

## **BAB V**

### **KESIMPULAN DAN SARAN**

#### **5.1 Kesimpulan**

Berdasarkan penelitian sediaan sampo padat kombinasi minyak kemiri dan minyak argan dengan variasi konsentrasi CAPB, dapat disimpulkan bahwa terdapat pengaruh variasi konsentrasi CAPB terhadap karakterisasi sampo padat kombinasi minyak kemiri dan minyak argan yang meliputi pH, tinggi busa dan stabilitas busa.

#### **5.2 Saran**

Berdasarkan pengujian, dapat disarankan perlu dilakukan beberapa pengujian yaitu:

1. Uji keseragaman bobot
2. Uji keseragaman ukuran
3. Uji keregasan
4. Dilakukan pengujian ulang pada uji tinggi busa dan stabilitas busa

## DAFTAR PUSTAKA

- Ambarsari, R. (2022). Kenali berbagai bahan dalam sampo tahu mana yang cocok. Diakses pada 20 Juli 2022, dari <https://mashmoshem.co.id/bahan-dalam-sampo>.
- Aprilia, I. (2019). *Stres Bikin Rambut Rontok, Apa Sih Penyebabnya?* Retrieved September 19, 2020, from Orami Parenting website: <https://parenting.orami.co.id/magazine/stres-bikin-rambut-rontok-apa-sih-penyebabnya>
- Asnani, Asnani, dkk., (2019). *Transfer Teknologi Produksi Natural Soap-Base untuk Kreasi Sabun Suvenir*, Jurnal Pengabdian kepada Masyarakat, Universitas Jenderal Soedirman.
- Arlene, A., Suharto, I., & Jessica, J. N. (2010). *Pengaruh Temperatur Dan Ukuran Biji Terhadap Perolehan Minyak Kemiri Pada Ekstraksi Biji Kemiri Dengan Penekanan Mekanis*.
- Arlene, A. (2013). *Ekstraksi Kemiri Dengan Metode Soxhlet Dan Karakterisasi Minyak Kemiri*. Jurnal Teknik Kimia USU, 2(2), 6-10.
- Luna, Aisyah, 2022, *Pengaruh Variasi Konsentrasi Asam Stearat Terhadap Formulasi dan Evaluasi Fisika kima sediaan shampoobar dan dari merang padi*, Politeknik Kesehatan Malang.
- Banaransoap, D. (2022). Cara Membuat sampo batangan yang lebih minim kemasan. Diakses pada 21 Juli 2022, dari <https://banaransoap.com/cara-membuat-sampo-batangan>.
- Brilhante, I. V. (2018). *Development of A Solid Organic Shampoo Formulation*. 106.
- Cahaya, C.A.D & Devi, F.Y.I. (2022). *Seminar Pembuatan Sediaan Gel Minyak Kemiri (Aleurites Moluccana) Sebagai Antiseptik Hand Sanitizer Terhadap Bakteri Staphylococcus Aureus*. Jurnal Pengmas Kestra (JPK). 2 (2), 153-157.
- Charrouf, Z. & Dominique, G. (2008). *Argan Oil: Occurrence, Composition And Impact On Human Health*. *European Journal of Lipid Science and Technology*. 110 (7), 632-636.
- Cristy, Laura, (2021). *Formulasi Sampo anti ketombe dari ekstrak kulit nanas*, Poltek Negeri Palembang

- dr. Rizal Fadli, “Kelebihan dan Kekurangan penggunaan Clarifying Shampoo”. Halodoc.com. 01 November 2022. <https://www.halodoc.com/artikel/kelebihan-dan-kekurangan-penggunaan-clarifying-shampoo>
- D’Souza, Sanjay K Rathi. (2015). *Shampoo and Conditioners: What a Dermatologist Should Know*, *Indian Journal of Dermatology*.
- Elise, whole, (2022). Natural Shampoo Bar. Di akses pada 9 oktober 2022. <https://wholeelise.com/blog/natural-shampoo-bar/>
- Fauziah, R. N., Widyasanti, A., & Filianty, F. (2020). *Pembuatan Sampo Cair Berbahan Baku Minyak Kelapa (Coconut Oil) Dengan Penambahan Infused Oil Daun Mimba (Azadirachta Indica)*. *Agroindustrial Technology Journal*, 4(2), Article 2. <https://doi.org/10.21111/Atj.V4i2.4918>
- Fang, B., Yu, M., Zhang, W., Wang, F. (2016). *A New Cosmetics Preservation and the effect of the particle size of the emulsion droplets on preservation efficacy*. *International Journal Cosmetic Science*, 1-8.
- Fiona, Dresyamaya, “Plus minus Dry Shampoo dan Rekomendasi Produknya”. Orami.co.id. 26 Oktober 2022. <https://www.arami.co.id/magazine/plus-minus-memakai-dry-shampoo>
- Fu, R. L. (2017). *365 Tip for Women*. Jakarta: PT Elex Media Komputindo.
- Gultom, R. (2017). *Karakterisasi Minyak Biji Kemiri (Candlenut Oil) Terhadap Pengaruh Penambahan Antioksidan Butil Hidroksi Toluene (BHT)*. *JIFI (Jurnal Ilmiah Farmasi Imelda)*, 1(1), 1–6.
- Hia, N.P.K. (2019). *Formulasi Sediaan Shampo Dari Ekstrak Etanol Bunga Kecombrang (Etlingera Elatior)*. Fakultas Farmasi Dan Kesehatan Institut Kesehatan Helvetia Medan.
- Hudaya, D. T., & Wiratama, I. G. P. (2014). Untuk Sintesis Biohidrokrabon.
- Juniarti, M. (2021). *Penentuan Tingkat Kerontokan Rambut Kepala Pada Perempuan Dengan Menggunakan Metode Fuzzy Inference System Tsukamoto Dan Mamdani*. STMIK Global Informatika MDP.
- Natasya, Nina, (2022). Inilah alasan penting untuk beralih ke sampo bar atau sampo batangan. Di akses pada 8 september 2022. <https://www.cosmopolitan.co.id/article/read/9/2022/29383/inilah-alasan-penting-untuk-beralih-ke-shampoo-bar-atau-sampo-batangan>
- Sari, K., dkk, (2016). *Perawatan herbal pada Rambut Rontok*, Majority: Fakultas Kedokteran Universitas Lampung

- Murti, I.K.A.Y, dkk. *Optimasi Konsentrasi Olive Oil Terhadap Stabilitas Fisik Sediaan Sabun Cair*. Jurnal Farmasi Udayana. 6 (2), 15-17.
- Pamungkas, W. (2013). *Aplikasi Vitamin E Dalam Pakan: Kebutuhan Dan Peranan Untuk Meningkatkan Reproduksi, Sistem Imun, Dan Kualitas Daging Pada Ikan*. Media Akuakultur. 8 (2), 145.
- Pravitasari, A.D. (2021). *Formulasi Dan Evaluasi Sampo Berbagai Herbal Penyubur Rambut*. Majalah Farmasetika, 6 (2), 152-168.
- Putri, E.M. (2019). *Uji Kualitas Minyak Kemiri (Aleurites Moluccana (L.) Willd) Dengan Metode Pengepressan Menggunakan Variasi Temperatur Dan Ukuran Biji*. Jember: Fakultas MIPA Universitas Jember.
- Saraswati, A.D & Norisca, A.P. (2017). *Formulasi Shampo Anti Ketombe dan Anti Kutu Rambut dari Berbagai Macam Tanaman Herbal*. Farmaka. 15 (1), 248-260.
- Schwartz, J.R., dkk. (2013). *A Comprehensive Pathophysiology of Dandruff and Seborrheic Dermatitis – Towards a More Precise Definition of Scalp Health*. Acta Dermato-Venereologica. 93 (2), 131-137.
- Schneider, M.R., Ruth, S.U & Ralf, P. *The Hair Follicle as a Dynamic Miniorgan*. Current Biology. 19 (3), 132-142.
- Kalangi, Sonny Jr, (2013). Histofisiologi Kulit. *Jurnal Biomedik (JBM) vol 5*
- Sulhatun., dkk. (2022). *Formulasi Pembuatan Shampo Dengan Bahan Baku Minyak Kemiri (Aluerites Moluccana) Untuk Kesehatan Rambut*. Jurnal Teknologi Kimia Uimal, 11(1), 32-42.
- Susilowati, N. (2012). *Pengambilan Minyak Biji Kemiri (Aleurites Moluccana, Wild) Melalui Ekstraksidengan Menggunakan Soxhlet*. Sebelas Maret University.
- Thomas, N.A., dkk. (2021). *Uji Aktivitas Antioksidan Minyak Argan (Argania spinosa L.) Dalam Bentuk Sediaan Mikroemulsi*. Indonesian Journal of Pharmaceutical Education.
- Yola, M., Agung, W., & Shelly. T. (2021). *Uji Aktivitas Dan Keamanan Kombinasi Ekstrak Bawang Putih (Alium Sativum.L) Dan Ekstrak Kemiri (Aleurites Molucanna) Sebagai Penyubur Bulu Kelinci*. Borneo Journal of Pharmascientech, 5(2), 44-54.
- Wulandari, A., Sutaryono & Nurul. H. (2017). *Pengaruh Variasi Konsentrasi Surfaktan Cocoamidopropyl Betaine Terhadap Uji Sifat Fisik Sabun Mandi Cair Ekstrak Buah Pepaya (Carica papaya L.)*. CERATA Jurnal Ilmu Farmasi.

## Lampiran 1. Surat Izin Penelitian

**POLITEKNIK KESEHATAN PUTRA INDONESIA MALANG**  
LABORATORIUM TERPADU & UNIT PRODUKSI  
*Touch Your Future*  
Jl. Barito No. 5 Malang - Jawa Timur | Telp. (0341) 491132, 492052  
Email : poltekkespim@gmail.com | website : www.poltekkespim.ac.id

---

**SURAT KETERANGAN**  
Nomor : 038/LAB.POLTEKKES.PIM/KTI/VII/2023

Yang bertanda tangan di bawah ini:  
Nama : Rizki Daniar Manggarani, S.Si.  
Jabatan : Ka. Laboratorium Terpadu dan Unit Produksi

menyatakan dengan ini bahwa mahasiswa Program Studi Farmasi Politeknik Kesehatan Putra Indonesia Malang:

Nama : **NOVYA PERMATALOKA**  
NIM : **AKF20074**  
Judul KTI : **PENGARUH VARIASI KONSENTRASI COCAMIDOPROPYL BETAINE TERHADAP KARAKTERISASI SAMPO PADAT KOMBINASI MINYAK KEMIRI (*Aleurites moluccana* (L.) Willd) DAN MINYAK ARGAN (*Argania spinosa* (L.))**

telah melakukan penelitian dan pengambilan data di Laboratorium Farmakognosi Politeknik Kesehatan Putra Indonesia Malang pada bulan Juli 2023.

Demikian surat keterangan ini kami buat untuk dipergunakan sebagaimana mestinya.

Malang, 25 Juli 2023  
Ka. Laboratorium Terpadu dan Produksi

  
**Rizki Daniar Manggarani, S.Si.**

## Lampiran 2. Perhitungan bahan

| Bahan                   | Formulasi |        |        |
|-------------------------|-----------|--------|--------|
|                         | F1 (%)    | F2 (%) | F3 (%) |
| Minyak kemiri           | 5         | 8      | 10     |
| Minyak Argan            | 1,5       | 1,5    | 1,5    |
| SCI                     | 65        | 65     | 65     |
| CAPB                    | 13        | 10     | 7      |
| Setil alkohol           | 5         | 5      | 5      |
| Mentega kakao           | 5,4       | 5,4    | 5,4    |
| Asam stearat            | 3         | 3      | 3      |
| <i>Essensial Orange</i> | 1         | 1      | 1      |
| Asam sitrat             | 0,1       | 0,1    | 0,1    |
| Lexgard natural         | 1         | 1      | 1      |

### Perhitungan Bahan:

1. Minyak Kemiri

$$F1: \frac{5}{100} \times 13\text{gr} = 0,65\text{gr}$$

$$F2: \frac{8}{100} \times 13\text{gr} = 1,04\text{gr}$$

$$F3: \frac{10}{100} \times 13\text{gr} = 1,3\text{gr}$$

2. Minyak Argan

$$\frac{1,5}{100} \times 13\text{gr} = 0,195\text{gr}$$

3. SCI

$$\frac{65}{100} \times 13\text{gr} = 8,45\text{gr}$$

4. CAPB

$$F1: \frac{13}{100} \times 13\text{gr} = 1,69\text{gr}$$

$$F2: \frac{10}{100} \times 13\text{gr} = 1,3\text{gr}$$

$$F3: \frac{7}{100} \times 13\text{gr} = 0,91\text{gr}$$

5. Setil Alkohol

$$\frac{5}{100} \times 13\text{gr} = 0,65\text{gr}$$

6. Mentega kakao

$$\frac{5,4}{100} \times 13\text{gr} = 0,702\text{gr}$$

7. Asam Stearat

$$\frac{3}{100} \times 13\text{gr} = 0,39\text{g}$$

8. Asam Sitrat

$$\frac{0,1}{100} \times 13\text{gr} = 0,013\text{gr}$$

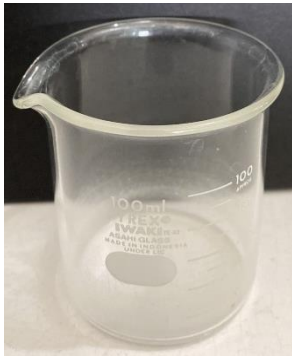
9. *Lexgard Natural*

$$\frac{1}{100} \times 13\text{gr} = 0,13\text{gr}$$

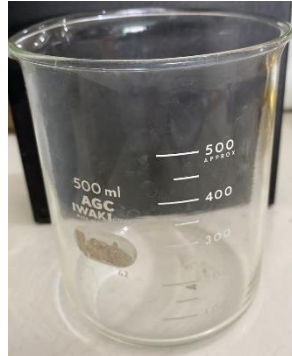
10. *Essensial Orange*

$$\frac{1}{100} \times 13\text{gr} = 0,13\text{gr}$$

**Lampiran 3. Alat Penelitian****pH meter****Timbangan  
Analitik****Batang pengaduk****Kaca arloji****Cawan porselin****Waterbath****Tabung reaksi dan tabung  
reaksi****Mortir dan stemper****Gelas ukur 10mL**



**Beaker glass 100mL**



**Beaker glass 500mL**



**Pipet tetes**



**Cetakan sampo  
(diameter 3cm)**



**Termometer**



**Jangka sorong**



**Hotplate**



**Oven**



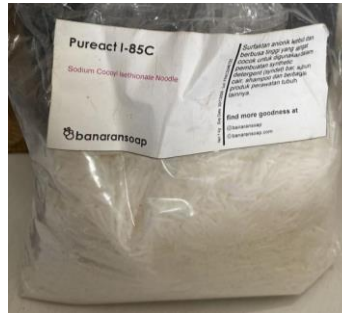
### Lampiran 4. Bahan Penelitian



**Minyak kemiri**



**Minyak argan**



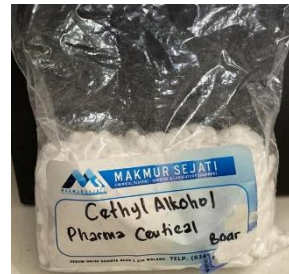
**SCI**



**CAPB**



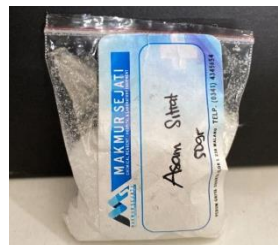
**Mentega kakao**



**Setil alkohol**



**Asam stearat**



**Asam sitrat**



**Lexgard natural**



**Essensial orange**

### Lampiran 5. Proses Pembuatan Sampo Padat MKMA



1. Dimasukkan  
SCI



2. Dimasukkan  
CAPB



3. Dimasukkan *mentega kakao*, setil alcohol dan asam stearat yang telah



4. Dimasukkan  
minyak kemiri



5. Dimasukkan  
minyak argan



6. Dimasukkan asam sitrat yang telah dilarutkan



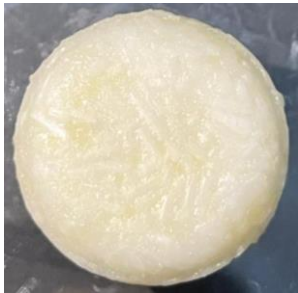
7. Dimasukkan  
lexgard natural



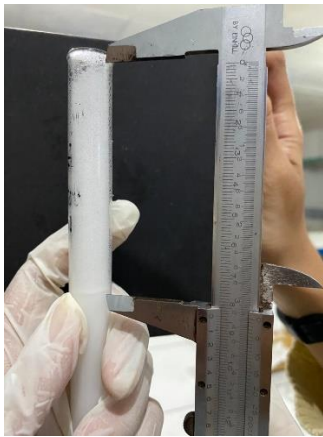
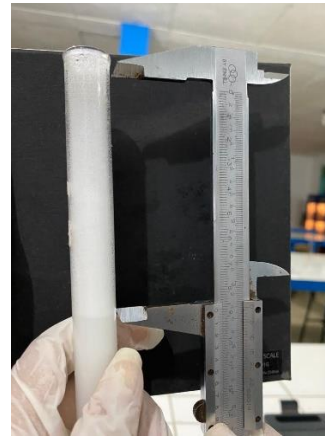
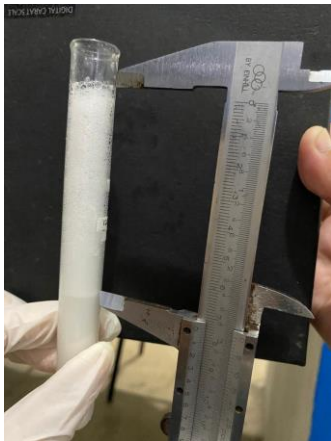
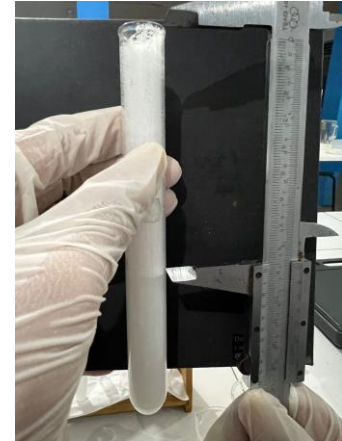
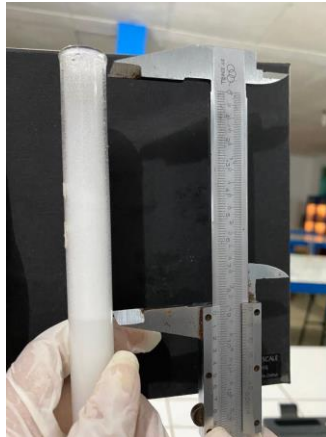
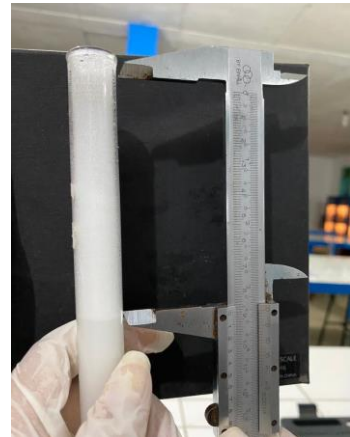
8. Dimasukkan *essensial orange*



9. Dimasukkan ke dalam cetakan

**Lampiran 6. Hasil Sampo Padat MKMA Setelah Masa Curing****F1 (R1)****F1 (R2)****F1 (R3)****F2 (R1)****F2 (R2)****F2 (R3)****F3 (R1)****F3 (R2)****F3 (R3)**

**Lampiran 7. Hasil pH****F1 (R1)****F1 (R2)****F1 (R3)****F2 (R1)****F2 (R2)****F2 (R3)****F3 (R1)****F3 (R2)****F3 (R3)**

**Lampiran 8. Hasil Tinggi dan Stabilitas Busa****F1 (R1)****F1 (R2)****F1 (R3)****F2 (R1)****F2 (R2)****F2 (R3)****F3 (R1)****F3 (R2)****F3 (R3)**

**Lampiran 9. Hasil Kadar Air****F1 (R1)****F1 (R2)****F1 (R3)****F2 (R1)****F2 (R2)****F2 (R3)****F3 (R1)****F3 (R2)****F3 (R3)**

## Lampiran 10. Hasil Uji Statistika

### pH

#### Tests of Normality

| X           | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |       |
|-------------|---------------------------------|----|------|--------------|----|-------|
|             | Statistic                       | df | Sig. | Statistic    | df | Sig.  |
| Y Formula 1 | .175                            | 3  | .    | 1.000        | 3  | 1.000 |
| Formula 2   | .175                            | 3  | .    | 1.000        | 3  | 1.000 |
| Formula 3   | .204                            | 3  | .    | .993         | 3  | .843  |

a. Lilliefors Significance Correction

#### Test of Homogeneity of Variances

Y

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| .613             | 2   | 6   | .572 |

#### ANOVA

Y

|                | Sum of Squares | df | Mean Square | F      | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between Groups | .033           | 2  | .016        | 24.066 | .001 |
| Within Groups  | .004           | 6  | .001        |        |      |
| Total          | .037           | 8  |             |        |      |

#### Multiple Comparisons

Y

Tukey HSD

| (I) X     | (J) X     | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|-----------|-----------|-----------------------|------------|------|-------------------------|-------------|
|           |           |                       |            |      | Lower Bound             | Upper Bound |
| Formula 1 | Formula 2 | .06000                | .02126     | .068 | -.0052                  | .1252       |
|           | Formula 3 | .14667*               | .02126     | .001 | .0814                   | .2119       |
| Formula 2 | Formula 1 | -.06000               | .02126     | .068 | -.1252                  | .0052       |
|           | Formula 3 | .08667*               | .02126     | .015 | .0214                   | .1519       |
| Formula 3 | Formula 1 | -.14667*              | .02126     | .001 | -.2119                  | -.0814      |
|           | Formula 2 | -.08667*              | .02126     | .015 | -.1519                  | -.0214      |

\*. The mean difference is significant at the 0.05 level.

## Tinggi Busa

### Tests of Normality

| X | Kolmogorov-Smirnov <sup>a</sup> |      |      | Shapiro-Wilk |    |      |
|---|---------------------------------|------|------|--------------|----|------|
|   | Statistic                       | df   | Sig. | Statistic    | df | Sig. |
| Y | Formula 1                       | .191 | 3    | .997         | 3  | .900 |
|   | Formula 2                       | .345 | 3    | .839         | 3  | .213 |
|   | Formula 3                       | .257 | 3    | .961         | 3  | .619 |

a. Lilliefors Significance Correction

### Test of Homogeneity of Variances

Y

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 2.881            | 2   | 6   | .133 |

### ANOVA

Y

|                | Sum of Squares | df | Mean Square | F      | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between Groups | .354           | 2  | .177        | 10.063 | .012 |
| Within Groups  | .106           | 6  | .018        |        |      |
| Total          | .460           | 8  |             |        |      |

### Multiple Comparisons

Y

Tukey HSD

| (I) X     | (J) X     | Mean Difference<br>(I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|-----------|-----------|--------------------------|------------|------|-------------------------|-------------|
|           |           |                          |            |      | Lower Bound             | Upper Bound |
| Formula 1 | Formula 2 | .30500*                  | .10829     | .068 | -.0273                  | .6373       |
|           | Formula 3 | .48000*                  | .10829     | .010 | .1477                   | .8123       |
| Formula 2 | Formula 1 | -.30500                  | .10829     | .068 | -.6373                  | .0273       |
|           | Formula 3 | .17500                   | .10829     | .310 | -.1573                  | .5073       |
| Formula 3 | Formula 1 | -.48000*                 | .10829     | .010 | -.8123                  | -.1477      |
|           | Formula 2 | -.17500                  | .10829     | .310 | -.5073                  | .1573       |

\*. The mean difference is significant at the 0.05 level.



## Stabilitas Busa

### Tests of Normality

| X |           | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |      |
|---|-----------|---------------------------------|----|------|--------------|----|------|
|   |           | Statistic                       | df | Sig. | Statistic    | df | Sig. |
| Y | Formula 1 | .308                            | 3  | .    | .902         | 3  | .391 |
|   | Formula 2 | .225                            | 3  | .    | .984         | 3  | .756 |
|   | Formula 3 | .253                            | 3  | .    | .964         | 3  | .637 |

a. Lilliefors Significance Correction

### Test of Homogeneity of Variances

Y

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 1.059            | 2   | 6   | .404 |

### ANOVA

Y

|                | Sum of Squares | df | Mean Square | F      | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between Groups | 124.376        | 2  | 62.188      | 30.837 | .001 |
| Within Groups  | 12.100         | 6  | 2.017       |        |      |
| Total          | 136.476        | 8  |             |        |      |

### Multiple Comparisons

Y

Tukey HSD

| (I) X     | (J) X     | Mean Difference<br>(I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|-----------|-----------|--------------------------|------------|------|-------------------------|-------------|
|           |           |                          |            |      | Lower Bound             | Upper Bound |
| Formula 1 | Formula 2 | 4.26667*                 | 1.15950    | .024 | .7090                   | 7.8243      |
|           | Formula 3 | 9.10000*                 | 1.15950    | .001 | 5.5423                  | 12.6577     |
| Formula 2 | Formula 1 | -4.26667*                | 1.15950    | .024 | -7.8243                 | -.7090      |
|           | Formula 3 | 4.83333*                 | 1.15950    | .014 | 1.2757                  | 8.3910      |
| Formula 3 | Formula 1 | -9.10000*                | 1.15950    | .001 | -12.6577                | -5.5423     |
|           | Formula 2 | -4.83333*                | 1.15950    | .014 | -8.3910                 | -1.2757     |

\*. The mean difference is significant at the 0.05 level.

**Kadar Air****Tests of Normality**

| X |           | Kolmogorov-Smirnov <sup>a</sup> |    |      | Shapiro-Wilk |    |      |
|---|-----------|---------------------------------|----|------|--------------|----|------|
|   |           | Statistic                       | df | Sig. | Statistic    | df | Sig. |
| Y | Formula 1 | .253                            | 3  | .    | .964         | 3  | .637 |
|   | Formula 2 | .232                            | 3  | .    | .980         | 3  | .726 |
|   | Formula 3 | .330                            | 3  | .    | .866         | 3  | .285 |

a. Lilliefors Significance Correction

**Test of Homogeneity of Variances**

Y

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 2.947            | 2   | 6   | .128 |

**ANOVA**

Y

|                | Sum of Squares | df | Mean Square | F     | Sig. |
|----------------|----------------|----|-------------|-------|------|
| Between Groups | 3.714          | 2  | 1.857       | 3.998 | .079 |
| Within Groups  | 2.787          | 6  | .464        |       |      |
| Total          | 6.501          | 8  |             |       |      |

**Multiple Comparisons**

Y

Tukey HSD

| (I) X     | (J) X     | Mean Difference<br>(I-J) | Std. Error | Sig. | 95% Confidence Interval |             |
|-----------|-----------|--------------------------|------------|------|-------------------------|-------------|
|           |           |                          |            |      | Lower Bound             | Upper Bound |
| Formula 1 | Formula 2 | .43333                   | .55647     | .729 | -1.2741                 | 2.1407      |
|           | Formula 3 | 1.52667                  | .55647     | .075 | -.1807                  | 3.2341      |
| Formula 2 | Formula 1 | -.43333                  | .55647     | .729 | -2.1407                 | 1.2741      |
|           | Formula 3 | 1.09333                  | .55647     | .202 | -.6141                  | 2.8007      |
| Formula 3 | Formula 1 | -1.52667                 | .55647     | .075 | -3.2341                 | .1807       |
|           | Formula 2 | -1.09333                 | .55647     | .202 | -2.8007                 | .6141       |