

CHEMISTRY TODAY

GUEST EDITORIAL

THE ROLE OF BOTANICAL RAW MATERIALS IN THE COSMETICS INDUSTRY

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INTRODUCTION

The use of natural materials for the care and beautification of the skin goes back to the very beginnings of man's history. Egyptian wall paintings and papyri showed us the importance that plants played in their day to day toilette. Artefacts found in even the humblest of tombs, normally included some traces of botanical material either used for its fragrance or its medicinal value.

HISTORICAL USES

Throughout the ages, man has used plant materials to decorate the skin. The ancient Britains used woad or *Isatis tinctoria* as an adornment before going into battle and its use continued into the Middle Ages for more sedate activities. It came as a surprise to learn that the last woad mill closed in Lincolnshire in the 1930s.

The Caraib Indians used the lipstick tree or *Bixa orellana* as a colourful body paint for tribal decorations, and in the Amazonian jungle the locals use this scarlet stain for similar purposes. Today we better know that colour as annatto.

Clearly the use of plants as colourants was just a small part of the daily life in any tribe or village. The day to day running of any society involved the usual activities of bringing home the groceries, bringing up the children and caring for the sick and elderly. It also involved the arrival of new members to the community and the care of the expectant mother. All of these operations produced a number of casualties and so great reliance was placed on herbal medicines to care for the society.

MODERN USES

Today, we are increasingly looking back to the 'things that were', in order to find the 'things that will be'. Pharmaceutical science has made huge strides in the development of new synthetic molecules to care for the body, but at huge financial cost, which has to be repaid by the end user.

A plant is a fascinating factory of complex molecules and it produces these often powerful materials without pollution and at very little cost. There is an increasing tendency to look at the older remedies for particular conditions and to see how the plant chemistry could have provided a cure.

The cosmetic formulator is quite at liberty to use traditional herbal materials (provided that they are not legally prohibited) for the benefits that they can confer to the skin. However, using these materials at low or insignificant levels is unlikely to achieve this aim.

Increasingly, there is a trend to use herbal material that has been carefully extracted using good quality plant stock in order to preserve the quantity and quality of the active materials responsible for providing skin benefit. The pharmaceutical herb producers are seeing the cosmetic and toiletry industry as a vehicle to sell its materials and with them come the specification that includes detailed analysis and identification of those actives.

There is now the possibility to formulate high quality skin care that does have a genuine benefit containing proven active ingredients that can be measured and quantified. Molecules such as bisabolol, glycyrrhetic acid, rosmarinic acid, aescin, darutoside, ursolic acid, phytic acid can provide effects that include anti-inflammatory, anti-erythema, anti-pruritic, antioxidant, and skin healing.

The great worry is that skin care employing high levels of herbal material will move outside the boundaries set by law (which is that they should be for the cleansing and protection of the skin). The moment that a product can exert any physiological on the skin it becomes a medicinal product.

In the most part, most existing herbal medicines in the UK hold pharmaceutical licenses of right (PLR) and under the tough criteria of modern registration procedure would not likely succeed in obtaining marketing authorisations or pharmaceutical licenses (PL). Modern pharmaceuticals are usually composed of single active materials, whereas herbal medicine relies on a multiplicity of ingredients, which can vary in concentration from season to season. It is the variability and the lack of specificity that is unacceptable to most authorities.

The various agencies responsible for the licensing of medicinal products should be worried. Though they cannot grant licenses for these products, does it necessarily mean that they are not physiologically active? The World Health Organisation is increasingly looking at ethnopharmacy or local herbal remedies as the solution to the health problems of third world countries, which cannot afford the cost of western pharmaceuticals.

THE FUTURE

The use of plant materials or herbs in skin care is the perfect way to have good claims, efficacious products and to satisfy the “green” consumer. It may also be a way to help the farmer to use land that is not productive or a third world country to produce a crop that it can sell. There are many plants, which yield cosmetically interesting materials, that will help to bind the soil and encourage it to retain nutrient and humus, thereby forcing back desert. In time, such land could once again be used to grow food crops.

Enjoy this period of freedom while you can, it cannot be long before the pharmaceutical industry recognises that the use of powerful herbal extracts will have a physiological effect. It has to be accepted, that the term “cosmeceutical” means that the

product is clearly targeted at diseased or damaged skin and is more than likely to have a physiological effect than have a simple protective role.

The time is now long overdue for an additional category between cosmetics and toiletries, and pharmaceuticals. This should be a category that allows the use of those plant materials for which monographs have been published in the British Herbal Pharmacopoeia or equivalent publications. The amount of herbal materials should be accurately determined and controlled and a new licensing category should be created, which does not require the extensive clinical trials of ingested or injected pharmaceuticals.

In the 'good old days', we could use oestrogen in our products, it would be a tragedy to see the herbal materials follow the same route of prohibition.