

Lampiran 1. Perhitungan Kadar Air Awal, Kadar Air yang Hilang setelah Pengerinan dan Kadar Air Akhir

1.1. Kadar Air Awal

$$\text{Berat sampel} = 60.7 \text{ g}$$

$$\text{Berat akhir} = 12.3 \text{ g}$$

$$\text{Kadar air awal} = \frac{\text{berat yang hilang}}{\text{berat sampel}} \times 100\%$$

$$\begin{aligned} \text{Kadar air awal} &= \frac{48.4}{60.7} \times 100\% \\ &= 79.74\% \end{aligned}$$

1.2. Kadar Air yang Hilang setelah Pengerinan

$$\text{Kadar air yang hilang setelah pengerinan} = \frac{\text{berat yang hilang}}{\text{berat sampel}} \times 100\%$$

1.2.1. Kadar Air yang Hilang setelah Pengerinan Perlakuan T0

$$\text{Berat sampel} = 500 \text{ g}$$

$$\text{Berat setelah dikeringkan} = 471.10 \text{ g}$$

$$\begin{aligned} \text{Kadar air yang hilang setelah pengerinan} &= \frac{500 - 471.10}{500} \times 100\% \\ &= 5.78\% \end{aligned}$$

1.2.2. Kadar Air yang Hilang setelah Pengerinan Perlakuan T1

$$\text{Berat sampel} = 500 \text{ g}$$

$$\text{Berat setelah dikeringkan} = 450.13 \text{ g}$$

$$\begin{aligned} \text{Kadar air yang hilang setelah pengeringan} &= \frac{500 - 450.13}{500} \times 100\% \\ &= 9.97\% \end{aligned}$$

1.2.3. Kadar Air yang Hilang setelah Pengeringan Perlakuan T2

Berat sampel = 500 g

Berat setelah dikeringkan = 433.10 g

$$\begin{aligned} \text{Kadar air yang hilang setelah pengeringan} &= \frac{500 - 433.10}{500} \times 100\% \\ &= 13.70\% \end{aligned}$$

1.2.4. Kadar Air yang Hilang setelah Pengeringan Perlakuan T3

Berat sampel = 500 g

Berat setelah dikeringkan = 427.00 g

$$\begin{aligned} \text{Kadar air yang hilang setelah pengeringan} &= \frac{500 - 427.00}{500} \times 100\% \\ &= 14.60\% \end{aligned}$$

1.2.5. Kadar Air yang Hilang setelah Pengeringan Perlakuan T4

Berat sampel = 500 g

Berat setelah dikeringkan = 382.85 g

$$\begin{aligned} \text{Kadar air yang hilang setelah pengeringan} &= \frac{500 - 382.85}{500} \times 100\% \\ &= 23.43\% \end{aligned}$$

1.3. Kadar Air Akhir

Kadar air akhir = kadar air awal - kadar air yang hilang setelah pengeringan

1.3.1. Perlakuan T0

Kadar air akhir = 79.74% - 5.78%

$$= 73.96\%$$

1.3.2. Perlakuan T1

Kadar air akhir = 79.74% - 9.97%

$$= 69.77\%$$

1.3.3. Perlakuan T2

Kadar air akhir = 79.74% - 13.70%

$$= 66.37\%$$

1.3.4. Perlakuan T3

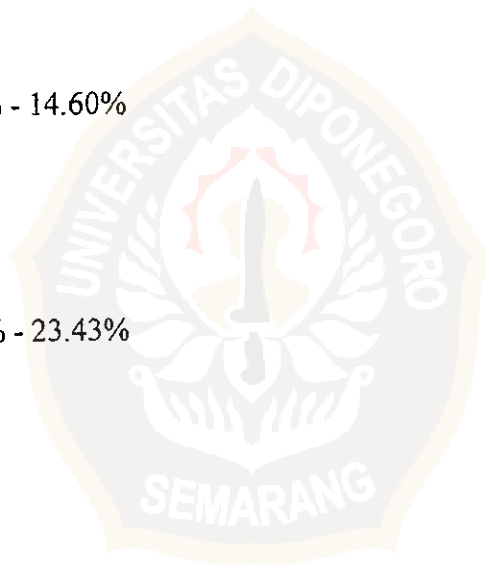
Kadar air akhir = 79.74% - 14.60%

$$= 65.14\%$$

1.3.5. Perlakuan T4

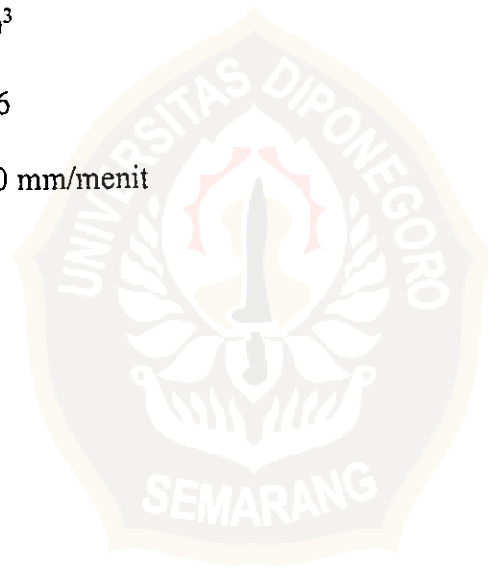
Kadar air akhir = 79.74% - 23.43%

$$= 56.31\%$$



Lampiran 2. Kondisi Operasi Kromatografi Gas untuk Analisa Capsaicin

Cuplikan	: capsaicin
Kolom	: 10% carbowax 20 meter
Detektor	: FID
Suhu Kolom	: 250°C
Suhu Injeksi	: 280 °C
Gas Pembawa	: N ₂ - 50 ml/menit
Hidrogen	: 0,9 kg/cm ²
Oksigen/Udara	: 1,8 kg/ cm ²
Range	: 10 ³
Attenuation	: 16
Kecepatan kertas	: 10 mm/menit



Lampiran 3. Perhitungan Konsentrasi Capsaicin

3.1. Konsentrasi Standar

$$\begin{aligned} \text{Berat cuplikan standar} &= 0,0118 \text{ gr} \\ &= 11,8 \text{ mg} \end{aligned}$$

$$\text{Volume pelarut} = 12,5 \text{ ml}$$

$$\text{Konsentrasi Standar} = \frac{11,8 \text{ mg}}{12,5 \text{ ml}}$$

$$= \frac{0,944 \text{ mg/ml}}{1000 \text{ ml}}$$

$$= 9,44 \cdot 10^{-4} \text{ mg/ml}$$

$$= 944 \cdot 10^{-6} \text{ mg/ml}$$

$$\text{Konsentrasi standar} = 944 \text{ ppm}$$

3.2. Konsentrasi Capsaicin pada masing-masing Perlakuan

$$\text{Retention Time (RT)} = 3,258$$

$$\text{Area standar capsaicin} = 899$$

$$\text{Konsentrasi standar} = 944 \text{ ppm}$$

$$\text{Konsentrasi sampel} = \frac{\text{Area sampel}}{\text{Area standar}} \times \text{konsentrasi standar}$$

3.2.1. Konsentrasi sampel K_A (perlakuan T0, ulangan 1)

$$\text{Konsentrasi sampel } K_A = \frac{478}{899} \times 944 \text{ ppm}$$

$$= 501,93 \text{ ppm}$$

$$= 501,93 \mu\text{g/ml}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel K_A menjadi = 15 ml x 501,93 $\mu\text{g/ml}$

$$\begin{aligned} &= \frac{7528,95 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3011,58 \mu\text{g/gr} \\ &= 3011,58 \text{ ppm} \end{aligned}$$

3.2.2. Konsentrasi sampel K_B (perlakuan T0, ulangan 2)

$$\begin{aligned} \text{Konsentrasi sampel } K_B &= \frac{615}{899} \times 944 \text{ ppm} \\ &= 645,78 \text{ ppm} \\ &= 645,78 \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel K_B menjadi = 15 ml x 645,78 $\mu\text{g/ml}$

$$\begin{aligned} &= \frac{9686,7 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3874,68 \mu\text{g/gr} \\ &= 3874,68 \text{ ppm} \end{aligned}$$

3.2.3 Konsentrasi sampel K_C (perlakuan T0, ulangan 3)

$$\begin{aligned} \text{Konsentrasi sampel } K_C &= \frac{591}{899} \times 944 \text{ ppm} \\ &= 620,58 \text{ ppm} = 620,58 \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

$$\begin{aligned} \text{Sehingga konsentrasi sampel } K_C \text{ menjadi} &= 15 \text{ ml} \times 620,58 \text{ } \mu\text{g/ml} \\ &= \frac{9308,70 \text{ } \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3723,48 \text{ } \mu\text{g/gr} \\ &= 3723,48 \text{ ppm} \end{aligned}$$

3.2.4. Konsentrasi sampel 50_A (perlakuan T1, ulangan 1)

$$\begin{aligned} \text{Konsentrasi sampel } 50_A &= \frac{583}{899} \times 944 \text{ ppm} \\ &= 612,18 \text{ ppm} \\ &= 612,18 \text{ } \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

$$\begin{aligned} \text{Sehingga konsentrasi sampel } 50_A \text{ menjadi} &= 15 \text{ ml} \times 612,18 \text{ } \mu\text{g/ml} \\ &= \frac{9182,70 \text{ } \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3673,08 \text{ } \mu\text{g/gr} \\ &= 3673,08 \text{ ppm} \end{aligned}$$

3.2.5. Konsentrasi sampel 50_B (perlakuan T1, ulangan 2)

$$\begin{aligned} \text{Konsentrasi sampel } 50_B &= \frac{458}{899} \times 944 \text{ ppm} \\ &= 480,93 \text{ ppm} \\ &= 480,93 \text{ } \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 50_B menjadi = 15 ml x 480,93 µg/ml

$$\begin{aligned} &= \frac{7213,95 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 2885,85 \text{ g/gr} \\ &= 2885,85 \text{ ppm} \end{aligned}$$

3.2.6. Konsentrasi sampel 50_C (perlakuan T1, ulangan 3)

$$\text{Konsentrasi sampel } 50_C = \frac{654}{899} \times 944 \text{ ppm}$$

$$= 686,74 \text{ ppm}$$

$$= 686,74 \mu\text{g/ml}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 50_C menjadi = 15 ml x 686,74 µg/ml

$$= \frac{10301,10 \mu\text{g}}{2,5 \text{ gr sampel}}$$

$$= 4120,44 \mu\text{g/gr}$$

$$= 4120,44 \text{ ppm}$$

3.2.7. Konsentrasi sampel 55_A (perlakuan T2, ulangan 1)

$$\text{Konsentrasi sampel } 55_A = \frac{793}{899} \times 944 \text{ ppm}$$

$$= 832,69 \text{ ppm} = 832,69 \mu\text{g/ml}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 55_A menjadi = 15 ml x 832,69 µg/ml

$$\begin{aligned} &= \frac{12490,35 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 4996,14 \mu\text{g/gr} \\ &= 4996,14 \text{ ppm} \end{aligned}$$

3.2.8. Konsentrasi sampel 55_B (perlakuan T2, ulangan 2)

$$\begin{aligned} \text{Konsentrasi sampel } 55_{\text{B}} &= \frac{530}{899} \times 944 \text{ ppm} \\ &= 556,53 \text{ ppm} \\ &= 556,53 \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 55_B menjadi = 15 ml x 556,53 µg/ml

$$\begin{aligned} &= \frac{8347,95 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3339,18 \mu\text{g/gr} \\ &= 3339,18 \text{ ppm} \end{aligned}$$

3.2.9. Konsentrasi sampel 55_C (perlakuan T2, ulangan 3)

$$\begin{aligned} \text{Konsentrasi sampel } 55_{\text{C}} &= \frac{525}{899} \times 944 \text{ ppm} \\ &= 551,28 \text{ ppm} \\ &= 551,28 \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 55_C menjadi = 15 ml x 551,28 µg/ml

$$\begin{aligned} &= \frac{8269,20 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3307,68 \mu\text{g/gr} \\ &= 3307,68 \text{ ppm} \end{aligned}$$

3.2.10. Konsentrasi sampel 60_A (perlakuan T3, ulangan 1)

$$\text{Konsentrasi sampel } 60_A = \frac{431}{899} \times 944 \text{ ppm}$$

$$= 452,57 \text{ ppm}$$

$$= 452,57 \mu\text{g/ml}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 60_A menjadi = 15 ml x 452,57 µg/ml

$$\begin{aligned} &= \frac{6788,55 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 2715,42 \mu\text{g/gr} \\ &= 2715,42 \text{ ppm} \end{aligned}$$

3.2.11. Konsentrasi sampel 60_B (perlakuan T3, ulangan 2)

$$\text{Konsentrasi sampel } 60_B = \frac{488}{899} \times 944 \text{ ppm}$$

$$= 512,43 \text{ ppm}$$

$$= 512,43 \mu\text{g/ml}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 60_B menjadi = 15 ml x 512,43 µg/ml

$$\begin{aligned}
 &= \frac{7686,30 \text{ } \mu\text{g}}{2,5 \text{ gr sampel}} \\
 &= 3074,52 \text{ } \mu\text{g/gr} \\
 &= 3074,52 \text{ ppm}
 \end{aligned}$$

3.2.12. Konsentrasi sampel 60_C (perlakuan T3, ulangan 3)

$$\begin{aligned}
 \text{Konsentrasi sampel 60}_c &= \frac{740}{899} \times 944 \text{ ppm} \\
 &= 777,04 \text{ ppm} \\
 &= 777,04 \text{ } \mu\text{g/ml}
 \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 60_c menjadi = 15 ml x 777,04 µg/ml

$$\begin{aligned}
 &= \frac{11655,6 \text{ } \mu\text{g}}{2,5 \text{ gr sampel}} \\
 &= 4662,24 \text{ } \mu\text{g/gr} \\
 &= 4662,24 \text{ ppm}
 \end{aligned}$$

3.2.13. Konsentrasi sampel 65_A (perlakuan T4, ulangan 1)

$$\begin{aligned}
 \text{Konsentrasi sampel 65}_A &= \frac{505}{899} \times 944 \text{ ppm} \\
 &= 530,29 \text{ ppm} \\
 &= 530,29 \text{ } \mu\text{g/ml}
 \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 65_A menjadi = 15 ml x 530,29 µg/ml

$$\begin{aligned} &= \frac{7954,35 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3181,74 \mu\text{g/gr} \\ &= 3181,74 \text{ ppm} \end{aligned}$$

3.2.14. Konsentrasi sampel 65_B (perlakuan T4, ulangan 2)

$$\begin{aligned} \text{Konsentrasi sampel } 65_B &= \frac{533}{899} \times 944 \text{ ppm} \\ &= 559,68 \text{ ppm} \\ &= 559,68 \mu\text{g/ml} \end{aligned}$$

Volume pelarut = 15 ml

Berat sampel = 2,5 gr

Sehingga konsentrasi sampel 65_B menjadi = 15 ml x 559,68 µg/ml

$$\begin{aligned} &= \frac{8395,20 \mu\text{g}}{2,5 \text{ gr sampel}} \\ &= 3358,08 \mu\text{g/gr} \\ &= 3358,08 \text{ ppm} \end{aligned}$$

3.2.15. Konsentrasi sampel 65_C (perlakuan T4, ulangan 3)

$$\begin{aligned} \text{Konsentrasi sampel } 65_c &= \frac{630}{899} \times 944 \text{ ppm} \\ &= 661,54 \text{ ppm} \\ &= 661,54 \mu\text{g/ml} \end{aligned}$$

Lampiran 4

DATA BERAT CABAI MERAH SETELAH DIKERINGKAN (gr)

Ulangan	K	50	55	60	65
1	473,2	474,1	463,5	475,2	422,35
2	472,6	454,8	449,1	436,9	410,75
3	467,5	421,5	386,8	368,9	315,45
Jumlah	1413,3	1350,4	1299,4	1281	1148,55
Rerata	471,1	450,13	433,13	427	382,85

ANOVA

BERAT CABAI MERAH SETELAH DIKERINGKAN (gr)

SUMMARY

Groups	Count	Sum	Average	Variance
Column 1	3	1413,3	471,1	9,81
Column 2	3	1350,4	450,1333	708,0233
Column 3	3	1299,4	433,1333	1661,923
Column 4	3	1281	427	2898,43
Column 5	3	1148,55	382,85	3440,71

ANOVA

Source of Variation	SS	df	MS	F	P-value
Between Groups	12888,24	4	3222,059	1,84774	0,19644
Error	17437,79	10	1743,779		
Total	30326,03	14			

Lampiran 5

DATA KADAR AIR CABAI MERAH SETELAH DIKERINGKAN (%)

Ulangan	K	50	55	60	65
1	5,36	5,18	7,30	4,96	15,53
2	5,48	9,04	10,18	12,62	17,85
3	6,50	15,70	22,64	26,22	36,91
Total	17,34	29,92	40,12	43,80	70,29
Rerata	5,78	9,97	13,37	14,60	23,43

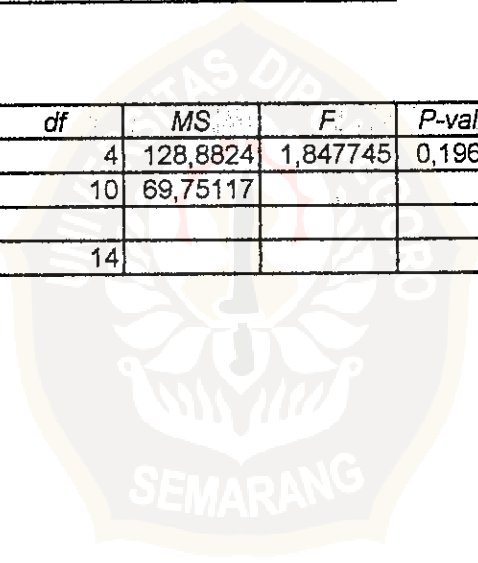
Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Column 1	3	17,34	5,78	0,3924
Column 2	3	29,92	9,973333	28,32093
Column 3	3	40,12	13,37333	66,47693
Column 4	3	43,8	14,6	115,9372
Column 5	3	70,29	23,43	137,6284

ANOVA

Source of Variation	SS	df	MS	F	P-value
Between Groups	515,5294	4	128,8824	1,847745	0,196437
Error	697,5117	10	69,75117		
Total	1213,041	14			



Lampiran 6

DATA KONSENTRASI CAPSAICIN SETELAH DIKERINGKAN (ppm)

Ulangan	K	50	55	60	65
1	3011,58	3673,08	4996,14	2715,42	3181,74
2	3874,68	2885,85	3339,18	3074,52	3358,08
3	3723,48	4120,44	3307,68	4662,24	3969,24
Jumlah	10609,74	10679,37	11643	10452,18	10509,06
Rerata	3536,58	3559,79	3881	3484,06	3503,02

Anova: Single Factor

KONSENTRASI CAPSAICIN SETELAH DIKERINGKAN (ppm)

SUMMARY

Groups	Count	Sum	Average	Variance
Column 1	3	10609,74	3536,58	212434,1
Column 2	3	10679,37	3559,79	390679,1
Column 3	3	11643	3881	932901
Column 4	3	10452,18	3484,06	1073319
Column 5	3	10509,06	3503,02	170794,8

ANOVA

Source of Variation	SS	df	MS	F	P-value
Between Groups	321583,2	4	80395,79	0,14459	0,96131
Error	5560256	10	556025,6		

