S 385
XX	20	D 574	S 978	T 479
XXI	21	S 293	T 784	D 638
XXII	22	T 612	D 171	S 821
XXIII	23	D 212	S 392	T 254
XXIV	24	S 951	T 753	D 642
XXV	25	T 471	D 138	S 861
XXVI	26	D 253	S 946	T 673
XXVII	27	S 159	T 386	D 864
XXVIII	28	T 748	D 195	S 263
XXIX	29	D 513	S 849	T 135
XXX	30	S 635	T 247	D 586

Penyajian Soun matang

Booth	**Panels**	**Sampel**		
I	1	S 478	T 514	D 879
II	2	T 475	D 579	S 365
III	3	D 746	S 281	T 366
IV	4	S 582	T 245	D 139
V	5	T 368	D 173	S 945
VI	6	D 152	S 283	T 618
VII	7	S 634	T 183	D 935
VIII	8	T 987	D 867	S 796
IX	9	D 529	S 235	T 153
X	10	S 437	T 687	D 563
XI	11	T 423	D 324	S 273
XII	12	D 325	S 798	T 914

XIII	13	S 358	T 632	D 148
XIV	14	T 158	D 958	S 857
XV	15	D 274	S 381	T 683
XVI	16	S 497	T 947	D 874
XVII	17	T 712	D 547	S 347
XVIII	18	D 713	S 614	T 157
XIX	19	S 374	T 425	D 242
XX	20	T 869	D 827	S 982
XXI	21	D 213	S 973	T 572
XXII	22	S 125	T 463	D 192
XXIII	23	T 951	D 731	S 734
XXIV	24	D 875	S 729	T 127
XXV	25	S 512	T 714	D 814
XXVI	26	T 591	D 376	S 343
XXVII	27	D 168	S 175	T 361
XXVIII	28	S 285	T 939	D 284
XXIX	29	T 937	D 162	S 357
XXX	30	D 261	S 143	T 741

Lampiran 9. Hasil analisa sensoris different from control test

Sohun Mentah	Nilai					Rata-rata
	0	1	2	3	4	
SD	12	10	5	3	-	0,967
STD	13	12	3	1	1	0,833
D	13	10	4	2	1	0,933

Sohun Matang	Nilai					Rata-rata
	0	1	2	3	4	
SD	12	9	7	2	-	0,967
STD	12	12	3	2	1	0,933
D	12	11	6	1	-	0,833