**Lampiran 7. Analisis Statistik Pengaruh Konsentrasi Gula (A) dan Konsentrasi Pektin (B) Terhadap Kadar Asam Total Selai Buah Campolay**

* 1. Perhitungan Hasil Analisis Kadar Asam Total

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 (55%) | b1 (0,5%) | 0,96 | 1,00 | 1,04 | 3,00 | 1,00 |
| b2 (1,0%) | 0,97 | 0,97 | 0,98 | 2,92 | 0,97 |
| b3 (1,5%) | 0,88 | 1,01 | 1,01 | 2,90 | 0,97 |
| a2 (60%) | b1 (0,5%) | 0,82 | 0,84 | 0,88 | 2,54 | 0,85 |
| b2 (1,0%) | 0,82 | 0,87 | 0,84 | 2,53 | 0,84 |
| b3 (1,5%) | 0,85 | 0,90 | 0,90 | 2,65 | 0,88 |
| a3 (65%) | b1 (0,5%) | 0,79 | 0,76 | 0,74 | 2,29 | 0,76 |
| b2 (1,0%) | 0,72 | 0,75 | 0,70 | 2,17 | 0,72 |
| b3 (1,5%) | 0,75 | 0,77 | 0,76 | 2,28 | 0,76 |
| **Total** | **7,56** | **7,87** | **7,85** | 23,28 |
| **Rata-rata** | **0,84** | **0,87** | **0,87** |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 3,00 | 2,92 | 2,90 | **8,82** | 2,94 |
| a2 | 2,54 | 2,53 | 2,65 | **7,72** | 2,57 |
| a3 | 2,29 | 2,17 | 2,28 | **6,74** | 2,25 |
| Total | **7,83** | **7,62** | **7,83** | **23,28** | 7,76 |
| Rata-rata | 2,61 | 2,54 | 2,61 |   |   |

* 1. Tabel Analisis Variansi Terhadap Kadar Asam Total Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 0,0067 | 0,0033 | 3,48\* | 3,63 |
| Perlakuan | 8 | 0,2484 | 0,0310 | 32,31\* | 2,59 |
| Konsentrasi Gula(A) | 2 | 0,2406 | 0,1203 | 125,18\* | 3,36 |
| Konsentrasi Pektin (B) | 2 | 0,0033 | 0,0016 | 1,70tn | 3,36 |
| Interaksi AB | 4 | 0,0045 | 0,0011 | 1,17 tn | 3,01 |
| Galat | 16 | 0,0154 | 0,0010 |  |  |  |
| Total | 26 | 0,2705 |  |  |  |

* 1. Uji Jarak Berganda Duncan Terhadap Kadar Asam Total Selai Buah Campolay Pada Faktor Konsentrasi Gula (A)

**Standar Kekeliruan =** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{0,00125}{9}}$ **=** 0,01

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a3 | 0,78 | - |  |  | a |
| 3,00 | 0,030 | a2 | 0,86 | 0,11\* | - |  | b |
| 3,15 | 0,031 | a1 | 0,98 | 0,23\* | 0,12\* | - | c |

**Lampiran 8. Analisis Statistik Pengaruh Konsentrasi Gula (A) dan Konsentrasi Pektin (B) Terhadap Kadar Air Metode Destilasi Selai Buah Campolay**

* 1. Perhitungan Hasil Analisis Kadar Air Metode Destilasi

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 (55%) | b1 (0,5%) | 23,77 | 28,00 | 28,23 | 80,00 | 26,67 |
| b2 (1,0%) | 25,85 | 26,16 | 29,94 | 81,95 | 27,32 |
| b3 (1,5%) | 24,29 | 26,11 | 28,23 | 78,63 | 26,21 |
| a2 (60%) | b1 (0,5%) | 21,92 | 24,05 | 25,85 | 71,82 | 23,94 |
| b2 (1,0%) | 22,00 | 22,00 | 26,00 | 70,00 | 23,33 |
| b3 (1,5%) | 21,83 | 24,00 | 25,95 | 71,78 | 23,93 |
| a3 (65%) | b1 (0,5%) | 20,08 | 20,04 | 22,04 | 62,16 | 20,72 |
| b2 (1,0%) | 19,85 | 20,12 | 22,13 | 62,10 | 20,70 |
| b3 (1,5%) | 19,85 | 20,04 | 20,16 | 60,05 | 20,02 |
| **Total** | **199,44** | **210,52** | **228,53** | 638,49 |
| **Rata-rata** | **22,16** | **23,39** | **25,39** |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 80,00 | 81,95 | 78,63 | **240,58** | 80,19 |
| a2 | 71,82 | 70,00 | 71,78 | **213,60** | 71,20 |
| a3 | 62,16 | 62,10 | 60,05 | **184,31** | 61,44 |
| Total | **213,98** | **214,05** | **210,46** | **638,49** | 212,83 |
| Rata-rata | 71,33 | 71,35 | 70,15 |   |   |

* 1. Tabel Analisis Variansi Terhadap Kadar Air Metode Destilasi Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 47,90 | 23,95 | 24,68\* | 3,63 |
| Perlakuan | 8 | 179,54 | 22,44 | 23,12\* | 2,59 |
| Konsentrasi Gula (A) | 2 | 176,01 | 88,00 | 90,67\* | 3,36 |
| Konsentrasi Pektin (B) | 2 | 0,94 | 0,47 | 0,48tn | 3,36 |
| Interaksi AB | 4 | 2,60 | 0,65 | 0,67tn | 3,01 |
| Galat | 16 | 15,53 | 0,97 |  |  |  |
| Total | 26 | 242,97 |  |  |  |

* 1. Uji Jarak Berganda Duncan Terhadap Kadar Air Metode Destilasi Selai Buah Campolay Pada Faktor Konsentrasi Gula (A)

Standar Kekeliruan **=** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{0,97}{9}}$ **=** 0,33

Tabel Uji Duncan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a3 | 20,48 | - |  |  | a |
| 3,00 | 0,99 | a2 | 23,73 | 3,25\* | - |  | b |
| 3,15 | 1,04 | a1 | 26,73 | 6,25\* | 3,00\* | - | c |

**Lampiran 9. Analisis Statistik Pengaruh Konsentrasi Gula (A) dan Konsentrasi Pektin (B) Terhadap Kadar Gula Selai Buah Campolay**

* 1. Perhitungan Hasil Analisis Kadar Gula Total

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 (55%) | b1 (0,5%) | 62,90 | 60,57 | 59,59 | 183,06 | 61,02 |
| b2 (1,0%) | 63,51 | 61,84 | 60,14 | 185,49 | 61,83 |
| b3 (1,5%) | 63,52 | 61,27 | 62,99 | 187,78 | 62,59 |
| a2 (60%) | b1 (0,5%) | 64,14 | 64,77 | 66,58 | 195,49 | 65,16 |
| b2 (1,0%) | 65,84 | 62,92 | 64,07 | 192,83 | 64,28 |
| b3 (1,5%) | 64,53 | 64,75 | 63,63 | 192,91 | 64,30 |
| a3 (65%) | b1 (0,5%) | 66,97 | 68,89 | 67,01 | 202,87 | 67,62 |
| b2 (1,0%) | 66,96 | 69,99 | 70,71 | 207,66 | 69,22 |
| b3 (1,5%) | 66,96 | 71,36 | 68,74 | 207,06 | 69,02 |
| **Total** | **585,33** | **586,36** | **583,46** | 1755,15 |
| **Rata-rata** | **65,04** | **65,15** | **64,83** |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 183,06 | 185,49 | 187,78 | **556,33** | 185,44 |
| a2 | 195,49 | 192,83 | 192,91 | **581,23** | 193,74 |
| a3 | 202,87 | 207,66 | 207,06 | **617,59** | 205,86 |
| Total | **581,42** | **585,98** | **587,75** | **1755,15** | 585,05 |
| Rata-rata | 193,81 | 195,33 | 195,92 |   |   |

Faktor Koreksi = $\frac{∑(Total)^{2}}{Banyak Pengamatan}$

 = $\frac{(1755,15)^{2}}{27}$

 = 114.094,50

JK Total (JKT) = ∑ (Total Pengamatan) – FK

 = (62,902 + 60,572 +....+ 71,362 + 68,742) - 114.094,50

 = 263,29

JK Kelompok (JKK) = $\frac{∑(Total Kelompok)^{2}}{a x b}- FK$

 = (585,332 + 586,362 + 583,462) – 114.094,50

 9

 = 0,48

JK Perlakuan (JKP) = $\frac{∑(Total Perlakuan)^{2}}{r}- FK$

 = (183,062 + 185,492 +...+ 207,662+207,062) – 114.094,50

 3

 = 220,70

JK Faktor (A) = $\frac{∑(Total Taraf T)^{2}}{r x b}- FK$

 = (556,332 + 581,232 + 617,592) – 114.094,50

 3 x 3

 = 210,92

JK Faktor (B) = $\frac{∑(Total Taraf T)^{2}}{r x a}- FK$

 = (581,422 + 585,982 + 587,752) – 114.094,50

 3 x 3

 = 2,37

JK Interaksi(AB) = $\frac{∑(Total Taraf T)^{2}}{r}- FK-JK\left(A\right)- JK(B)$

 =(183,062+185,492+....+207,662+207,062 –114.094,50 - 210,92 - 2,37

 3

 = 0,4632

JKG = JKT – JKK – JKP

 = 3,45 – 1,39 – 0,68

 = 1,38

* 1. Tabel Analisis Variansi Terhadap Kadar Gula Total Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 0,48 | 0,24 | 0,09tn | 3,63 |
| Perlakuan | 8 | 220,70 | 27,59 | 10,48\* | 2,59 |
| Konsentrasi Gula (A) | 2 | 210,92 | 105,46 | 40,07\* | 3,36 |
| Konsentrasi Pektin (B) | 2 | 2,37 | 1,19 | 0,45tn | 3,36 |
| Interaksi AB | 4 | 7,41 | 1,85 | 0,70tn | 3,01 |
| Galat | 16 | 42,11 | 2,63 |  |  |  |
| Total | 26 | 263,29 |  |  |  |

* 1. Uji Jarak Berganda Duncan Terhadap Kadar Gula Total Selai Buah Campolay

Standar Kekeliruan **=** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{2,63}{9}}$ **=** 0,54

Tabel Uji Duncan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1 | 61,81 | - |  |  | a |
| 3,00 | 1,620 | a2 | 64,58 | 2,77\* | - |  | b |
| 3,15 | 1,701 | a3 | 68,62 | 6,81\* | 4,04\* | - | c |

**Lampiran 10. Analisis Statistik Pengaruh Konsentrasi Gula (A) dan Konsentrasi Pektin (B) Terhadap Uji Viskositas Selai Buah Campolay**

* 1. Perhitungan Hasil Uji Viskositas

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 (55%) | b1 (0,5%) | 330 | 300 | 320 | 950 | 316,67 |
| b2 (1,0%) | 340 | 320 | 350 | 1010 | 336,67 |
| b3 (1,5%) | 350 | 350 | 350 | 1050 | 350,00 |
| a2 (60%) | b1 (0,5%) | 370 | 400 | 380 | 1150 | 383,33 |
| b2 (1,0%) | 400 | 420 | 400 | 1220 | 406,67 |
| b3 (1,5%) | 450 | 460 | 420 | 1330 | 443,33 |
| a3 (65%) | b1 (0,5%) | 450 | 500 | 450 | 1400 | 466,67 |
| b2 (1,0%) | 500 | 520 | 480 | 1500 | 500,00 |
| b3 (1,5%) | 520 | 550 | 500 | 1570 | 523,33 |
| **Total** | **3710** | **3820** | **3650** | 11180 |
| **Rata-rata** | **412,22** | **424,44** | **405,56** |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 950 | 1010 | 1050 | **3010** | 1003,33 |
| a2 | 1150 | 1220 | 1330 | **3700** | 1233,33 |
| a3 | 1400 | 1500 | 1570 | **4470** | 1490,00 |
| Total | **3500** | **3730** | **3950** | **11.180** | 3726,67 |
| Rata-rata | 1166,67 | 1243,33 | 1316,67 |   |   |

* 1. Tabel Analisis Variansi Terhadap viskositas Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 1651,85 | 825,93 | 2,86tn | 3,63 |
| Perlakuan | 8 | 130.585,19 | 16.323,15 | 56,59\* | 2,59 |
| Konsentrasi Gula (A) | 2 | 118.540,74 | 59.270,37 | 205,49\* | 3,36 |
| Konsentrasi Pektin (B) | 2 | 11.251,85 | 5.625,93 | 19,51\* | 3,36 |
| Interaksi AB | 4 | 792,59 | 198,15 | 0,69tn | 3,01 |
| Galat | 16 | 4.614,81 | 288,43 |  |  |  |
| Total | 26 | 136.851,85 |  |  |  |

* 1. Uji Jarak Berganda Duncan untuk Faktor Konsentrasi Gula (A) Terhadap Viskositas Selai Buah Campolay

Standar Kekeliruan **=** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{288,43}{9}}$ **=** 5,66

Tabel Uji Duncan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1 | 334,45 | - |  |  | a |
| 3,00 | 16,98 | a2 | 411,11 | 79,66\* | - |  | b |
| 3,15 | 17,83 | a3 | 496,67 | 162,22\* | 85,56\* | - | c |

* 1. Uji Jarak Berganda Duncan untuk Faktor Konsentrasi Pektin (B) Terhadap Viskositas Selai Buah Campolay

Standar Kekeliruan **=** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{288,43}{9}}$ **=** 5,66

Tabel Uji Duncan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | b1 | 388,89 | - |  |  | a |
| 3,00 | 16,98 | b2 | 414,45 | 25,56\* | - |  | b |
| 3,15 | 17,83 | b3 | 438,89 | 50,00\* | 24,44\* | - | c |

**Lampiran 11. Format Penilaian Uji Hedonik Selai Buah Campolay Penelitian Utama**

Nama Panelis :

Pekerjaan :

Tgl Pengujian :

Tanda Tangan :

Petunjuk cara pengisian

1. Dihadapan saudara tersedia 9 sampel selai buah campolay. Anda diminta untuk memberikan penilaian pada setiap kode sampel tentang kesukaan atau sebaliknya terhadap warna, aroma, dan rasa.
2. Pengujian dilakukan secara berurutan terhadap :
* Warna yaitu melihat perbedaan warna orange muda, orange, dan orange tua pada setiap sampel selai buah campolay yang disajikan.
* Aroma yaitu mengetahui perbedaan aroma khas buah campolay pada setiap sampel selai buah campolay yang disajikan.
* Rasa yaitu mengetahui perbedaan rasa manis dengan cara mencicipi selai buah campolay yang disajikan.
1. Kisaran penilaian dilakukan dengan skala numerik 1-7 dengan rincian sebagai berikut : (1) sangat tidak suka, (2) tidak suka, (3) agak tidak suka, (4) biasa, (5) agak suka, (6) suka, dan (7) sangat suka.
2. Penilaian dapat diisikan ke dalam tabel yang ada dibawah ini:

|  |  |  |  |
| --- | --- | --- | --- |
| Kode Sampel | Warna | Aroma | Rasa |
| 794 |  |  |  |
| 152 |  |  |  |
| 510 |  |  |  |
| 855 |  |  |  |
| 030 |  |  |  |
| 433 |  |  |  |
| 745 |  |  |  |
| 543 |  |  |  |
| 131 |  |  |  |

**Lampiran 12. Hasil Uji Organoleptik Penelitian Utama**

1. Analisis Statistik Uji Organoleptik Terhadap Kesukaan Warna Selai Buah Campolay
	1. Perhitungan Hasil Uji Organoleptik Terhadap Warna

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 | b1 | 4,96 | 4,44 | 5,00 | 14,40 | 4,80 |
| b2 | 4,88 | 4,36 | 4,72 | 13,96 | 4,65 |
| b3 | 4,52 | 4,52 | 4,60 | 13,64 | 4,55 |
| a2 | b1 | 5,00 | 5,04 | 5,12 | 15,16 | 5,05 |
| b2 | 4,96 | 4,72 | 4,76 | 14,44 | 4,81 |
| b3 | 4,84 | 4,20 | 4,40 | 13,44 | 4,48 |
| a3 | b1 | 5,08 | 4,76 | 4,88 | 14,72 | 4,91 |
| b2 | 5,08 | 5,04 | 5,16 | 15,28 | 5,09 |
| b3 | 5,00 | 4,36 | 5,00 | 14,36 | 4,79 |
| **Total** | **44,32** | **41,44** | **43,64** | 129,40 | 43,13 |

* 1. Perhitungan Hasil Data Transformasi Uji Organoleptik Terhadap Warna

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 | b1 | 2,31 | 2,20 | 2,33 | 6,84 | 2,28 |
| b2 | 2,30 | 2,19 | 2,26 | 6,75 | 2,25 |
| b3 | 2,22 | 2,22 | 2,25 | 6,69 | 2,23 |
| a2 | b1 | 2,33 | 2,34 | 2,36 | 7,03 | 2,34 |
| b2 | 2,33 | 2,27 | 2,28 | 6,88 | 2,29 |
| b3 | 2,30 | 2,15 | 2,20 | 6,65 | 2,22 |
| a3 | b1 | 2,35 | 2,27 | 2,30 | 6,92 | 2,31 |
| b2 | 2,35 | 2,34 | 2,37 | 7,06 | 2,35 |
| b3 | 2,33 | 2,19 | 2,33 | 6,85 | 2,28 |
| **Total** | **20,82** | **20,17** | **20,68** | 61,67 | 20,56 |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 6,84 | 6,75 | 6,69 | **20,28** | 6,76 |
| a2 | 7,03 | 6,88 | 6,65 | **20,56** | 6,85 |
| a3 | 6,92 | 7,06 | 6,85 | **20,83** | 6,94 |
| Total | **20,79** | **20,69** | **20,19** | **61,67** | 20,56 |
| Rata-rata | 6,93 | 6,90 | 6,73 |   |   |

#  Tabel Analisis Variansi Terhadap Kesukaan Warna Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 0,0260 | 0,0130 | 9,64\* | 3,63 |
| Perlakuan | 8 | 0,0527 | 0,0066 | 4,88\* | 2,59 |
| Konsentrasi Gula (A) | 2 | 0,0168 | 0,0084 | 6,23\* | 3,36 |
| Konsentrasi Pektin (B) | 2 | 0,0230 | 0,0115 | 8,51\* | 3,36 |
| Interaksi AB | 4 | 0,0129 | 0,0032 | 2,39tn | 3,01 |
| Galat | 16 | 0,0216 | 0,0013 |  |  |  |
| Total | 26 | 0,1003 |  |  |  |

* 1. Uji Jarak Berganda Duncan Terhadap Warna Selai Buah Campolay

Standar Kekeliruan **=** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{0,0013}{9}}$ **=** 0,01

Tabel Uji Duncan Pengaruh Konsentrasi Gula (A)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1 | 2,25 | - |  |  | a |
| 3,15 | 0,032 | a2 | 2,28 | 0,03\* | - |  | b |
| 3,37 | 0,034 | a3 | 2,31 | 0,07\* | 0,06 tn | - | b |

Tabel Uji Duncan Pengaruh Konsentrasi Pektin (B)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | b3 | 2,24 | - |  |  | a |
| 3,15 | 0,032 | b2 | 2,30 | 0,06\* | - |  | b |
| 3,37 | 0,034 | b1 | 2,31 | 0,07\* | 0,01 tn | - | b |

1. Analisis Statistik Uji Organoleptik Terhadap Kesukaan Aroma Selai Buah Campolay

2.1. Perhitungan Hasil Uji Organoleptik Terhadap Aroma

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 | b1 | 4,32 | 4,12 | 4,52 | 12,96 | 4,32 |
| b2 | 4,20 | 4,12 | 4,44 | 12,76 | 4,25 |
| b3 | 4,36 | 4,52 | 4,56 | 13,44 | 4,48 |
| a2 | b1 | 4,76 | 4,84 | 4,80 | 14,40 | 4,80 |
| b2 | 4,32 | 3,96 | 4,64 | 12,92 | 4,31 |
| b3 | 4,12 | 4,32 | 4,44 | 12,88 | 4,29 |
| a3 | b1 | 4,00 | 4,56 | 4,64 | 13,20 | 4,40 |
| b2 | 4,28 | 4,80 | 4,64 | 13,72 | 4,57 |
| b3 | 4,52 | 4,60 | 4,60 | 13,72 | 4,57 |
| **Total** | **38,88** | **39,84** | **41,28** | 120,00 | 40,00 |

2.2. Perhitungan Hasil Data Transformasi Uji Organoleptik Terhadap Aroma

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 | b1 | 2,18 | 2,12 | 2,22 | 6,52 | 2,17 |
| b2 | 2,15 | 2,13 | 2,20 | 6,48 | 2,16 |
| b3 | 2,19 | 2,22 | 2,23 | 6,64 | 2,21 |
| a2 | b1 | 2,27 | 2,29 | 2,29 | 6,85 | 2,28 |
| b2 | 2,17 | 2,09 | 2,25 | 6,51 | 2,17 |
| b3 | 2,12 | 2,17 | 2,21 | 6,50 | 2,17 |
| a3 | b1 | 2,10 | 2,23 | 2,25 | 6,58 | 2,19 |
| b2 | 2,17 | 2,28 | 2,25 | 6,70 | 2,23 |
| b3 | 2,22 | 2,24 | 2,24 | 6,70 | 2,23 |
| **Total** | **19,57** | **19,77** | **20,14** | 59,48 | 19,83 |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 6,52 | 6,48 | 6,64 | **19,64** | 6,55 |
| a2 | 6,85 | 6,51 | 6,50 | **19,86** | 6,62 |
| a3 | 6,58 | 6,70 | 6,70 | **19,98** | 6,66 |
| Total | **19,95** | **19,69** | **19,84** | **59,48** | 19,83 |
| Rata-rata | 6,65 | 6,56 | 6,61 |   |   |

* 1. Tabel Analisis Variansi Terhadap Kesukaan Aroma Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 0,0186 | 0,0093 | 5,49\* | 3,63 |
| Perlakuan | 8 | 0,0409 | 0,0051 | 3,02\* | 2,59 |
| Konsentrasi gula (A) | 2 | 0,0066 | 0,0033 | 1,95tn | 3,36 |
| Konsentrasi Pektin (B) | 2 | 0,0038 | 0,0019 | 1,12 tn | 3,36 |
| Interaksi AB | 4 | 0,0305 | 0,0076 | 4,51\* | 3,01 |
| Galat | 16 | 0,0271 | 0,0017 |  |  |  |
| Total | 26 | 0,0866 |  |  |  |

* 1. Uji Jarak Berganda Duncan untuk Faktor Konsentrasi Pektin (B) Terhadap Aroma Selai Buah Campolay

**Standar Kekeliruan =** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{0,0017}{9}}$ **=** 0,01

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SSR** | **LSR** | **Kode** | **Nilai** |  |  |  | **Perlakuan** |  |  |  |  |  |  | **Taraf nyata** |
| **5%** | **5%** | **Sampel** | **Rata-rata** | 1 |  2 | 3 | 4  | 5 |  6 | 7 | 8 | 9 |
| - | - | a1b2 | 2,16 | - |   |   |   |   |   |   |   |   | a |
| 3,00 | 0,030 | a1b1 | 2,17 | 0,01tn | - |   |   |   |   |   |   |   | a |
| 3,15 | 0,032 | a2b2 | 2,17 | 0,01 tn | 0,00 tn | - |   |   |   |   |   |   | a |
| 3,23 | 0,032 | a2b3 | 2,17 | 0,01 tn | 0,00 tn | 0,00 tn | - |   |   |   |   |   | a |
| 3,30 | 0,033 | a3b1 | 2,19 | 0,03 tn | 0,02 tn | 0,02 tn | 0,02 tn | - |   |   |   |   | ab |
| 3,34 | 0,033 | a1b3 | 2,21 | 0,05\* | 0,04\* | 0,04\* | 0,04\* | 0,02 tn | - |   |   |   | bc |
| 3,37 | 0,034 | a3b2 | 2,23 | 0,07\* | 0,06\* | 0,06\* | 0,06\* | 0,04\* | 0,02 tn | - |   |   | c |
| 3,39 | 0,034 | a3b3 | 2,23 | 0,07\* | 0,06\* | 0,06\* | 0,06\* | 0,04\* | 0,02 tn | 0,00 tn | - |   | c |
| 3,41 | 0,034 | a2b1 | 2,28 | 0,12\* | 0,11\* | 0,11\* | 0,11\* | 0,09\* | 0,07\* | 0,05\* | 0,05\* | - | d |

Tabel Uji Duncan a1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1b2 | 2,16 | - |  |  | a |
| 3,00 | 0,030 | a1b1 | 2,17 | 0,01tn | - |  | a |
| 3,34 | 0,033 | a1b3 | 2,21 | 0,05\* | 0,04\* | - | b |

Tabel Uji Duncan a2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a2b2 | 2,17 | - |  |  | a |
| 3,23 | 0,032 | a2b3 | 2,17 | 0,00tn | - |  | a |
| 3,41 | 0,034 | a2b1 | 2,28 | 0,11\* | 0,11\* | - | b |

Tabel Uji Duncan a3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a3b1 | 2,19 | - |  |  | a |
| 3,37 | 0,034 | a3b2 | 2,23 | 0,04\* | - |  | b |
| 3,39 | 0,034 | a3b3 | 2,23 | 0,04\* | 0,00tn | - | b |

Tabel Uji Duncan b1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1b1 | 2,17 | - |  |  | A |
| 3,30 | 0,033 | a3b1 | 2,19 | 0,02tn | - |  | A |
| 3,41 | 0,034 | a2b1 | 2,28 | 0,11\* | 0,09\* | - | B |

Tabel Uji Duncan b2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1b2 | 2,16 | - |  |  | A |
| 3,15 | 0,032 | a2b2 | 2,17 | 0,01tn | - |  | A |
| 3,37 | 0,034 | a3b2 | 2,23 | 0,07\* | 0,06\* | - | B |

Tabel Uji Duncan b3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a2b3 | 2,17 | - |  |  | A |
| 3,34 | 0,033 | a1b3 | 2,21 | 0,04\* | - |  | B |
| 3,39 | 0,034 | a3b3 | 2,23 | 0,06\* | 0,02tn | - | B |

* 1. Tabel Dwi Arah Interaksi Konsentrasi Gula (A) dan Konsentrasi Pektin (B)

|  |  |
| --- | --- |
| Konsentrasi Gula (A) | Konsentrasi Pektin (B) |
| b1 (0,5%) | b2 (1,0%) | b3 (1,5%) |
| a1(55%) | 4,32 a | 4,25 a | 4,48 b |
| A | A | B |
| a2(60%) | 4,80 b | 4,31 a | 4,29 a |
| B | A | A |
| a3(65%) | 4,40 a | 4,57 b | 4,57 b |
| A | B | B |

Keterangan : Angka yang diikuti oleh huruf yang sama menunjukkan tidak berbeda nyata pada taraf 5%, dan huruf kecil dibaca horizontal dan huruf besar dibaca vertikal.

1. Analisis Statistik Uji Organoleptik Terhadap Kesukaan Rasa Selai Buah Campolay

3.1. Perhitungan Hasil Uji Organoleptik Terhadap Rasa

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 | b1 | 4,28 | 4,32 | 4,40 | 13,00 | 4,33 |
| b2 | 4,84 | 4,88 | 4,88 | 14,60 | 4,87 |
| b3 | 4,52 | 4,56 | 4,32 | 13,40 | 4,47 |
| a2 | b1 | 5,04 | 4,60 | 4,72 | 14,36 | 4,79 |
| b2 | 4,96 | 4,08 | 5,00 | 14,04 | 4,68 |
| b3 | 5,04 | 4,68 | 4,80 | 14,52 | 4,84 |
| a3 | b1 | 5,08 | 5,00 | 4,80 | 14,88 | 4,96 |
| b2 | 4,64 | 5,08 | 5,24 | 14,96 | 4,99 |
| b3 | 4,72 | 4,84 | 5,04 | 14,60 | 4,87 |
| **Total** | **43,12** | **42,04** | **43,2** | 128,36 | 42,79 |

3.2. Perhitungan Hasil Data Transformasi Uji Organoleptik Terhadap Rasa

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Konsentrasi Gula (A)** | **Konsentrasi Pektin (B)** | **Ulangan** | **Jumlah** | **Rata-rata** |
| 1 | 2 | 3 |
| a1 | b1 | 2,15 | 2,17 | 2,18 | 6,50 | 2,17 |
| b2 | 2,30 | 2,30 | 2,29 | 6,89 | 2,30 |
| b3 | 2,21 | 2,22 | 2,17 | 6,60 | 2,20 |
| a2 | b1 | 2,33 | 2,23 | 2,26 | 6,82 | 2,27 |
| b2 | 2,32 | 2,10 | 2,33 | 6,75 | 2,25 |
| b3 | 2,34 | 2,24 | 2,28 | 6,86 | 2,29 |
| a3 | b1 | 2,34 | 2,32 | 2,28 | 6,94 | 2,31 |
| b2 | 2,24 | 2,34 | 2,38 | 6,96 | 2,32 |
| b3 | 2,25 | 2,28 | 2,34 | 6,87 | 2,29 |
| **Total** | **20,48** | **20,20** | **20,51** | 61,19 | 20,40 |

* 1. Tabel Data Total Faktor A dan Faktor B

|  |  |  |  |
| --- | --- | --- | --- |
| **Faktor** | **Faktor B** | **Total** | **Rata-rata** |
| **A** | **b1** | **b2** | **b3** |
| a1 | 6,50 | 6,89 | 6,60 | **19,99** | 6,66 |
| a2 | 6,82 | 6,75 | 6,86 | **20,43** | 6,81 |
| a3 | 6,94 | 6,96 | 6,87 | **20,77** | 6,92 |
| Total | **20,26** | **20,60** | **20,33** | **61,19** | 20,40 |
| Rata-rata | 6,75 | 6,87 | 6,78 |   |   |

* 1. Tabel Analisis Variansi Terhadap Kesukaan Rasa Selai Buah Campolay

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sumber Variansi | db | JK | KT | F hitung | F tabel 5% |
| Kelompok | 2 | 0,0065 | 0,0032 | 0,93tn | 3,63 |
| Perlakuan | 8 | 0,0649 | 0,0081 | 2,32 tn | 2,59 |
| Konsentrasi Gula (A) | 2 | 0,0340 | 0,0170 | 4,85\* | 3,36 |
| Konsentrasi Pektin (B) | 2 | 0,0072 | 0,0036 | 1,02 tn | 3,36 |
| Interaksi AB | 4 | 0,0237 | 0,0059 | 1,70 tn | 3,01 |
| Galat | 16 | 0,0560 | 0,0035 |  |  |  |
| Total | 26 | 0,1274 |  |  |  |

* 1. Uji Jarak Berganda Duncan untuk Faktor Konsentrasi Gula (A) Terhadap Rasa Selai Buah Campolay

Standar Kekeliruan **=** $\sqrt{\frac{KTG}{Perlakuan}}$ **=** $\sqrt{\frac{0,0035}{9}}$ **=** 0,02

Tabel Uji Duncan Pengaruh Konsentrasi Gula (A)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSR 5% | LSR 5% | Kode | Rata-rata | Perlakuan | Taraf Nyata 5% |
| 1 | 2 | 3 |
| - | - | a1 | 2,22 | - |  |  | a |
| 3,15 | 0,032 | a2 | 2,27 | 0,05tn | - |  | ab |
| 3,37 | 0,034 | a3 | 2,31 | 0,09\* | 0,04 tn | - | b |