

PALM-BASED SOAP WITH REISHI MUSHROOM (*Ganoderma*)

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The formulation of soap bars has become more complex over the years due to the need to increase the functionality of the soaps. Traditionally, soap was designed for cleaning the skin but over time, soaps began to be used as a delivery system for perfumes, super fatting agents and active ingredients to the effect that the cleansing aspect has become almost secondary. Currently, there are many types of soaps available in the market, from cheap mass market soaps to premium soaps with various additives such as vitamins E, A, goat's milk and now even *Ganoderma*.

Ganoderma

The *Ganoderma Lucidum* mushroom, also called *ling-zhi* in Chinese or *reishi* in Japanese, is a basidiomycete or lamellaless fungus, belonging to the family Polyporaceae. In nature, it grows in densely wooded mountains of high humidity and dim light. It is rarely found since it flourishes mainly on the dried trunks of dead plum, *Guercus serrata*, or pasonia trees. Out of 10 000 such aged trees, perhaps two or three will have *reishi* growth; therefore, it is very scarce indeed. At about 1972, the cultivation of *reishi* became successful and as a result, what was once only attainable by the privileged is now readily made available to everyone. Presently, *Ganoderma* is being cultivated artificially in over 10 countries with an estimated annual production of 4300 t. China with an annual production of 3000 t is the top producer followed by Korea, Taiwan, Japan, Thailand, USA, Malaysia, Vietnam, Indonesia and Sri Lanka. The cultivation of *Ganoderma* in Malaysia was initially attempted by Teow in 1981, using sawdust in propylene bags in sheds under palm oil trees. The annual production of *Ganoderma* in Malaysia is about 300 t (Teow, 1997).

Reishi has long been known to extend life span, increase youthful vigour and vitality. It also promotes good blood circulation by eliminating thrombi in the blood stream and as a result, a person feels renewed vitality. Modern research has revealed its active ingredients, which include polysaccharides, organic germanium, triterpenoids, adenosine, LZ-8 and an array of amino acids besides

numerous mineral types. Some studies have shown that *reishi* has the properties to improve cholesterosis, coronary insufficiency, hyper- and hypotension, nervous tension, neurosis, chronic bronchitis, hepatitis, leukocytopenia and the reticuloendothelial system and is effective in numerous other treatments.

More research is being conducted in a number of countries to attest to the complexity and curative ability of the *reishi* mushroom. However, even though the curative effect of *reishi* is well known, the effect of *reishi* in topically applied products is yet to be established, but it is believed that *reishi* is an effective antiseptic agent and also has an effect on wound healing and tissue proliferation (Teow, 1997).

Research and development collaboration between MPOB and DXN Sdn. Bhd. has resulted in a series of topically applied products with *Ganoderma* powder/extract. However, in this publication only the soap bar formulation will be discussed.

DXN *Ganoderma* SOAP: PERFORMANCE INDICATOR

Foaming

To determine the foaming characteristics of the soap, a foaming test was carried out at 0.1% concentration to determine the ability of the soap to form foam as well as to determine the stability of the foam after a certain period of time. The result indicates that the addition of *Ganoderma* powder does not affect the foaming power of the soap.

DXN GANODERMA SOAP: FOAMING POWER AT 0.1% CONCENTRATION

	Foaming power	Foaming power (after 5 min)
DXN Soap	275	95

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DETERGENCY

To determine the cleaning power of DXN *Ganoderma* soap, detergency on cotton AS 9 cloth soiled with pigment/oil was carried out at 0.1% concentration, 50 ppm and 350 ppm water hardness and room temperature condition. The detergency results indicated that the soap is able to remove about 43% and 18 % of soil at 50 ppm and 350 ppm water hardness respectively. Currently, DXN *Ganoderma* soap is the only of its kind available in the market.

CONCLUSION

Palm-based *Ganoderma* soap is one of the successful collaborations that MPOB has had with the industry. To date the soap, marketed under the Ganozhi brand, is sold locally at RM 6.50 for 80 g packaging. Currently, the soap is marketed locally and has penetrated other Asian countries like Hong Kong, Philippines and Singapore. The success of this collaboration has proven again that palm-based raw materials coupled with locally available active ingredients, such as *Ganoderma* powder, can be successfully formulated and are well accepted by consumers.



Ganozhi soap.

REFERENCE

TEOW SUN-SOO (1997). Cultivation, utilization and medicinal effects of *Ganoderma Lucidum* in Malaysia. A paper presented at the Symposium of *Ganoderma Lucidum*, 17-18 November 1997. Japan.

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