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LAMPIRAN

Lampiran 1. Cara Kerja Analisis

1. Analisis kadar air (AOAC, 1970)

- a. Timbang botol kosong (A).
- b. Masukkan sampel yang sudah dihaluskan (serbuk) sebanyak 1-2 gram.
- c. Keringkan dalam oven suhu 100-105°C selama 3-5 jam.
- d. Dinginkan dalam eksikator dan ditimbang.
- e. Panaskan lagi dalam oven selama 30 menit.
- f. Dinginkan dalam eksikator dan timbang. Perlakuan diulang sampai berat konstan.
- g. Kadar air = $\frac{(B - C) - \text{berat bahan kering}}{(B - A)} \times 100 \%$

2. Analisis Kadar Abu (Sudarmadji, dkk.,1984)

- a. Berat kosong cawan ditimbang.
- b. Timbang bahan sebanyak 1-2 gram bersama cawan.
- c. Bahan dan cawan dimasukkan ke dalam muffle furnice pada suhu 550°C.
- d. Kemudian dinginkan.
- e. Timbang cawan yang berisi bahan tadi dan hitung kadar abunya.

$$\text{Kadar abu} = \frac{(\text{berat cawan+abu}) - \text{berat cawan}}{\text{berat sampel awal}} \times 100 \%$$

3. Analisis Serat Pangan Metode Multienzim (Asp,et al., 1983)

- a. Sampel sebanyak 0,5 gram dimasukkan dalam gelas Erlenmeyer, kemudian ditambah 25 larutan buffer phospat 0,1 ml enzim thermamil ke dalam Erlenmeyer berisi sampel. Gelas Erlenmeyer lalu ditutup dengan aluminium foil dan diinkubasi dalam penangas air dengan suhu 100°C selama 15 menit sambil diaduk sesekali.
- b. Sampel diangkat dan didinginkan lalu ditambahkan 20 ml air destilasi dan pH diatur menjadi 1,5 menggunakan HCL 4 N. Selanjutnya enzim pepsin sebanyak 100 mgr ditambahkan kedalam gelas Erlenmeyer berisi sampel, ditutup dan diinkubasi dalam penangas air bergoyang pada suhu 40°C selama 1 jam.

- c. Gelas Erlenmeyer lalu diangkat ditambahkan air air destilasi dan diatur pH menjadi 6,8 menggunakan NaOH. Setelah pH tercapai ditambahkan enzim pankreatin sebanyak 100 mgr kedalam gelas Erlenmeyer. Gelas Erlenmeyer ditutup dan diinkubasi dalam penangas air bergoyang pada suhu 40°C selama 1 jam.
- d. Persiapan tahap akhir adalah pengaturan pH 4,5 lalu disaring menggunakan kertas saring bebas abu.
- e. Sampel dicuci dengan 2×10 ml ethanol dan 2×10 ml aceton. Sampel lalu dikeringkan semalam pada oven suhu 105°C lalu dimasukan desikator dan ditimbang berat akhir (Serat Pangan Terlarut).
- f. Serat Pangan Total = Serat Pangan Tak Larut + Serat Pangan Terlarut

4. Aktivitas Antioksidan /RSA (Radical Scavenging Activity) (Yen & Cheng, 1995)

- a. Timbang sampel 1-2 gr, larutkan menggunakan methanol pada konsentrasi tertentu.
- b. Ambil 1 ml larutan induk, masukkan pada tabung reaksi.
- c. Tambahkan 1 ml larutan 1,1,2,2-Diphenyl Picryl Hydrazyl (DPPH), 200 mikro molar.
- d. Inkubasi pada ruang gelap selama 30 menit.
- e. Encerkan hingga 5 ml menggunakan methanol.
- f. Buat blanko (1ml larutan DPPH + 4 ml methanol)
- g. Tera pada panjang gelombang 515Nm.
- h. Total antioksidan (%) = $\frac{(OD\ Blangko - OD\ Sampel)}{OD\ Blangko} \times 100\%$

Lampiran 2. Hasil Analisis

1. Kadar abu

Data Primer

Perlakuan	Pengulangan		Total	Rerata
	I	II		
A1				
B1	67,9051	67,7218	135,6269	67,8135
B2	68,2972	68,3544	136,6516	68,3258
B3	68,5017	68,442	136,9437	68,4719
A2				
B1	63,6747	63,6292	127,3039	63,6520
B2	63,8232	63,3746	127,1978	63,5989
B3	63,6637	63,4301	127,0938	63,5469
A3				
B1	62,3225	62,2717	124,5942	62,2971
B2	62,5302	62,0632	124,5934	62,2967
B3	61,7142	61,64	61,6400	61,6771
	582,4325	580,9270	1101,6453	581,6798

KOMPUTASI = 64,7147 64,5474 122,4050 64,6311

GT = 1101,6453 409,222 381,5955 64,6311

FK = $\frac{GT^2}{r \times a \times b} = \frac{1101,6453^2}{18} = 67423,4648$

Data Primer dalam Kuadrat

Perlakuan	Pengulangan		Total
	I	II	
	A1		
B1	4611,102606	4586,242195	27910,9666
B2	4664,507528	4672,323999	
B3	4692,482903	4684,307364	
	A2		
B1	4054,46742	4048,675093	24269,32758
B2	4073,400858	4016,339925	
B3	4053,066698	4023,377586	
	A3		
B1	3884,094006	3877,764621	23131,85742
B2	3910,025912	3851,840794	
B3	3808,642482	3799,4896	

$$\begin{aligned}
 JK \text{ TOTAL} &= JK \text{ Total}^2 \\
 &= 27910,9666 + 24269,32758 + 23131,85742 \\
 &= 75312,1516 \\
 JK \text{ Total} - FK &= 75312,1516 - 67423,4648 \\
 &= 7888,6868
 \end{aligned}$$

r	2
a	3
b	3
rab	18
ab	9
rb	6
ra	6

A×B

	A1	A2	A3	ΣB
B1	135,6269	127,3039	124,5942	387,5250
B2	136,6516	127,1978	124,5934	388,4428
B3	136,9437	127,0938	61,6400	325,6775
ΣA	409,2222	381,5955	310,8276	

A×B dalam Kuadrat

	A1	A2	A3	ΣB
B1	18394,6560	16206,2830	15523,7147	150175,6256
B2	18673,6598	16179,2803	15523,5153	150887,8089
B3	18753,5770	16152,8340	3799,4896	106065,8340
ΣA	167462,8090	145615,1256	96613,7969	

$$\text{JK Perlakuan} = \frac{((A_1B_1)^2 + (A_1B_2)^2 + (A_1B_3)^2 + (A_2B_1)^2 + (A_2B_2)^2 + (A_2B_3)^2 + (A_3B_1)^2 + (A_3B_2)^2 + (A_3B_3)^2)}{r} - \text{FK}$$

$$= \frac{(18394,656 + 18673,659 + 18753,577 + 16206,283 + 16179,280 + 16152,834 + 15523,714 + 15523,515 + 3799,489)}{2} - \text{FK}$$

$$= \frac{139207,0096}{2} - 67423,4648$$

$$= 2180,0400$$

$$\text{JK A } \sum (A^1 + A^2) = \frac{A_1^2 + A_2^2 + A_3^2}{ra} - \text{FK}$$

$$= \frac{409,2222^2 + 381,5955^2 + 310,8276^2}{6} - 67423,4648$$

$$= 858,4904$$

$$\text{JK A } \sum (B^1 + B^2) = \frac{B_1^2 + B_2^2 + B_3^2}{rb} - \text{FK}$$

$$= \frac{387,5250^2 + 388,4428^2 + 325,6775^2}{6} - 67423,4648$$

$$= 431,4132$$

$$\text{JK A} \times \text{B} = \text{JK P} - \text{JK A} - \text{JK B} = 2180,0400 - 858,4904 - 431,4132 = 890,1363$$

$$\text{JK eror} = \text{JK total} - \text{JK P} = 7888,6868 - 2180,0400$$

$$= 5708,6468$$

Analisis Keragaman

Sumber Keragaman	db	JK	RK	FH	FT	
					5%	1%
Perlakuan		2180,0400				
A	2	858,4904	429,2452	0,6767	4,26	8,02
B	2	431,4132	215,7066	0,3401	4,26	8,02
A X B	4	890,1363	222,5341	0,3508	3,63	6,42
Error	9	5708,6468	634,2941			
Total	17					

$$\text{db A} = a - 1 = 2$$

$$\text{db B} = b - 1 = 2$$

$$\text{db A} \times \text{B} = (a - 1)(b - 1) = 4$$

$$\text{db Error} = a \cdot b (r - 1) = 9$$

$$\text{db Total} = (r \cdot a \cdot b) - 1 = 17$$

$$\text{RK a} = \frac{JK A}{db A} = \frac{858,4904}{2} = 429,2452$$

$$\text{RK b} = \frac{JK B}{db B} = \frac{431,4132}{2} = 215,7066$$

$$\text{RK a} \times \text{b} = \frac{JK A \times B}{db A \times B} = \frac{890,1363}{4} = 222,5341$$

$$\text{RK Error} = \frac{JK E}{db E} = \frac{5708,6468}{9} = 634,2941$$

$$\text{FH a} = \frac{RK A}{RK E} = \frac{429,2452}{634,2941} = 0,6767$$

$$\text{FH b} = \frac{RK B}{RK E} = \frac{215,7066}{634,2941} = 0,3401$$

$$\text{FH a} \times \text{b} = \frac{RK a \times b}{RK E} = \frac{222,5341}{634,2941} = 0,3508$$

Rerata

Perlakuan	A1	A2	A3	Rerata
B1	67,81345	63,65195	62,2971	64,5875
B2	68,3258	63,5989	62,2967	64,740467
B3	68,47185	63,5469	30,82	54,279583
Rerata	68,2037	63,59925	51,8046	

2. Kadar Abu

Data Primer

Perlakuan	Pengulangan		Total	Rerata
	I	II		
	A1			
B1	1,3567	1,3576	2,7143	1,3572
B2	0,9919	0,9781	1,9700	0,9850
B3	1,1488	1,152	2,3008	1,1504
	A2			
B1	1,7834	1,7911	3,5745	1,7873
B2	1,9804	1,9623	3,9427	1,9714
B3	1,6297	1,5743	3,2040	1,6020
	A3			
B1	2,2809	2,2542	4,5351	2,2676
B2	2,4893	2,3079	4,7972	2,3986
B3	2,4697	2,4697	4,9394	2,4697
KOMPUTASI	1,7923	1,7608	3,5531	1,7766
GT	31,9780			

$$FK = \frac{GT^2}{r \times a \times b} = \frac{31,9780^2}{18} = 56,8107$$

Data Primer dalam Kuadrat

Perlakuan	Pengulangan		Total
	I	II	
	A1		
B1	1,84063489	1,84307776	8,27110331
B2	0,98386561	0,95667961	
B3	1,31974144	1,327104	
A2			
B1	3,18051556	3,20803921	19,2955028
B2	3,92198416	3,85062129	
B3	2,65592209	2,47842049	
A3			
B1	5,20250481	5,08141764	34,0057755
B2	6,19661449	5,32640241	
B3	6,09941809	6,09941809	

JK TOTAL

$$\begin{aligned}
 \text{JK Total}^2 &= 8,27110331 + 19,2955028 + 34,0057755 \\
 &= 61,5724 \\
 \text{JK Total}^2 - \text{FK} &= 61,5724 - 56,8107 \\
 &= 4,7617
 \end{aligned}$$

r	2
a	3
b	3
rab	18
ab	9
rb	6
ra	6

A×B

	A1	A2	A3	∑B
B1	2,7143	3,5745	4,5351	10,8239
B2	1,9700	3,9427	4,7972	10,7099
B3	2,3008	3,2040	4,9394	10,4442
∑A	6,9851	10,7212	14,2717	

A×B dalam Kuadrat

	A1	A2	A3	ΣB
B1	7,3674	12,7771	20,5671	117,1568
B2	3,8809	15,5449	23,0131	114,7020
B3	5,2937	10,2656	24,3977	109,0813
ΣA	48,7916	114,9441	203,6814	

$$\text{JK Perlakuan} = \frac{((A1B1)^2+(A1B2)^2+(A1B3)^2+(A2B1)^2+(A2B2)^2+(A2B3)^2+(A3B1)^2+(A3B2)^2+(A3B3)^2)}{r} - \text{FK}$$

$$= \frac{123,1075}{2} - 56,8107$$

$$= 4,7430$$

$$\text{JK A} = \sum (A^1 + A^2) = \frac{A1^2 + A2^2 + A3^2}{ra} - \text{FK}$$

$$= \frac{6,9851^2 + 10,7212^2 + 14,2717^2}{6} - 56,8107$$

$$= \frac{367,4172}{6} - 981,4931$$

$$= 4,4255$$

$$\text{JK B} = \sum (B^1 + B^2) = \frac{B1^2 + B2^2 + B3^2}{rb} - \text{FK}$$

$$= \frac{340,9401}{6} - 56,8107$$

$$= 0,0127$$

$$\text{JK A} \times \text{B} = \text{JK P} - \text{JK A} - \text{JK B} = 4,7430 - 4,4255 - 0,0127$$

$$= 0,3049$$

$$\text{JK eror} = \text{JK total} - \text{JK P} = 4,7617 - 4,7430$$

$$= 0,0186$$

Analisis Keragaman

Sumber Keragaman	db	JK	RK	FH	FT	
					5%	1%
Perlakuan		4,7430				
A	2	4,4255	2,2128	1068,4915	4,26	8,02
B	2	0,0127	0,0063	3,0551	4,26	8,02
A X B	4	0,3049	0,0762	36,8068	3,63	6,42
Eror	9	0,0186	0,0021			
Total	17					

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tn
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$$\text{db A} = a-1 = 2$$

$$\text{db B} = b-1 = 2$$

$$\text{db A} \times \text{B} = (a-1)(b-1) = 4$$

$$\text{db Eror} = a.b(r-1) = 9$$

$$\text{db Total} = (r.a.b)-1 = 17$$

$$\text{RK a} = \frac{JK A}{db A} = \frac{4,4255}{2,0000} = 2,2128$$

$$\text{RK b} = \frac{JK B}{db B} = \frac{0,0127}{2,0000} = 0,0063$$

$$\text{RK a} \times \text{b} = \frac{JK A \times B}{db A \times B} = \frac{0,3049}{4,0000} = 0,0762$$

$$\text{RK Eror} = \frac{JK e}{db E} = \frac{0,0186}{9,0000} = 0,0021$$

$$\text{FH a} = \frac{RK A}{RK E} = \frac{2,2128}{0,0021} = 1068,4915$$

$$\text{FH b} = \frac{RK B}{RK E} = \frac{0,0063}{0,0021} = 3,0551$$

$$\text{FH a} \times \text{b} = \frac{RK a \times b}{RK E} = \frac{0,0762}{0,0021} = 36,8068$$

Uji Duncan

	A1	A2	A3	Jumlah B	Rerata
B1	1,3572	1,7873	2,2676	5,4120	1,3572
B2	0,9850	1,9714	2,3986	5,3550	0,9850
B3	1,1504	1,6020	2,4697	5,2221	1,1504
Jumlah A	3,4926	5,3606	7,1359		3,4926
Rerata	1,1642	1,7869	2,3786		1,1642

Peringkat Nilai Uji Duncan A

	Nilai	Peringkat
A1	1,1642	3
A2	1,7869	2
A3	2,3786	1

SD	$\sqrt{2 \times RKE / rb}$
	0,0005
$\sqrt{2}$	1,4142

JBD

	Faktor A	Rp	JBD ($rpxSD/\sqrt{2}$)
B2			
B3	2	3,19	0,049835
B1	3	3,33	0,052023

Perbandingan JBD

A1-A2	0,5918	>JBD
A1-A3	1,2144	>JBD
A2-A3	0,6227	>JBD

Peringkat Nilai Uji Duncan B

	Nilai	Peringkat
B1	1,8040	1
B2	1,7850	2
B3	1,7407	3

SD	$\sqrt{2} \times RKE / rb$
	0,0005
$\sqrt{2}$	1,4142

JBD

	Faktor B	Rp	JBD ($rpxSD/\sqrt{2}$)
B2			
B3	2	3,19	0,049835
B1	3	3,33	0,052023

Perbandingan JBD

B1-B3	0,0190	<JBD
B1-B2	0,0190	<JBD
B3-B2	0,0443	<JBD

Peringkat Nilai Uji Duncan AxB

Peringkat	Uji Duncan A X B	Nilai
1	A3B3	2,4697
2	A3B2	2,3986
3	A3B1	2,26755
4	A2B2	1,97135
5	A2B1	1,78725
6	A2B3	1,602
7	A1B1	1,35715
8	A1B3	1,1504
9	A1B2	0,985

SD	$\sqrt{2} \times RKE / rb$
	0,0015
$\sqrt{2}$	1,4142

Perhitungan JBD

Kode	Peringkat	Rerata	P	rp	JBD
A3B3	2,4697	1,23485			
A3B2	2,3986	1,1993	2	3,19	0,086318
A3B1	2,26755	1,133775	3	3,33	0,090106
A2B2	1,97135	0,985675	4	3,42	0,092541
A2B1	1,78725	0,893625	5	3,47	0,093894
A2B3	1,602	0,801	6	3,50	0,094706
A1B1	1,35715	0,678575	7	3,52	0,095247
A1B3	1,1504	0,5752	8	3,53	0,095517
A1B2	0,985	0,4925	9	3,54	0,095788

JBD

Kode	Peringkat	Rerata	Selisih	rp	JBD
A3B3	2,4697			A3B3	2,4697
A3B2	2,3986	3,19	1,862830457	A3B2	2,3986
A3B1	2,26755	3,33	1,944584772	A3B1	2,26755
A2B2	1,97135	3,42	1,997141117	A2B2	1,97135
A2B1	1,78725	3,47	2,026339086	A2B1	1,78725
A2B3	1,602	3,50	2,043857868	A2B3	1,602
A1B1	1,35715	3,52	2,055537056	A1B1	1,35715
A1B3	1,1504	3,53	2,06137665	A1B3	1,1504
A1B2	0,985	3,54	2,067216244	A1B2	0,985

Uji Duncan

Perlakuan	A1	A2	A3	Rerata
B1	1,35715	1,78725	2,26755	1,803983
B2	0,985	1,97135	2,3986	1,784983
B3	1,1504	1,602	2,4697	1,7407
Rerata	1,164183333	1,786866667	2,378616667	

3. Serat Pangan Tak Larut

Tabel 1. Data Primer

Perlakuan	Pengulangan		Total	Rerata
	I	II		
A1				
B1	4,7421	4,985	9,7271	4,8636
B2	2,4203	2,3636	4,7839	2,3920
B3	4,3581	4,3921	8,7502	4,3751
A2				
B1	5,0797	5,1704	10,2501	5,1251
B2	6,9169	6,7115	13,6284	6,8142
B3	6,0882	6,2772	12,3654	6,1827
A3				
B1	12,9154	12,8475	25,7629	12,8815
B2	12,6794	12,5472	25,2266	12,6133
B3	10,2239	10,0397	20,2636	10,1318
	65,4240	65,3342	130,7582	65,3791
KOMPUTASI	7,2693	7,2594	14,5287	7,2643
GT	130,7582			

$$FK = \frac{GT^2}{r \times a \times b} = \frac{17097,7069^2}{18} = 949,8726$$

Data Primer dalam Kuadrat

Perlakuan	Pengulangan		Total
	I	II	
A1			
B1	22,48751241	24,850225	97,06577
B2	5,85785209	5,58660496	
B3	18,99303561	19,29054241	
A2			
B1	25,80335209	26,73303616	221,8935
B2	47,84350561	45,04423225	
B3	37,06617924	39,40323984	
A3			
B1	166,8075572	165,0582563	855,3889
B2	160,7671844	157,4322278	
B3	104,5281312	100,7955761	

JK TOTAL

$$\begin{aligned} \text{JK Total}^2 &= 97,06577 + 221,8935 + 855,3889 \\ &= 1174,3483 \end{aligned}$$

$$\begin{aligned} \text{JK Total}^2 - \text{FK} &= 1174,3483 - 949,8726 \\ &= 224,4756 \end{aligned}$$

r	2
a	3
b	3
rab	18
ab	9
rb	6
ra	6

A×B

	A1	A2	A3	ΣB
B1	9,7271	10,2501	25,7629	45,7401
B2	4,7839	13,6284	25,2266	43,6389
B3	8,7502	12,3654	20,2636	41,3792
ΣA	23,2612	36,2439	71,2531	

A×B dalam Kuadrat

	A1	A2	A3	ΣB
B1	94,6165	105,0646	663,7270	2092,1567
B2	22,8857	185,7333	636,3813	1904,3536
B3	76,5660	152,9031	410,6135	1712,2382
ΣA	541,0834	1313,6203	5077,0043	

$$\begin{aligned} \text{JK Perlakuan} &= \frac{((A1B1)^2+(A1B2)^2+(A1B3)^2+(A2B1)^2+(A2B2)^2 \\ &\quad +(A2B3)^2+(A3B1)^2+(A3B2)^2+(A3B3)^2)}{2} - \text{FK} \\ &= \frac{(94,6165+22,8857+76,5660+105,0646+185,7333 \\ &\quad +152,9031+663,7270+636,3813+410,6135)}{2} - \text{FK} \\ &= \frac{2348,491}{2} - 949,8726 \\ &= 224,3729 \end{aligned}$$

$$\text{JK A} = \sum (A^1 + A^2) = \frac{A1^2 + A2^2 + A3^2}{ra} - \text{FK}$$

$$= \frac{23,2612^2 + 36,2439^2 + 71,2531^2}{6} - 949,8726$$

$$= 205,4121$$

$$JK B = \sum (B^1 + B^2) = \frac{B1^2 + B2^2 + B3^2}{rb} - FK$$

$$= \frac{45,7401^2 + 43,6389^2 + 41,3792^2}{6} - 949,8726$$

$$= 1,5855$$

$$JK A \times B = JK P - JK A - JK B = 224,3729 - 205,4121 - 1,5855$$

$$= 17,3753$$

$$JK \text{ eror} = JK \text{ total} - JK P = 224,4756 - 224,3729$$

$$= 0,1028$$

Analisis Keragaman

Sumber Keragaman	db	JK	RK	FH	FT			
					5%	1%		
Perlakuan		224,3729						
A	2	205,4121	102,7060	8995,0613	4,26	8,02	**	
B	2	1,5855	0,7927	69,4289	4,26	8,02	**	
A X B	4	17,3753	4,3438	380,4359	3,63	6,42	**	
Error	9	0,1028	0,0114					
Total	17							

$$db A = a - 1 = 2$$

$$db B = b - 1 = 2$$

$$db A \times B = (a - 1)(b - 1) = 4$$

$$db \text{ Error} = a \cdot b (r - 1) = 9$$

$$db \text{ Total} = (r \cdot a \cdot b) - 1 = 17$$

$$RK a = \frac{JK A}{db A} = \frac{205,412}{2} = 102,706$$

$$RK b = \frac{JK B}{db B} = \frac{1,58549}{2} = 0,792743$$

$$\begin{aligned}
 \text{RK } a \times b &= \frac{JK A \times B}{db A \times B} = \frac{17,3753}{4} = 4,343835 \\
 \text{RK Error} &= \frac{JK E}{db E} = \frac{0,10276}{9} = 0,011418 \\
 \text{FH a} &= \frac{RK A}{RK E} = \frac{102,706}{0,01142} = 8995,061 \\
 \text{FH b} &= \frac{RK B}{RK E} = \frac{0,79274}{0,01142} = 69,42892 \\
 \text{FH } a \times b &= \frac{RK a \times b}{RK E} = \frac{4,34384}{0,01142} = 380,4359
 \end{aligned}$$

Uji Duncan

	A1	A2	A3	Jumlah B	Rerata
B1	4,8636	5,1251	12,8815	22,8701	7,62335
B2	2,3920	6,8142	12,6133	21,8195	7,2732
B3	4,3751	6,1827	10,1318	20,6896	6,8965
Jumlah A	11,6306	18,1220	35,6266		
Rerata	3,8769	6,0407	11,8755		

Peringkat Nilai Uji Duncan A

	Nilai	Peringkat
A1	3,8769	3
A2	6,0407	2
A3	11,8755	1

SD	$\sqrt{2 \times \text{RKE} / r_b}$
	0,0027
$\sqrt{2}$	1,4142

JBD

	Faktor A	Rp	JBD ($r_p \times \text{SD} / \sqrt{2}$)
B2			
B3	2	3,19	0,117018
B1	3	3,33	0,122154

Perbandingan JBD

A3-A2	0,0000	>JBD
A3-A1	0,0000	>JBD
A2-A1	0,0000	>JBD

Peringkat Nilai Uji Duncan B

	Nilai	Peringkat
B1	7,6234	1
B2	7,2732	2
B3	6,8965	3

SD	$\sqrt{2 \times RKE / rb}$
	0,0027
$\sqrt{2}$	1,4142

JBD

	Faktor B	Rp	JBD ($r \times SD / \sqrt{2}$)
B2			
B3	2	3,19	0,117018
B1	3	3,33	0,122154

Perbandingan JBD

B1-B3	0,7268	>JBD
B1-B2	0,3502	>JBD
B2-B3	0,3766	>JBD

Peringkat Nilai Uji Duncan Ax B

Peringkat	Uji Duncan A X B	Nilai
1	A3B1	12,88145
2	A3B2	12,6133
3	A3B3	10,1318
4	A2B2	6,8142
5	A2B3	6,1827
6	A2B1	5,12505
7	A1B1	4,86355
8	A1B3	4,3751
9	A1B2	2,39195

SD	$\sqrt{2 \times RKE / rb}$
	0,0081
$\sqrt{2}$	1,4142

Perhitungan JBD

Kode	Peringkat	Rerata	P	rp	JBD
A3B1	12,88145	6,440725			
A3B2	12,6133	6,30665	2	3,19	0,202681
A3B3	10,1318	5,0659	3	3,33	0,211577
A2B2	6,8142	3,4071	4	3,42	0,217295
A2B3	6,1827	3,09135	5	3,47	0,220472
A2B1	5,12505	2,562525	6	3,50	0,222378
A1B1	4,86355	2,431775	7	3,52	0,223649
A1B3	4,3751	2,18755	8	3,53	0,224284
A1B2	2,39195	1,195975	9	3,54	0,224919

JBD

Kode	Peringkat	Rerata	Selisih	rp	JBD
A3B1	12,88145	6,4407	3,2032		
A3B2	12,6133	6,3067	3,0783	3,19	2,917404
A3B3	10,1318	5,0659	1,8467	3,33	3,045441
A2B2	6,8142	3,4071	0,206186519	3,42	3,12775
A2B3	6,1827	3,09135	-0,08212708	3,47	3,173477
A2B1	5,12505	2,562525	-0,56522474	3,50	3,200913
A1B1	4,86355	2,431775	-0,61366554	3,52	3,219204
A1B3	4,3751	2,1876	-0,7299	3,53	3,22835
A1B2	2,39195	1,1960	1,1960	3,54	3,237495

Uji Duncan

Perlakuan	A1	A2	A3	Rerata	
B1	4,86355	5,12505	12,88145	7,62335	a
B2	2,39195	6,8142	12,6133	7,27315	b
B3	4,3751	6,1827	10,1318	6,8965333	c
Rerata	3,876866667	6,04065	11,87551667		

4. Serat Pangan Larut

Data Primer

Perlakuan	Pengulangan		Total	Rerata
	I	II		
A1				
B1	0,0595	0,0598	0,1193	0,0597
B2	0,0197	0,0197	0,0394	0,0197
B3	0,0592	0,0599	0,1191	0,0596
A2				
B1	0,0598	0,0594	0,1192	0,0596
B2	0,0786	0,0792	0,1578	0,0789
B3	0,0791	0,0792	0,1583	0,0792
A3				
B1	0,1592	0,1589	0,3181	0,1591
B2	0,1379	0,1576	0,2955	0,1478
B3	0,1397	0,1189	0,2586	0,1293
	0,7927	0,7926	1,5853	0,7927
KOMPUTASI	0,0881	0,0881	0,1761	0,0881
GT	1,5853			

$$FK = \frac{GT^2}{r \times a \times b} = \frac{1,5853^2}{18} = 0,1396$$

Tabel 2. Data Primer dalam Kuadrat

Perlakuan	Pengulangan		Total
	I	II	
A1			
B1	0,00354025	0,00357604	0,01499
B2	0,00038809	0,00038809	
B3	0,00350464	0,00358801	
A2			
B1	0,00357604	0,00352836	0,03208
B2	0,00617796	0,00627264	
B3	0,00625681	0,00627264	
A3			
B1	0,02534464	0,02524921	0,1281
B2	0,01901641	0,02483776	
B3	0,01951609	0,01413721	

JK TOTAL

$$\begin{aligned}
 \text{JK Total}^2 &= 0,01498512 + 0,03208445 + 0,12810132 \\
 &= 0,1752 \\
 \text{JK Total}^2 - \text{FK} &= 0,1752 - 0,1396 \\
 &= 0,0355
 \end{aligned}$$

r	2
a	3
b	3
rab	18
ab	9
rb	6
ra	6

A×B

	A1	A2	A3	ΣB
B1	0,1193	0,1192	0,3181	0,5566
B2	0,0394	0,1578	0,2955	0,4927
B3	0,1191	0,1583	0,2586	0,5360
ΣA	0,2778	0,4353	0,8722	

A×B dalam Kuadrat

	A1	A2	A3	ΣB
B1	0,0142	0,0142	0,1012	0,3098
B2	0,0016	0,0249	0,0873	0,2428
B3	0,0142	0,0251	0,0669	0,2873
ΣA	0,0772	0,1895	0,7607	

$$\begin{aligned}
 \text{JK Perlakuan} &= \frac{((A1B1)^2+(A1B2)^2+(A1B3)^2+(A2B1)^2+(A2B2)^2 \\
 &\quad +(A2B3)^2+(A3B1)^2+(A3B2)^2+(A3B3)^2)}{2} - \text{FK} \\
 &= \frac{0,3495}{2} - 0,1396 \\
 &= 0,0351
 \end{aligned}$$

$$\begin{aligned}
 \text{JK A} = \sum (A^1 + A^2) &= \frac{A1^2 + A2^2 + A3^2}{ra} - \text{FK} \\
 &= \frac{1,0274}{6} - 0,1396 \\
 &= 0,0316
 \end{aligned}$$

$$JK B = \sum (B^1 + B^2) = \frac{B1^2 + B2^2 + B3^2}{ra} - FK$$

$$= \frac{0,8399}{6} - 0,1396$$

$$= 0,0004$$

$$JK A \times B = JK P - JK A - JK B = 0,0351 - 0,0316 - 0,0004$$

$$= 0,0032$$

$$JK \text{ eror} = JK \text{ total} - JK P = 0,0355 - 0,0351$$

$$= 0,0004$$

Analisis Keragaman

Sumber Keragaman	db	JK	RK	FH	FT	
					5%	1%
Perlakuan		0,0351				
A	2	0,0316	0,0158	346,1361	4,26	8,02
B	2	0,0004	0,0002	3,8826	4,26	8,02
A X B	4	0,0032	0,0008	17,3740	3,63	6,42
Error	9	0,0004	0,0000			
Total	17					

**

*

**

$$db A = a - 1 = 2$$

$$db B = b - 1 = 2$$

$$db A \times B = (a - 1)(b - 1) = 4$$

$$db \text{ Error} = a \cdot b (r - 1) = 9$$

$$db \text{ Total} = (r \cdot a \cdot b) - 1 = 17$$

$$RK a = \frac{JK A}{db A} = \frac{0,0316}{2,0000} = 0,0158$$

$$RK b = \frac{JK B}{db B} = \frac{0,0004}{2,0000} = 0,0002$$

$$RK a \times b = \frac{JK A \times B}{db A \times B} = \frac{0,0032}{4,0000} = 0,0008$$

$$\text{RK Eror} = \frac{JK e}{db E} = \frac{0,0004}{9,0000} = 0,00005$$

$$\text{FH a} = \frac{RK A}{RK E} = \frac{0,0158}{0,0000} = 346,1361$$

$$\text{FH b} = \frac{RK B}{RK E} = \frac{0,0002}{0,0000} = 3,8826$$

$$\text{FH a} \times \text{b} = \frac{RK axb}{RK E} = \frac{0,0008}{0,0000} = 17,3740$$

Uji Duncan

	A1	A2	A3	Jumlah B	Rerata
B1	0,0597	0,0596	0,1591	0,2783	0,092767
B2	0,0197	0,0789	0,1478	0,2464	0,0821
B3	0,0596	0,0792	0,1293	0,2680	0,0893
Jumlah A	0,1389	0,2177	0,4361		
Rerata	0,0463	0,0726	0,1454		

Peringkat Nilai Uji Duncan A

	Nilai	Peringkat
A1	0,0463	3
A2	0,0726	2
A3	0,1454	1

SD	$\sqrt{2 \times \text{RKE} / r_b}$
	0,000011
$\sqrt{2}$	1,4142

JBD

	Faktor A	Rp	JBD ($r_p \times \text{SD} / \sqrt{2}$)
B2			
B3	2	3,19	0,007400
B1	3	3,33	0,007725

Perbandingan JBD

A3-A1	0,099067	>JBD
A3-A2	0,072817	>JBD
A2-A1	0,026250	>JBD

Peringkat Nilai Uji Duncan B

	Nilai	Peringkat
B1	0,0928	1
B2	0,0821	3
B3	0,0893	2

SD	$\sqrt{2 \times RKE / rb}$
	0,00001076
$\sqrt{2}$	1,4142

Tabel JBD

	Faktor B	Rp	JBD ($rpxSD/\sqrt{2}$)
B2			
B3	2	3,19	0,007400
B1	3	3,33	0,007725

Perbandingan JBD

B1-B2	0,010650	>JBD
B1-B3	0,003433	>JBD
B3-B2	0,007217	>JBD

Peringkat Nilai Uji Duncan AxB

Peringkat	Uji Duncan A X B	Nilai
1	A3B1	0,15905
2	A3B2	0,14775
3	A3B3	0,1293
4	A2B3	0,07915
5	A2B2	0,0789
6	A1B1	0,05965

7	A2B1	0,0596
8	A1B3	0,05955
9	A1B2	0,0197

SD	$\sqrt{2 \times RKE / rb}$
	0,000032
$\sqrt{2}$	1,4142

Perhitungan JBD

Kode	Peringkat	Rerata	P	rp	JBD
A3B1	0,15905	0,079525			
A3B2	0,14775	0,073875	2	3,19	0,012817
A3B3	0,1293	0,06465	3	3,33	0,01338
A2B3	0,07915	0,039575	4	3,42	0,013742
A2B2	0,0789	0,03945	5	3,47	0,013942
A1B1	0,05965	0,029825	6	3,50	0,014063
A2B1	0,0596	0,0298	7	3,52	0,014143
A1B3	0,05955	0,029775	8	3,53	0,014183
A1B2	0,0197	0,00985	9	3,54	0,014224

JBD

Kode	Peringkat	Rerata	Selisih	rp	JBD
A3B1	0,15905	0,0795	-5,2709		
A3B2	0,14775	0,0739	-5,2614	3,19	4,821434
A3B3	0,1293	0,0647	-5,2556	3,33	5,033033
A2B3	0,07915	0,039575	-5,25039962	3,42	5,169061
A2B2	0,0789	0,03945	-5,20518198	3,47	5,244632
A1B1	0,05965	0,029825	-5,13923591	3,50	5,289975
A2B1	0,0596	0,0298	-5,00323299	3,52	5,320203
A1B3	0,05955	0,0298	-4,7917	3,53	5,335317
A1B2	0,0197	0,0099	0,0099	3,54	5,350431

Uji Duncan

Perlakuan	A1	A2	A3	Rerata
B1	0,05965	0,0596	0,15905	0,092767
B2	0,0197	0,0789	0,14775	0,082117
B3	0,05955	0,07915	0,1293	0,089333
Rerata	0,0463	0,07255	0,145366667	

5. Serat Pangan Total

Data Primer

Perlakuan	Pengulangan		Total	Rerata
	I	II		
	A1			
B1	4,8016	5,0449	9,8465	4,9233
B2	2,4400	2,3833	4,8233	2,4117
B3	4,4173	4,4520	8,8693	4,4347
	A2			
B1	5,1793	5,2444	10,4237	5,2119
B2	5,8258	5,6171	11,4429	5,7215
B3	6,1672	6,3564	12,5236	6,2618
	A3			
B1	12,9122	12,7978	25,7100	12,8550
B2	12,8589	12,7461	25,6050	12,8025
B3	11,8786	11,7939	23,6725	11,8363
	66,4809	66,4359	132,9168	66,4584
KOMPUTASI	7,3868	7,3818	14,7685	7,3843
GT	132,9168	23,5391	34,3902	74,9875

$$FK = \frac{GT^2}{r \times a \times b} = \frac{17666,8757^2}{18} = 981,4931$$

Data Primer dalam Kuadrat

Perlakuan	Pengulangan		Total
	I	II	
	A1		
B1	23,05536256	25,45101601	99,4729
B2	5,9536	5,68011889	
B3	19,51253929	19,820304	
	A2		
B1	26,82514849	27,50373136	198,259
B2	33,93994564	31,55181241	
B3	38,03435584	40,40382096	
	A3		
B1	166,7249088	163,7836848	938,52
B2	165,3513092	162,4630652	
B3	141,101138	139,0960772	

JK TOTAL

$$\begin{aligned}
JK \text{ Total}^2 &= 99,4729 + 198,259 + 938,52 \\
&= 1236,2519 \\
JK \text{ Total}^2 - FK &= 1236,2519 - 981,4931 \\
&= 254,7588
\end{aligned}$$

r	2
a	3
b	3
rab	18
ab	9
rb	6
ra	6

A×B

	A1	A2	A3	ΣB
B1	9,8465	10,4237	25,7100	45,9802
B2	4,8233	11,4429	25,6050	41,8712
B3	8,8693	12,5236	23,6725	45,0654
ΣA	23,5391	34,3902	74,9875	

A×B dalam Kuadrat

	A1	A2	A3	ΣB
B1	96,9536	108,6535	661,0041	2114,1788
B2	23,2642	130,9400	655,6160	1753,1974
B3	78,6645	156,8406	560,3873	2030,8903
ΣA	554,0892	1182,6859	5623,1252	

$$\begin{aligned}
JK \text{ Perlakuan} &= \frac{((A1B1)^2+(A1B2)^2+(A1B3)^2+(A2B1)^2+(A2B2)^2 \\
&\quad +(A2B3)^2+(A3B1)^2+(A3B2)^2+(A3B3)^2)}{2} - FK \\
&= \frac{2472,3237}{2} - 981,4931 \\
&= 254,6687
\end{aligned}$$

$$JK A = \sum (A^1 + A^2) = \frac{A1^2 + A2^2 + A3^2}{ra} - FK$$

$$= \frac{23,5391,^2 + 34,3902^2 + 74,9875^2}{6} - 981,4931$$

$$= \frac{7359,9002}{6} - 981,4931$$

$$= 245,1569$$

$$JK B = \sum (B^1 + B^2) = \frac{B1^2 + B2^2 + B3^2}{rb} - FK$$

$$= \frac{5898,2665}{6} - 981,4931$$

$$= 1,5513$$

$$JK A \times B = JK P - JK A - JK B = 254,6687 - 245,1569 - 1,5513$$

$$= 7,9605$$

$$JK \text{ eror} = JK \text{ total} - JK P = 254,7588 - 254,6687$$

$$= 0,0901$$

Tabel 3. Analisis Keragaman

Sumber Keragaman	db	JK	RK	FH	FT	
					5%	1%
Perlakuan		254,6687				
A	2	245,1569	122,5785	12244,9560	4,26	8,02
B	2	1,5513	0,7757	77,4841	4,26	8,02
A X B	4	7,9605	1,9901	198,8029	3,63	6,42
Eror	9	0,0901	0,0100			
Total	17					

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$$db A = a - 1 = 2$$

$$db B = b - 1 = 2$$

$$db A \times B = (a - 1)(b - 1) = 4$$

$$db \text{ Eror} = a \cdot b (r - 1) = 9$$

$$db \text{ Total} = (r \cdot a \cdot b) - 1 = 17$$

$$RK a = \frac{JK A}{db A} = \frac{245,1569}{2} = 122,5785$$

$$\begin{aligned}
 RK\ b &= \frac{JK\ B}{db\ B} = \frac{1,5513}{2} = 0,7757 \\
 RK\ a \times b &= \frac{JK\ A \times B}{db\ A \times B} = \frac{7,9605}{4} = 1,9901 \\
 RK\ Error &= \frac{JK\ e}{db\ E} = \frac{0,0901}{9} = 0,0100 \\
 FH\ a &= \frac{RK\ A}{RK\ E} = \frac{122,5785}{0,0100} = 12244,9560 \\
 FH\ b &= \frac{RK\ B}{RK\ E} = \frac{0,7757}{0,0100} = 77,4841 \\
 FH\ a \times b &= \frac{RK\ a \times b}{RK\ E} = \frac{1,9901}{0,0100} = 198,8029
 \end{aligned}$$

Uji Duncan

	A1	A2	A3	Jumlah B	Rerata
B1	4,9233	5,2119	12,8550	22,9901	7,663367
B2	2,4117	5,7215	12,8025	20,9356	6,9785
B3	4,4347	6,2618	11,8363	22,5327	7,5109
Jumlah A	11,7696	17,1951	37,4938		
Rerata	3,9232	5,7317	12,4979		

Peringkat Nilai Uji Duncan A

	Nilai	Peringkat
A1	3,9232	3
A2	5,7317	2
A3	12,4979	1

SD	$\sqrt{2 \times RKE / rb}$
	0,0024
$\sqrt{2}$	1,4142

JBD

	Faktor A	Rp	JBD ($rpxSD/\sqrt{2}$)
B2			
B3	2	3,19	0,109569
B1	3	3,33	0,114377

Perbandingan JBD

A3-A1	8,5747333	>JBD
A3-A2	6,7662167	>JBD
A2-A1	1,8085167	>JBD

Peringkat Nilai Uji Duncan B

	Nilai	Peringkat
B1	7,6634	1
B2	6,9785	3
B3	7,5109	2

SD	$\sqrt{2} \times RKE / r_b$
	0,0024
$\sqrt{2}$	1,4142

JBD

	Faktor B	Rp	JBD ($rpxSD/\sqrt{2}$)
B2			
B3	2	3,19	0,109569
B1	3	3,33	0,114377

Perbandingan JBD

B1-B3	0,1525	>JBD
B1-B2	0,6848	>JBD
B3-B2	0,5324	>JBD

Peringkat Nilai Uji Duncan AxB

Peringkat	Uji Duncan A X B	Nilai
1	A3B1	12,855
2	A3B2	12,8025
3	A3B3	11,83625
4	A2B3	6,2618
5	A2B2	5,72145
6	A2B1	5,21185
7	A1B1	4,92325
8	A1B3	4,43465
9	A1B2	2,41165

SD	$\sqrt{2 \times RKE / rb}$
	0,0071
$\sqrt{2}$	1,4142

Perhitungan JBD

Kode	Peringkat	Rerata	P	rp	JBD
A3B1	12,855	6,4275			
A3B2	12,8025	6,40125	2	3,19	0,189778
A3B3	11,83625	5,918125	3	3,33	0,198107
A2B3	6,2618	3,1309	4	3,42	0,203461
A2B2	5,72145	2,860725	5	3,47	0,206436
A2B1	5,21185	2,605925	6	3,50	0,208221
A1B1	4,92325	2,461625	7	3,52	0,209411
A1B3	4,43465	2,217325	8	3,53	0,210006
A1B2	2,41165	1,205825	9	3,54	0,2106

JBD

Kode	Peringkat	Rerata	Selisih	rp	JBD
A3B1	12,855	6,4275	3,1727		
A3B2	12,8025	6,4013	3,1557	3,19	2,932957
A3B3	11,83625	5,9181	2,6818	3,33	3,061677
A2B3	6,2618	3,1309	-0,08707836	3,42	3,144425
A2B2	5,72145	2,860725	-0,32967068	3,47	3,190396
A2B1	5,21185	2,605925	-0,53849956	3,50	3,217978
A1B1	4,92325	2,461625	-0,60005155	3,52	3,236367
A1B3	4,43465	2,2173	-0,7156	3,53	3,245561

A1B2	2,41165	1,2058	1,2058	3,54	3,254755
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Uji Duncan

Perlakuan	A1	A2	A3	Rerata
B1	4,92325	5,21185	12,855	7,663367
B2	2,41165	5,72145	12,8025	6,978533
B3	4,43465	6,2618	11,83625	7,5109
Rerata	3,923183333	5,7317	12,49791667	

6. Aktivitas Antioksidan

Data Primer

Perlakuan	Pengulangan		Total	Rerata
	I	II		
A1				
B1	13,3858	13,1609	26,5467	13,2734
B2	11,8110	11,6985	23,5095	11,7548
B3	14,0607	14,2857	28,3464	14,1732
A2				
B1	18,2227	18,3352	36,5579	18,2790
B2	23,7345	23,9595	47,6940	23,8470
B3	29,3588	29,5838	58,9426	29,4713
A3				
B1	30,2587	30,0337	60,2924	30,1462
B2	32,5084	32,1710	64,6794	32,3397
B3	38,6952	38,8076	77,5028	38,7514
	212,0358	212,0359	424,0717	212,0359
KOMPUTASI	23,5595	23,5595	47,1191	23,5595
GT	424,0717			

$$FK = \frac{GT^2}{r \times a \times b} = \frac{424,0717^2}{18} = 9990,9337$$

Data Primer dalam Kuadrat

Perlakuan	Pengulangan		Total
	I	II	
A1			
B1	179,1796416	173,2092888	1030,53
B2	139,499721	136,8549023	
B3	197,7032845	204,0812245	

	A2		
B1	332,0667953	336,179559	3542,77
B2	563,3264903	574,0576403	
B3	861,9391374	875,2012224	
	A3		
B1	915,5889257	902,0231357	6912,73
B2	1056,796071	1034,973241	
B3	1497,318503	1506,029818	

JK TOTAL

$$\begin{aligned}
 \text{JK Total}^2 &= 1030,53 + 3542,77 + 6912,73 \\
 &= 11486,0286 \\
 \text{JK Total}^2 - \text{FK} &= 11486,0286 - 9990,9337 \\
 &= 1495,0949
 \end{aligned}$$

r	2
a	3
b	3
rab	18
ab	9
rb	6
ra	6

A×B

	A1	A2	A3	ΣB
B1	26,5467	36,5579	60,2924	123,3970
B2	23,5095	47,6940	64,6794	135,8829
B3	28,3464	58,9426	77,5028	164,7918
ΣA	78,4026	143,1945	202,4746	

A×B dalam Kuadrat

	A1	A2	A3	ΣB
B1	704,7273	1336,4801	3635,1735	15226,8196
B2	552,6966	2274,7176	4183,4248	18464,1625
B3	803,5184	3474,2301	6006,6840	27156,3373
ΣA	6146,9677	20504,6648	40995,9636	

$$\text{JK Perlakuan} = \frac{((A1B1)^2 + (A1B2)^2 + (A1B3)^2 + (A2B1)^2 + (A2B2)^2 + (A2B3)^2 + (A3B1)^2 + (A3B2)^2 + (A3B3)^2)}{r} - \text{FK}$$

$$= \frac{22971,6523}{2} - 9990,9337$$

$$= 1494,8925$$

$$JK A = \sum (A^1 + A^2) = \frac{A1^2 + A2^2 + A3^2}{ra} - FK$$

$$= \frac{67647,5962}{6} - 9990,9337$$

$$= 1283,6657$$

$$JK B = \sum (B^1 + B^2) = \frac{B1^2 + B2^2 + B3^2}{rb} - FK$$

$$= \frac{60847,3195}{6} - 9990,9337$$

$$= 150,2862$$

$$JK A \times B = JK P - JK A - JK B = 1494,8925 - 1283,6657 - 150,2862$$

$$= 60,9406$$

$$JK \text{ error} = JK \text{ total} - JK P = 1495,0949 - 1494,8925$$

$$= 0,2024$$

Analisis Keragaman

Sumber Keragaman	db	JK	RK	FH	FT	
					5%	1%
Perlakuan		1494,8925				
A	2	1283,6657	641,8328	28535,4131	4,26	8,02
B	2	150,2862	75,1431	3340,8068	4,26	8,02
A X B	4	60,9406	15,2352	677,3436	3,63	6,42
Error	9	0,2024	0,0225			
Total	17					

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$$db A = a - 1 = 2$$

$$db B = b - 1 = 2$$

$$db A \times B = (a - 1)(b - 1) = 4$$

$$db \text{ Error} = a \cdot b (r - 1) = 9$$

$$db \text{ Total} = (r \cdot a \cdot b) - 1 = 17$$

$$\begin{aligned}
 RK\ a &= \frac{JK\ A}{db\ A} = \frac{1283,6657}{2,0000} = 641,8328 \\
 RK\ b &= \frac{JK\ B}{db\ B} = \frac{150,2862}{2,0000} = 75,1431 \\
 RK\ a \times b &= \frac{JK\ A \times B}{db\ A \times B} = \frac{60,9406}{4,0000} = 15,2352 \\
 RK\ Eror &= \frac{JK\ e}{db\ E} = \frac{0,2024}{9,0000} = 0,0225 \\
 FH\ a &= \frac{RK\ A}{RK\ E} = \frac{641,8328}{0,0225} = 28535,4131 \\
 FH\ b &= \frac{RK\ B}{RK\ E} = \frac{75,1431}{0,0225} = 3340,8068 \\
 FH\ a \times b &= \frac{RK\ a \times b}{RK\ E} = \frac{15,2352}{0,0225} = 677,3436
 \end{aligned}$$

Uji Duncan

	A1	A2	A3	Jumlah B	Rerata
B1	13,2734	18,2790	30,1462	61,6985	20,56617
B2	11,7548	23,8470	32,3397	67,9415	22,6472
B3	14,1732	29,4713	38,7514	82,3959	27,4653
Jumlah A	39,2013	71,5973	101,2373		
Rerata	13,0671	23,8658	33,7458		

Peringkat Nilai Uji Duncan A

	Nilai	Peringkat
A1	13,0671	3
A2	23,8658	2
A3	33,7458	1

SD	$\sqrt{2 \times RKE / rb}$
	0,0053
$\sqrt{2}$	1,4142

JBD

	Faktor A	Rp	JBD ($r_{pxSD}/\sqrt{2}$)
B2			
B3	2	3,19	0,164239
B1	3	3,33	0,171447

Perbandingan JBD

A3-A1	20,6786667	>JBD
A3-A2	9,8800167	>JBD
A2-A1	10,7986500	>JBD

Peringkat Nilai Uji Duncan B

	Nilai	Peringkat
B1	20,5662	3
B2	22,6472	2
B3	27,4653	1

SD	$\sqrt{2} \times RKE/rb$
	0,0053
$\sqrt{2}$	1,4142

JBD

	Faktor B	Rp	JBD ($r_{pxSD}/\sqrt{2}$)
B2			
B3	2	3,19	0,164239
B1	3	3,33	0,171447

Perbandingan JBD

B3-B1	6,8991	>JBD
B3-B2	4,8182	>JBD
B2-B1	2,0810	>JBD

Peringkat Nilai Uji Duncan Ax B

Peringkat	Uji Duncan A X B	Nilai
1	A3B3	38,7514

2	A3B2	32,3397
3	A3B1	30,1462
4	A2B3	29,4713
5	A2B2	23,847
6	A2B1	18,27895
7	A1B3	14,1732
8	A1B1	13,27335
9	A1B2	11,75475

SD	$\sqrt{2 \times RKE / rb}$
	0,0159
$\sqrt{2}$	1,4142

Perhitungan JBD

Kode	Peringkat	Rerata	P	rp	JBD
A3B3	38,7514	19,3757			
A3B2	32,3397	16,16985	2	3,19	0,28447
A3B1	30,1462	15,0731	3	3,33	0,296955
A2B3	29,4713	14,73565	4	3,42	0,304981
A2B2	23,847	11,9235	5	3,47	0,30944
A2B1	18,27895	9,139475	6	3,50	0,312115
A1B3	14,1732	7,0866	7	3,52	0,313898
A1B1	13,27335	6,636675	8	3,53	0,31479
A1B2	11,75475	5,877375	9	3,54	0,315682

JBD

Kode	Peringkat	Rerata	Selisih	rp	JBD
A3B3	38,7514	19,3757	17,3770		
A3B2	32,3397	16,1699	14,1768	3,19	1,801059
A3B1	30,1462	15,0731	13,0857	3,33	1,880102
A2B3	29,4713	14,73565	12,75956693	3,42	1,930915
A2B2	23,847	11,9235	9,964354782	3,47	1,959145
A2B1	18,27895	9,139475	7,20855954	3,50	1,976083
A1B3	14,1732	7,0866	5,206498105	3,52	1,987375
A1B1	13,27335	6,6367	4,8356	3,53	1,993021
A1B2	11,75475	5,8774	5,8774	3,54	1,998667

Uji Duncan

Perlakuan	A1	A2	A3	Rerata
B1	13,27335	18,27895	30,1462	20,56617
B2	11,75475	23,847	32,3397	22,64715
B3	14,1732	29,4713	38,7514	27,4653
Rerata	13,0671	23,86575	33,74576667	

Lampiran 3. Proses Pembuatan Daging Analog



Gambar 1. Persiapan Bahan



Gambar 2. Persiapan bahan



Gambar 3. Pencampuran bahan



Gambar 4. Bahan didiamkan selama 1 jam



Gambar 5. Bahan direndam didalam air selama 4-6 jam.



Gambar 6. Bahan setelah dibilas



Gambar 7. Pencampuran bahan lainnya (tepung kedelai, tepung bit, garam dan lada)



Gambar 8. Perebusan bahan selama 15-20 menit



Gambar 9. Bahan jadi dan didinginkan