**Lampiran 9. Penelitian Utama Uji Hedonik**

**9.1. Data Pengamatan Uji Organoleptik Warna Sorbet Sirsak**

Tabel 9.1.1. Data Asli dan Data Transformasi Terhadap Karakteristik Warna Sorbet Sirsak (Ulangan I)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/**  **Panelis** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 3 | 1.8708 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 28 | 13.5311 | 4.6667 | 2.2552 |
| 2 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 26 | 13.1295 | 4.3333 | 2.1883 |
| 3 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 4 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 5 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 33 | 14.6646 | 5.5000 | 2.4441 |
| 6 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 8 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 9 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 10 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 30 | 14.0712 | 5.0000 | 2.3452 |
| 11 | 7 | 2.7386 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 38 | 15.6753 | 6.3333 | 2.6125 |
| 12 | 5 | 2.3452 | 7 | 2.7386 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 32 | 14.4451 | 5.3333 | 2.4075 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 2 | 1.5811 | 2 | 1.5811 | 23 | 12.2534 | 3.8333 | 2.0422 |
| 14 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 15 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 26 | 13.1757 | 4.3333 | 2.1959 |
| Jumlah | 85 | 37.2059 | 85 | 37.1402 | 79 | 35.8556 | 74 | 34.7639 | 76 | 35.1263 | 75 | 34.9024 | 474 | 214.9944 | 79.0000 | 35.8324 |
| Rata-rata | 5.6667 | 2.4804 | 5.6667 | 2.4760 | 5.2667 | 2.3904 | 4.9333 | 2.3176 | 5.0667 | 2.3418 | 5.0000 | 2.3268 | 31.6000 | 14.3330 | 5.2667 | 2.3888 |

Tabel 9.1.2. Data Asli dan Data Transformasi Terhadap Karakteristik Warna Sorbet Sirsak (Ulangan II)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 39 | 15.8644 | 6.5000 | 2.6441 |
| 2 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 2 | 1.5811 | 5 | 2.3452 | 24 | 12.5893 | 4.0000 | 2.0982 |
| 3 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 2 | 1.5811 | 3 | 1.8708 | 23 | 12.3654 | 3.8333 | 2.0609 |
| 4 | 3 | 1.8708 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 2 | 1.5811 | 5 | 2.3452 | 23 | 12.3388 | 3.8333 | 2.0565 |
| 5 | 5 | 2.3452 | 7 | 2.7386 | 7 | 2.7386 | 3 | 1.8708 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.5880 | 5.5000 | 2.4313 |
| 6 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 5 | 2.3452 | 3 | 1.8708 | 26 | 13.1029 | 4.3333 | 2.1838 |
| 7 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 2 | 1.5811 | 2 | 1.5811 | 23 | 12.2534 | 3.8333 | 2.0422 |
| 8 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 34 | 14.8733 | 5.6667 | 2.4789 |
| 9 | 6 | 2.5495 | 7 | 2.7386 | 2 | 1.5811 | 3 | 1.8708 | 4 | 2.1213 | 5 | 2.3452 | 27 | 13.2066 | 4.5000 | 2.2011 |
| 10 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 29 | 13.8278 | 4.8333 | 2.3046 |
| 11 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 5 | 2.3452 | 2 | 1.5811 | 19 | 11.4097 | 3.1667 | 1.9016 |
| 12 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 23 | 12.4774 | 3.8333 | 2.0796 |
| 13 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 23 | 12.4508 | 3.8333 | 2.0751 |
| 14 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 26 | 13.1757 | 4.3333 | 2.1959 |
| 15 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 27 | 13.3996 | 4.5000 | 2.2333 |
| Jumlah | 64 | 32.5964 | 83 | 36.6620 | 66 | 32.8626 | 61 | 31.8449 | 62 | 31.7892 | 63 | 32.1681 | 399 | 197.9231 | 66.5000 | 32.9872 |
| Rata-rata | 4.2667 | 2.1731 | 5.5333 | 2.4441 | 4.4000 | 2.1908 | 4.0667 | 2.1230 | 4.1333 | 2.1193 | 4.2000 | 2.1445 | 26.6000 | 13.1949 | 4.4333 | 2.1991 |

Tabel 9.1.3. Data Asli dan Data Transformasi Terhadap Karakteristik Warna Sorbet Sirsak (Ulangan III)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 29 | 13.8012 | 4.8333 | 2.3002 |
| 2 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 37 | 15.4710 | 6.1667 | 2.5785 |
| 3 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 4 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 2 | 1.5811 | 2 | 1.5811 | 23 | 12.2534 | 3.8333 | 2.0422 |
| 5 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 7 | 2.7386 | 38 | 15.6753 | 6.3333 | 2.6125 |
| 6 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 33 | 14.6646 | 5.5000 | 2.4441 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 8 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 25 | 12.8790 | 4.1667 | 2.1465 |
| 9 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 10 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 36 | 15.2971 | 6.0000 | 2.5495 |
| 11 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 12 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 13 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 14 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 30 | 14.0712 | 5.0000 | 2.3452 |
| 15 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 22 | 12.1345 | 3.6667 | 2.0224 |
| Jumlah | 84 | 36.9972 | 87 | 37.6145 | 76 | 35.1307 | 77 | 35.4470 | 73 | 34.4210 | 75 | 34.7752 | 472 | 214.3858 | 78.6667 | 35.7310 |
| Rata-rata | 5.6000 | 2.4665 | 5.8000 | 2.5076 | 5.0667 | 2.3420 | 5.1333 | 2.3631 | 4.8667 | 2.2947 | 5.0000 | 2.3183 | 31.4667 | 14.2924 | 5.2444 | 2.3821 |

Tabel 9.1.4. Data Asli dan Data Transformasi Terhadap Karakteristik Warna Sorbet Sirsak (Ulangan IV)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 34 | 14.8733 | 5.6667 | 2.4789 |
| 2 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 2 | 1.5811 | 5 | 2.3452 | 6 | 2.5495 | 24 | 12.5893 | 4.0000 | 2.0982 |
| 3 | 3 | 1.8708 | 6 | 2.5495 | 6 | 2.5495 | 2 | 1.5811 | 2 | 1.5811 | 2 | 1.5811 | 21 | 11.7133 | 3.5000 | 1.9522 |
| 4 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 7 | 2.7386 | 32 | 14.4451 | 5.3333 | 2.4075 |
| 5 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 5 | 2.3452 | 3 | 1.8708 | 26 | 13.1029 | 4.3333 | 2.1838 |
| 6 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 2 | 1.5811 | 3 | 1.8708 | 2 | 1.5811 | 21 | 11.8448 | 3.5000 | 1.9741 |
| 7 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 2 | 1.5811 | 3 | 1.8708 | 23 | 12.3654 | 3.8333 | 2.0609 |
| 8 | 6 | 2.5495 | 7 | 2.7386 | 5 | 2.3452 | 2 | 1.5811 | 3 | 1.8708 | 4 | 2.1213 | 27 | 13.2066 | 4.5000 | 2.2011 |
| 9 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 10 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 28 | 13.5577 | 4.6667 | 2.2596 |
| 11 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 5 | 2.3452 | 2 | 1.5811 | 3 | 1.8708 | 20 | 11.6602 | 3.3333 | 1.9434 |
| 12 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 27 | 13.3800 | 4.5000 | 2.2300 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 28 | 13.5577 | 4.6667 | 2.2596 |
| 14 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 27 | 13.3996 | 4.5000 | 2.2333 |
| 15 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 5 | 2.3452 | 26 | 13.1491 | 4.3333 | 2.1915 |
| Jumlah | 68 | 33.5060 | 79 | 35.7942 | 72 | 34.4015 | 58 | 30.9758 | 61 | 31.6475 | 59 | 31.2041 | 397 | 197.5291 | 66.1667 | 32.9215 |
| Rata-rata | 4.5333 | 2.2337 | 5.2667 | 2.3863 | 4.8000 | 2.2934 | 3.8667 | 2.0651 | 4.0667 | 2.1098 | 3.9333 | 2.0803 | 26.4667 | 13.1686 | 4.4111 | 2.1948 |

Tabel 9.1.5 Data transformasii Nilai Rata-rata Terhadap Uji Warna Sorbet Sirsak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Konsentrasi Bahan Penstabil (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **0,5%** | **0,75%** | **1%** |
| **a1**  **(CMC)** | 1 | 2.4804 | 2.4760 | 2.3904 | **7.3468** |
| 2 | 2.1731 | 2.4441 | 2.1908 | **6.8081** |
| 3 | 2.4665 | 2.5076 | 2.3420 | **7.3162** |
| 4 | 2.2337 | 2.3863 | 2.2934 | **6.9134** |
| **Sub Total** |  | **9.3537** | **9.8141** | **9.2167** | **28.3845** |
| **Rata-rata** |  | **2.3384** | **2.4535** | **2.3042** | **2.3654** |
| **a2**  **(Gum Arab)** | 1 | 2.3176 | 2.3418 | 2.3268 | **6.9862** |
| 2 | 2.1230 | 2.1193 | 2.1445 | **6.3868** |
| 3 | 2.3631 | 2.2947 | 2.3183 | **6.9762** |
| 4 | 2.0651 | 2.1098 | 2.0803 | **6.2552** |
| **Sub Total** |  | **8.8688** | **8.8656** | **8.8700** | **26.6044** |
| **Rata-rata** |  | **2.2172** | **2.2164** | **2.2175** | **2.2170** |
| **Total** |  | **18.2225** | **18.6797** | **18.0867** | **54.9888** |
| **Rata-rata** |  | **2.2778** | **2.3350** | **2.2608** | **2.2912** |
| **Kelompok** |  | **1** | **2** | **3** | **4** |
| **Total** |  | **14.33** | **13.19** | **14.29** | **13.17** |

**Perhitungan Organoleptik Terhadap Warna Sorbet Sirsak**

Petak Utama (mainplot analysis) :

FK

= = 125,9904

JKT

= [(2,4804)2 + (2,4760)2 + … + (2,1098)2 + (2,0803)2 – 125,9904]

= 0,4380

JK (petak utama) =

= 125,9904

= 0,3561

JKK =

= 125,9904

= 0,2134

JKA =

= 125,9904

= 0,1320

JK(Galat a) = JK(petak utama) – JKK – JKA

= 0,3561 – 0,2134 – 0,1320

= 0,0107

* Anak Petak (subplot analysis)

JKB

= 125,9904

= 0,0241

JKAB

=

= 0,0248

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 0,4380 – 0,3561 – 0,0241 – 0,0248

= 0,0330

Tabel 9.1.6. Analisis Variansi (ANAVA) Terhadap Warna Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sumber Keragaman** | **db** | **JK** | **KT** | **F hitung** | | **F Tabel 5%** |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 0.2134 | 0.0711 | - |  |  |
| Faktor A | 1 | 0.1321 | 0.1321 | 4.15 | tn | 10.13 |
| Galat (a) | 3 | 0.0106 | 0.0318 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 0.0242 | 0.0121 | 4.39 | \* | 3.89 |
| Interaksi AXB | 2 | 0.0247 | 0.0494 | 17.91 | \* | 3.89 |
| Galat (b) | 12 | 0.0331 | 0.0028 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung > F Tabel 5% maka hipotesis diterima dan dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

**Pengujian pengaruh Faktor Perlakuan (B)**

LSD(0,05) = (Syi-yj)

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 0,0371

LSD(0.05) = ()( 0,0371) = 0,0808

Tabel 9.1.7 Uji LSD untuk Pengaruh Konsentrasi Bahan Penstabil pada a1 terhadap Karakteristik Warna Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **t\*(0,05)** | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3.0337 | 0.0808 | a1b3 | 2.3042 | - | |  | |  | a |
| 3.0337 | 0.0808 | a1b1 | 2.3384 | 0.0343 | tn | - | |  | a |
| 3.0337 | 0.0808 | a1b2 | 2.4535 | 0.1493 | \* | 0.1151 | \* | - | b |

Tabel 9.1.8 Uji LSD untuk Pengaruh Konsentrasi Bahan Penstabil pada a2 terhadap Karakteristik Warna Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **t\*(0,05)** | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3.0337 | 0.0808 | a2b2 | 2.2164 | - | |  | |  | a |
| 3.0337 | 0.0808 | a2b1 | 2.2172 | 0.0008 | tn | - | |  | a |
| 3.0337 | 0.0808 | a2b3 | 2.2175 | 0.0011 | tn | 0.0003 | tn | - | a |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

**Pengujian Pengaruh Faktor Perlakuan (A)**

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 3,0337

SYi- Yj =

=

= 0,0789

LSD(0.05) = (3,0337)( 0,0789) = 0.2394

Tabel 9.1.9 Uji LSD untuk Pengaruh Jenis Bahan Penstabil pada b1 terhadap Karakteristik Warna Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **t\*(0,05)** | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,0337 | 0.2394 | a2b1 | 2.2172 | - | |  | A |
| 3,0337 | 0.2394 | a1b1 | 2.3384 | 0.1212 | tn | - | A |

Tabel 9.1.10 Uji LSD untuk Pengaruh Jenis Bahan Penstabil pada b2 terhadap Karakteristik Warna Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **t\*(0,05)** | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,0337 | 0.2394 | a2b2 | 2.2164 | - | |  | A |
| 3,0337 | 0.2394 | a1b2 | 2.4535 | 0.2371 | tn | - | A |

Tabel 9.1.11 Uji LSD untuk Pengaruh Jenis Bahan Penstabil pada b3 terhadap Karakteristik Warna Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **t\*(0,05)** | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,0337 | 0.2394 | a2b3 | 2.2175 | - | |  | A |
| 3,0337 | 0.2394 | a1b3 | 2.3042 | 0.0867 | tn | - | A |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Tabel 9.1.12 interaksi antara jenis bahan penstabil dengan konsentrasi bahan penstabil pada karakteristik warna sorbet sirsak

|  |  |  |  |
| --- | --- | --- | --- |
| Jenis bahan penstabil | Konsentrasi bahan penstabil (B) | | |
| (A) | 0,5% (b1) | 0,75% (b2) | 1% (b3) |
| (CMC) (a1) | A | A | A |
| 5.1 | 5.7 | 4.9 |
| a | b | a |
| (Gum Arab) (a2) | A | A | A |
| 4.5 | 4.6 | 4.6 |
| a | a | a |

Keterangan:

* Setiap kolom dengan huruf besar yang sama menunjukkan tidak berbeda nyata pada taraf 5% dan setiap baris dengan huruf kecil yang sama menunjukkan tidak berbeda nyata pada taraf 5%.
* Notasi huruf kecil dibaca horizontal sedangakn notasi huruf besar dibaca vertikal.

**9.2. Data Pengamatan Uji Organoleptik Aroma Sorbet Sirsak**

Tabel 9.2.1. Data Asli dan Data Transformasi Terhadap Karakteristik Aroma Sorbet Sirsak (Ulangan I)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 2 | 5 | 2.3452 | 7 | 2.7386 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 34 | 14.8733 | 5.6667 | 2.4789 |
| 3 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 26 | 13.0833 | 4.3333 | 2.1805 |
| 4 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 5 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 31 | 14.2098 | 5.1667 | 2.3683 |
| 6 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 4 | 2.1213 | 5 | 2.3452 | 34 | 14.8537 | 5.6667 | 2.4756 |
| 8 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 32 | 14.3989 | 5.3333 | 2.3998 |
| 9 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 10 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 11 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 33 | 14.6646 | 5.5000 | 2.4441 |
| 12 | 5 | 2.3452 | 7 | 2.7386 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 35 | 15.0776 | 5.8333 | 2.5129 |
| 13 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 2 | 1.5811 | 1 | 1.2247 | 1 | 1.2247 | 24 | 12.0574 | 4.0000 | 2.0096 |
| 14 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 29 | 13.8278 | 4.8333 | 2.3046 |
| 15 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 5 | 2.3452 | 5 | 2.3452 | 2 | 1.5811 | 26 | 13.0371 | 4.3333 | 2.1729 |
| Jumlah | 82 | 36.5691 | 88 | 37.7537 | 74 | 34.6563 | 79 | 35.8094 | 77 | 35.2639 | 72 | 34.0450 | 472 | 214.0973 | 78.6667 | 35.6829 |
| Rata-rata | 5.4667 | 2.4379 | 5.8667 | 2.5169 | 4.9333 | 2.3104 | 5.2667 | 2.3873 | 5.1333 | 2.3509 | 4.8000 | 2.2697 | 31.4667 | 14.2732 | 5.2444 | 2.3789 |

Tabel 9.2.2. Data Asli dan Data Transformasi Terhadap Karakteristik Aroma Sorbet Sirsak (Ulangan II)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 25 | 12.8524 | 4.1667 | 2.1421 |
| 2 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6646 | 5.5000 | 2.4441 |
| 3 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 2 | 1.5811 | 4 | 2.1213 | 4 | 2.1213 | 22 | 12.0953 | 3.6667 | 2.0159 |
| 4 | 3 | 1.8708 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 25 | 12.8524 | 4.1667 | 2.1421 |
| 5 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 38 | 15.6753 | 6.3333 | 2.6125 |
| 6 | 2 | 1.5811 | 3 | 1.8708 | 3 | 1.8708 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 27 | 13.1604 | 4.5000 | 2.1934 |
| 7 | 3 | 1.8708 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 29 | 13.7816 | 4.8333 | 2.2969 |
| 8 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 34 | 14.8385 | 5.6667 | 2.4731 |
| 9 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 7 | 2.7386 | 6 | 2.5495 | 27 | 13.2066 | 4.5000 | 2.2011 |
| 10 | 7 | 2.7386 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 32 | 14.3793 | 5.3333 | 2.3965 |
| 11 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 0 | 0.7071 | 4 | 2.1213 | 24 | 12.1897 | 4.8000 | 2.0316 |
| 12 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 27 | 13.3534 | 4.5000 | 2.2256 |
| 13 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 4 | 2.1213 | 27 | 13.3534 | 4.5000 | 2.2256 |
| 14 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 26 | 13.1757 | 4.3333 | 2.1959 |
| 15 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 25 | 12.9518 | 4.1667 | 2.1586 |
| Jumlah | 67 | 33.0359 | 76 | 35.2775 | 68 | 33.4989 | 72 | 34.1232 | 70 | 33.2231 | 68 | 33.3718 | 421 | 202.5304 | 70.9667 | 33.7551 |
| Rata-rata | 4.4667 | 2.2024 | 5.0667 | 2.3518 | 4.5333 | 2.2333 | 4.8000 | 2.2749 | 5.0000 | 2.2149 | 4.5333 | 2.2248 | 28.0667 | 13.5020 | 4.7311 | 2.2503 |

Tabel 9.2.3. Data Asli dan Data Transformasi Terhadap Karakteristik Aroma Sorbet Sirsak (Ulangan III)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 2 | 5 | 2.3452 | 7 | 2.7386 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 37 | 15.4710 | 6.1667 | 2.5785 |
| 3 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 7 | 2.7386 | 2 | 1.5811 | 2 | 1.5811 | 21 | 11.7639 | 3.5000 | 1.9606 |
| 4 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 3 | 1.8708 | 3 | 1.8708 | 21 | 11.9106 | 3.5000 | 1.9851 |
| 5 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 32 | 14.4799 | 5.3333 | 2.4133 |
| 6 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 30 | 14.0125 | 5.0000 | 2.3354 |
| 8 | 3 | 1.8708 | 7 | 2.7386 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 28 | 13.5425 | 4.6667 | 2.2571 |
| 9 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 31 | 14.2364 | 5.1667 | 2.3727 |
| 10 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 11 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 39 | 15.8644 | 6.5000 | 2.6441 |
| 12 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 34 | 14.8885 | 5.6667 | 2.4814 |
| 14 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 30 | 14.0321 | 5.0000 | 2.3387 |
| 15 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 31 | 14.2560 | 5.1667 | 2.3760 |
| Jumlah | 82 | 36.4419 | 83 | 36.7082 | 79 | 35.9100 | 76 | 35.1377 | 76 | 35.1307 | 71 | 34.0504 | 467 | 213.3789 | 77.8333 | 35.5631 |
| Rata-rata | 5.4667 | 2.4295 | 5.5333 | 2.4472 | 5.2667 | 2.3940 | 5.0667 | 2.3425 | 5.0667 | 2.3420 | 4.7333 | 2.2700 | 31.1333 | 14.2253 | 5.1889 | 2.3709 |

Tabel 9.2.4. Data Asli dan Data Transformasi Terhadap Karakteristik Aroma Sorbet Sirsak (Ulangan IV)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 34 | 14.8385 | 5.6667 | 2.4731 |
| 2 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6646 | 5.5000 | 2.4441 |
| 3 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 29 | 13.7816 | 4.8333 | 2.2969 |
| 4 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 38 | 15.6753 | 6.3333 | 2.6125 |
| 5 | 2 | 1.5811 | 3 | 1.8708 | 3 | 1.8708 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 27 | 13.1604 | 4.5000 | 2.1934 |
| 6 | 3 | 1.8708 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 29 | 13.7354 | 4.8333 | 2.2892 |
| 7 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 2 | 1.5811 | 4 | 2.1213 | 4 | 2.1213 | 22 | 12.0953 | 3.6667 | 2.0159 |
| 8 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 7 | 2.7386 | 6 | 2.5495 | 27 | 13.2066 | 4.5000 | 2.2011 |
| 9 | 3 | 1.8708 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 21 | 11.9498 | 3.5000 | 1.9916 |
| 10 | 7 | 2.7386 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 34 | 14.8537 | 5.6667 | 2.4756 |
| 11 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 25 | 12.9252 | 4.1667 | 2.1542 |
| 12 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 27 | 13.3996 | 4.5000 | 2.2333 |
| 13 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 28 | 13.5577 | 4.6667 | 2.2596 |
| 14 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 30 | 14.0321 | 5.0000 | 2.3387 |
| 15 | 4 | 2.1213 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 25 | 12.9056 | 4.1667 | 2.1509 |
| Jumlah | 69 | 33.4445 | 76 | 35.2775 | 67 | 33.2680 | 73 | 34.3275 | 76 | 35.0921 | 68 | 33.3718 | 429 | 204.7814 | 71.5000 | 34.1302 |
| Rata-rata | 4.6000 | 2.2296 | 5.0667 | 2.3518 | 4.4667 | 2.2179 | 4.8667 | 2.2885 | 5.0667 | 2.3395 | 4.5333 | 2.2248 | 28.6000 | 13.6521 | 4.7667 | 2.2753 |

Tabel 9.2.5 Data transformasii Nilai Rata-rata Terhadap Uji Aroma Sorbet Sirsak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Konsentrasi Bahan Penstabil (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **(0,5%)** | **(0,75%)** | **(1%)** |
| **a1**  **(CMC)** | 1 | 2.4379 | 2.5169 | 2.3104 | **7.2653** |
| 2 | 2.2024 | 2.3518 | 2.2333 | **6.7875** |
| 3 | 2.4295 | 2.4472 | 2.3940 | **7.2707** |
| 4 | 2.2296 | 2.3518 | 2.2179 | **6.7993** |
| **Sub Total** |  | **9.2994** | **9.6678** | **9.1556** | **28.1228** |
| **Rata-rata** |  | **2.3249** | **2.4169** | **2.2889** | **2.3436** |
| **a2**  **(Gum Arab)** | 1 | 2.3873 | 2.3509 | 2.2697 | **7.0079** |
| 2 | 2.2749 | 2.2149 | 2.2248 | **6.7145** |
| 3 | 2.3425 | 2.3420 | 2.2700 | **6.9546** |
| 4 | 2.2885 | 2.3395 | 2.2248 | **6.8528** |
| **Sub Total** |  | **9.2932** | **9.2473** | **8.9893** | **27.5298** |
| **Rata-rata** |  | **2.3233** | **2.3118** | **2.2473** | **2.2941** |
| **Total** |  | **18.5926** | **18.9151** | **18.1448** | **55.6525** |
| **Rata-rata** |  | **2.3241** | **2.3644** | **2.2681** | **2.3189** |
|  |  |  |  |  |  |
| **Kelompok** |  | **1** | **2** | **3** | **4** |
| **Total** |  | **14.2732** | **13.5020** | **14.2253** | **13.6521** |

**Perhitungan Organoleptik Terhadap Aroma Sorbet Sirsak**

Petak Utama (mainplot analysis) :

FK

= = 129,0502

JKT

= [(2,4379)2 + (2,5169)2 + … + (2,3395)2 + (2,2248)2 – 129,0502]

= 0,1725

JK (petak utama) =

=

= 0,1064

JKK =

=

= 0,0774

JKA =

=

= 0,0147

JK(Galat a) = JK(petak utama) – JKK – JKA

= 0,1064 – 0,0774 – 0,0147

= 0,0144

* Anak Petak (subplot analysis)

JKB

=

= 0,0374

JKAB

=

= 0,010908

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 0,1725 – 0,1064 – 0,0374 – 0,010908

= 0,0177

Tabel 9.2.6. Analisis Variansi (ANAVA) Terhadap Aroma Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sumber Keragaman | db | JK | KT | F hitung | | F Tabel 5% |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 0.0773 | 0.0258 | - |  |  |
| Faktor A | 1 | 0.0146 | 0.0146 | 0.34 | tn | 10.13 |
| Galat (a) | 3 | 0.0145 | 0.0435 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 0.0374 | 0.0187 | 12.68 | \* | 3.89 |
| Interaksi AXB | 2 | 0.0109 | 0.0218 | 14.78 | \* | 3.89 |
| Galat (b) | 12 | 0.0177 | 0.0015 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung > F Tabel 5% maka hipotesis diterima dan dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

**Pengujian Pengaruh Faktor Perlakuan (B)**

LSD(0,05) = (Syi-yj)

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 0,0272

LSD(0.05) = ()( 0,0272) = 0,0593

Tabel 9.2.7. Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a1 terhadap Karakteristik Aroma Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3,1183 | 0.0593 | a1b3 | 2.2889 | - | |  | |  | a |
| 3,1183 | 0.0593 | a1b1 | 2.3249 | 0.0360 | tn | - | |  | a |
| 3,1183 | 0.0593 | a1b2 | 2.4169 | 0.1281 | \* | 0.0921 | \* | - | b |

Tabel 9.2.8. Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a2 terhadap Karakteristik Aroma Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3,1183 | 0.0593 | a2b3 | 2.2473 | - | |  | |  | a |
| 3,1183 | 0.0593 | a2b2 | 2.3118 | 0.0645 | \* | - | |  | b |
| 3,1183 | 0.0593 | a2b1 | 2.3233 | 0.0760 | \* | 0.0115 | tn | - | b |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

**Pengujian Pengaruh Faktor Perlakuan (A)**

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 3,1183

SYi- Yj =

=

= 0,0880

LSD(0.05) = (3,1183)( 0,0880) = 0.2744

Tabel 9.2.9 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b1 terhadap Karakteristik Aroma Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1183 | 0.2744 | a2b1 | 2.3233 | - | |  | A |
| 3,1183 | 0.2744 | a1b1 | 2.3249 | 0.0016 | tn | - | A |

Tabel 9.2.10 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b2 terhadap Karakteristik Aroma Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1183 | 0.2744 | a2b2 | 2.3118 | - | |  | A |
| 3,1183 | 0.2744 | a1b2 | 2.4169 | 0.1051 | tn | - | A |

Tabel 9.2.11 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b3 terhadap Karakteristik Aroma Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1183 | 0.2744 | a2b3 | 2.2473 | - | |  | A |
| 3,1183 | 0.2744 | a1b3 | 2.2889 | 0.0416 | tn | - | A |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Tabel 9.2.12 interaksi antara jenis bahan penstabil dengan konsentrasi bahan penstabil pada karakteristik aroma sorbet sirsak

|  |  |  |  |
| --- | --- | --- | --- |
| Jenis bahan penstabil | Konsentrasi bahan penstabil (B) | | |
| (A) | 0,5% (b1) | 0,75% (b2) | 1% (b3) |
| (CMC) (a1) | A | A | A |
| 5 | 5.4 | 4.8 |
| a | b | a |
| (Gum Arab) (a2) | A | A | A |
| 5 | 5.1 | 4.7 |
| b | b | a |

Keterangan:

* Setiap kolom dengan huruf besar yang sama menunjukkan tidak berbeda nyata pada taraf 5% dan setiap baris dengan huruf kecil yang sama menunjukkan tidak berbeda nyata pada taraf 5%.
* Notasi huruf kecil dibaca horizontal sedangakn notasi huruf besar dibaca vertikal.

**9.3. Data Pengamatan Uji Organoleptik Rasa Sorbet Sirsak**

Tabel 9.3.1. Data Asli dan Data Transformasi Terhadap Karakteristik Rasa Sorbet Sirsak (Ulangan I)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 27 | 13.3800 | 4.5000 | 2.2300 |
| 2 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 26 | 13.1029 | 4.3333 | 2.1838 |
| 3 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 4 | 2.1213 | 23 | 12.4508 | 3.8333 | 2.0751 |
| 4 | 3 | 1.8708 | 3 | 1.8708 | 5 | 2.3452 | 2 | 1.5811 | 5 | 2.3452 | 2 | 1.5811 | 20 | 11.5944 | 3.3333 | 1.9324 |
| 5 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 28 | 13.5115 | 4.6667 | 2.2519 |
| 6 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 2 | 1.5811 | 2 | 1.5811 | 18 | 11.0808 | 3.0000 | 1.8468 |
| 7 | 2 | 1.5811 | 3 | 1.8708 | 2 | 1.5811 | 1 | 1.2247 | 2 | 1.5811 | 1 | 1.2247 | 11 | 9.0637 | 1.8333 | 1.5106 |
| 8 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 28 | 13.5773 | 4.6667 | 2.2629 |
| 9 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 1 | 1.2247 | 2 | 1.5811 | 20 | 11.4031 | 3.3333 | 1.9005 |
| 10 | 4 | 2.1213 | 3 | 1.8708 | 2 | 1.5811 | 4 | 2.1213 | 3 | 1.8708 | 2 | 1.5811 | 18 | 11.1466 | 3.0000 | 1.8578 |
| 11 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 7 | 2.7386 | 3 | 1.8708 | 5 | 2.3452 | 35 | 14.9814 | 5.8333 | 2.4969 |
| 12 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 1 | 1.2247 | 1 | 1.2247 | 3 | 1.8708 | 16 | 10.4338 | 2.6667 | 1.7390 |
| 13 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 2 | 1.5811 | 27 | 13.2876 | 4.5000 | 2.2146 |
| 14 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 29 | 13.7620 | 4.8333 | 2.2937 |
| 15 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 28 | 13.6235 | 4.6667 | 2.2706 |
| Jumlah | 71 | 34.0504 | 70 | 33.8657 | 63 | 32.1219 | 52 | 29.1745 | 52 | 29.2947 | 46 | 27.8920 | 354 | 186.3992 | 59.0000 | 31.0665 |
| Rata-rata | 4.7333 | 2.2700 | 4.6667 | 2.2577 | 4.2000 | 2.1415 | 3.4667 | 1.9450 | 3.4667 | 1.9530 | 3.0667 | 1.8595 | 23.6000 | 12.4266 | 3.9333 | 2.0711 |

Tabel 9.3.2. Data Asli dan Data Transformasi Terhadap Karakteristik Rasa Sorbet Sirsak (Ulangan II)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 25 | 12.8524 | 4.1667 | 2.1421 |
| 2 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6646 | 5.5000 | 2.4441 |
| 3 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 2 | 1.5811 | 4 | 2.1213 | 4 | 2.1213 | 22 | 12.0953 | 3.6667 | 2.0159 |
| 4 | 3 | 1.8708 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 25 | 12.8524 | 4.1667 | 2.1421 |
| 5 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 38 | 15.6753 | 6.3333 | 2.6125 |
| 6 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 31 | 14.1092 | 5.1667 | 2.3515 |
| 7 | 3 | 1.8708 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 29 | 13.7816 | 4.8333 | 2.2969 |
| 8 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 34 | 14.8385 | 5.6667 | 2.4731 |
| 9 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 7 | 2.7386 | 6 | 2.5495 | 27 | 13.2066 | 4.5000 | 2.2011 |
| 10 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 2 | 1.5811 | 25 | 12.8398 | 4.1667 | 2.1400 |
| 11 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 26 | 13.1757 | 4.3333 | 2.1959 |
| 12 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 25 | 12.9252 | 4.1667 | 2.1542 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 26 | 13.0175 | 4.3333 | 2.1696 |
| 14 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 25 | 12.9518 | 4.1667 | 2.1586 |
| 15 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 26 | 13.1757 | 4.3333 | 2.1959 |
| Jumlah | 62 | 31.9708 | 75 | 35.1194 | 70 | 33.9467 | 72 | 34.1232 | 72 | 34.2358 | 66 | 32.7658 | 417 | 202.1616 | 69.5000 | 33.6936 |
| Rata-rata | 4.1333 | 2.1314 | 5.0000 | 2.3413 | 4.6667 | 2.2631 | 4.8000 | 2.2749 | 4.8000 | 2.2824 | 4.4000 | 2.1844 | 27.8000 | 13.4774 | 4.6333 | 2.2462 |

Tabel 9.3.3. Data Asli dan Data Transformasi Terhadap Karakteristik Rasa Sorbet Sirsak (Ulangan III)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 2 | 5 | 2.3452 | 7 | 2.7386 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 35 | 15.0776 | 5.8333 | 2.5129 |
| 3 | 4 | 2.1213 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 29 | 13.8278 | 4.8333 | 2.3046 |
| 4 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 2 | 1.5811 | 1 | 1.2247 | 1 | 1.2247 | 24 | 12.0574 | 4.0000 | 2.0096 |
| 5 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 34 | 14.8885 | 5.6667 | 2.4814 |
| 6 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 31 | 14.2098 | 5.1667 | 2.3683 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 8 | 6 | 2.5495 | 7 | 2.7386 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 35 | 15.0776 | 5.8333 | 2.5129 |
| 9 | 3 | 1.8708 | 4 | 2.1213 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 24 | 12.6089 | 4.0000 | 2.1015 |
| 10 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 11 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 12 | 6 | 2.5495 | 7 | 2.7386 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 32 | 14.3989 | 5.3333 | 2.3998 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 35 | 15.0928 | 5.8333 | 2.5155 |
| 14 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 34 | 14.8885 | 5.6667 | 2.4814 |
| 15 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 25 | 12.8986 | 4.1667 | 2.1498 |
| Jumlah | 82 | 36.5229 | 89 | 37.9580 | 77 | 35.3350 | 76 | 35.1459 | 75 | 34.8553 | 72 | 34.1304 | 471 | 213.9474 | 78.5000 | 35.6579 |
| Rata-rata | 5.4667 | 2.4349 | 5.9333 | 2.5305 | 5.1333 | 2.3557 | 5.0667 | 2.3431 | 5.0000 | 2.3237 | 4.8000 | 2.2754 | 31.4000 | 14.2632 | 5.2333 | 2.3772 |

Tabel 9.3.4. Data Asli dan Data Transformasi Terhadap Karakteristik Rasa Sorbet Sirsak (Ulangan IV)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 34 | 14.8385 | 5.6667 | 2.4731 |
| 2 | 3 | 1.8708 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 7 | 2.7386 | 4 | 2.1213 | 26 | 13.0681 | 4.3333 | 2.1780 |
| 3 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 29 | 13.7816 | 4.8333 | 2.2969 |
| 4 | 2 | 1.5811 | 5 | 2.3452 | 2 | 1.5811 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 26 | 12.9517 | 4.3333 | 2.1586 |
| 5 | 6 | 2.5495 | 4 | 2.1213 | 3 | 1.8708 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 29 | 13.7816 | 4.8333 | 2.2969 |
| 6 | 2 | 1.5811 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 2 | 1.5811 | 5 | 2.3452 | 24 | 12.5235 | 4.0000 | 2.0873 |
| 7 | 3 | 1.8708 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 8 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 6 | 2.5495 | 7 | 2.7386 | 7 | 2.7386 | 32 | 14.3641 | 5.3333 | 2.3940 |
| 9 | 5 | 2.3452 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 2 | 1.5811 | 2 | 1.5811 | 21 | 11.7987 | 3.5000 | 1.9664 |
| 10 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 2 | 1.5811 | 3 | 1.8708 | 26 | 12.9713 | 4.3333 | 2.1619 |
| 11 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 24 | 12.6551 | 4.0000 | 2.1092 |
| 12 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 24 | 12.6747 | 4.0000 | 2.1125 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 29 | 13.8082 | 4.8333 | 2.3014 |
| 14 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 27 | 13.2876 | 4.5000 | 2.2146 |
| 15 | 3 | 1.8708 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 24 | 12.7013 | 4.0000 | 2.1169 |
| Jumlah | 67 | 33.0245 | 73 | 34.6324 | 61 | 31.7987 | 68 | 33.4261 | 70 | 33.5596 | 63 | 32.0719 | 402 | 198.5132 | 67.0000 | 33.0855 |
| Rata-rata | 4.4667 | 2.2016 | 4.8667 | 2.3088 | 4.0667 | 2.1199 | 4.5333 | 2.2284 | 4.6667 | 2.2373 | 4.2000 | 2.1381 | 26.8000 | 13.2342 | 4.4667 | 2.2057 |

Tabel 9.3.5 Data transformasii Nilai Rata-rata Terhadap Uji Rasa Sorbet Sirsak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Konsentrasi Bahan Penstabil (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **(0,5%)** | **(0,75%)** | **(1%)** |
| **a1**  **(CMC)** | 1 | 2.2700 | 2.2577 | 2.1415 | **6.6692** |
| 2 | 2.1314 | 2.3413 | 2.2631 | **6.7358** |
| 3 | 2.4349 | 2.5305 | 2.3557 | **7.3211** |
| 4 | 2.2016 | 2.3088 | 2.1199 | **6.6304** |
| **Sub Total** |  | **9.0379** | **9.4384** | **8.8802** | **27.3564** |
| **Rata-rata** |  | **2.2595** | **2.3596** | **2.2200** | **2.2797** |
| **a2**  **(Gum Arab)** | 1 | 1.9450 | 1.9530 | 1.8595 | **5.7574** |
| 2 | 2.2749 | 2.2824 | 2.1844 | **6.7416** |
| 3 | 2.3431 | 2.3237 | 2.2754 | **6.9421** |
| 4 | 2.2284 | 2.2373 | 2.1381 | **6.6038** |
| **Sub Total** |  | **8.7913** | **8.7964** | **8.4573** | **26.0450** |
| **Rata-rata** |  | **2.1978** | **2.1991** | **2.1143** | **2.1704** |
| **Total** |  | **17.8292** | **18.2347** | **17.3375** | **53.4014** |
| **Rata-rata** |  | **2.2287** | **2.2793** | **2.1672** | **2.2251** |
|  |  |  |  |  |  |
| **Kelompok** |  | **1** | **2** | **3** | **4** |
| **Total** |  | **12.4266** | **13.4774** | **14.2632** | **13.2342** |

**Perhitungan Organoleptik Terhadap Rasa Sorbet Sirsak**

Petak Utama (mainplot analysis) :

FK

= = 118,8214

JKT

= [(2,2700)2 + (2,2577)2 + … + (2,2373)2 + (2,1381)2 – 118,8214]

= 0,5343

JK (petak utama) =

=

= 0,2860

JKK =

=

= 0,2860

JKA =

= − 118,8214

= 0,0717

JK(Galat a) = JK(petak utama) – JKK – JKA

= 0,4486 – 0,2860 – 0,0717

= 0,0910

* Anak Petak (subplot analysis)

JKB

= − 118,8214

= 0,0505

JKAB

=

= 0,0098

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 0,5343 – 0,4486 – 0,0505 – 0,0098

= 0,0254

Tabel 9.3.6. Analisis Variansi (ANAVA) Terhadap Rasa Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sumber Keragaman | db | JK | KT | F hitung | | F Tabel 5% |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 0.2860 | 0.0953 | - |  |  |
| Faktor A | 1 | 0.0716 | 0.0716 | 0.26 | tn | 10.13 |
| Galat (a) | 3 | 0.0910 | 0.2730 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 0.0504 | 0.0252 | 11.95 | \* | 3.89 |
| Interaksi AXB | 2 | 0.0099 | 0.0198 | 9.39 | \* | 3.89 |
| Galat (b) | 12 | 0.0253 | 0.0021 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung > F Tabel 5% maka hipotesis diterima dan dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

**Pengujian Pengaruh Faktor Perlakuan (B)**

LSD(0,05) =

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 0,0325

LSD(0.05) = ()( 0,0325) = 0,0708

Tabel 9.3.7 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a1 terhadap Karakteristik Rasa Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3,1667 | 0.0708 | a1b3 | 2.2200 | - | |  | |  | a |
| 3,1667 | 0.0708 | a1b1 | 2.2595 | 0.0394 | tn | - | |  | a |
| 3,1667 | 0.0708 | a1b2 | 2.3596 | 0.1396 | \* | 0.1001 | \* | - | b |

Tabel 9.3.8 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a2 terhadap Karakteristik Rasa Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3,1667 | 0.0708 | a2b3 | 2.1143 | - | |  | |  | a |
| 3,1667 | 0.0708 | a2b1 | 2.1978 | 0.0835 | \* | - | |  | b |
| 3,1667 | 0.0708 | a2b2 | 2.1991 | 0.0848 | \* | 0.0013 | tn | - | b |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

**Pengujian Pengaruh Faktor Perlakuan (A)**

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 3,1667

SYi- Yj =

=

= 0,2149

LSD(0.05) = (3,1667)( 0,2149) = 0.6805

Tabel 9.3.9 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b1 terhadap Karakteristik Rasa Sorbet

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1667 | 0.6805 | a2b1 | 2.1978 | - | |  | A |
| 3,1667 | 0.6805 | a1b1 | 2.2595 | 0.0616 | tn | - | A |

Tabel 9.3.10 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b2 terhadap Karakteristik Rasa Sorbet

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1667 | 0.6805 | a2b2 | 2.1991 | - | |  | A |
| 3,1667 | 0.6805 | a1b2 | 2.3596 | 0.1605 | tn | - | A |

Tabel 9.3.11 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b3 terhadap Karakteristik Rasa Sorbet

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1667 | 0.6805 | a2b3 | 2.1143 | - | |  | A |
| 3,1667 | 0.6805 | a1b3 | 2.2200 | 0.1057 | tn | - | A |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Tabel 9.3.12 interaksi antara jenis bahan penstabil dengan konsentrasi bahan penstabil pada karakteristik rasa sorbet sirsak

|  |  |  |  |
| --- | --- | --- | --- |
| Jenis bahan penstabil | Konsentrasi bahan penstabil (B) | | |
| (A) | 0,5% (b1) | 0,75% (b2) | 1% (b3) |
| (CMC) (a1) | A | A | A |
| 4.7 | 5.2 | 4.6 |
| a | b | a |
| (Gum Arab) (a2) | A | A | A |
| 4.5 | 4.5 | 4.2 |
| b | b | a |

Keterangan:

* Setiap kolom dengan huruf besar yang sama menunjukkan tidak berbeda nyata pada taraf 5% dan setiap baris dengan huruf kecil yang sama menunjukkan tidak berbeda nyata pada taraf 5%.
* Notasi huruf kecil dibaca horizontal sedangakn notasi huruf besar dibaca vertikal.

**9.4. Data Pengamatan Uji Organoleptik Tekstur Sorbet Sirsak**

Tabel 9.4.1. Data Asli dan Data Transformasi Terhadap Karakteristik Tekstur Sorbet Sirsak (Ulangan I)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 31 | 14.2755 | 5.1667 | 2.3793 |
| 2 | 3 | 1.8708 | 7 | 2.7386 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 30 | 13.9707 | 5.0000 | 2.3284 |
| 3 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 4 | 2.1213 | 2 | 1.5811 | 24 | 12.6089 | 4.0000 | 2.1015 |
| 4 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 30 | 14.0712 | 5.0000 | 2.3452 |
| 5 | 4 | 2.1213 | 2 | 1.5811 | 3 | 1.8708 | 3 | 1.8708 | 5 | 2.3452 | 6 | 2.5495 | 23 | 12.3388 | 3.8333 | 2.0565 |
| 6 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 7 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 31 | 14.2560 | 5.1667 | 2.3760 |
| 8 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 9 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 10 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 30 | 14.0712 | 5.0000 | 2.3452 |
| 11 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 12 | 7 | 2.7386 | 7 | 2.7386 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 36 | 15.2667 | 6.0000 | 2.5444 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 1 | 1.2247 | 1 | 1.2247 | 1 | 1.2247 | 20 | 11.1185 | 3.3333 | 1.8531 |
| 14 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 3 | 1.8708 | 24 | 12.5627 | 4.0000 | 2.0938 |
| 15 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 4 | 2.1213 | 4 | 2.1213 | 1 | 1.2247 | 20 | 11.5151 | 3.3333 | 1.9192 |
| Jumlah | 79 | 35.8948 | 79 | 35.7746 | 75 | 34.9612 | 62 | 31.9167 | 66 | 32.8066 | 63 | 31.8373 | 424 | 203.1911 | 70.6667 | 33.8652 |
| Rata-rata | 5.2667 | 2.3930 | 5.2667 | 2.3850 | 5.0000 | 2.3307 | 4.1333 | 2.1278 | 4.4000 | 2.1871 | 4.2000 | 2.1225 | 28.2667 | 13.5461 | 4.7111 | 2.2577 |

Tabel 9.4.2. Data Asli dan Data Transformasi Terhadap Karakteristik Tekstur Sorbet Sirsak (Ulangan II)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 3 | 1.8708 | 3 | 1.8708 | 2 | 1.5811 | 3 | 1.8708 | 5 | 2.3452 | 2 | 1.5811 | 18 | 11.1200 | 3.0000 | 1.8533 |
| 2 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 3 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 4 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 6 | 2.5495 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 5 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 30 | 14.0125 | 5.0000 | 2.3354 |
| 6 | 3 | 1.8708 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 25 | 12.8790 | 4.1667 | 2.1465 |
| 7 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 24 | 12.6285 | 4.0000 | 2.1048 |
| 8 | 5 | 2.3452 | 7 | 2.7386 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 32 | 14.4647 | 5.3333 | 2.4108 |
| 9 | 5 | 2.3452 | 6 | 2.5495 | 7 | 2.7386 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 29 | 13.7468 | 4.8333 | 2.2911 |
| 10 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 25 | 12.9056 | 4.1667 | 2.1509 |
| 11 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 23 | 12.4508 | 3.8333 | 2.0751 |
| 12 | 4 | 2.1213 | 3 | 1.8708 | 4 | 2.1213 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 23 | 12.4508 | 3.8333 | 2.0751 |
| 13 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 5 | 2.3452 | 4 | 2.1213 | 23 | 12.4508 | 3.8333 | 2.0751 |
| 14 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 24 | 12.6747 | 4.0000 | 2.1125 |
| 15 | 5 | 2.3452 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 3 | 1.8708 | 22 | 12.2003 | 3.6667 | 2.0334 |
| Jumlah | 70 | 33.9005 | 72 | 34.2282 | 67 | 33.1213 | 60 | 31.6672 | 59 | 31.4629 | 56 | 30.6792 | 384 | 195.0593 | 64.0000 | 32.5099 |
| Rata-rata | 4.6667 | 2.2600 | 4.8000 | 2.2819 | 4.4667 | 2.2081 | 4.0000 | 2.1111 | 3.9333 | 2.0975 | 3.7333 | 2.0453 | 25.6000 | 13.0040 | 4.2667 | 2.1673 |

Tabel 9.4.3. Data Asli dan Data Transformasi Terhadap Karakteristik Tekstur Sorbet Sirsak (Ulangan III)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 2 | 4 | 2.1213 | 7 | 2.7386 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 6 | 2.5495 | 33 | 14.6494 | 5.5000 | 2.4416 |
| 3 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 3 | 1.8708 | 24 | 12.5627 | 4.0000 | 2.0938 |
| 4 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 1 | 1.2247 | 1 | 1.2247 | 1 | 1.2247 | 20 | 11.1185 | 3.3333 | 1.8531 |
| 5 | 5 | 2.3452 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 6 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 2 | 1.5811 | 3 | 1.8708 | 3 | 1.8708 | 23 | 12.3388 | 3.8333 | 2.0565 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 8 | 2 | 1.5811 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 5 | 2.3452 | 6 | 2.5495 | 28 | 13.4919 | 4.6667 | 2.2486 |
| 9 | 3 | 1.8708 | 4 | 2.1213 | 2 | 1.5811 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 24 | 12.6089 | 4.0000 | 2.1015 |
| 10 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 30 | 14.0712 | 5.0000 | 2.3452 |
| 11 | 6 | 2.5495 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 5 | 2.3452 | 32 | 14.4603 | 5.3333 | 2.4100 |
| 12 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 13 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 33 | 14.6842 | 5.5000 | 2.4474 |
| 14 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 30 | 14.0712 | 5.0000 | 2.3452 |
| 15 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 3 | 1.8708 | 3 | 1.8708 | 2 | 1.5811 | 19 | 11.3705 | 3.1667 | 1.8951 |
| Jumlah | 74 | 34.7177 | 80 | 36.1453 | 74 | 34.6519 | 64 | 32.2595 | 63 | 32.1014 | 66 | 32.6877 | 421 | 202.5633 | 70.1667 | 33.7606 |
| Rata-rata | 4.9333 | 2.3145 | 5.3333 | 2.4097 | 4.9333 | 2.3101 | 4.2667 | 2.1506 | 4.2000 | 2.1401 | 4.4000 | 2.1792 | 28.0667 | 13.5042 | 4.6778 | 2.2507 |

Tabel 9.4.4. Data Asli dan Data Transformasi Terhadap Karakteristik Tekstur Sorbet Sirsak (Ulangan IV)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel/** | a1b1 | | a1b2 | | a1b3 | | a2b1 | | a2b2 | | a2b3 | | jumlah | | Rata-rata | |
| **Panelis** | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT | DA | DT |
| 1 | 5 | 2.3452 | 7 | 2.7386 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 5 | 2.3452 | 32 | 14.4647 | 5.3333 | 2.4108 |
| 2 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 3 | 3 | 1.8708 | 6 | 2.5495 | 3 | 1.8708 | 3 | 1.8708 | 5 | 2.3452 | 4 | 2.1213 | 24 | 12.6285 | 4.0000 | 2.1048 |
| 4 | 6 | 2.5495 | 6 | 2.5495 | 6 | 2.5495 | 4 | 2.1213 | 4 | 2.1213 | 4 | 2.1213 | 30 | 14.0125 | 5.0000 | 2.3354 |
| 5 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 2 | 1.5811 | 3 | 1.8708 | 2 | 1.5811 | 22 | 12.0491 | 3.6667 | 2.0082 |
| 6 | 5 | 2.3452 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 28 | 13.5311 | 4.6667 | 2.2552 |
| 7 | 6 | 2.5495 | 6 | 2.5495 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 27 | 13.3072 | 4.5000 | 2.2179 |
| 8 | 5 | 2.3452 | 6 | 2.5495 | 7 | 2.7386 | 4 | 2.1213 | 2 | 1.5811 | 3 | 1.8708 | 27 | 13.2066 | 4.5000 | 2.2011 |
| 9 | 3 | 1.8708 | 5 | 2.3452 | 3 | 1.8708 | 2 | 1.5811 | 2 | 1.5811 | 2 | 1.5811 | 17 | 10.8303 | 2.8333 | 1.8050 |
| 10 | 6 | 2.5495 | 5 | 2.3452 | 4 | 2.1213 | 6 | 2.5495 | 5 | 2.3452 | 2 | 1.5811 | 28 | 13.4919 | 4.6667 | 2.2486 |
| 11 | 4 | 2.1213 | 2 | 1.5811 | 4 | 2.1213 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 20 | 11.6868 | 3.3333 | 1.9478 |
| 12 | 5 | 2.3452 | 3 | 1.8708 | 3 | 1.8708 | 4 | 2.1213 | 2 | 1.5811 | 2 | 1.5811 | 19 | 11.3705 | 3.1667 | 1.8951 |
| 13 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 4 | 2.1213 | 3 | 1.8708 | 3 | 1.8708 | 22 | 12.2003 | 3.6667 | 2.0334 |
| 14 | 6 | 2.5495 | 3 | 1.8708 | 2 | 1.5811 | 4 | 2.1213 | 5 | 2.3452 | 3 | 1.8708 | 23 | 12.3388 | 3.8333 | 2.0565 |
| 15 | 5 | 2.3452 | 4 | 2.1213 | 2 | 1.5811 | 5 | 2.3452 | 4 | 2.1213 | 3 | 1.8708 | 23 | 12.3850 | 3.8333 | 2.0642 |
| Jumlah | 70 | 33.9005 | 73 | 34.3862 | 62 | 31.8828 | 61 | 31.7665 | 55 | 30.2705 | 48 | 28.6039 | 369 | 190.8105 | 61.5000 | 31.8018 |
| Rata-rata | 4.6667 | 2.2600 | 4.8667 | 2.2924 | 4.1333 | 2.1255 | 4.0667 | 2.1178 | 3.6667 | 2.0180 | 3.2000 | 1.9069 | 24.6000 | 12.7207 | 4.1000 | 2.1201 |

Tabel 9.4.5 Data transformasii Nilai Rata-rata Terhadap Uji Tekstur Sorbet Sirsak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Suhu Pengeringan (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **(0,5%)** | **(0,75%)** | **(1%)** |
| **a1**  **(CMC)** | 1 | 2.3930 | 2.3850 | 2.3307 | **7.1087** |
| 2 | 2.2600 | 2.2819 | 2.2081 | **6.7500** |
| 3 | 2.3145 | 2.4097 | 2.3101 | **7.0343** |
| 4 | 2.2600 | 2.2924 | 2.1255 | **6.6780** |
| **Sub Total** |  | **9.2276** | **9.3689** | **8.9745** | **27.5710** |
| **Rata-rata** |  | **2.3069** | **2.3422** | **2.2436** | **2.2976** |
| **a2**  **(Gum Arab)** | 1 | 2.1278 | 2.1871 | 2.1225 | **6.4374** |
| 2 | 2.1111 | 2.0975 | 2.0453 | **6.2540** |
| 3 | 2.1506 | 2.1401 | 2.1792 | **6.4699** |
| 4 | 2.1178 | 2.0180 | 1.9069 | **6.0427** |
| **Sub Total** |  | **8.5073** | **8.4428** | **8.2539** | **25.2040** |
| **Rata-rata** |  | **2.1268** | **2.1107** | **2.0635** | **2.1003** |
| **Total** |  | **17.7349** | **17.8117** | **17.2283** | **52.7750** |
| **Rata-rata** |  | **2.2169** | **2.2265** | **2.1535** | **2.1990** |
| **Kelompok** |  | **1** | **2** | **3** | **4** |
| **Total** |  | **13.5461** | **13.0040** | **13.5042** | **12.7207** |

**Perhitungan Organoleptik Terhadap Tekstur Sorbet Sirsak**

Petak Utama (mainplot analysis) :

FK

= = 116,0498

JKT

= [(2,3930)2 + (2,3850)2 + … + (2,0180)2 + (1,9069)2 – 116,0498]

= 0,3717

JK (petak utama) =

= 116, 0498

= 0,3165

JKK =

=

= 0,0801

JKA =

= − 116,0498

= 0,2335

JK(Galat a) = JK(petak utama) – JKK – JKA

= 0,3165 – 0,0801 – 0,2335

= 0,0030

* Anak Petak (subplot analysis)

JKB

= − 116,0498

= 0,0251

JKAB

= − 116,0498 – 0,02335 – 0,0251

= 0,0035

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 0,3717 – 0,3165 – 0,0251 – 0,0035

= 0,0266

Tabel 9.4.6. Analisis Variansi (ANAVA) Terhadap Tekstur Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sumber Keragaman | db | JK | KT | F hitung | | F Tabel 5% |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 0.0801 | 0.0267 | - |  |  |
| Faktor A | 1 | 0.2335 | 0.2335 | 26.84 | \* | 10.13 |
| Galat (a) | 3 | 0.0029 | 0.0087 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 0.0251 | 0.0126 | 5.64 | \* | 3.89 |
| Interaksi AXB | 2 | 0.0035 | 0.0070 | 3.15 | tn | 3.89 |
| Galat (b) | 12 | 0.0267 | 0.0022 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung > F Tabel 5% maka hipotesis diterima dan dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

**Pengujian Pengaruh Faktor Perlakuan (B)**

LSD(0,05) =

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 0,0334

LSD(0.05) = ()(0,0334) = 0,0728

Tabel 9.4.7 Uji LSD Untuk Faktor Jenis Bahan Penstabil (B) Terhadap Karakteristik Tekstur Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 2,8426 | 0.0728 | b3 | 2.1535 | - | |  | |  | a |
| 2,8426 | 0.0728 | b1 | 2.2169 | 0.0634 | tn | - | |  | a |
| 2,8426 | 0.0728 | b2 | 2.2265 | 0.073 | tn | 0.0096 | tn | - | a |

**Pengujian Pengaruh Faktor Perlakuan (A)**

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 2,8426

SYi- Yj = (2KTG(a)/r)1/2

= (2()/4)1/2

= 0,0659

LSD(0.05) = (2,8426)( 0,0659) = 0.1873

Tabel 9.4.8 Uji LSD Untuk Faktor Konsentrasi Bahan Penstabil (A) Terhadap Karakteristik Tekstur Sorbet Sirsak

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 2,8426 | 0.1873 | a2 | 2.1003 | - | |  | a |
| 2,8426 | 0.1873 | a1 | 2.2976 | 0.1973 | \* | - | b |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

**Lampiran 10. Data dan Hasil Perhitungan Analisis Kimia Pada Penelitian Utama**

**10.1. Analisis Kadar Vitamin C Metode Iodometri**

Tabel 10.1.1. Hasil Perhitungan Analisis Kadar Vitamin C Ulangan I

|  |  |  |  |
| --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **Vol I2** | **Kadar Vitamin C** |
| **I** | a1b1 | 0,70 | 187,0022 |
| a1b2 | 0,75 | 221,0191 |
| a1b3 | 0,70 | 200,4352 |
| a2b1 | 0,70 | 208,3109 |
| a2b2 | 0,70 | 209,1326 |
| a2b3 | 0,65 | 185,7673 |
| **Jumlah** | 4,20 | 1231,2109 |
| **Rata-rata** | 0,70 | 205,7018 |

Tabel 10.1.2. Hasil Perhitungan Analisis Kadar Vitamin C Ulangan II

|  |  |  |  |
| --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **Vol I2** | **Kadar Vitamin C** |
| **II** | a1b1 | 0,55 | 150,9929 |
| a1b2 | 0,60 | 178,2021 |
| a1b3 | 0,70 | 204,6916 |
| a2b1 | 0,55 | 161,1402 |
| a2b2 | 0,75 | 223,6296 |
| a2b3 | 0,70 | 207,9024 |
| **Jumlah** | 3,85 | 1126,5588 |
| **Rata-rata** | 0,64 | 187,7598 |

Tabel 10.1.3. Hasil Perhitungan Analisis Kadar Vitamin C Ulangan III

|  |  |  |  |
| --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **Vol I2** | **Kadar Vitamin C** |
| **III** | a1b1 | 0,70 | 206,2845 |
| a1b2 | 0,40 | 109,7621 |
| a1b3 | 0,50 | 146,4911 |
| a2b1 | 0,50 | 148,2111 |
| a2b2 | 0,60 | 175,4499 |
| a2b3 | 0,50 | 149,0864 |
| **Jumlah** | 3,20 | 935,2851 |
| **Rata-rata** | 0,53 | 155,8808 |

Tabel 10.1.4. Hasil Perhitungan Analisis Kadar Vitamin C Ulangan IV

|  |  |  |  |
| --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **Vol I2** | **Kadar Vitamin C** |
| **IV** | a1b1 | 0,80 | 228,6366 |
| a1b2 | 0,60 | 173,1106 |
| a1b3 | 0,60 | 175,4499 |
| a2b1 | 0,50 | 149,0864 |
| a2b2 | 0,70 | 192,0838 |
| a2b3 | 0,70 | 204,6916 |
| **Jumlah** | 3,90 | 1123,0589 |
| **Rata-rata** | 0,65 | 187,1764 |

Tabel 10.1.5 Data Asli Nilai Rata-rata Terhadap Analisis Kadar Vitamin C

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Konsentrasi Bahan Penstabil (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **(0,5%)** | **(0,75%)** | **(1%)** |
| **a1**  **(CMC)** | 1 | 187.00 | 221.02 | 200.44 | **608.46** |
| 2 | 150.92 | 178.20 | 204.69 | **533.82** |
| 3 | 206.29 | 109.76 | 146.49 | **462.54** |
| 4 | 228.64 | 173.11 | 175.45 | **577.20** |
| **Sub Total** |  | **772.85** | **682.09** | **727.07** | **2182.01** |
| **Rata-rata** |  | **193.21** | **170.52** | **181.77** | **181.83** |
| **a2**  **(Gum Arab)** | 1 | 208.31 | 209.13 | 185.77 | **603.21** |
| 2 | 161.14 | 223.63 | 207.90 | **592.67** |
| 3 | 148.21 | 175.45 | 149.09 | **472.75** |
| 4 | 149.09 | 192.08 | 204.69 | **545.86** |
| **Sub Total** |  | **666.75** | **800.30** | **747.45** | **2214.49** |
| **Rata-rata** |  | **166.69** | **200.07** | **186.86** | **184.54** |
| **Total** |  | **1439.59** | **1482.39** | **1474.52** | **4396.50** |
| **Rata-rata** |  | **179.95** | **185.30** | **184.31** | **183.19** |
|  |  |  |  |  |  |
| **Kelompok** |  | **1.00** | **2.00** | **3.00** | **4.00** |
| **Total** |  | **1211.67** | **1126.49** | **935.29** | **1123.06** |

**Perhitungan Analisis Kimia Terhadap Kadar Vitamin C**

Petak Utama (mainplot analysis) :

FK

=

= 805.384, 0636

JKT

= [(187,00)2 + (221,02)2 + … + (192,08)2 + (204,69)2] – 805.384, 0636

= 20964,1508

JK (petak utama) =

= 805.384, 0636

= 7568,0776

JKK =

= 805.384, 0636

= 6805,1502

JKA =

= − 805.384, 0636 = 43,9655

JK(Galat a) = JK(petak utama) – JKK – JKA

= 7568,0776 – 6805,1502 – 43,9655

= 718,9620

* Anak Petak (subplot analysis)

JKB

= − 805.384, 0636

= 129,7082

JKAB

= − 805.384, 0636 – 43,9655 – 129,7082

= 3161,5553

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 20964,1508 – 7568,0776 – 129,7082 – 3161,5553

= 10104,8097

Tabel 10.1.6. Analisis Variansi (ANAVA) Terhadap Analisis Kadar Vitamin C Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sumber Keragaman | db | JK | KT | F hitung | | F Tabel 5% |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 6805.1501 | 2268.3834 | - |  |  |
| Faktor A | 1 | 43.9654 | 43.9654 | 0.02 | tn | 10.13 |
| Galat (a) | 3 | 718.9621 | 2156.8863 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 129.7082 | 64.8541 | 0.08 | tn | 3.89 |
| Interaksi AXB | 2 | 3161.5553 | 6323.1106 | 7.51 | \* | 3.89 |
| Galat (b) | 12 | 10104.8097 | 842.0675 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung > F Tabel 5% maka hipotesis diterima dan dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

**Pengujian Pengaruh Faktor Perlakuan (B)**

LSD(0,05) =

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 20,5191

LSD(0.05) = ()(20,5191) = 44,7111

Tabel 10.1.7 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a1 terhadap Kadar Vitamin C

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 2,7422 | 44.7111 | a1b2 | 170.5235 | - | |  | |  | a |
| 2,7422 | 44.7111 | a1b3 | 181.7670 | 11.2435 | tn | - | |  | a |
| 2,7422 | 44.7111 | a1b1 | 193.2117 | 22.6882 | tn | 11.4447 | tn | - | a |

Tabel 10.1.8 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a2 terhadap Kadar Vitamin C

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 2,7422 | 44.7111 | a2b1 | 166.6870 | - | |  | |  | a |
| 2,7422 | 44.7111 | a2b3 | 186.8618 | 20.1748 | tn | - | |  | a |
| 2,7422 | 44.7111 | a2b2 | 200.0743 | 33.3873 | tn | 13.2125 | tn | - | a |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

**Pengujian Pengaruh Faktor Perlakuan (A)**

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 2,7422

SYi- Yj =

=

= 25,3016

LSD(0.05) = (2,7422) (25,3016) = 69,3827

Tabel 10.1.9 Uji LSD untuk Pengaruh Jenis Bahan Penstabil pada b1 terhadap Kadar Vitamin C

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 69.3827 | a2b1 | 166.6870 | - | |  | A |
| 69.3827 | a1b1 | 193.2117 | 26.5247 | tn | - | A |

Tabel 10.1.10 Uji LSD untuk Pengaruh Jenis Bahan Penstabil pada b2 terhadap Kadar Vitamin C

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 69.3827 | a1b2 | 170.5235 | - | |  | A |
| 69.3827 | a2b2 | 200.0743 | 29.5508 | tn | - | A |

Tabel 10.1.11 Uji LSD untuk Pengaruh Jenis Bahan Penstabil pada b3 terhadap Kadar Vitamin C

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 69.3827 | a1b3 | 181.7670 | - | |  | A |
| 69.3827 | a2b3 | 186.8618 | 5.0948 | tn | - | A |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Tabel 10.1.12 interaksi antara jenis bahan penstabil dengan konsentrasi bahan penstabil pada kadar vitamin C sorbet sirsak

|  |  |  |  |
| --- | --- | --- | --- |
| Jenis bahan penstabil | Konsentrasi bahan penstabil (B) | | |
| (A) | 0,5% (b1) | 0,75% (b2) | 1% (b3) |
| (CMC) (a1) | A | A | A |
| 13.9 | 12.9 | 13.5 |
| a | a | a |
| (Gum Arab) (a2) | A | A | A |
| 12.9 | 14.2 | 13.7 |
| a | a | a |

Keterangan:

* Setiap kolom dengan huruf besar yang sama menunjukkan tidak berbeda nyata pada taraf 5% dan setiap baris dengan huruf kecil yang sama menunjukkan tidak berbeda nyata pada taraf 5%.
* Notasi huruf kecil dibaca horizontal sedangakn notasi huruf besar dibaca vertikal.

**11. Analisis Kadar Gula Total Metode *Luff Schoorl***

Tabel 11.1. 1 Hasil Perhitungan Analisis Kadar Gula Total Ulangan I

Sebelum Inversi

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** |
| a1b1 | 1.109 | 8.40 | 7.50 | 0.9176 | 2.2022 | 1.9857 |
| a1b2 | 1.107 | 8.40 | 7.10 | 1.3254 | 3.1809 | 2.8735 |
| a1b3 | 1.186 | 8.40 | 7.00 | 1.4273 | 3.4256 | 2.8884 |
| a2b1 | 1.248 | 8.40 | 6.10 | 2.3449 | 5.6278 | 4.5095 |
| **a2b2** | **1.251** | **8.40** | **5.90** | **2.5488** | **6.1172** | **4.8898** |
| a2b3 | 1.257 | 8.40 | 5.80 | 2.6508 | 6.3619 | 5.0612 |

Tabel 11.1. 2. Hasil Perhitungan Analisis Kadar Gula Total Ulangan I Setelah Inversi

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** | **Sukrosa** | **G.Total** |
| a1b1 | 1.109 | 8.40 | 7.00 | 1.4273 | 3.4256 | 30.8893 | 29.3448 | 31.3306 |
| a1b2 | 1.107 | 8.40 | 7.00 | 1.4273 | 3.4256 | 30.9451 | 29.3978 | 32.2713 |
| a1b3 | 1.186 | 8.40 | 6.90 | 1.5293 | 3.6703 | 30.9469 | 29.3996 | 32.2880 |
| a2b1 | 1.248 | 8.40 | 6.80 | 1.6312 | 3.9150 | 31.3702 | 29.8016 | 34.3111 |
| a2b2 | 1.251 | 8.40 | 6.80 | 1.6312 | 3.9150 | 31.2949 | 29.7302 | 34.6200 |
| **a2b3** | **1.257** | **8.40** | **6.80** | **1.6312** | **3.9150** | **31.1455** | **29.5883** | **34.6494** |

Tabel 11.1. 3. Hasil Perhitungan Analisis Kadar Gula Total Ulangan II

Sebelum Inversi

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** |
| a1b1 | 1.024 | 8.40 | 7.60 | 0.8156 | 1.9575 | 1.9116 |
| a1b2 | 1.016 | 8.40 | 7.50 | 0.9176 | 2.2022 | 2.1675 |
| a1b3 | 1.094 | 8.40 | 7.40 | 1.0195 | 2.4469 | 2.2366 |
| a2b1 | 1.121 | 8.40 | 6.90 | 1.5293 | 3.6703 | 3.2741 |
| a2b2 | 1.102 | 8.40 | 6.70 | 1.7332 | 4.1597 | 3.7747 |
| **a2b3** | **1.092** | **8.40** | **6.50** | **1.9371** | **4.6491** | **4.2574** |

Tabel 11.1. 4. Hasil Perhitungan Analisis Kadar Gula Total Ulangan II Setelah Inversi

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** | **Sukrosa** | **G.Total** |
| a1b1 | 1.024 | 8.40 | 7.10 | 1.3254 | 3.1809 | 31.0638 | 29.5106 | 31.4222 |
| a1b2 | 1.016 | 8.40 | 7.10 | 1.3254 | 3.1809 | 31.3084 | 29.7430 | 31.9105 |
| a1b3 | 1.094 | 8.40 | 7.00 | 1.4273 | 3.4256 | 31.3128 | 29.7472 | 31.9838 |
| a2b1 | 1.121 | 8.40 | 7.00 | 1.4273 | 3.4256 | 30.5586 | 29.0307 | 32.3048 |
| a2b2 | 1.102 | 8.40 | 7.00 | 1.4273 | 3.4256 | 31.0855 | 29.5312 | 33.3059 |
| **a2b3** | **1.092** | **8.40** | **7.00** | **1.4273** | **3.4256** | **31.3702** | **29.8016** | **34.0590** |

Tabel 11.1. 5. Hasil Perhitungan Analisis Kadar Gula Total Ulangan III

Sebelum Inversi

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** |
| a1b1 | 1.137 | 8.40 | 7.50 | 0.9176 | 2.2022 | 1.9368 |
| a1b2 | 1.125 | 8.40 | 7.50 | 0.9176 | 2.2022 | 1.9575 |
| a1b3 | 1.245 | 8.40 | 7.40 | 1.0195 | 2.4469 | 1.9654 |
| a2b1 | 1.124 | 8.40 | 7.40 | 1.0195 | 2.4469 | 2.1769 |
| a2b2 | 1.195 | 8.40 | 7.00 | 1.4273 | 3.4256 | 2.8666 |
| **a2b3** | **1.186** | **8.40** | **7.00** | **1.4273** | **3.4256** | **2.8884** |

Tabel 11.1. 6. Hasil Perhitungan Analisis Kadar Gula Total Ulangan III Setelah Inversi

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** | **Sukrosa** | **Gula Total** |
| a1b1 | 1.137 | 8.40 | 6.90 | 1.5293 | 3.6703 | 32.2806 | 30.6666 | 32.6034 |
| **a1b2** | **1.125** | **8.40** | **6.90** | **1.5293** | **3.6703** | **32.6250** | **30.9937** | **32.9512** |
| a1b3 | 1.245 | 8.40 | 6.90 | 1.5293 | 3.6703 | 29.4804 | 28.0064 | 29.9717 |
| a2b1 | 1.124 | 8.40 | 7.00 | 1.4273 | 3.4256 | 30.4771 | 28.9532 | 31.1301 |
| a2b2 | 1.195 | 8.40 | 6.90 | 1.5293 | 3.6703 | 30.7139 | 29.1782 | 32.0448 |
| a2b3 | 1.186 | 8.40 | 6.90 | 1.5293 | 3.6703 | 30.9469 | 29.3996 | 32.2880 |

Tabel 11.1. 7. Hasil Perhitungan Analisis Kadar Gula Total Ulangan IV

Sebelum Inversi

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** |
| a1b1 | 1.102 | 8.40 | 7.50 | 0.9176 | 2.2022 | 1.9984 |
| a1b2 | 1.135 | 8.40 | 7.50 | 0.9176 | 2.2022 | 1.9403 |
| a1b3 | 1.277 | 8.40 | 7.40 | 1.0195 | 2.4469 | 1.9161 |
| a2b1 | 1.105 | 8.40 | 7.40 | 1.0195 | 2.4469 | 2.2144 |
| a2b2 | 1.138 | 8.40 | 7.00 | 1.4273 | 3.4256 | 3.0102 |
| **a2b3** | **1.126** | **8.40** | **7.00** | **1.4273** | **3.4256** | **3.0423** |

Tabel 11.1. 8. Hasil Perhitungan Analisis Kadar Gula Total Ulangan IV Setelah Inversi

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Kode Sampel** | **Ws** | **Vol. Blanko** | **Vol.sp** | **ml Tio 0,1N** | **mg Gula Reduksi** | **% Gula Reduksi** | **Sukrosa** | **Gula Total** |
| a1b1 | 1.102 | 8.40 | 7.00 | 1.4273 | 3.4256 | 31.0855 | 29.5312 | 31.5296 |
| a1b2 | 1.135 | 8.40 | 7.00 | 1.4273 | 3.4256 | 30.1817 | 28.6726 | 30.6128 |
| a1b3 | 1.277 | 8.40 | 6.90 | 1.5293 | 3.6703 | 28.7416 | 27.3046 | 29.2207 |
| a2b1 | 1.105 | 8.40 | 7.00 | 1.4273 | 3.4256 | 31.0011 | 29.4510 | 31.6654 |
| a2b2 | 1.138 | 8.40 | 7.00 | 1.4273 | 3.4256 | 30.1021 | 28.5970 | 31.6072 |
| **a2b3** | **1.126** | **8.40** | **7.00** | **1.4273** | **3.4256** | **30.4229** | **28.9018** | **31.9441** |

Tabel 11.1. 9 Data Asli Nilai Rata-rata Terhadap Analisis Kadar Gula Total Sorbet Sirsak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Konsentrasi Bahan Penstabil (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **(0,5%)** | **(0,75%)** | **(1%)** |
| **a1**  **(CMC)** | 1 | 31.33 | 32.27 | 32.29 | **95.89** |
| 2 | 31.42 | 31.91 | 31.98 | **95.32** |
| 3 | 32.60 | 32.95 | 29.97 | **95.53** |
| 4 | 31.53 | 30.61 | 29.22 | **91.36** |
| **Sub Total** |  | **126.89** | **127.75** | **123.46** | **378.10** |
| **Rata-rata** |  | **31.72** | **31.94** | **30.87** | **31.51** |
| **a2**  **(Gum Arab)** | 1 | 34.31 | 34.62 | 34.65 | **103.58** |
| 2 | 32.30 | 33.31 | 34.06 | **99.67** |
| 3 | 31.13 | 32.04 | 32.29 | **95.46** |
| 4 | 31.67 | 31.61 | 31.94 | **95.22** |
| **Sub Total** |  | **129.41** | **131.58** | **132.94** | **393.93** |
| **Rata-rata** |  | **32.35** | **32.89** | **33.24** | **32.83** |
| **Total** |  | **256.30** | **259.32** | **256.40** | **772.03** |
| **Rata-rata** |  | **32.04** | **32.42** | **32.05** | **32.17** |
| **Kelompok** |  | **1.00** | **2.00** | **3.00** | **4.00** |
| **Total** |  | **199.47** | **194.99** | **190.99** | **186.58** |

**Perhitungan Analisis Kimia Terhadap Kadar Gula Total**

Petak Utama (mainplot analysis) :

FK

= = 24.834,3136

JKT

= [(31,33)2 + (32,27)2 + … + (31,61)2 + (31,94)2 – 24.834,3136]

= 41,8982

JK (petak utama) =

= 24.834,3136

= 30,6705

JKK =

= 24.834,3136 = 15,1789

JKA =

= − 24.834,3136 = 10,4465

JK(Galat a) = JK(petak utama) – JKK – JKA

= 30,6705 – 15,1789 – 10,4465

= 5,0452

* Anak Petak (subplot analysis)

JKB

= − 24.834,3136

= 0,7372

JKAB

= − 24.834,3136– 10,4465 – 0,7372

= 3,4115

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 41,8982 – 30,6705 – 0,7372 – 3,4115

= 7,0791

Tabel 11.1.10 Analisis Variansi (ANAVA) Terhadap Analisis Kadar Gula Total Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sumber Keragaman | db | JK | KT | F hitung | | F Tabel 5% |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 15.1789 | 5.0596 | - |  |  |
| Faktor A | 1 | 10.4465 | 10.4465 | 0.69 | tn | 10.13 |
| Galat (a) | 3 | 5.0451 | 15.1353 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 0.7372 | 0.3686 | 0.62 | tn | 3.89 |
| Interaksi AXB | 2 | 3.4115 | 6.8230 | 11.57 | \* | 3.89 |
| Galat (b) | 12 | 7.0791 | 0.5899 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung > F Tabel 5% maka hipotesis diterima dan dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

**Pengujian Pengaruh Faktor Perlakuan (B)**

LSD(0,05) =

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 0,5431

LSD(0.05) = ()( 0,5431) = 1,1834

Tabel 11.1.11 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a1 terhadap Kadar Gula Total

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3,1095 | 1.1834 | a1b3 | 30.8661 | - | |  | |  | a |
| 3,1095 | 1.1834 | a1b1 | 31.7215 | 0.8554 | tn | - | |  | a |
| 3,1095 | 1.1834 | a1b2 | 31.9365 | 1.0704 | tn | 0.2150 | tn | - | a |

Tabel 11.1.12 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a2 terhadap Kadar Gula Total

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 3,1095 | 1.1834 | a2b1 | 32.3529 | - | |  | |  | a |
| 3,1095 | 1.1834 | a2b2 | 32.8945 | 0.5416 | tn | - | |  | a |
| 3,1095 | 1.1834 | a2b3 | 33.2351 | 0.8823 | tn | 0.3406 | tn | - | a |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

**Pengujian Pengaruh Faktor Perlakuan (A)**

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 3,1095

SYi- Yj =

=

= 1,6490

LSD(0.05) = (3,1095) (1,6490) = 5,1275

Tabel 11.1.13 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b1 terhadap Kadar Gula Total

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1095 | 5.1275 | a1b1 | 31.7215 | - | |  | A |
| 3,1095 | 5.1275 | a2b1 | 32.3529 | 0.6314 | tn | - | A |

Tabel 11.1.14 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b2 terhadap Kadar Gula Total

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1095 | 5.1275 | a1b2 | 31.9365 | - | |  | A |
| 3,1095 | 5.1275 | a2b2 | 32.8945 | 0.9580 | tn | - | A |

Tabel 11.1.15 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b3 terhadap Kadar Gula Total

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| t\*0.05 | LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3,1095 | 5.1275 | a1b3 | 30.8661 | - | |  | A |
| 3,1095 | 5.1275 | a2b3 | 33.2351 | 2.3691 | tn | - | A |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Tabel 11.1.16 interaksi antara jenis bahan penstabil dengan konsentrasi bahan penstabil pada kadar gula total

|  |  |  |  |
| --- | --- | --- | --- |
| Jenis bahan penstabil | Konsentrasi bahan penstabil (B) | | |
| (A) | 0,5% (b1) | 0,75% (b2) | 1% (b3) |
| (CMC) (a1) | A | A | A |
| 31.8 | 31.9 | 30.9 |
| a | a | a |
| (Gum Arab) (a2) | A | A | A |
| 32.1 | 32.5 | 32.1 |
| a | a | a |

Keterangan:

* Setiap kolom dengan huruf besar yang sama menunjukkan tidak berbeda nyata pada taraf 5% dan setiap baris dengan huruf kecil yang sama menunjukkan tidak berbeda nyata pada taraf 5%.
* Notasi huruf kecil dibaca horizontal sedangakn notasi huruf besar dibaca vertikal.

**Lampiran 12. Data dan Hasil Perhitungan Analisis Fisika Pada Penelitian Utama**

**12.1. Overrun**

Tabel 12.1.1. Hasil Perhitungan *Overrun* Ulangan I

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **W Adonan** | **W Produk** | **Overrun** |
| **I** | a1b1 | 300 | 360 | 20 |
| a1b2 | 293 | 366 | 24,91 |
| a1b3 | 297 | 364 | 22,55 |
| a2b1 | 294 | 358 | 21,76 |
| a2b2 | 290 | 350 | 20,6 |
| a2b3 | 295 | 354 | 20 |
| **Jumlah** | 1769 | 2152 | 129,82 |
| **Rata-rata** | 294,83 | 358,67 | 21,64 |

Tabel 12.1.2. Hasil Perhitungan *Overrun* Ulangan II

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **W Adonan** | **W Produk** | **Overrun** |
| **II** | a1b1 | 298 | 362 | 21,47 |
| a1b2 | 290 | 366 | 26,20 |
| a1b3 | 295 | 363 | 23,05 |
| a2b1 | 294 | 360 | 22,44 |
| a2b2 | 290 | 358 | 23,44 |
| a2b3 | 297 | 356 | 19,86 |
| Jumlah | 1764 | 2165 | 136,46 |
| Rata-rata | 294 | 360,83 | 22,74 |

Tabel 12.1.3 Hasil Perhitungan *Overrun* Ulangan III

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **W Adonan** | **W Produk** | **Overrun** |
| **III** | a1b1 | 305 | 367 | 20,32 |
| a1b2 | 290 | 364 | 25,51 |
| a1b3 | 295 | 362 | 22,71 |
| a2b1 | 290 | 355 | 22,41 |
| a2b2 | 292 | 353 | 20,89 |
| a2b3 | 296 | 356 | 20,27 |
| Jumlah | 1768 | 2157 | 132,11 |
| Rata-rata | 294,67 | 359,5 | 22,01 |

Tabel 12.1.4 Hasil Perhitungan *Overrun* Ulangan IV

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Kelompok Ulangan** | **Kode Sampel** | **W Adonan** | **W Produk** | **Overrun** |
| **IV** | a1b1 | 300 | 364 | 21,33 |
| a1b2 | 294 | 368 | 25,17 |
| a1b3 | 297 | 365 | 22,85 |
| a2b1 | 294 | 363 | 23,46 |
| a2b2 | 290 | 357 | 23,10 |
| a2b3 | 294 | 358 | 21,76 |
| Jumlah | 1769 | 2175 | 137,67 |
| Rata-rata | 294,83 | 362,5 | 22,94 |

Tabel 12.1.5 Data Asli Terhadap Analisis Fisika *Overrun*  Sorbet Sirsak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Faktor Jenis Bahan Penstabil (A)** | **Kelompok Ulangan** | **Konsentrasi Bahan Penstabil (B)** | | | **Total (Y)** |
| **b1** | **b2** | **b3** |
| **0,5%** | **0,75%** | **1%** |
| a1 | 1 | 20,00 | 24,91 | 22,55 | 67,46 |
| (CMC) | 2 | 21,47 | 26,20 | 23,05 | 70,72 |
|  | 3 | 20,32 | 25,51 | 22,71 | 68,54 |
| 4 | 21,33 | 25,17 | 22,85 | 69,35 |
| Sub Total |  | 83,12 | 101,79 | 91,16 | 276,07 |
| Rata-rata |  | 20,78 | 25,44 | 22,79 | 23 |
| a2 | 1 | 21,76 | 20,60 | 20,99 | 62,36 |
| (Gum Arab) | 2 | 22,44 | 23,44 | 19,86 | 65,74 |
|  | 3 | 22,41 | 20,89 | 20,27 | 63,57 |
| 4 | 23,46 | 23,10 | 21,76 | 68,32 |
| Sub Total |  | 90,07 | 88,03 | 81,89 | 259,99 |
| Rata-rata |  | 22,51 | 22,00 | 20,47 | 21,66 |
| Total |  | 173,19 | 189,82 | 173,05 | 536,06 |
| Rata-rata |  | 21,64 | 23,72 | 21,63 | 22,33 |
| Kelompok |  | 1 | 2 | 3 | 4 |
| Total |  | 129,82 | 136,46 | 132,11 | 137,67 |

**Perhitungan Analisis Fisika Terhadap *Overrun***

Petak Utama (mainplot analysis) :

FK

= = 11973,34

JKT

= [(20)2 + (24,91)2 + … + (23,10)2 + (21,76)2 – 11.973,34]

= 76,6

JK (petak utama) =

= 11.973,34

= 19,53

JKK =

= 11.973,34

= 6,76

JKA =

= − 11.973,34

= 10,78

JK(Galat a) = JK(petak utama) – JKK – JKA

= 19,53 – 6,76 – 10,78

= 1,99

* Anak Petak (subplot analysis)

JKB

= − 11.973,34

= 27,99

JKAB

− 11.973,34 – 10,78 – 27,99

= 24,92

JK (Galat b) = JKT- JK(petak utama) – JKB – JKAB

= 76,6 – 19,53 – 27,99 – 24,92

= 4,16

Tabel 12.1.6 Analisis Variansi (ANAVA) Terhadap *Overrun* Sorbet Sirsak

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sumber Keragaman | db | JK | KT | F hitung | | F Tabel 5% |
|
| Petak Utama |  |  |  |  |  |  |
| Kelompok | 3 | 6.76 | 2.25 | - |  |  |
| Faktor A | 1 | 10.78 | 10.78 | 0.00 | tn | 10.13 |
| Galat (a) | 3 | 1.99 | 5.97 |  |  |  |
| Anak Petak |  |  |  |  |  |  |
| Faktor B | 2 | 27.99 | 13.99 | 14.9 | \*\* | 3.89 |
| Interaksi AXB | 2 | 24.92 | 49.84 | 146.58 | \*\* | 3.89 |
| Galat (b) | 12 | 4.16 | 0.34 |  |  |  |
| Total | 23 |  |  |  |  |  |

Keterangan: (tn) tidak berpengaruh nyata

(\*) berpengaruh nyata (pada taraf 5%)

F hitung < F Tabel 5% maka hipotesis ditolak dan tidak dilakukan Uji Lanjut LSD

**Uji Lanjut LSD**

Pengujian Pengaruh Faktor Perlakuan (B)

LSD(0,05) =

SYi- Yj = (2KTG(b)/r)1/2

= (2()/4)1/2

= 0,4170

LSD(0.05) = ()( 0,4170) = 0,9086

Tabel 9.3.7 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a1 terhadap *Overrun* Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 0.9086 | a1b1 | 20.7800 | - | |  | |  | a |
| 0.9086 | a1b3 | 22.7900 | 2.0100 | \*\* | - | |  | a |
| 0.9086 | a1b2 | 25.4475 | 4.6675 | \*\* | 2.6575 | \*\* | - | b |

Tabel 9.3.8 Uji LSD untuk Pengaruh Faktor Konsentrasi Bahan Penstabil pada a2 terhadap *Overrun* Sorbet Sirsak

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | | | Taraf nyata 5% |
| 1 | | 2 | | 3 |
| 0.9086 | a2b3 | 20.4725 | - | |  | |  | a |
| 0.9086 | a2b2 | 22.0075 | 1.5350 | \*\* | - | |  | a |
| 0.9086 | a2b1 | 22.5175 | 2.0450 | \*\* | 0.5100 | tn | - | a |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Pengujian Pengaruh Faktor Perlakuan (A)

LSD(0,05) = t\*0.05

t\* =

t\*0.05 =

=

= 3,0773

SYi- Yj =

=

= 1,0536

LSD(0.05) = (3,0773)( 1,0536) = 3,2422

Tabel 9.3.9 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b1 terhadap *Overrun* Sorbet

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3.2422 | a1b1 | 20.7800 | - | |  | A |
| 3.2422 | a2b1 | 22.5175 | 1.7375 | tn | - | A |

Tabel 9.3.10 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b2 terhadap *Overrun* Sorbet

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3.2422 | a2b2 | 22.0075 | - | |  | A |
| 3.2422 | a1b2 | 25.4475 | 3.4400 | \*\* | - | B |

Tabel 9.3.11 Uji LSD untuk Pengaruh Faktor Jenis Bahan Penstabil pada b3 terhadap *Overrun* Sorbet

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| LSD 5% | kode | Rata-rata | Perlakuan | | | Taraf nyata 5% |
| 1 | | 2 |
| 3.2422 | a2b3 | 20.4725 | - | |  | A |
| 3.2422 | a1b3 | 22.7900 | 2.3175 | tn | - | A |

Keterangan : \* = berbeda nyata

tn = tidak berbeda nyata

Tabel 9.3.12. Interaksi Antara Jenis Bahan Penstabil Dengan Konsentrasi Bahan Penstabil Terhadap *Overrun* Rasa Sorbet Sirsak

|  |  |  |  |
| --- | --- | --- | --- |
| Jenis bahan penstabil | Konsentrasi bahan penstabil (B) | | |
| (A) | 0,5% (b1) | 0,75% (b2) | 1% (b3) |
| (CMC) (a1) | A | B | A |
| 20.78 | 25.45 | 22.79 |
| a | b | a |
| (Gum Arab) (a2) | A | A | A |
| 22.52 | 22.01 | 20.47 |
| a | a | a |

Keterangan:

* Setiap kolom dengan huruf besar yang sama menunjukkan tidak berbeda nyata pada taraf 5% dan setiap baris dengan huruf kecil yang sama menunjukkan tidak berbeda nyata pada taraf 5%.
* Notasi huruf kecil dibaca horizontal sedangakn notasi huruf besar dibaca vertikal.