

Medicinal Plants 2018: Anti-wrinkles gel containing cocoa pod extract- Azila Abdul Karim- Malaysian Cocoa Board

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Abstract

Cocoa pod is an plentiful waste of cocoa industry. About 75% weight percent of the cocoa end result is the pod. It has type of colour that could resemble the energetic compound with antioxidant hobby. Usually, cocoa pod has been used as fertilizer, activated carbon and potash. However, the cocoa pod changed into now no longer massively examine in beauty software. In this research, the cocoa pods have been accrued from the cocoa plantation (Cocoa Research and Development Centre, Jengka, Pahang) and extracted with 80% ethanol. The Cocoa Pod Extract (CPE) has excellent antioxidant activities, as decided the use of DPPH and β -carotene bleaching assays, which contributed via way of means of poly-phenolic compounds. The hobby of collagenase and tyrosinase enzymes, which have been enzymes associated with formation of wrinkles, decreased with the presence of CPE. The CPE changed into blanketed in a gel-primarily based totally method at 10 wt.% and examined for its efficacy in wrinkles removal. eleven girls panelists of 30 years vintage and above have been volunteered to check the product. The outcomes confirmed that pores and skin hydration elevated and wrinkles index decreased substantially after 3 weeks of every day software. This end result amplified the fee-delivered of cocoa pod and varied using cocoa pod that can boom the call for of cocoa and profits of cocoa growers.

Cocoa pods are plentiful waste substances of cocoa plantation, which can be typically discarded onto plantation floors. However, because of terrible plantation control, the discarded cocoa pods can create appropriate breeding floor for *Phytophthora palmivora*, that is seemed because the causal agent of the black pod ailment. On the opposite hand, cocoa pods probably incorporate antioxidant compounds. Antioxidant compounds are associated with the safety of pores and skin from wrinkles and may be used as practical beauty substances. Therefore, on this examine, cocoa pods have been extracted and for use as energetic substances for antiwrinkles. The energetic compounds in cocoa pod extracts (CPE) have been screened the use of liquid chromatography-mass spectrometry (LC-MS). Fibroblast cells have been used to

decide the powerful awareness of CPE to keep the viability for as a minimum 50% of the cells (EC 50). The gel changed into examined via way of means of 12 panelists to decide the efficacy of CPE in gel shape the use of Visioscan to lessen pores and skin wrinkles and enhance pores and skin condition.

CPE changed into detected to incorporate malic acid, procyanidin B1, rosmarinic acid, procyanidin C1, apigenin, and ellagic acid, all of which may also make contributions to practical beauty houses of CPE. The EC 50 fee of cocoa pod extracts changed into used to calculate the quantity of CPE to be included into gel in order that the formulated product should attain an powerful awareness of extract even as being nonintoxicant to the pores and skin cell. The outcomes confirmed that CPE is ability element to lessen wrinkles. Skin wrinkles decreased at $6.38 \pm 1.23\%$ with the software of the CPE gel inside three weeks and substantially stepped forward further ($12.39 \pm 1.59\%$) after five weeks. The pores and skin hydration elevated ($three.181 \pm 1.06\%$) after three weeks of the CPE gel software.

Flavonoid compounds in CPE contributed to the practical beauty houses of CPE. The CPE that is risk-free to pores and skin cells assist to lessen wrinkles on pores and skin after three weeks of software. CPE may be used because the energetic substances in antiwrinkle merchandise, and extended software may also bring about full-size visible modifications to the bare eyes. Formation of wrinkles is an indication of ageing and can't be stopped. However, the presence of wrinkles on pores and skin floor may be decreased in numerous ways, one in all that is the software of topical practical beauty merchandise that incorporate energetic plant extracts. Plant extracts with phenolic compounds have been stated to enhance pores and skin condition. For example, moringa leaf and *Acacia nilotica* bark extract merchandise had been stated to rejuvenate the pores and skin. Antiwrinkle consequences of *Areca catechu* and basil extracts have additionally been stated previously. The consequences of practical beauty merchandise won't be seen to the bare eye, however their influence at the appearances of the pores and skin may be significant with steady software.

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Anthropology

Cocoa pods, which represent 75% of the cocoa end result, are the adequate waste of cocoa plantation industry. Usually, the pods are discarded onto the plantation floor to function a fertilizer. However, rotten cocoa pods and terrible plantation control can result in black pods ailment because of *Phytophthora Palmira* hobby. Besides being a fertilizer, the cocoa pod is used to make activated carbon, gum, exfoliant, meals colorant, potash, and hypercholesterolemia supplement. Cocoa pods incorporate 32. three cryohydrate, 21.44% lignin, 19.2% sugars, 8.6% protein, and 27.7% minerals. The overall phenolic content material has been predicted at 56. five 0. fifty-seven mg GAE/g, 45.6-46. four mg GAE soluble phenolic, and 49. fifty four three.39 mg GAE/g. The cocoa pod extracts have additionally been discovered to show off excellent antioxidant potential the use of DPPH, FRAP, and b-carotene bleaching assays, which changed into attributed to caffeic acid and apigenin. Suppression of elastase and collagenase enzymes which can be associated with the pores and skin formation changed into additionally stated as one of the abilities of cocoa pod extracts. These antioxidant capacities and practical beauty benefits of cocoa pod extracts have served as baseline records of CPE getting used as one of the abilities antiwrinkle sellers in beauty method. To date, there was little proof at the efficacy of cocoa pods getting used as antiwrinkle merchandise.

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