# Patented formulations containing extracts from unique plants for hair regrowth

### **Background**

The Dead Sea region, one of the lowest & warmest places on Earth, is just 16 miles away from high altitude hills, where it even snows in winter. This creates a rare encounter of plants from extremely different climates, causing plants to experience high levels of climatic stress. Biologists and biochemists, led by Dr. Amir Kitron, have studied the contents and physiology of these plants since the early nineties. Since the late nineties, they have initiated a research center supported by the Israeli Ministry of Science, as well as Grasses of Eden Ltd., which has been implementing such plants for cosmetic & well being products.

## Active ingredients which stop hair loss and promote regrowth

In coping with the climatic stress, some of the plants produce, among other things, high levels of Brassinosteroids. While present in very small levels in the plants, they have been shown by Dr. Amir Kitron and co researchers, to block the conversion of testosterone to DHDT – the main mechanism involved in androgenic alopecia, in concentrations 10 times smaller than those of the standard 5-alpha reductase blocker, Finasteride (used in Propecia). Analogues of these molecules can also be useful, and may be present in larger amounts in the plants. All these applications have been recently patented by them.

# Novel plant extracts, from indigenous plants, containing bountiful active ingredients for hair regrowth

Some plant extracts are known to block testosterone conversion to DHDT, but they are mostly expensive to obtain: Saw palmetto (seeds from a tropical palm), and possibly: Ginseng extracts (a very expensive root), Phyllanthus niruri & Lygodium japonicum (ferns), etc.

In Grasses of Eden, indigenous herbs have been cultivated, which are planted in rows in fields, and the whole leafy plant top is harvested for extraction. Such plants have been approved by the Israeli Ministry of health for use by Grasses of Eden in hair formulations, and have been marketed for over 16 years in Israel, with a continued monitoring of customer satisfaction. The use of these plants for hair regrowth by blocking testosterone conversion, is also proprietary.

#### Additions to the novel extracts

Such plant extracts are combined with additional plants extracts, such as Rosemary which contains Apigenin to inhibit the  $\overline{TGF-\beta 1}$  enzyme, which induces the Catagen (inactive growth) phase in hair follicles;

With plant extracts which promote hair growth by increasing insulin-like growth factor-I production;

With essential oils that stimulate the endothelial growth factor.

Unlike Propecia, this formula is applied topically and does not affect the sex functioning in any way.

Additional formulations: **Shampoo and conditioner**, involve indigenous plants **to treat dandruffs, scalp skin eczema and more**.