

LAMPIRAN 1

KUESIONER POLA KONSUMSI MIE AYAM

JURUSAN TEKNOLOGI PANGAN
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Salah satu tujuan penelitian ini adalah untuk mengetahui pola konsumsi mie ayam di lima lokasi yaitu Pelombokan, Gayamsari, Kabluk, Kaligawe dan Ungaran. Kuesioner merupakan salah satu alat pengumpulan data dalam memperoleh informasi tersebut. Partisipasi anda melalui pengisian kuesioner ini akan sangat membantu dalam penyelesaian skripsi penulis.

DATA RESPONDEN

Nama :
Jenis Kelamin :
Usia :
Berat Badan :

KUESIONER

1. Apakah anda menyukai mie ayam ?
 - a. Cukup suka
 - b. Suka
 - c. Suka sekali

2. Berapa kali dalam seminggu anda mengkonsumsi mie ayam ?
 - a. 1 kali
 - b. 2 kali
 - c. lainnya:.....kali

3. Berapa banyak mie ayam yang anda konsumsi setiap kali makan ?
 - a. 1 porsi
 - b. 2 porsi
 - c. Lainnya:.....porsi

LAMPIRAN 2

No.	Jenis Kelamin	Usia	Berat Badan	Konsumsi Mie Ayam Sekali Makan (Porsi)	Konsumsi mie ayam dalam satu minggu (g)	Suplayer	Konsumsi mie ayam per minggu	Weekly Consumption (g/kg.BB)
1	Pria	21	66	1	110.88	Pelombokan	1	1.68
2	Wanita	23	56	1	110.88	Pelombokan	1	1.98
3	Pria	21	55	1	221.76	Pelombokan	2	4.03
4	Wanita	21	51	1	110.88	Pelombokan	1	2.17
5	Pria	22	70	1	332.64	Pelombokan	3	4.75
6	Wanita	55	45	1	110.88	Pelombokan	1	2.46
7	Pria	20	56	1	221.76	Pelombokan	2	3.96
8	Pria	20	58	1	110.88	Pelombokan	1	1.91
9	Wanita	20	48	1	110.88	Pelombokan	1	2.31
10	Pria	19	53	1	110.88	Pelombokan	1	2.09
11	Pria	21	71	1	93.46	Kaligawe	1	1.32
12	Wanita	20	58	2	186.92	Kaligawe	1	3.22
13	Wanita	20	40	1	93.46	Kaligawe	1	2.34
14	Pria	39	54	1	186.92	Kaligawe	2	3.46
15	Pria	26	51	1	93.46	Kaligawe	1	1.83
16	Wanita	20	43	1	93.46	Kaligawe	1	2.17
17	Pria	20	46	1	93.46	Kaligawe	1	2.03
18	Pria	20	54	1	93.46	Kaligawe	1	1.73
19	Wanita	21	44	1	280.38	Kaligawe	1	6.37
20	Wanita	20	49	1	93.46	Kaligawe	1	1.91
21	Wanita	39	52	1	91.21	Ungaran	1	1.75
22	Wanita	24	62	1	91.21	Ungaran	1	1.47
23	Wanita	29	55	1	91.21	Ungaran	1	1.66
24	Pria	32	59	1	182.42	Ungaran	2	3.09
25	Wanita	29	44	1	91.21	Ungaran	1	2.07
26	Wanita	36	48	1	273.63	Ungaran	2	5.70
27	Wanita	33	50	1	91.21	Ungaran	1	1.82
28	Wanita	27	53	1	273.63	Ungaran	1	5.16
29	Pria	27	52	1	91.21	Ungaran	1	1.75
30	Wanita	24	48	1	273.63	Ungaran	2	5.70
31	Pria	25	55	1	82.14	Kabluk	1	1.49
32	Wanita	45	42	1	246.42	Kabluk	3	5.87
33	Wanita	23	42	2	164.28	Kabluk	1	3.91
34	Pria	30	63	1	82.14	Kabluk	1	1.30
35	Wanita	33	48	1	246.42	Kabluk	3	5.13
36	Wanita	30	49	1	82.14	Kabluk	1	1.68
37	Pria	17	42	2	492.84	Kabluk	3	11.73
38	Wanita	32	58	1	246.42	Kabluk	3	4.25
39	Pria	24	58	1	82.14	Kabluk	1	1.42
40	Wanita	56	56	1	246.42	Kabluk	3	4.40
41	Wanita	34	66	1	90.03	Gayam Sari	1	1.36
42	Pria	28	52	1	90.03	Gayam Sari	1	1.73
43	Wanita	24	61	2	180.06	Gayam Sari	1	2.95
44	Pria	39	46	1	90.03	Gayam Sari	1	1.96
45	Pria	28	50	1	180.06	Gayam Sari	2	3.60
46	Wanita	32	56	1	90.03	Gayam Sari	1	1.61
47	Wanita	48	53	1	90.03	Gayam Sari	1	1.70
48	Pria	20	48	1	90.03	Gayam Sari	1	1.88
49	Wanita	28	46	1	90.03	Gayam Sari	1	1.96
50	Wanita	47	46	2	180.06	Gayam Sari	1	3.91

Keterangan:

Rata-rata Berat Badan Pria

Pelombokan	: 59.67 kg
Kaligawe	: 55.2 kg
Ungaran	: 55.5 kg
Kabluk	: 54.5 kg
Gayamsari	: 49 kg

Rata-rata Berat Badan Wanita

Pelombokan	: 50 kg
Kaligawe	: 46.8 kg
Ungaran	: 51.55 kg
Kabluk	: 49.17 kg
Gayamsari	: 54.67 kg

LAMPIRAN 3

Konsentrasi Boraks Pada Mie Ayam Mentah dan Matang Serta Konsentrasi Penurunannya

Suplayer	Asam Borat (ppm)	Kadar Boron (ppm)	Kadar Boraks (ppm)	Rata-rata Kadar Boraks Dalam Berat Kering (ppm)	Rata-rata Borak Dalam Berat Basah (ppm)	Penurunan Kadar Boraks (%)
Pelombokan Mentah	27900	4882.50	43207.96	43528.02	33519,19	50.74
	27900	4882.50	43207.96			
	28520	4991.00	44168.14			
Pelombokan Matang	13640	2387.00	21123.89	21443.95	13529,31	
	14260	2495.50	22084.07			
	13640	2387.00	21123.89			
Gayam Sari Mentah	19840	3472.00	30725.66	31045.72	24353,4	49.48
	19840	3472.00	30725.66			
	20460	3580.50	31685.84			
Gayam Sari Matang	9920	1736.00	15362.83	15682.89	9795,68	
	9920	1736.00	15362.83			
	10540	1844.50	16323.01			
Kabluk Mentah	26660	4665.50	41287.61	41607.67	32045,33	53.08
	26660	4665.50	41287.61			
	27280	4774.00	42247.79			
Kabluk Matang	12400	2170.00	19203.54	19523.60	11780,89	
	12400	2170.00	19203.54			
	13020	2278.50	20163.72			
Kaligawe Mentah	20460	3580.50	31685.84	32325.96	24043,1	45.54
	21080	3689.00	32646.02			
	21080	3689.00	32646.02			
Kaligawe Matang	11160	1953.00	17283.19	17603.24	10414,89	
	11160	1953.00	17283.19			
	11780	2061.50	18243.36			
Ungaran Mentah	18600	3255.00	28805.31	28165.19	21630,59	47.73
	17980	3146.50	27845.13			
	17980	3146.50	27845.13			
Ungaran Matang	9300	1627.50	14402.65	14722.71	9065,71	
	9300	1627.50	14402.65			
	9920	1736.00	15362.83			

LANJUTAN LAMPIRAN 3

Konsentrasi Boraks Pada Mie Ayam Mentah dan Kuah Serta Konsentrasi Penurunannya

Suplayer	Asam Borat (ppm)	Boron (ppm)	Kadar Boraks (ppm)	Rata-rata Kadar Boraks (ppm)	Penurunan (%)
Pelombokan Mentah	27900	4882.5	43207.9646	43528.0236	80.88235294
	27900	4882.5	43207.9646		
	28520	4991	44168.14159		
Pelombokan Kuah	5580	976.5	8641.59292	8321.533923	
	5580	976.5	8641.59292		
	4960	868	7681.415929		
Gayam Sari Mentah	19840	3472	30725.66372	31045.72271	89.69072165
	19840	3472	30725.66372		
	20460	3580.5	31685.84071		
Gayam Sari Kuah	1860	325.5	2880.530973	3200.589971	
	1860	325.5	2880.530973		
	2480	434	3840.707965		
Kabluk Mentah	26660	4665.5	41287.61062	41607.66962	83.07692308
	26660	4665.5	41287.61062		
	27280	4774	42247.78761		
Kabluk Kuah	4340	759.5	6721.238938	7041.297935	
	4340	759.5	6721.238938		
	4960	868	7681.415929		
Kaligawe Mentah	20460	3580.5	31685.84071	32325.9587	84.15841584
	21080	3689	32646.0177		
	21080	3689	32646.0177		
Kaligawe Kuah	3100	542.5	4800.884956	5120.943953	
	3100	542.5	4800.884956		
	3720	651	5761.061947		
Ungaran Mentah	18600	3255	28805.30973	28165.19174	92.04545455
	17980	3146.5	27845.13274		
	17980	3146.5	27845.13274		
Ungaran Kuah	1240	217	1920.353982	2240.412979	
	1240	217	1920.353982		
	1860	325.5	2880.530973		

LAMPIRAN 4

Suplaier	Ulangan (ppm)	Rata-rata (ppm)	Berat Sampel (g)	Kehilangan Berat (g)	Kadar Air WB(%)	Rata-rata Kadar Air WB(%)
Pelombokan	27900	28106,67	4,72	1,4236	30,16101	29,86159
Mentah	27900		4,01912	1,20474	29,97521	
	28520		4,02196	1,17717	29,26856	
Pelombokan	13640	13846,67	4,66645	2,68214	57,47709	58,50637
Matang	14260		6,1438	3,63197	59,11601	
	13640		6,52608	3,84556	58,92603	
Pelombokan	5580	5373,33				
Kuah	5580					
	4960					
Gayamsari	19840	20046,67	5,05	1,35698	26,87089	27,48142
Mentah	19840		5,01764	1,38948	27,6919	
	20460		5,01444	1,3981	27,88147	
Gayamsari	9920	10126,67	6,91135	4,02495	58,23681	60,10714
matang	9920		6,95216	4,10894	59,10307	
	10540		6,23416	3,92637	62,98154	
Gayamsari	1860	2066,67				
Kuah	1860					
	2480					
Kabluk	26660	36866,67	5,04864	1,4863	29,43961	29,84484
Mentah	26660		5,03076	1,50024	29,82133	
	27280		5,08747	1,54016	30,27359	
Kabluk	12400	12606,67	6,10367	4,09376	67,07046	65,72693
Matang	12400		5,94258	3,89406	63,79866	
	13020		6,06406	4,02118	66,31167	
Kabluk	4340	4546,67				
Kuah	4340					
	4960					
Kaligawe	20460	20873,33	5,07337	1,072696	34,0397	34,45675
Mentah	21080		5,06784	1,074862	34,50424	
	21080		5,05046	1,75889	34,82633	
Kaligawe	11160	11366,67	5,9172	4,14849	70,109	69,02367
Matang	11160		6,03115	4,18829	69,4443	
	11780		5,98631	4,04782	67,51771	
Kaligawe	3100	3306,67				
Kuah	3100					
	3720					
Ungaran	18600	18186,67	6,1739	1,87273	30,33301	30,21465
Mentah	17980		4,41293	1,34353	30,4453	
	17980		4,15015	1,23947	29,86566	
Ungaran	9300	9506,67	6,15541	3,93197	63,87827	62,4042
Matang	9300		6,95128	4,14261	59,59492	
	9920		6,36948	4,05987	63,73942	
Ungaran	1240	1446,67				
Kuah	1240					
	1860					

LAMPIRAN 5

1. Perhitungan kadar boraks pada jumlah maksimum konsumsi (JMK) mie ayam pada suplai er Pelombokan

Konsumsi mie ayam rata-rata perminggu :

Pria = 184.8 g
Wanita = 110.88 g

BB rata-rata :

Pria = 59.67 kg
Wanita = 50 kg

WC (Konsumsi mie ayam rata-rata / BB rata-rata)

Pria = $184.8\text{g} / 59.67\text{g}$
= 3.09g/kg.BB
Wanita = $110.8\text{g} / 60\text{g}$
= 2.22g/kg.BB

ADI = NOAEL Boron : 100
= 9.6 mg/kg.BB : 100
= 0.096mg/kg.BB

PTWI = ADI x 7
= 0.096 x 7
= 0.672 mg/kg. BB/minggu

WI = WC x C
Pria = $3.09\text{g/kg.BB} \times 1.3529.31 / 1000$
= 41.81 mg/kg.BB
Wanita = $2.22\text{g/kg.BB} \times 13529.31 / 1000$
= 30.04 mg/kg.BB

HQ = WI / PTWI
Pria = $41.81\text{ mg/kg.BB} / 0.672\text{ mg/kg.BB}$
= 62.22
Wanita = $25.03\text{ mg/kg.BB} / 0.672\text{ mg/kg.BB}$
= 44.70

JMK = $1 / \text{HQ} \times \text{WC}$
Pria = $1 / 62.22 \times 3.09\text{ g/kg.BB}$
= 0.05
Wanita = $1 / 37.25 \times 1.85\text{ g/kg.BB}$
= 0.05

LANJUTAN LAMPIRAN 5

Konversi JMK mie ayam (boron) menjadi JMK mie ayam (boraks)

$$\begin{aligned} \text{JMK boraks Pria} &= 381.37 / 4 \times 10.81 \times 0.05 \\ &= 0.44 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Pria} &= 0.44 \text{ g/kg.BB} \times 59.67 \text{ kg/BB} \\ &= 26.25 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{JMK boraks Wanita} &= 381.37 / 4 \times 10.81 \times 0.05 \\ &= 0.44 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Wanita} &= 0.44 \text{ g/kg. BB} \times 50 \text{ kg/BB} \\ &= 22.00 \text{ g} \end{aligned}$$

Keterangan :

W	= Wanita
P	= Pria
WC	= <i>Weekly Consumption</i> (9g/Kg BB)
BB	= Berat Badan (Kg)
ADI	= <i>Acceptable Daily Intake</i> (mg/Kg BB)
NOAEL	= <i>No Observed Adverse Effect Level</i>
PTWI	= <i>Provisional Total Weekly Intake</i> mg/Kg BB/ Mgg
WI	= <i>Weekly Intake</i> (mg/Kg BB)
C	= <i>Consumption of Borax</i> (μ /g)
HQ	= <i>Hazard Quotient</i>
JMK	= Jumlah Maksimum Konsumsi (g/Kg BB)
BM Boraks	= 381.37
BM Boron	= 10.81
NOAEL Boron	= 9.6 mg/Kg BB 9WHO, 1998)

LANJUTAN LAMPIRAN 5

2. Perhitungan kadar boraks pada jumlah maksimum konsumsi (JMK) mie ayam pada suplaiier Kaligewe

Konsumsi mie ayam rata-rata perminggu :

Pria = 112.15 g

Wanita = 112.15 g

BB rata-rata :

Pria = 55.2 kg

Wanita = 46.8 kg

WC (Konsumsi mie ayam rata-rata / BB rata-rata)

Pria = $112.15\text{g} / 55.2\text{kg}$

= 2.03g/kg.BB

Wanita = $112.15\text{g} / 46.8\text{g}$

= 2.4g/kg.BB

ADI = NOAEL Boron : 100

= 9.6 mg/kg.BB : 100

= 0.096mg/kg.BB

PTWI = ADI x 7

= 0.096 x 7

= 0.672 mg/kg. BB/minggu

WI = WC x C

Pria = $2.03\text{g/kg.BB} \times 10414.89 / 1000$

= 21.41 mg/kg.BB

Wanita = $2.4\text{g/kg.BB} \times 10414.89 / 1000$

= 24.99 mg/kg.BB

HQ = WI / PTWI

Pria = $21.41 \text{ mg/kg.BB} / 0.672 \text{ mg/kg.BB}$

= 31.46

Wanita = $24.99 \text{ mg/kg.BB} / 0.672 \text{ mg/kg.BB}$

= 37.19

JMK = $1 / \text{HQ} \times \text{WC}$

Pria = $1 / 31.46 \times 21.41 \text{ g/kg.BB}$

= 0.06

Wanita = $1 / 37.19 \times 2.4 \text{ g/kg.BB}$

= 0.06

LANJUTAN LAMPIRAN 5

Konversi JMK mie ayam (boron) menjadi JMK mie ayam (boraks)

$$\begin{aligned} \text{JMK boraks Pria} &= 381.37 / 4 \times 10.81 \times 0.06 \\ &= 0.53 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Pria} &= 0.53 \text{ g/kg.BB} \times 55.2 \text{ kg/BB} \\ &= 29.23 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{JMK boraks Wanita} &= 381.37 / 4 \times 10.81 \times 0.06 \\ &= 0.53 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Wanita} &= 0.53 \text{ g/kg. BB} \times 46.8 \text{ kg/BB} \\ &= 24.8 \text{ g} \end{aligned}$$

Keterangan :

W	= Wanita
P	= Pria
WC	= <i>Weekly Consumption</i> (9g/Kg BB)
BB	= Berat Badan (Kg)
ADI	= <i>Acceptable Daily Intake</i> (mg/Kg BB)
NOAEL	= <i>No Observed Adverse Effect Level</i>
PTWI	= <i>Provisional Total Weekly Intake</i> mg/Kg BB/ Mgg
WI	= <i>Weekly Intake</i> (mg/Kg BB)
C	= <i>Consumption of Borax</i> (μ /g)
HQ	= <i>Hazard Quotient</i>
JMK	= Jumlah Maksimum Konsumsi (g/Kg BB)
BM Boraks	= 381.37
BM Boron	= 10.81
NOAEL Boron	= 9.6 mg/Kg BB 9WHO, 1998)

LANJUTAN LAMPIRAN 5

3. Perhitungan kadar boraks pada jumlah maksimum konsumsi (JMK) mie ayam pada supraier Ungaran

Konsumsi mie ayam rata-rata perminggu :

Pria = 136.82 g

Wanita = 114.01 g

BB rata-rata :

Pria = 55.5 kg

Wanita = 51.5 kg

WC (Konsumsi mie ayam rata-rata / BB rata-rata)

Pria = 136.82g / 55.5kg

= 2.47g/kg.BB

Wanita = 114.01g / 51.5kg

= 2.21g/kg.BB

ADI = NOAEL Boron : 100

= 9.6 mg/kg.BB : 100

= 0.096mg/kg.BB

PTWI = ADI x 7

= 0.096 x 7

= 0.672 mg/kg. BB/minggu

WI = WC x C

Pria = 2.47g/kg.BB x 9065.71 / 1000

= 22.39 mg/kg.BB

Wanita = 2.21g/kg.BB x 9065.71 / 1000

= 20.04 mg/kg.BB

HQ = WI / PTWI

Pria = 22.39 mg/kg.BB / 0.672 mg/kg.BB

= 33.32

Wanita = 20.04 mg/kg.BB / 0.672 mg/kg.BB

= 29.82

JMK = 1 / HQ x WC

Pria = 1 / 33.32 x 2.47 g/kg.BB

= 0.07

Wanita = 1 / 20.04 x 1.85 g/kg.BB

= 0.07

LANJUTAN LAMPIRAN 5

Konversi JMK mie ayam (boron) menjadi JMK mie ayam (boraks)

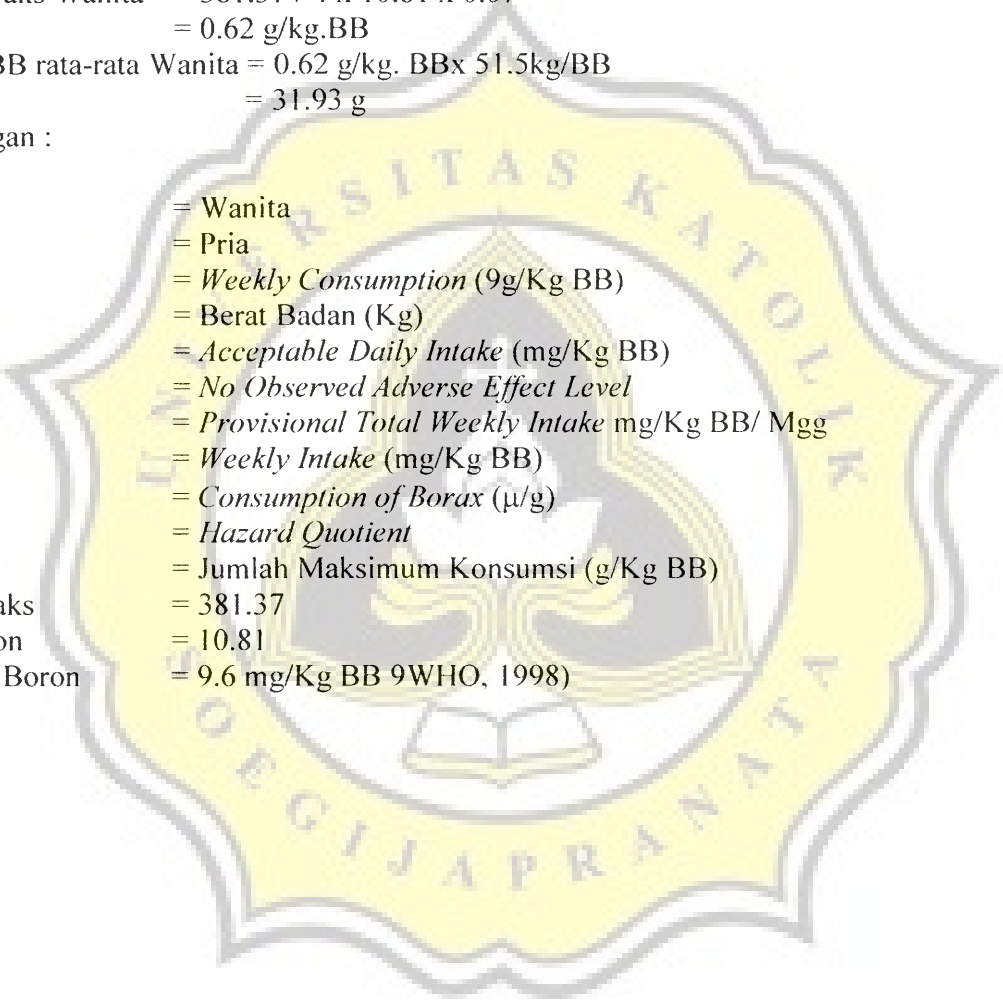
$$\begin{aligned} \text{JMK boraks Pria} &= 381.37 / 4 \times 10.81 \times 0.07 \\ &= 0.62 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Pria} &= 0.62 \text{ g/kg.BB} \times 55.5 \text{ kg/BB} \\ &= 34.41 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{JMK boraks Wanita} &= 381.37 / 4 \times 10.81 \times 0.07 \\ &= 0.62 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Wanita} &= 0.62 \text{ g/kg. BB} \times 51.5 \text{ kg/BB} \\ &= 31.93 \text{ g} \end{aligned}$$

Keterangan :



W	= Wanita
P	= Pria
WC	= <i>Weekly Consumption</i> (g/Kg BB)
BB	= Berat Badan (Kg)
ADI	= <i>Acceptable Daily Intake</i> (mg/Kg BB)
NOAEL	= <i>No Observed Adverse Effect Level</i>
PTWI	= <i>Provisional Total Weekly Intake</i> mg/Kg BB/ Mgg
WI	= <i>Weekly Intake</i> (mg/Kg BB)
C	= <i>Consumption of Borax</i> (µ/g)
HQ	= <i>Hazard Quotient</i>
JMK	= Jumlah Maksimum Konsumsi (g/Kg BB)
BM Boraks	= 381.37
BM Boron	= 10.81
NOAEL Boron	= 9.6 mg/Kg BB 9WHO, 1998)

LANJUTAN LAMPIRAN 5

4. Perhitungan kadar boraks pada jumlah maksimum konsumsi (JMK) mie ayam pada suplaiier Kabluk

Konsumsi mie ayam rata-rata perminggu :

Pria = 184.82 g

Wanita = 205.35 g

BB rata-rata :

Pria = 54.5 k g

Wanita = 49.17 kg

WC (Konsumsi mie ayam rata-rata / BB rata-rata)

Pria = 184.82g / 54.5 kg

=3.41g/kg.BB

Wanita = 205.35g / 49.17g

=4.18g/kg.BB

ADI = NOAEL Boron : 100

= 9.6 mg/kg.BB : 100

= 0.096mg/kg.BB

PTWI = ADI x 7

= 0.096 x 7

= 0.672 mg/kg. BB/minggu

WI = WC x C

Pria = 3.14g/kg.BB x 11780.89 / 1000

= 40.17 mg/kg.BB

Wanita = 4.18g/kg.BB x 11780.89 / 1000

= 49.24 mg/kg.BB

HQ = WI / PTWI

Pria = 40.17 mg/kg.BB / 0.672 mg/kg.BB

= 59.78

Wanita = 49.24 mg/kg.BB / 0.672 mg/kg.BB

= 73.27

JMK = 1 / HQ x WC

Pria = 1 / 59.78 x 3.41 g/kg.BB

= 0.06

Wanita = 1 / 73.27 x 4.18 g/kg.BB

=0.06

LANJUTAN LAMPIRAN 5

Konversi JMK mie ayam (boron) menjadi JMK mie ayam (boraks)

$$\begin{aligned} \text{JMK boraks Pria} &= 381.37 / 4 \times 10.81 \times 0.06 \\ &= 0.53 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Pria} &= 0.53 \text{ g/kg.BB} \times 54.5 \text{ kg/BB} \\ &= 28.89 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{JMK boraks Wanita} &= 381.37 / 4 \times 10.81 \times 0.06 \\ &= 0.53 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Wanita} &= 0.53 \text{ g/kg. BB} \times 49.17 \text{ kg/BB} \\ &= 26.06 \text{ g} \end{aligned}$$

Keterangan :

W	= Wanita
P	= Pria
WC	= <i>Weekly Consumption</i> (9g/Kg BB)
BB	= Berat Badan (Kg)
ADI	= <i>Acceptable Daily Intake</i> (mg/Kg BB)
NOAEL	= <i>No Observed Adverse Effect Level</i>
PTWI	= <i>Provisional Total Weekly Intake</i> mg/Kg BB/ Mgg
WI	= <i>Weekly Intake</i> (mg/Kg BB)
C	= <i>Consumption of Borax</i> (μ /g)
HQ	= <i>Hazard Quotient</i>
JMK	= Jumlah Maksimum Konsumsi (g/Kg BB)
BM Boraks	= 381.37
BM Boron	= 10.81
NOAEL Boron	= 9.6 mg/Kg BB 9WHO, 1998)

LANJUTAN LAMPIRAN 5

5. Perhitungan kadar boraks pada jumlah maksimum konsumsi (JMK) mie ayam pada suplai er Gayamsari

Konsumsi mie ayam rata-rata perminggu :

Pria = 112.54 g

Wanita = 120.04 g

BB rata-rata :

Pria = 49 kg

Wanita = 54.67 kg

WC (Konsumsi mie ayam rata-rata / BB rata-rata)

Pria = 112.54g / 49g

= 2.29g/kg.BB

Wanita = 120.04g / 54.67g

= 2.19g/kg.BB

ADI = NOAEL Boron : 100

= 9.6 mg/kg.BB : 100

= 0.096mg/kg.BB

PTWI = ADI x 7

= 0.096 x 7

= 0.672 mg/kg. BB/minggu

WI = WC x C

Pria = 2.29g/kg.BB x 9795.68 / 1000

= 22.43 mg/kg.BB

Wanita = 2.19g/kg.BB x 9795.68 / 1000

= 21.45 mg/kg.BB

HQ = WI / PTWI

Pria = 22.43 mg/kg.BB / 0.672 mg/kg.BB

= 33.38

Wanita = 21.45 mg/kg.BB / 0.672 mg/kg.BB

= 31.92

JMK = 1 / HQ x WC

Pria = 1 / 33.38 x 2.29 g/kg.BB

= 0.07

Wanita = 1 / 31.92 x 2.19 g/kg.BB

= 0.07

LANJUTAN LAMPIRAN 5

Konversi JMK mie ayam (boron) menjadi JMK mie ayam (boraks)

$$\begin{aligned} \text{JMK boraks Pria} &= 381.37 / 4 \times 10.81 \times 0.07 \\ &= 0.62 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Pria} &= 0.62 \text{ g/kg.BB} \times 49 \text{ kg/BB} \\ &= 30.38 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{JMK boraks Wanita} &= 381.37 / 4 \times 10.81 \times 0.07 \\ &= 0.62 \text{ g/kg.BB} \end{aligned}$$

$$\begin{aligned} \text{JMK x BB rata-rata Wanita} &= 0.62 \text{ g/kg. BB} \times 49 \text{ kg/BB} \\ &= 30.38 \text{ g} \end{aligned}$$

Keterangan :

W	= Wanita
P	= Pria
WC	= <i>Weekly Consumption</i> (9g/Kg BB)
BB	= Berat Badan (Kg)
ADI	= <i>Acceptable Daily Intake</i> (mg/Kg BB)
NOAEL	= <i>No Observed Adverse Effect Level</i>
PTWI	= <i>Provisional Total Weekly Intake</i> mg/Kg BB/ Mgg
WI	= <i>Weekly Intake</i> (mg/Kg BB)
C	= <i>Consumption of Borax</i> (μ /g)
HQ	= <i>Hazard Quotient</i>
JMK	= Jumlah Maksimum Konsumsi (g/Kg BB)
BM Boraks	= 381.37
BM Boron	= 10.81
NOAEL Boron	= 9.6 mg/Kg BB 9WHO, 1998)

LAMPIRAN 6

Oneway Mentah

Descriptives

Boraks

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Pelombokan	3	43528.02	554.3584	320.0590	42150.921	44905.13	43207.96	44168.14
Gayamsari	3	31045.72	554.3584	320.0590	29668.620	32422.83	30725.66	31685.84
Kabluk	3	41607.67	554.3584	320.0590	40230.567	42984.77	41287.61	42247.79
Kaligawe	3	32325.96	554.3584	320.0590	30948.856	33703.06	31685.84	32646.02
Ungaran	3	28165.19	554.3584	320.0590	26788.089	29542.29	27845.13	28805.31
Total	15	35334.51	6319.2694	1631.6284	31835.019	38834.01	27845.13	44168.14

ANOVA

Boraks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.56E+08	4	138997798.7	452.300	.000
Within Groups	3073133	10	307313.285		
Total	5.59E+08	14			

Post Hoc Tests

Homogeneous Subsets

Boraks

Duncan^a

Suplayer	N	Subset for alpha = .05				
		1	2	3	4	5
Ungaran	3	28165.19				
Gayamsari	3		31045.72			
Kaligawe	3			32325.96		
Kabluk	3				41607.67	
Pelombokan	3					43528.02
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.

LANJUTAN LAMPIRAN 6

Oneway Matang

Descriptives

Boraks

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Pelombokan	3	21444.0	554.3584	320.06	20066.8501	22821.06	21123.89	22084.07
Gayamsari	3	15682.9	554.3584	320.06	14305.7881	17059.99	15362.83	16323.01
Kabluk	3	19523.6	554.3584	320.06	18146.4961	20900.70	19203.54	20163.72
Kaligawe	3	17603.2	554.3584	320.06	16226.1421	18980.35	17283.19	18243.36
Ungaran	3	14722.7	554.3584	320.06	13345.6111	16099.82	14402.65	15362.83
Total	15	17795.3	2588.326	668.30	16361.9133	19228.65	14402.65	22084.07

ANOVA

Boraks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	90718882	4	22679720.42	73.800	.000
Within Groups	3073133	10	307313.285		
Total	93792015	14			

Post Hoc Tests

Homogeneous Subsets

Boraks

Duncan^a

Suplayer	N	Subset for alpha = .05			
		1	2	3	4
Ungaran	3	14722.71			
Gayamsari	3	15682.89			
Kaligawe	3		17603.24		
Kabluk	3			19523.60	
Pelombokan	3				21443.95
Sig.		.060	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

LANJUTAN LAMPIRAN 6

Oneway Kuah

Descriptives

Boraks

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Pelombokan	3	8321.53	554.3584	320.0590	6944.4312	9698.6366	7681.42	8641.59
Gayamsari	3	3200.59	554.3584	320.0590	1823.4873	4577.6927	2880.53	3840.71
Kabluk	3	7041.30	554.3584	320.0590	5664.1952	8418.4007	6721.24	7681.42
Kaligawe	3	5120.94	554.3584	320.0590	3743.8412	6498.0467	4800.88	5761.06
Ungaran	3	2240.41	554.3584	320.0590	863.3103	3617.5157	1920.35	2880.53
Total	15	5184.96	2401.8138	620.1456	3854.8756	6515.0359	1920.35	8641.59

ANOVA

Boraks

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	77688798	4	19422199.60	63.200	.000
Within Groups	3073133	10	307313.285		
Total	80761931	14			

Post Hoc Tests

Homogeneous Subsets

Boraks

Duncan^a

Suplayer	N	Subset for alpha = .05			
		1	2	3	4
Ungaran	3	2240.4130			
Gayamsari	3	3200.5900			
Kaligawe	3		5120.9440		
Kabluk	3			7041.2979	
Pelombokan	3				8321.5339
Sig.		.060	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3.000.

LAMPIRAN 7

Penentuan Kadar Borak

1. Ke dalam cawan abu porselen 35 ml masukkan contoh 1 gr hingga 100 gr (tergantung kadar borax contoh) dan 100 ml larutan NaOH 1 %, kemudian panaskan di atas penangas air sampai kering, selanjutnya dipanaskan dalam tungku pengabuan hingga suhu 400°C (menaikkan suhu secara bertahap).
2. Setelah cawan abu dingin tambahkan 20 ml aquadest panas, diaduk dengan batang gelas, sementara itu ditambahkan beberapa tetes larutan HCL sampai larutan bersifat asam (uji dengan kertas indikator universal).
3. Saring larutan melalui kertas saring tidak berabu ke dalam erlenmeyer 300 ml dan bilasi kertas saring dengan aquadest panas, sehingga filtrat bervolume tidak lebih dari 50 ml hingga 60 ml.
4. Pindahkan kertas saring ke dalam cawan abu semula, basahi dengan air kapur sebanyak 80 ml kemudian uapkan di atas penangas air. Setelah menjadi kering abukan dalam tungku pengabuan sehingga diperoleh abu yang berwarna putih (suhu tungku pengabuan 650 °C).
5. Larutkan abu dalam beberapa ml HCL (1:3) kemudian pindahkan ke dalam erlenmeyer 300 ml pada D.3. kedalamnya tambahkan 0,5 gr CaCL₂ dan beberapa tetes indikator phenolphthalen, kemudian tambahkan larutan NaOH 10 % hingga larutan berwarna merah muda (pink). Selanjutnya tambahkan air kapur volume larutan 100 ml campur sampai homogen dan saring melalui kertas saring Whatman No. 2.
6. Ke dalam erlenmeyer 300 ml masukkan 50 ml filtrat dan larutkan H₂SO₄ 1N sampai berwarna merah muda hilang, kemudian tambah beberapa tetes methyl orange dan selanjutnya penambahan larutan H₂SO₄ 1N diteruskan sampai warna larutan berubah dari kuning menjadi merah muda. Didihkan larutan ini selama 1 menit mendidih.
7. Setelah dingin titrasi dengan larutan NaOH 0.1 N standar sampai warna berubah menjadi kuning (lemen yellow) : hindari kelebihan NaOH dan baca buret.
8. Ke dalam larutan di atas tambahkan 1-2 g manitol dan beberapa tetes fenolftalein, lanjutkan titrasi NaOH 0.1 N standar sampai warna larutan berwarna merah metil (pink).

LANJUTAN LAMPIRAN 7

9. Ke dalam larutan di atas tambahkan sedikit manitol dan jika warna merah muda hilang, teruskan titrasi dengan larutan NaOH 0.1 N standar sampai warna larutan menjadi merah muda yang tetap.
10. Setelah diperoleh larutan warna merah muda (pink) yang tidak berubah apabila ditambahkan manitol, hitung volume larutan NaOH 0.1 N standar yang dipakai pada titrasi D.7, D.8 dan D.9.
11. Perhitungan :

$$\text{Kadar Asam Borat} : \frac{\text{MI NaOH 0.1N} \times 6.2 \times 1000}{\text{Berat contoh (g)}} \text{ ppm}$$

(SNI 01 – 2358 – 1991, UDC. 546.33.273:664)

