

**FORMULATION OF GEL MASK MASK- Off EXTRACT
ARABIKA COFFEE LEAF ETANOL (Coffea Arabica)
AS ANTI- AGING**

Juliana Sihombing

Fakultas Farmasi Dan Ilmu Kesehatan Universitas Sari Mutiara Indonesia
JL. Kapten Muslim No.79, Helvetia Tengah, Kec. Medan Helvetia, Kota Medan ,
Sumatera Utara 20123

Korespondensi penulis: Universitas Sari Mutiara Indonesia
Alamat *email : Sihombingjuliana23@gmail.com

Abstract Arabica coffee leaves (Coffea Arabica L.) are known to contain flavonoids which have antioxidant activity. This study aims to find out whether arabica coffee leaf extract can be formulated in the form of anti-meal pell-off gel mask preparations. The gel dosage formula is made by comparing the concentration of arabica coffee leaf ethanol extract with formulas 1%, 3% and 5% . The gel that is formed is tested for physical properties and stability. viscosity value of viscosity of 7500-27050cps, spread power of 5-7.5 cm. Pell-off mask preparation for homogeneous produced arabica coffee leaf ethanol extract, PH 5.1-6.1 stable in 4 weeks storage, non-irritating to the skin and long drying 22-30 minutes, Arabica coffee leaf ethanol pell-off gel mask provides better anti-aging effectiveness for 4 weeks compared to blank. The F3 pell-off gel mask (5%) provides a better anti-aging effect than other formulas.

Keywords: formulation, pell-off gel mask, arabica coffee leaf ethanol extract, anti-aging..

INTRODUCTION

Skin aging is a process of progressively decreasing skin function and capacity.

Other studies conducted by Hudakova et al. (2016) show that arabica coffee security is pickling the content of phenol compounds and flavonoid compounds that act as antioxidants

MATERIALS AND METHODS

From Lau gambir, Soban Kec Village. the foursome, Kab.Dairi. Arabica coffee leaf extract, polyvinyl alcohol (PVA), Aquadest, 96% ethanol, HPMC, glycerin, nipagin (methyl paraben), TEA, propyl paraben, distilled water, bouchardate reagents, mayer reagents, sulfuric acid 2 N, Fecl3, chloroform, HCL, Mg.

SKIRINING FITOKIMIA

No	Golongan Senyawa	Hasil Daun Kopi Arabika
1	Alkaloid	+
2	Flavanoid	+
3	Saponin	+
4	Tanin	+
5	Steroid	+
6	Fenolik	+

Formulasi masker Gel pell-off

PVA dissolves with Aquadest (80°C) until it expands perfectly then gerus homogeneous (Mass I). HPMC is developed for 15 minutes until it expands. Then gerus homogeneous. In a clean hitchhike enter mass I and mass II, little by little, and triethanolamine then add glycerin, methyl paraben, which has been dissolved in hot aquadest. Added successively and stirred to homogeneous Then added 96% ethanol%.

to homogeneous. Then enter the ethanol extract of arabica coffee leaf into the night of the hitch, then crushed, and add enough perfume, then put in one night the Solin container, 2019).

Quality Evaluation

Homogeneity Observation Results

The composition of the gel is said to be homogeneous when there are even color equations and no different particles are found (Titaley S, 2014). preparations f0, f1, f2 and f3 after homogeneous testing.

Results of Organoleptic Observations And Long-term Stability

Results of the fourth organoleptic gel mask formula pell-off arabica coffee leaf ethanol extract and stability at room temperature (25oC). After testing 3 months of preparation F0, F1, F2, F3 silky gel shape, the smell of coffee leaf, soft texture

Tabel Hasil pengukuran pH

No	Formula	Ph				
		Minggu ke-0	Minggu ke-1	Minggu ke-2	Minggu ke-3	Minggu ke-4
1	F0	5,8	5,9	6,0	6,0,	6,1
2	F1 (1%)	5,1	5,3	5,4	5,5	5,6
3	F2 (3%)	5,3	5,3	5,4	5,5	5,5
4	F3 (5%)	5,1	5,2	5,3	5,3	5,4

Cosmetic pH should correspond to skin pH of 4.5-7.0 (Ansel, 2005).

HASIL UJI DAYA SEBAR

Tabel Hasil pengukuran Daya Sebar

No	Formula	Daya sebar(cm)				
		Minggu ke-0	Minggu ke-1	Minggu ke-2	Minggu ke-3	Minggu ke-4
1	F0	6 cm	6cm	5 cm	5 cm	5 cm
2	F1 (1%)	7,5 cm	7,5cm	6 cm	6 cm	6 cm
3	F2 (3%)	6cm	6 cm	5,5cm	5,5cm	5 cm
4	F3 (5%)	6 cm	6 cm	5 cm	5 cm	5 cm

all formulas have met the requirements, the topical dosage spread requirements are to have diameters ranging from 5-7 cm (Jani, 2020).

HASIL UJI VISKOSITAS

Tabel Hasil Uji Viskositas

No	Formula	Viskositas (Centipoise)				
		Minggu ke-0	Minggu ke-1	Minggu ke-2	Minggu ke-3	Minggu ke-4
1	F0	7500	7550	8050	10000	11500
2	F1 (1%)	10000	11500	12500	14000	15550
3	F2 (3%)	15550	16550	19550	20500	21500
4	F3 (5%)	17000	19500	20550	21500	27050

Based on the above data Results of viscosity power measurements, all formulas have met the requirements, the viscosity requirements of a good gel formula have a viscosity value between 2,000-50,000 cps (SNI No.16 th.1996).

HASIL UJI WAKTU MENGERING

Tabel Hasil Pengujian Waktu Sediaan Mengering Selama 4 minggu.

No	Formula	Waktu Sediaan Mengering (Menit)				
		Minggu ke-0	Minggu ke-1	Minggu ke-2	Minggu ke-3	Minggu ke-4
1	F0	22	22	24	25	25
2	F1 (1%)	25	26	26	27	29
3	F2 (3%)	27	27	28	28	29
4	F3 (5%)	28	28	29	30	30

Dry time a good pell-off gel mask is between 15-30 minutes (Viera, 2009).

IRITATION TEST RESULTS

all volunteer groups give negative results on the parameters of the irritation reaction. t

Tabel Data Uji Iritasi Terhadap Kulit Sukarelawan

No	Reaksi iritasi	Sukarelawan											
		1	2	3	4	5	6	7	8	9	10	11	12
1	Kemerahan	-	-	-	-	-	-	-	-	-	-	-	-
2	Gatal-gatal	-	-	-	-	-	-	-	-	-	-	-	-
3	Bengkak	-	-	-	-	-	-	-	-	-	-	-	-

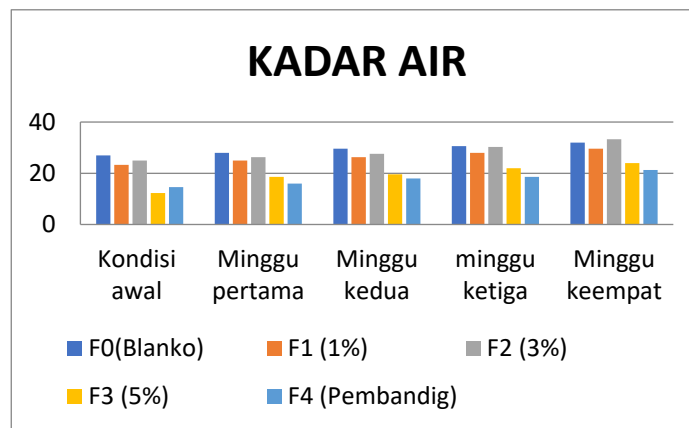
Keterangan :

- : Tidak terjadi reaksi
- + : Gatal
- ++ : Kemerahan
- +++ : Bengkak

Hasil Pengujian Efektivitas Anti-Aging

Kadar Air (*Moisture*)

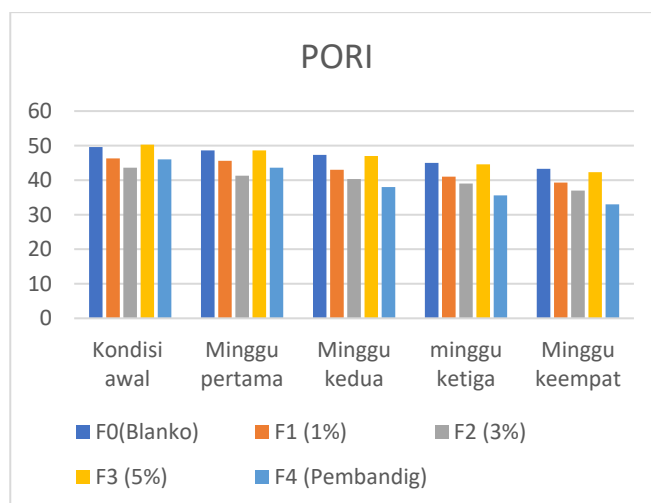
The results obtained in the table show that the initial skin condition of all groups of volunteers pickled dehydrated water content. Treatment carried out for 4 weeks shows the effect of a formula in increasing volunteer skin water content.



Gambar Diagram Nilai Rata-rata Kadar Air

Pori (*Pore*)

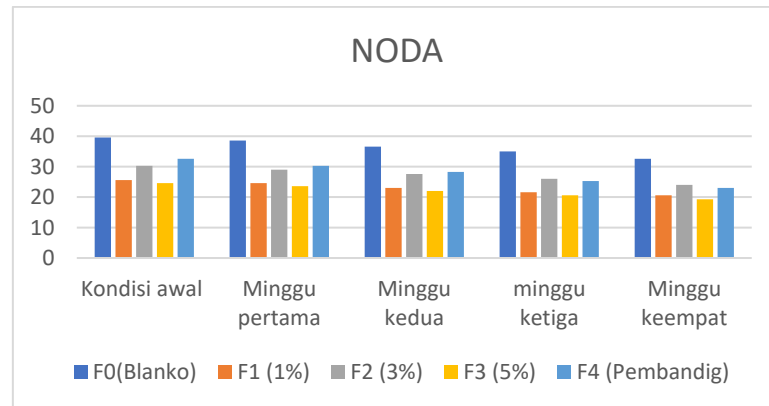
The results obtained in the table show that the initial condition of the skin of all groups of volunteers with a pore is very large. Treatment carried out for 4 weeks shows the effect of the formula in reducing the size of volunteer skin pores. A diagram of the effect of using a 4-week peel-off gel mask on volunteer pores can be seen in the picture



Gambar Diagram Nilai Rata-rata Pori

Noda (Spot)

The results obtained in table 4.11 show that the initial condition of the skin of all groups of volunteers pickled many stains. Treatment carried out for 4 weeks shows the effect of a formula that is cheating stains on volunteer skin.

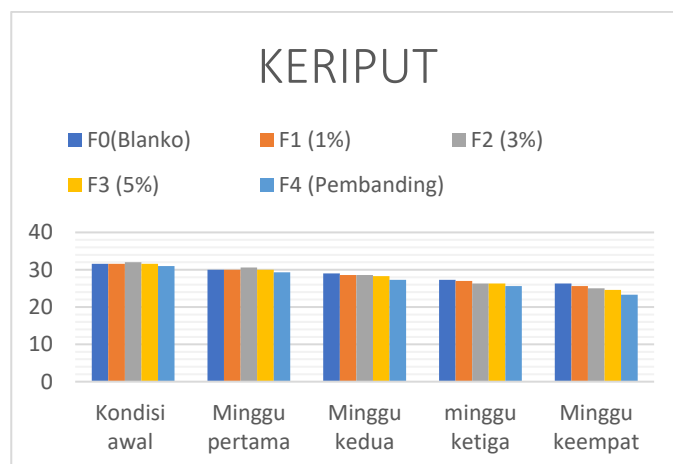


Gambar Diagram Nilai Rata-rata Noda

The picture shows that climbing the pell-off gel mask has an effect on the water content of volunteer skin, where the stain increases after climbing the pell-off gel mask for 4 weeks of treatment. The highest increase in volunteer skin water content was demonstrated by the group of care-sharing volunteers shaving formula 3 with a concentration of 5%

Keriput (Wrinkle)

The results obtained in the table show that the initial skin condition of all groups of volunteers pickled many stains. Treatment carried out for 4 weeks shows the effect of a formula that is cheating wrinkles in the skin of volunteers.



Gambar Diagram Nilai Rata-rata Keriput

The picture shows that the climbing of the peel-off gel mask has an effect on the water content of volunteer skin, where wrinkles increase after climbing the peel-off gel mask for 4 weeks of treatment. The highest increase in volunteer skin water content was demonstrated by a group of volunteers with treatment shaving formula 3 with a concentration of 5%.

CONCLUSION

a. Arabica coffee leaf peel-off mask preparations (*coffea arabica* L.) meet the quality test requirements (evaluation).

b. Arabica coffee leaf (*Coffea arabica* L.) peel-off mask preparations with 5% extract concentrations show the best results compared to other concentrations, able to provide the anti-aging effect shown by increasing skin water content, reducing pores, reducing the number of stains, and reducing wrinkles during treatment.

REFERENCE

- [1] Ansel HC, (1989). *Pengantar bentuk sediaan farmasi*, Ed 4. Penerjemah Farida Ibrahim. Jakarta: Universitas Indonesia Press.
- [2] Departemen Kesehatan Republik Indonesia. (2017). *Farmakope Herbal Indonesia Edisi Kedua*. Jakarta: Ditjen POM RI. Hal: 528
- [3] Durai, P., Thapa, D., Kumari, R., & Malathi, M. (2020). Aging in Elderly :Chorological Versus Photoaging. *Indian J. Dermatol*, 57(5), 343-352.
- [4] Hekimi S, lapointe J, Wen Y. (2011). *Taking a "good" look at free radicals in the aging process*. Cell Press : Vol .21 hal.10
- [5] Hudakova, J., Marcincakova, D., and Legath, J., 2016, Study of Antioxidant Effect Types of Coffe, *Journal Vol.60*, Departement of Pharmacology and Toxicology, University of Veterinary Medicine and Pharmacy.
- [6] Lucida, H., Fitri, E., Pitricia, D., & Hosiana, V.(2017). Formulasi masker peel-off dari ekstrak etanol kulit buah asam kendis (*Garcinia cowa*, Roxb) Dan Uji aktivitas antioksidannya. *Jurnal sains dan teknologi farmasi*, 19(1).31-36.