**LAMPIRAN**

***Lampiran 1.* Formulir Uji Skala Kesukaan (*Hedonic Scale Test*)**

**Formulir Uji Skala Kesukaan (*Hedonis Scale Test*)**

Nama Panelis :

Tanggal :

Produk : Tahu putih dengan Koagulan dan Berpengawet Alami dari Sari Jeruk Nipis (*Citrus Aurantifolia)* dan Sari Belimbing Wuluh (*Averrhoa Bilimbi L)*

Instruksi :

Dihadapkan saudara disajikan contoh tahu putih. Saudara diminta untuk memberikan penilaian terhadap warna, rasa, aroma dan tekstur dengan mengunakan skala sebagai berikut :

1 = sangat tidak suka

2 = tidak suka

3 = suka

4 = sangat suka

|  |  |
| --- | --- |
| **Kode Contoh** | **Kriteria Penilaian** |
| **Warna** | **Aroma** | **Rasa** | **Tekstur** |
| **122** |  |  |  |  |
| **203** |  |  |  |  |
| **273** |  |  |  |  |
| **423** |  |  |  |  |

Setelah saudara mencicipi salah satu sampel saudara diminta berkumur dengan air putih yang telah disediakan sebelum mencicipi sampel yang lain.Selain itu saudara juga diminta untuk memberikan kritik dan saran.

Kritik &Saran :

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**Terima Kasih Atas Partisipasinya**

***Lampiran 2.***

**Tabel 15**. **Hasil Penilaian Mutu Organoleptik dengan Uji Hedonik Skala Verbal dari 20 Panelis**

|  |
| --- |
| **Kode contoh:** |
| Panelis | Kriteria Penilaian |
| Warna | Aroma | Rasa | Tekstur |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
| 9 |  |  |  |  |
| 10 |  |  |  |  |
| 11 |  |  |  |  |
| 12 |  |  |  |  |
| 13 |  |  |  |  |
| 14 |  |  |  |  |
| 15 |  |  |  |  |
| 16 |  |  |  |  |
| 17 |  |  |  |  |
| 18 |  |  |  |  |
| 19 |  |  |  |  |
| 20 |  |  |  |  |
| Jumlah  |  |  |  |  |

***Lampiran 3.***Hasil Penilaian Mutu Organoleptik Tahu Putih dengan koagulan Alami

|  |  |
| --- | --- |
| Panelis | Kriteria Penilaian |
| Warna | Aroma | Rasa | Tekstur |
| **122** | **203** | **273** | **423** | **122** | **203** | **273** | **423** | **122** | **203** | **273** | **423** | **122** | **203** | **273** | **423** |
| 1 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 4 | 2 | 1 | 3 | 2 | 2 | 2 | 2 |
| 2 | 3 | 3 | 2 | 4 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 4 | 2 | 3 | 3 | 4 |
| 3 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 2 | 4 | 3 |
| 4 | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 5 | 3 | 3 | 4 | 4 | 4 | 2 | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 4 | 3 | 4 |
| 6 | 2 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 3 | 3 | 1 |
| 7 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 |
| 8 | 3 | 3 | 1 | 4 | 4 | 2 | 2 | 3 | 4 | 2 | 4 | 3 | 4 | 3 | 3 | 2 |
| 9 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 3 | 4 | 4 | 2 | 3 | 4 | 4 | 3 |
| 10 | 2 | 3 | 3 | 4 | 4 | 3 | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 2 | 3 | 3 |
| 11 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 1 | 4 | 4 | 4 | 1 | 1 | 1 | 1 |
| 12 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 4 | 3 | 1 | 3 | 1 |
| 13 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 4 | 1 | 4 | 2 | 3 | 1 | 3 | 1 | 4 |
| 14 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 1 |
| 15 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 4 | 3 |
| 16 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 2 | 1 |
| 17 | 3 | 3 | 4 | 3 | 3 | 3 | 4 | 3 | 1 | 4 | 3 | 4 | 1 | 2 | 3 | 3 |
| 18 | 3 | 2 | 3 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 1 |
| 19 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 1 | 2 | 3 | 2 | 2 | 2 | 2 |
| 20 | 3 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 3 |
| Jumlah  | 60 | 58 | 57 | 68 | 61 | 58 | 62 | 60 | 59 | 61 | 58 | 65 | 51 | 53 | 52 | 48 |
| Rata-rata | 3 | 2,9 | 2,8 | 3,4 | 3,05 | 2,9 | 3,1 | 3 | 2,7 | 3,05 | 2,9 | 3,25 | 2,55 | 2,65 | 2,8 | 2,4 |
| Median | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Modus | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |

***Lampiran 4****.* **Formulir Penentuan Taraf Perlakuan Terbaik**

**Formulir Penentuan Taraf Perlakuan Terbaik**

**Penentuan taraf perlakuan Terbaik**

Panelis :

Tanggal :

Produk : Tahu putih dengan Koagulan dan Berpengawet Alami dari Sari Jeruk Nipis (*Citrus Aurantifolia)* dan Belimbing Wuluh (*Averrhoa Bilimbi L)*

Instruksi :

Bapak/Ibu dimohon untuk mengemukakan pendapat tentang urutan (rangking) pentingnya variabel berikut terhadap penentuan parameter mutu produk Tahu Putih dengan Koagulan Sari Jeruk Nipis dan Sari Belimbing Wuluh. Dengan cara merangking (mengurutkan) 5 variabel dari tertinggi ke terendah dengan mencantumkan no 1-5. Angka terendah untuk variabel kurang penting dan angka tertinggi untuk varibael yang terpenting. Pemberian nilai boleh sama apabila dirasa variabel yang dinilai sama penting.

|  |  |
| --- | --- |
| **Variabel** | **Rangking** |
| Daya Simpan/Umur Simpan |  |
| Warna  |  |
| Aroma  |  |
| Rasa |  |
| Tekstur |  |

**Terima Kasih Atas Partisipasinya**

***Lampiran 5.* Randomisasi Unit Penelitian dan Penentuan Desain Layout**

Tabel 16. Randomisasi Unit Penelitian dan Penentuan Desain *Layout*

|  |  |  |  |
| --- | --- | --- | --- |
| No | Bilangan random | Rangking | Unit penelitian |
| 1 | 609 | 12 | X01 |
| 2 | 257 | 5 | X02 |
| 3 | 423 | 10 | X03 |
| 4 | 273 | 7 | X11 |
| 5 | 184 | 3 | X12 |
| 6 | 369 | 9 | X13 |
| 7 | 141 | 2 | X21 |
| 8 | 608 | 11 | X22 |
| 9 | 203 | 4 | X23 |
| 10 | 260 | 6 | X31 |
| 11 | 122 | 1 | X32 |
| 12 | 285 | 8 | X33 |

Dengan hasil randomisasi :

1. Taraf perlakuan X01 diberikan pada unit penelitian 1
2. Taraf perlakuan X02 diberikan pada unit penelitian 2
3. Taraf perlakuan X03 diberikan pada unit penelitian 3
4. Taraf perlakuan X11 diberikan pada unit penelitian 4
5. Taraf perlakuan X12 diberikan pada unit penelitian 5
6. Taraf perlakuan X13 diberikan pada unit penelitian 6
7. Taraf perlakuan X21 diberikan pada unit penelitian 7
8. Taraf perlakuan X22 diberikan pada unit penelitian 8
9. Taraf perlakuan X23 diberikan pada unit penelitian 9
10. Taraf perlakuan X31 diberikan pada unit penelitian 10
11. Taraf perlakuan X32 diberikan pada unit penelitian 11
12. Taraf perlakuan X33 diberikan pada unit penelitian 12

***Lampiran 6.* Penentuan Perlakuan Terbaik Tahu Putih dengan Koagulan Alami**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Variabel** | **Panelis** | **Jumlah** | **Rata-rata** | **Ranking** | **BV** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
|  | Umur Simpan | 1 | 3 | 3 | 1 | 4 | 1 | 3 | 3 | 2 | 4 | 25 | 2,5 | 5 | 0,58 |
|  | Warna | 3 | 4 | 4 | 2 | 3 | 4 | 5 | 5 | 1 | 1 | 32 | 3,2 | 4 | 0,74 |
|  | Aroma | 4 | 5 | 4 | 3 | 2 | 2 | 4 | 4 | 3 | 2 | 33 | 3,3 | 3 | 0,76 |
|  | Rasa | 5 | 5 | 5 | 5 | 4 | 5 | 3 | 3 | 5 | 3 | 43 | 4,3 | 1 | 1,00 |
|  | Tekstur | 4 | 4 | 5 | 4 | 5 | 3 | 4 | 4 | 4 | 5 | 42 | 4,2 | 2 | 0,97 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Taraf Perlakuan** | **Umur Simpan** | **Warna** | **Aroma** | **Rasa** | **Tekstur** |
| P0 | 2 | 3 | 3,05 | 2,95 | 2,55 |
| P1 | 4 | 2,9 | 2,9 | 3,05 | 2,65 |
| P2 | 4 | 2,85 | 3,1 | 2,9 | 2,6 |
| P3 | 3 | 3,4 | 3 | 3,25 | 2,4 |
| **Minimal** | **2** | **2,85** | **2,9** | **2,9** | **2,4** |
| **Maksimal** | **4** | **3,4** | **3,1** | **3,25** | **2,65** |
| **Maks - Min** | **2** | **0,55** | **0,2** | **0,35** | **0,25** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Variabel** | **BV** | **BN** | **Perlakuan** |
| **P0** | **P1** | **P2** | **P3** |
| **NE** | **NH** | **NE** | **NH** | **NE** | **NH** | **NE** | **NH** |
|  | Umur Simpan | 0,58 | 0,14 | 0 | 0 | 1 | 0,14 | 1 | 0,14 | 0,05 | 0,007 |
|  | Warna | 0,74 | 0,18 | 0,27 | 0,04 | 0,09 | 0,01 | 0 | 0 | 1 | 0,18 |
|  | Aroma | 0,76 | 0,19 | 0,75 | 0,14 | 0 | 0 | 1 | 0,19 | 0,5 | 0,09 |
|  | Rasa | 1,00 | 0,24 | 0,14 | 0,03 | 0,4 | 0,09 | 0 | 0 | 1 | 0,24 |
|  | Tekstur | 0,97 | 0,23 | 0,6 | 0,14 | 1 | 0,23 | 0,8 | 0,18 | 0 | 0 |
| **JUMLAH** | **4,05** |  |  | **0,35** |  | **0,47** |  | **0,51** |  | **0,52** |

***Lampiran 7.* Output Uji Statistika Mutu Organoleptik Warna**

**Kruskal-Wallis Test**

|  |
| --- |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank |
| Warna | P0 | 20 | 38,53 |
| P1 | 20 | 35,13 |
| P2 | 20 | 36,58 |
| P3 | 20 | 51,78 |
| Total | 80 |  |

|  |
| --- |
| **Test Statisticsa,b** |
|  | Warna |
| Chi-Square | 8,902 |
| Df | 3 |
| Asymp. Sig. | ,031 |
| a. Kruskal Wallis Test |
| b. Grouping Variable: Taraf\_Perlakuan |

***Lampiran 7.* Lanjutan**

**Mann-Whitney Test**

|  |
| --- |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank | Sum of Ranks |
| Warna | P0 | 20 | 21,35 | 427,00 |
| P1 | 20 | 19,65 | 393,00 |
| Total | 40 |  |  |
| **Test Statisticsa** |
|  | Warna |
| Mann-Whitney U | 183,000 |
| Wilcoxon W | 393,000 |
| Z | -,607 |
| Asymp. Sig. (2-tailed) | ,544 |
| Exact Sig. [2\*(1-tailed Sig.)] | ,659b |
| a. Grouping Variable: Taraf\_Perlakuan |
| b. Not corrected for ties. |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank | Sum of Ranks |
| Warna | P1 | 20 | 20,33 | 406,50 |
| P2 | 20 | 20,68 | 413,50 |
| Total | 40 |  |  |
| **Test Statisticsa** |
|  | Warna |
| Mann-Whitney U | 196,500 |
| Wilcoxon W | 406,500 |
| Z | -,114 |
| Asymp. Sig. (2-tailed) | ,909 |
| Exact Sig. [2\*(1-tailed Sig.)] | ,925b |
| a. Grouping Variable: Taraf\_Perlakuan |
| b. Not corrected for ties. |

|  |
| --- |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank | Sum of Ranks |
| Warna | P2 | 20 | 16,98 | 339,50 |
| P3 | 20 | 24,03 | 480,50 |
| Total | 40 |  |  |
| **Test Statisticsa** |
|  | Warna |
| Mann-Whitney U | 129,500 |
| Wilcoxon W | 339,500 |
| Z | -2,106 |
| Asymp. Sig. (2-tailed) | ,035 |
| Exact Sig. [2\*(1-tailed Sig.)] | ,056b |
| a. Grouping Variable: Taraf\_Perlakuan |
| b. Not corrected for ties. |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank | Sum of Ranks |
| Warna | P1 | 20 | 16,15 | 323,00 |
| P3 | 20 | 24,85 | 497,00 |
| Total | 40 |  |  |
| **Test Statisticsa** |
|  | Warna |
| Mann-Whitney U | 113,000 |
| Wilcoxon W | 323,000 |
| Z | -2,795 |
| Asymp. Sig. (2-tailed) | ,005 |
| Exact Sig. [2\*(1-tailed Sig.)] | ,018b |
| a. Grouping Variable: Taraf\_Perlakuan |
| b. Not corrected for ties. |

|  |
| --- |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank | Sum of Ranks |
| Warna | P0 | 20 | 17,10 | 342,00 |
| P3 | 20 | 23,90 | 478,00 |
| Total | 40 |  |  |
| **Test Statisticsa** |
|  | Warna |
| Mann-Whitney U | 132,000 |
| Wilcoxon W | 342,000 |
| Z | -2,115 |
| Asymp. Sig. (2-tailed) | ,034 |
| Exact Sig. [2\*(1-tailed Sig.)] | ,068b |
| a. Grouping Variable: Taraf\_Perlakuan |
| b. Not corrected for ties. |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank | Sum of Ranks |
| Warna | P0 | 20 | 21,08 | 421,50 |
| P2 | 20 | 19,93 | 398,50 |
| Total | 40 |  |  |
| **Test Statisticsa** |
|  | Warna |
| Mann-Whitney U | 188,500 |
| Wilcoxon W | 398,500 |
| Z | -,360 |
| Asymp. Sig. (2-tailed) | ,719 |
| Exact Sig. [2\*(1-tailed Sig.)] | ,758b |
| a. Grouping Variable: Taraf\_Perlakuan |
| b. Not corrected for ties. |

***Lampiran 8.* Output Uji Statistika Mutu Organoleptik Aroma**

**Kruskal-Wallis Test**

|  |
| --- |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank |
| Aroma | P0 | 20 | 42,35 |
| P1 | 20 | 36,10 |
| P2 | 20 | 42,78 |
| P3 | 20 | 40,78 |
| Total | 80 |  |
| **Test Statisticsa,b** |
|  | Aroma |
| Chi-Square | 1,482 |
| Df | 3 |
| Asymp. Sig. | ,687 |
| a. Kruskal Wallis Test |
| b. Grouping Variable: Taraf\_Perlakuan |

***Lampiran 9.* Output Uji Statistika Mutu Organoleptik Rasa**

**Kruskal-Wallis Test**

|  |
| --- |
| **Ranks** |
|  | Taraf\_Perlakuan | N | Mean Rank |
| Rasa | P0 | 20 | 36,55 |
| P1 | 20 | 43,15 |
| P2 | 20 | 37,28 |
| P3 | 20 | 45,03 |
| Total | 80 |  |
| **Test Statisticsa,b** |
|  | Rasa |
| Chi-Square | 2,307 |
| Df | 3 |
| Asymp. Sig. | ,511 |
| a. Kruskal Wallis Test |
| b. Grouping Variable: Taraf\_Perlakuan |

***Lampiran 10.* Output Uji Statistika Mutu Organoleptik Tekstur**

**Kruskal-Wallis Test**

|  |
| --- |
|  |
|  | Taraf\_Perlakuan | N | Mean Rank |
| Tekstur | P0 | 20 | 39,50 |
| P1 | 20 | 40,90 |
| P2 | 20 | 45,00 |
| P3 | 20 | 36,60 |
| Total | 80 |  |
| **Test Statisticsa,b** |
|  | Tekstur |
| Chi-Square | 1,609 |
| Df | 3 |
| Asymp. Sig. | ,657 |
| a. Kruskal Wallis Test |
| b. Grouping Variable: Taraf\_Perlakuan |

***Lampiran 11.* Dokumentasi**

|  |  |  |
| --- | --- | --- |
| **Proses perendaman kedelai kering** | **Proses perebusan sari kedelai** | **Proporsimasing-masing koagulan** |
| **Curd sebelum disaring** | **Proses penyaringan Curd** | **Tahu setelah di cetak** |
| **Proses Uji Cita Rasa** | **Proses Uji Cita Rasa** |

**Lampiran 12. Surat Tanda Bukti Pemakaian Laboratorium**

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