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Formulation of *Hylocereus Polyrhizus* Caulis Ekstract as Blush On

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Abstract. Dragon fruit peel has properties as natural dyes. Red dragon fruit peel contains flavonoids which have uses instead of synthetic dyes. This study aims to fromulate red dragon fruit peel as a blush on.This research was started by making red dragon fruit peel simplicia (Hylocereus polyrhzus), then extracting with mamceratin method using 70% ethanol solvent. The ectract is formulated with variations in concentrations of 5%, 10%, 15%. Phytocemical screening and blush on formulations. Physical quality tests which include homogeneity test, pH test, fragility test, preference test. The results of the study were analyzed using ANOVA or Analysis of Variance. The results showed that blush on extract of red dragon fruit peel can be made with the best formulation of kaolin (8%), zinc oxyde (4,74%), nipagin (1%), liquid paraffin (2,66%), and talk (ad 100%). Formulations with a concentration of 5%,10%,15% show the best physical quality.The conclucion of this study is dragon fruit bark extract formulated as a blush on with a concentration of 5%, 10%, 15% which has the best physical quality test.

INTRODUCTION

Dragon fruit is included in an exotic fruit because of its attractive appearance, sweet and sour taste is refreshing and has various health benefits (Wahyuni, 2011). Benefits of dragon fruit as antihyperolesteromic (Wahyuni, 2011). Dragon fruit can have potential as an anti-free radical because it contains betasianin (Wahyuni, 2011).

Dragon fruit skin contains vitamin C, vitamin E, vitamin A, alkaloids, terpenoids, flavonoids, thiamine, niacin, pyridoxine, cobalamin, phenolic, carotene, and phytoalbumin (Jaafar, et al., 2009). 1 mg / ml red dragon fruit skin can inhibit 83.48 + 1.02% free radicals of 27.45 + 5.03%. Besides the antioxidant activity of dragon fruit peel antioxidant activity with IC50 value of 43.83 μg / mL (Nurliyana et al., 2010).

Natural dyes are environmentally friendly products (Sutara, 2009). It is better to use natural dyes than to use synthetic dyes such as Rhodamin B, because generally these substances are used as textile dyes, paper or ink, these dyes can cause facial irritation and can cause carcinogenic substances or cancer (Arfina, 2014).

Blush on is one type of cosmetics that is used as a colorant on the cheeks so that it makes my face prettier, fresher and more dimensional. Blush is available in loose, compact powder, fat-bassed make up, liquid or cream emulsions, clear liquids, and gels. Cheek blower Compact powder is more popular and can stick well on the cheeks and not fly when used (Kusantati et al., 2008). Compact powder is the simplest form, containing pigments in dry form, diluted with standard powder ingredients such as talkum (Arfina, 2012).

This study will formulate red dragon fruit skin (Hylocereus polyrhizus) as a blush or Blush On preparation in compact powder.

EXPERIMENTAL DETAILS

TOOLS AND MATERIALS

The tools used for this research are cutter, beaker glass, analytic balance, blender, erlenmayer, aluminum foil, filter paper, glass cover, pH indicator, drop pipette, stirring rod, measuring cup, vaporizer cup, hot plate, calipers, container blush on.

The material used for this study was extract of red dragon fruit skin (Hylocereus polyrhizus), talc, kaolin, liquid paraffin, zinc oxide, lanolin, nipagin, oleum rosae. This study uses a variation of the concentration of extract of red dragon fruit skin (*Hylocereus polyrhizus*) 5%, 10% and 15%.

HOW TO MAKE BLUSH ON

Prepare the ingredients to be used for making blush. Grind zinc oxide first, then sift it with a 100 mesh sieve. Each powder material such as kaolin, zinc oxide and nipagin is mashed in a mortar, then red dragon fruit peel extract is crushed in another mortar and added talkum little by little until it is homogeneous and mixed into the mixture on top again until homogeneous. Add the isopropyl miristate and lanolin binding agent which had been preheated until melted, and crushed the binder until the mixture was exhausted, then dripped oleum rosae after it was sieved with 60 mesh sieve and dried in the drying cabinet for 20 minutes, kemudin sieved with 100 mesh sieve. Pressed using a printer.

Table 1. Base Blush On Formulation

Component	%b/v
Kaolin	0,9
Zinc Oxyde	0,5
Pigment	X
Fragrance	Qs
Nipagin	0,2%
Liquid parrafin	0,15
Talk	Ad 10

Stage of Research

This research begins with extraction by maceration using 96% ethanol as a dancer. Soaked for 5 days then evaporated using waterbath. After the extract is finished, the research continues to the stage of cheek-redening formulation.

Test compact powder preparations

The physical quality test of compact powder includes the homogeneity test, pH test, fragility test, and preference test.

Statistical Data Analysis Method

Statistical data analysis method used to see the differences between formulations using Anova One Way and descriptive.

RESULTS AND DISCUSSION

Homogeneity Test

A good homogeneity requirement is that the dyestuff must be evenly divided into powder carriers. Table 2 shows the results of observing the color homogeneity of the cheek blusher extract of red dragon fruit skin (Hylocereus polyrhizus).

Table 2. Observation Results of Homogeneity Test

No.	Parameter	Assessment Criteria	F1	F2	F3	Score
1	Uneven powder	+	-	-	-	0
2	The powder is quite flat	++	-	-	-	1
3	Perfect flat powder	+++	3	3	3	2

Table 3. Results of Rank Determination and Calculation of Homogeneity Physical Quality Test

Formulation	Replikasi	Bets 1 Skor Peringkat		Bets 2 Skor Peringkat		H_{Hitung}	H_{Tabel}
I	1	2	9,50	2	9,50		
	2	2	9,50	2	9,50		
	3	2	9,50	2	9,50		

Jumlah		R_I 57,00				
	1	2	9,50	2	9,50	
II	2	2	9,50	2	9,50	0,035	5,991
	3	2	9,50	2	9,50	
Jumlah		R_{II} 57,00				
	1	2	9,50	2	9,50	
III	2	2	9,50	2	9,50	
	3	2	9,50	2	9,50	
Total		R_{III} 57,00				

Table 4. Results of physical quality testing for pH

Formulation	Replikasi	Batch 1	Batch 2
	1	5,00	4,90
I	2	5,20	5,00
	3	5,15	5,15
	1	5,00	5,00
II	2	5,00	5,00
	3	5,30	5,10
	1	5,12	5,05
III	2	5,20	4,90
	3	5,00	5,00

Table 5. Observation Results of Fragility Test

No	Parameter	Acessement Criteria	F1 B.1 B.2	F2 B.1 B.2	F3 B.1 B.2	Score
1	Broken to shred	+	- -	- -	- -	0
	Cracked	++	- -	- -	- -	1
2	Not cracked	+++	3 3	3 3	3 3	2
3	Total Observation Number		6	6	6	

The color homogeneity test on the cheek reducer must be homogeneously dispersed in the cheek coloring base. It should not be found that there are layers of color or imperfections in the dispersion of the cheek coloring which cause poor pulverization or color dissipation. Uniformity in cheek coloring can be easily checked by spreading it on white paper and tested on a magnifying glass. If it spreads evenly, the color will be evenly distributed (Butler, 2000).

PH test

The requirement for a pH test on cheek blower that is well in accordance with the skin pH in general is 4.0-5.5 (Walters, 2002).

Fragility Test

The requirements for good fragility of preparations are cheek reddening preparations for red dragon fruit skin extract (Hylocereus polyrhizus) which should not be broken or cracked (Sagarin and Strianse, 1972).

Test preferences

This preference test was conducted to find out the panelists' preference for cheek-redening preparations from red dragon fruit skin extract (Hylocereus polyrhizus). Table 7 shows the test results of the preference of red-blushed red dragon peel extract. The most preferred formula is a cheek coloring preparation with a concentration of 15% because it is considered to match the color of the face.

Table. 7. Favorite test value data

Panelist	Age	5%	10%	15%
1	23	5	7	9
2	23	5	8	8
3	22	3	7	9
4	22	4	6	8
5	23	4	7	8
6	24	5	8	9
7	25	4	8	9
8	25	3	7	8
9	23	4	6	9
10	23	5	8	9

CONCLUSION

Red dragon fruit skin extract (Hylocereus polyrhizus) can be used as a natural dye in making blush. Increasingly the concentration of red dragon fruit skin extract is used, the more concentrated the color of the preparation of the cheeks is produced. The cheek coloring with a concentration of 5% is pale pink, coloring cheeks with a concentration of 10% pink, coloring cheeks with a concentration of 15% pink.

REFERENCES

1. Bindharawati, Nina, F. L. Darsono and Sumi Wijaya, J. Pharmaceutic. Sci. Pharm. Pract. **2**: 2 (2015).
2. R. Nurliyana, S. Zahir, M. Suleiman, K. Aisyah, and K. Rahim, Int. Food Res. J. **17**: 367-375 (2010).
3. Wahyuni, Rekna, J. Food Technol. **2**: 1-10 (2011).
4. B. Sagarin and Strianse G. J., *Cosmetic: Science and Technology* (John Wiley Sons, Inc., New York, 1972), pp. 355-362.
5. Walters K. A., *Dermatological and Transdermal Formulation*, (Marcel Dekker Inc. New York, 2002).