

LAMPIRAN

Lampiran 1. *Layout* Penelitian

| | | |
|------------|-----------|----------|
| A1W1 (a) | A1W3 (a) | A3W3 (b) |
| A1W1 (b) | A1W2 (a) | A0W0 (b) |
| A0W0 (c) | A3W1(c) | A1W3 (b) |
| A2W2 (b) | A1W3 (c) | A1W2 (b) |
| A3W2 (c) | A1W2 (c) | A3W1 (b) |
| A2W3 (c) | A2W1 (b) | A2W2 (c) |
| A2W1(c) | A3W1(a) | A2W3 (b) |
| A2W2 (a) | A2W1(a) | A0W0 (a) |
| A1W1 (c) | A2W3 (a) | A3W2 (b) |
| A3W2(a) | A3W3 (c) | A3W3 (a) |

Keterangan :

1. A1W1 : L-arginine 50 mM dan waktu perendaman 5 menit
2. A1W2 : L-arginine 50 mM dan waktu perendaman 10 menit
3. A1W3 : L-arginine 50 mM dan waktu perendaman 15 menit
4. A2W1 : L-arginine 100 mM dan waktu perendaman 5 menit
5. A2W2 : L-arginine 100 mM dan waktu perendaman 10 menit
6. A2W3 : L-arginine 100 mM dan waktu perendaman 15 menit
7. A3W1 : L-arginine 150 mM dan waktu perendaman 5 menit
8. A3W2 : L-arginine 150 mM dan waktu perendaman 10 menit
9. A3W3 : L-arginine 150 mM dan waktu perendaman 15 menit
10. A0W0 : Tanpa perendaman (kontrol)

Lampiran 2. Perhitungan Penggunaan L-Arginine

$$250 \text{ mm} = 40 \text{ gL}^{-1}$$

Rumus :

$$V_1, N_1 = V_2, N_2$$

- Konsentrasi 50 mm

$$V_1, N_1 = V_2, N_2$$

$$250 \text{ mm} , 40 \text{ gL}^{-1} = 50 \text{ mm} , N_2$$

$$N_2 = \frac{40 \text{ mm} , 50 \text{ gL}^{-1}}$$

$$250 \text{ mm}$$

$$= 8 \text{ gL}^{-1}$$

- Konsentrasi 100 mm

$$V_1, N_1 = V_2, N_2$$

$$250 \text{ mm} , 40 \text{ gL}^{-1} = 100 \text{ mm} , N_2$$

$$N_2 = \frac{40 \text{ mm} , 100 \text{ gL}^{-1}}$$

$$250 \text{ mm}$$

$$= 16 \text{ gL}^{-1}$$

- Konsentrasi 150 mm

$$V_1, N_1 = V_2, N_2$$

$$250 \text{ mm} , 40 \text{ gL}^{-1} = 150 \text{ mm} , N_2$$

$$N_2 = \frac{40 \text{ mm} , 150 \text{ gL}^{-1}}$$

$$250 \text{ mm}$$

$$= 24 \text{ gL}^{-1}$$

Lampiran 3. Sidik Ragam Data Total Phenol (%)

A. Total Phenol (%)

1. Sidik Ragam nilai uji total phenol buah *fresh cut* apel manalagi pada Hari ke-0

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 410,4828133 | 45,6092015 | 2,64 | <0,0340s |
| Konsentrasi | 9 | 410,4828133 | 45,6092015 | 2,64 | <0,0340s |
| Galat | 20 | 345,8889333 | 17,2944467 | | |
| Total | 29 | 756,3717467 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,542700 | 4,359395 | | 4,158659 | 95,39533 | |

Keterangan : s (*significant*)
ns (non- *significant*)

2. Sidik Ragam nilai uji total phenol buah *fresh cut* apel manalagi pada Hari ke-2

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 14338,96143 | 1593,21794 | 29,06 | <0,0001s |
| Konsentrasi | 9 | 14338,96143 | 1593,21794 | 29,06 | <0,0001s |
| Galat | 20 | 1096,31587 | 54,81579 | | |
| Total | 29 | 15435,27730 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,928973 | 6,890026 | | 7,403769 | 107,4563 | |

Keterangan : s (*significant*)
ns (non- *significant*)

3. Sidik Ragam nilai uji total phenol buah *fresh cut* apel manalagi pada Hari ke- 4

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 15921,90736 | 1769,10082 | 27,87 | <0,0001s |
| Konsentrasi | 9 | 1769,10082 | 1769,10082 | 27,87 | <0,0001s |
| Galat | 20 | 1269,63307 | 63,48165 | | |
| Total | 29 | 17191,54043 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,926148 | 8,294939 | | 7,967537 | 96,05300 | |

Keterangan : s (*significant*)
ns (non- *significant*)

4. Sidik Ragam nilai uji total phenol buah *fresh cut* apel manalagi pada Hari ke- 6

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 2948,647350 | 327,627483 | 2,32 | <0,0564s |
| Konsentrasi | 9 | 2948,647350 | 327,627483 | 2,32 | <0,0564s |
| Galat | 20 | 2827,119267 | 141,355963 | | |
| Total | 29 | 5775,766617 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,510521 | 27,66138 | 11,88932 | 42,98167 | | |

Keterangan : s (*significant*)
ns (non- *significant*)

5. Sidik Ragam nilai uji total phenol buah *fresh cut* apel manalagi pada Hari ke- 8

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 4254,970297 | 472,774477 | 4,37 | <0,0029s |
| Konsentrasi | 9 | 4254,970297 | 472,774477 | 4,37 | <0,0029s |
| Galat | 20 | 2164,162133 | 108,208107 | | |
| Total | 29 | 6419,132430 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,662858 | 20,53480 | 10,40231 | 50,65700 | | |

Keterangan : s (*significant*)
ns (non- *significant*)

6. Sidik Ragam nilai uji total phenol buah *fresh cut* apel manalagi pada Hari ke- 10

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 3057,419537 | 339,713282 | 2,84 | <0,0250s |
| Konsentrasi | 9 | 3057,419537 | 339,713282 | 2,84 | <0,0250s |
| Galat | 20 | 2394,900800 | 119,745040 | | |
| Total | 29 | 5452,320337 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,560756 | 11,88071 | 10,94281 | 92,10567 | | |

Keterangan : s (*significant*)
ns (non- *significant*)

Lampiran 4. Sidik Ragam Data Uji Warna

A. Sidik Ragam nilai uji warna buah fresh cut apel manalagi pada Hari ke- 0

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 270,7739633 | 30,0859959 | 15,78 | <0,0001s |
| Konsentrasi | 9 | 270,7739633 | 30,0859959 | 15,78 | <0,0001s |
| Galat | 20 | 38,1267333 | 1,9063367 | | |
| Total | 29 | 308,9006967 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,876573 | 1,633200 | | 1,380702 | 84,53967 | |

Keterangan : s (*significant*)

ns(*non significant*)

B. Sidik Ragam nilai uji warna buah fresh cut apel manalagi pada Hari ke- 3

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 107,2349633 | 11,9149959 | 6,18 | <0,0004s |
| Konsentrasi | 9 | 107,2349633 | 11,9149959 | 6,18 | <0,0004s |
| Galat | 20 | 38,5879333 | 1,9293967 | | |
| Total | 29 | 145,8228967 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,735378 | 1,703081 | | 1,389027 | 81,55967 | |

Keterangan : s (*significant*)

ns(*non significant*)

C. Sidik Ragam nilai uji warna buah *fresh cut* apel manalagi pada Hari ke- 6

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 95,2746833 | 10,5860759 | 103,07 | <0,0001s |
| Konsentrasi | 9 | 95,2746833 | 10,5860759 | 103,07 | <0,0001s |
| Galat | 20 | 20,4494667 | 1,0224733 | | |
| Total | 29 | 115,7241500 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,823291 | 1,279886 | | 1,011174 | 79,00500 | |

Keterangan : s (*significant*)

ns(*non significant*)

Lampiran 5. Sidik Ragam Data Gula Reduksi

A. Sidik Ragam nilai uji gula reduksi buah *fresh cut* apel manalagi pada Hari ke- 0

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|--------|
| Model | 9 | 22,80083000 | 2,53342556 | 11,02 | <0001s |
| Konsentrasi | 9 | 22,80083000 | 2,53342556 | 11,02 | <0001s |
| Galat | 20 | 4,59640000 | 0,22982000 | | |
| Total | 29 | 27,39723000 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,832231 | 5,074579 | | 0,479395 | 9,447000 | |

Keterangan : s (*significant*)

ns(*non significant*)

B. Sidik Ragam nilai uji gula reduksi buah *fresh cut* apel manalagi pada Hari ke- 2

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|--------|
| Model | 9 | 33,12927000 | 3,68103000 | 47,46 | <0001s |
| Konsentrasi | 9 | 33,12927000 | 3,68103000 | 47,46 | <0001s |
| Galat | 20 | 1,55106667 | 0,07755333 | | |
| Total | 29 | 34,68033667 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,955275 | 1,687543 | | 0,278484 | 16,50233 | |

Keterangan : s (*significant*)

ns(*non significant*)

C. Sidik Ragam nilai uji gula reduksi buah *fresh cut* apel manalagi pada Hari ke-4

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 449,8467633 | 49,9829737 | 245,79 | <0,0001s |
| Konsentrasi | 9 | 449,8467633 | 49,9829737 | 245,79 | <0,0001s |
| Galat | 20 | 4,0671333 | 0,2033567 | | |
| Total | 29 | 453,9138967 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,991040 | 1,876902 | | 0,450951 | 24,02633 | |

Keterangan : s (*significant*)

ns(*non significant*)

D. Sidik Ragam nilai uji gula reduksi buah *fresh cut* apel manalagi pada Hari ke- 6

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 60,03092000 | 6,67010222 | 969,02 | <0,0001s |
| Konsentrasi | 9 | 60,03092000 | 6,67010222 | 969,02 | <0,0001s |
| Galat | 20 | 0,13766667 | 0,00688333 | | |
| Total | 29 | 60,16858667 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,997712 | 0,378793 | | 0,082966 | 21,90267 | |

Keterangan : s (*significant*)
ns(*non significant*)

E. Sidik Ragam nilai uji gula reduksi buah *fresh cut* apel manalagi pada Hari ke- 8

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 89,52589667 | 9,94732185 | 142,33 | <0,0001s |
| Konsentrasi | 9 | 89,52589667 | 9,94732185 | 142,33 | <0,0001s |
| Galat | 20 | 1,39780000 | 0,06989000 | | |
| Total | 29 | 90,92369667 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,984627 | 1,241141 | | 0,264367 | 21,30033 | |

Keterangan : s (*significant*)
ns(*non significant*)

F. Sidik Ragam nilai uji gula reduksi buah *fresh cut* apel manalagi pada Hari ke- 10

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 33,73408000 | 3,74823111 | 85,01 | <0,0001s |
| Konsentrasi | 9 | 33,73408000 | 3,74823111 | 85,01 | <0,0001s |
| Galat | 20 | 0,88186667 | 0,04409333 | | |
| Total | 29 | 34,61594667 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,974524 | 1,196400 | | 0,209984 | 17,55133 | |

Keterangan : s (*significant*)
ns(*non significant*)

Lampiran 6. Sidik Ragam Data Total Padatan Terlarut

A. Sidik Ragam nilai uji total padatan terlarut buah *fresh cut* apel manalagi pada Hari ke-0

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 8,38700000 | 0,93188889 | 147,14 | <0,0001s |
| Konsentrasi | 9 | 8,38700000 | 0,93188889 | 147,14 | <0,0001s |
| Galat | 20 | 0,12666667 | 0,00633333 | | |
| Total | 29 | 8,51366667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,985122 | 0,570210 | 0,079582 | 13,95667 | | |

Keterangan : s (*significant*)

ns(*non significant*)

B. Sidik Ragam nilai uji total padatan terlarut buah *fresh cut* apel manalagi pada Hari ke- 2

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 26,38700000 | 26,38700000 | 172,46 | <0,0001s |
| Konsentrasi | 9 | 26,38700000 | 26,38700000 | 172,46 | <0,0001s |
| Galat | 20 | 0,34000000 | 0,01700000 | | |
| Total | 29 | 26,72700000 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,987279 | 1,132789 | 0,130384 | 11,51000 | | |

Keterangan : s (*significant*)

ns(*non significant*)

C. Sidik Ragam nilai uji total padatan terlarut buah *fresh cut* apel manalagi pada Hari ke-4

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 18,68166667 | 2,07574074 | 103,79 | <0,0001s |
| Konsentrasi | 9 | 18,68166667 | 2,07574074 | 103,79 | <0,0001s |
| Galat | 20 | 0,40000000 | 0,02000000 | | |
| Total | 29 | 19,08166667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,979037 | 1,307439 | 0,141421 | 10,81667 | | |

Keterangan : s (*significant*)

ns(*non significant*)

D. Sidik Ragam nilai uji total padatan terlarut buah fresh cut apel manalagi pada Hari ke- 6

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 87,9466667 | 9,7718519 | 14,16 | <0,0001s |
| Konsentrasi | 9 | 87,9466667 | 9,7718519 | 14,16 | <0,0001s |
| Galat | 20 | 13,8000000 | 0,6900000 | | |
| Total | 29 | 101,7466667 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,864369 | 6,406137 | | 0,830662 | 12,96667 | |

Keterangan : s (*significant*)
ns(*non significant*)

E. Sidik Ragam nilai uji total padatan terlarut buah fresh cut apel manalagi pada Hari ke- 8

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 29,57466667 | 3,28607407 | 22,25 | <0,0001s |
| Konsentrasi | 9 | 29,57466667 | 3,28607407 | 22,25 | <0,0001s |
| Galat | 20 | 2,95333333 | 0,14766667 | | |
| Total | 29 | 32,52800000 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,909206 | 3,307007 | | 0,384274 | 11,62000 | |

Keterangan : s (*significant*)
ns(*non significant*)

F. Sidik Ragam nilai uji total padatan terlarut buah *fresh cut* apel manalagi pada Hari ke- 10

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|----------------|-----------------|----------|
| Model | 9 | 14,03200000 | 1,55911111 | 141,74 | <0,0001s |
| Konsentrasi | 9 | 14,03200000 | 1,55911111 | 141,74 | <0,0001s |
| Galat | 20 | 0,22000000 | 0,01100000 | | |
| Total | 29 | 14,25200000 | | | |
| Koefisien Determinasi | Koefisien Variabel | | Akar KTG | Nilai Rata-rata | |
| 0,984564 | 0,855472 | | 0,104881 | 12,26000 | |

Keterangan : s (*significant*)
ns(*non significant*)

Lampiran 7. Sidik Ragam Data uji kekerasan

A. Sidik Ragam nilai uji kekerasan buah *fresh cut* apel manalagi pada Hari ke- 0

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|-----------|
| Model | 9 | 0,33869667 | 0,03763296 | 1,79 | <0,1334ns |
| Konsentrasi | 9 | 0,33869667 | 0,03763296 | 1,79 | <0,1334ns |
| Galat | 20 | 0,42060000 | 0,02103000 | | |
| Total | 29 | 0,75929667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,446066 | 8,769436 | 0,145017 | 1,653667 | | |

Keterangan : s (*significant*)

ns (*non- significant*)

B. Sidik Ragam nilai uji kekerasan buah *fresh cut* apel manalagi pada Hari ke- 2

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 0,36358667 | 0,04039852 | 2,56 | <0,0381s |
| Konsentrasi | 9 | 0,36358667 | 0,04039852 | 2,56 | <0,0381s |
| Galat | 20 | 0,31500000 | 0,01575000 | | |
| Total | 29 | 0,67858667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,535800 | 8,031080 | 0,125499 | 1,562667 | | |

Keterangan : s (*significant*)

ns (*non- significant*)

C. Sidik Ragam nilai uji kekerasan buah *fresh cut* apel manalagi pada Hari ke- 4

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 0,27493333 | 0,03054815 | 3,40 | <0,0109s |
| Konsentrasi | 9 | 0,27493333 | 0,03054815 | 3,40 | <0,0109s |
| Galat | 20 | 0,17993333 | 0,00899667 | | |
| Total | 29 | 0,45486667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,604426 | 6,571646 | 0,094851 | 1,443333 | | |

Keterangan : s (*significant*)

ns (*non- significant*)

D. Sidik Ragam nilai uji kekerasan buah *fresh cut* apel manalagi pada Hari ke- 6

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 0,44972000 | 0,04996889 | 4,32 | <0,0031s |
| Konsentrasi | 9 | 0,44972000 | 0,04996889 | 4,32 | <0,0031s |
| Galat | 20 | 0,23146667 | 0,01157333 | | |
| Total | 29 | 0,68118667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,660201 | 7,837258 | 0,107579 | 1,372667 | | |

Keterangan : s (*significant*)
ns (non- *significant*)

E. Sidik Ragam nilai uji kekerasan buah *fresh cut* apel manalagi pada Hari ke- 8

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 0,32396333 | 0,03599593 | 1,98 | <0,0978s |
| Konsentrasi | 9 | 0,32396333 | 0,03599593 | 1,98 | <0,0978s |
| Galat | 20 | 0,36393333 | 0,01819667 | | |
| Total | 29 | 0,68789667 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,470948 | 10,61887 | 0,134895 | 1,270333 | | |

Keterangan : s (*significant*)
ns (non- *significant*)

F. Sidik Ragam nilai uji kekerasan buah *fresh cut* apel manalagi pada Hari ke- 10

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|----------------------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 0,23000333 | 0,02555593 | 3,08 | <0,0173s |
| Konsentrasi | 9 | 0,23000333 | 0,02555593 | 3,08 | <0,0173s |
| Galat | 20 | 0,16593333 | 0,00829667 | | |
| Total | 29 | 0,39593667 | | | |
| 0,64709667 Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,580909 | 7,950484 | 0,091086 | 1,145667 | | |

Keterangan : s (*significant*)
ns (non- *significant*)

Lampiran 8. Sidik Ragam Data uji susut berat

A. Sidik Ragam nilai uji susut berat buah *fresh cut* apel manalagi pada Hari ke-2

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|-----------|
| Model | 9 | 0,45981270 | 0,05109030 | 1,23 | <0,3323ns |
| Konsentrasi | 9 | 0,45981270 | 0,05109030 | 1,23 | <0,3323ns |
| Galat | 20 | 0,83138267 | 0,04156913 | | |
| Total | 29 | 1,29119537 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,356114 | 21,31723 | 0,203885 | 0,956433 | | |

Keterangan : s (*significant*)

ns(*non significant*)

B. Sidik Ragam nilai uji susut berat buah *fresh cut* apel manalagi pada Hari ke-4

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|-----------|
| Model | 9 | 0,45971203 | 0,05107911 | 1,23 | <0,3338ns |
| Konsentrasi | 9 | 0,45971203 | 0,05107911 | 1,23 | <0,3338ns |
| Galat | 20 | 0,83317067 | 0,04165853 | | |
| Total | 29 | 1,29288270 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,355571 | 21,35205 | 0,204104 | 0,955900 | | |

Keterangan : s (*significant*)

ns(*non significant*)

C. Sidik Ragam nilai uji susut berat buah *fresh cut* apel manalagi pada Hari ke-6

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|---------|
| Model | 9 | 2,45941667 | 0,27326852 | 103,07 | <0,040s |
| Konsentrasi | 9 | 2,45941667 | 0,27326852 | 103,07 | <0,040s |
| Galat | 20 | 2,15773333 | 0,10788667 | | |
| Total | 29 | 4,61715000 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,532670 | 19,37823 | 0,328461 | 1,695000 | | |

Keterangan : s (*significant*)

ns(*non significant*)

D. Sidik Ragam nilai uji susut berat buah *fresh cut* apel manalagi pada Hari ke-8

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|-----------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 4,24816333 | 0,47201815 | 3,10 | <0,0168s |
| Konsentrasi | 9 | 4,24816333 | 0,47201815 | 3,10 | <0,0168s |
| Galat | 20 | 3,04626667 | 0,15231333 | | |
| Total | 29 | 7,29443000 | | | |
| Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,582385 | 16,94631 | 0,390273 | 2,303000 | | |

Keterangan : s (*significant*)
ns(*non significant*)

E. Sidik Ragam nilai uji susut berat buah *fresh cut* apel manalagi pada Hari ke-10

| Sumber | db | Jumlah kuadrat | Kuadrat tengah | F, Hitung | Prob, |
|---------------------------------|--------------------|----------------|-----------------|-----------|----------|
| Model | 9 | 4,66894667 | 0,51877185 | 3,65 | <0,0076s |
| Konsentrasi | 9 | 4,66894667 | 0,51877185 | 3,65 | <0,0076s |
| Galat | 20 | 2,84233333 | 0,14211667 | | |
| Total | 29 | 7,51128000 | | | |
| 0,64709667Koefisien Determinasi | Koefisien Variabel | Akar KTG | Nilai Rata-rata | | |
| 0,973832 | 2,279776 | 0,029098 | 1,276333 | | |

Keterangan : s (*significant*)
ns(*non significant*)

Lampiran 9. Dokumentasi Kegiatan Aplikasi

a. Tahap Pembuatan larutan L-arginin



L-arginin



Serbuk L-arginin



Larutan L-arginin

b. Tahap pencelupan buah apel potong segar



Pencucian buah apel



Pencelupan apel potong segar



Proses penirisan apel potong segar



Proses *wrapping*

Lampiran 10. Dokumentasi Kegiatan Pengamatan



Uji gula reduksi



Uji gula total (*hand refraktometer*)



uji kekerasan (*Hand Penetrometer*)



Uji warna (*Chromameter Minolta CR-400*)



Uji susut bobot



Uji phenol



Alat *Spektrofotometer* (uji gula reduksi dan uji total phenol)



Lampiran 11. Dokumentasi penelitian

Hari ke-0



Arginin 50 Mm 5'



Arginin 50 Mm 10'



Arginin 50Mm 15'



Arginin 100 Mm 5'



Arginin 100 Mm 10'



Arginin 100 Mm 15'



Arginin 150 Mm 5'



Arginin 150 Mm 10'



Arginin 150 Mm 15'



Tanpa perendaman

Hari ke-2



Arginin 50 Mm 5'



Arginin 50Mm 10'



Arginin 50Mm 15'



Arginin 100 Mm 5'



Arginin 100 Mm 10'



Arginin 100 Mm 15'



Arginin 150 Mm 5'



Arginin 150 Mm 10'



Arginin 150 Mm 15'



Tanpa perendaman

Hari ke-4



Arginin 50 Mm 5'



Arginin 50Mm 10'



Arginin 50Mm 15'



Arginin 100 Mm 5'



Arginin 100 Mm 10'



Arginin 100 Mm 15'



Arginin 150 Mm 5'



Arginin 150 Mm 10'



Arginin 150 Mm 15'



Tanpa perendaman

Hari ke-6



Arginin 50 Mm 5'



Arginin 50Mm 10'



Arginin 50Mm 15'



Arginin 100 Mm 5'



Arginin 100 Mm 10'



Arginin 100 Mm 15'



Arginin 150 Mm 5'



Arginin 150 Mm 10'



Arginin 150 Mm 15'



Tanpa perendaman

Hari ke-8



Arginin 50 Mm 5'

Arginin 50Mm 10'

Arginin 50Mm 15'



Arginin 100 Mm 5'

Arginin 100 Mm 10'

Arginin 100 Mm 15'



Arginin 150 Mm 5'

Arginin 150 Mm 10'

Arginin 150 Mm 15'



Tanpa perendaman

Hari ke-10



Arginin 50 Mm 5'



Arginin 50Mm 10'



Arginin 50Mm 15'



Arginin 100 Mm 5'



Arginin 100 Mm 10'



Arginin 100 Mm 15'



Arginin 150 Mm 5'



Arginin 150 Mm 10'



Arginin 150 Mm 15'



Tanpa perendaman