

## *Introduction*

The number of natural materials used in hair and skin care products is very large and is constantly increasing as a result of the additional benefits being proven by contemporary cosmetic researchers. In part the use of herbs has resulted from our awareness of our natural environment and heritage, and certainly plants satisfy the nostalgic urge, which is so marked in consumer cosmetics. Constant movement away from the use of animal derivatives and animal testing has accelerated the move to plant derivatives as a means of enhancing product performance or providing an attractive product. Marketers are endeavouring to bring the countryside to the consumer in the form of natural cosmetics by incorporating natural ingredients. These ingredients provide a more satisfactory product, with increased consumer appeal. The skin is, after all, a natural integument and nothing could be more acceptable for its care than a substance derived from a natural source.



## *The Biology*

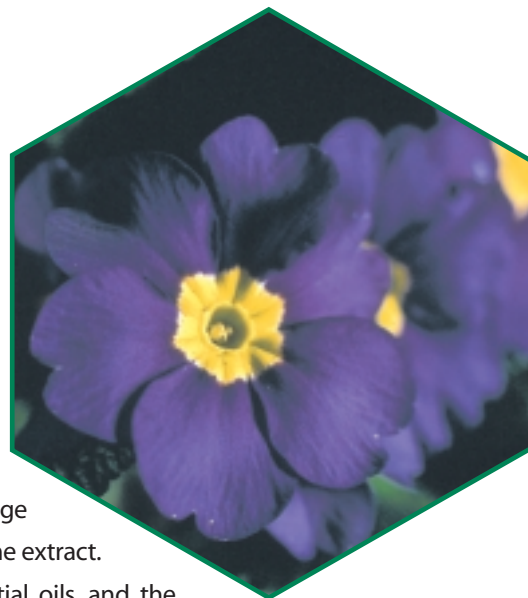
Microscopically, a plant is made up of units or cell, many of which are no longer living and serve only the skeletal function of mechanical support, e.g. the wood of tree trunks. Others are living and serve a variety of functions in the life process of the plant. The individual cells are bounded by a cell wall, (consisting largely of cellulose), and within this wall is a space in the case of dead cells and liquid in the case of living cells. It is the cell content that is of interest to cosmetologists for providing the basis of botanical extracts. The cell content consists largely of water in which is dissolved or suspended various organic and inorganic materials. This is not just a haphazard mixture or emulsion but a highly organised system since the cell is, after all, a living unit carrying out the processes of life. It is not surprising therefore, to find extremely complex substances present; for instance proteins, amino acids, oils and fats, mineral and organic salts, to name but a few.

## *Extraction*

The solvent used to obtain the extract will be selective and will thus remove only those substances with which it is miscible or which pass into suspension. The most common solvents for cosmetic extracts are glycols and water, in which case only small amounts of oils and fats will be present in the extracted liquid. Botanical extracts for cosmetic use may, however, be prepared which are either alcohol soluble or oil soluble depending upon the solvent used during the process of extracting the plant material. Variable ways are available for obtaining access to the liquid of the living plant cell, the most common being the crushing process, (to rupture the cell walls), followed by solvent extraction to dilute and thus leach out the contained liquid. The liquid thus obtained is clarified and, where necessary, preservatives and stabilisers are added.

## *The Source*

Extracts can be made from both freshly harvested or dry plant material. On drying a herb, only the volatile substances are removed, the dissolved and suspended substances being deposited within the now dry and dead cell wall. In this state the herb may be stored until required for extraction. In most cases the aqueous extract is the same whether derived from the dried or freshly harvested herb since deposited water-soluble substances undergo little change in the dry state. An alcoholic extract may, however, differ considerably with the age and storage conditions of the plant material since the deposited oils, (which form an important part of an alcoholic extract), may change in character during lengthy storage, leading to a change in odour of the extract. Similarly, prolonged storage often allows evaporation of the essential oils, and the alcoholic extract from such exhausted material could, at worst, be odourless.



## *Safety*

It is through experience that the many beneficial properties of plants are known, but it is of equal importance that a thorough knowledge of toxins and properties that may have an adverse effect are also considered. Increasingly, in a commercially concerned society, marketers are obviously aware of, and concerned with, the toxicity aspects of the products they offer and thus for the materials used in their constitution. In the past, serious toxicological studies have been performed using animal tests but these, of course, are now completely unacceptable. Thus toxicity data must be taken from available literature until alternative tests have been acceptably verified.

## *Formulating*

Most of our extracts can be supplied in hydro-glycolic form and, being light in colour, are particularly suitable for delicately coloured products. Additionally, most extracts can be supplied in the darker aqueous form, and many in alcoholic or oil-miscible versions or variants of these.



Other vehicles can be supplied to requirements as well as providing preservative systems that will be acceptable to differing country's legislation. Many manufacturers prefer to use a blend of plant extracts and we are pleased to supply such blends to a customer's brief. Formulators should bear in mind that many water-miscible plant extracts will change their depth of colour with the change in their pH balance. Once this has occurred, however, this reaction goes no further, but needs to be taken into account for very delicately coloured products. Thus if a product with an alkaline reaction is to have a plant extract incorporated, we would recommend that the extract be made alkaline prior to incorporation into the product. This procedure is of particular value during product development stages: any colouration will be seen immediately rather than as a gradual change taking place over some days, and thus may be compensated for during the formulation.



## In Use Experience

## Functional Performance

### Herbal Extract

	CLEANSING	SOOTHING	MOISTURISING	TONING (ASTRINGENT)	STIMULATING	ANTI-INFLAMMATORY	REFRESHING	ANTI-IRRITANT	FIRMING	ANTI-WRINKLE	ANTISEPTIC	ANTI-DANDRUFF	ANTI-HAIRLOSS	RELAXING	ANTI-CELLULITE	SKIN LIGHTENING	HEALING
Clover (Red) <i>Trifolium Pratense</i>			*	*													
Cocoa Butter <i>Theobroma Cacao</i>			*														
Coconut <i>Cocos Nucifera</i>			*														
Coffee <i>Coffea Arabica</i>					*												
Coltsfoot <i>Tussilago Farfara</i>						*						*					
Comfrey <i>Symphytum Officinale</i>			*	*		*		*									*
Coneflower <i>Echinacea Purpurea</i>		*				*					*						
Cornflower <i>Centaurea Cyanus</i>				*													
Cowslip <i>Primula Veris</i>				*		*											
Crocus <i>Crocus Sativus</i>				*													*
Cucumber <i>Cucumis Sativus</i>	*	*		*		*	*	*								*	
Cypress <i>Cupressus Sempervirens</i>				*			*							*			
Damask Rose <i>Rosa Centifolia</i>		*	*	*		*					*						
Dandelion <i>Taraxacum Officinale</i>	*		*														
Dewberry <i>Rubus Fruticosus</i>				*													
Dogrose <i>Rosa Canina</i>		*	*														
Elderflower <i>Sambucus Nigra</i>		*															
Eucalyptus <i>Eucalyptus Globulus</i>	*			*	*	*		*			*						
Evening Primrose <i>Oenothera Biennis</i>			*	*										*			
Eyebright <i>Euphrasia Officinalis</i>		*		*													
Fennel <i>Foeniculum Vulgare</i>	*	*			*												
Feverfew <i>Chrysanthemum Parthenium</i>		*															
Frankincense <i>Boswellia Carterii</i>		*				*											
Gardenia <i>Gardenia Tahitensis</i>																	
Gentian <i>Gentiana Lutea</i>					*						*						
Geranium <i>Pelargonium Capitatum</i>				*		*					*						
Ginger <i>Zingiber Officinale</i>					*												
Ginseng <i>Panax Ginseng</i>					*												
Ginkgo <i>Ginkgo Biloba</i>						*											
Grape <i>Vitis Vinifera</i>						*											
Grapefruit <i>Citrus Grandis</i>	*			*			*			*			*		*		
Grapeseed <i>Vitis Vinifera</i>				*													
Green Tea <i>Camelia Sinensis</i>		*		*	*												
Guava <i>Psidium Guajava</i>																	
Hawthorn <i>Crataegus Monogina</i>				*				*									*
Heartsease <i>Viola Tricolor</i>		*															
Henna <i>Lawsonia Inermis</i>				*							*						*
Honey <i>Mel</i>		*															*
Hop <i>Humulus Lupulus</i>				*		*								*			
Horse Chestnut <i>Aesculus Hippocastanum</i>				*													
Horse Tail <i>Equisetum Arvense</i>				*		*				*							
Huckleberry <i>Vaccinium Myrtillus</i>				*							*						
Hydrocotyle <i>Centella Asiatica</i>						*					*		*				
Hypericum <i>Hypericum Perforatum</i>				*		*					*						
Iceland Moss <i>Cetraria Islandica</i>											*						
Iris <i>Iris Florentina</i>																	
Irish Moss <i>Chondrus Crispus</i>		*	*														
Jasmin <i>Jasminum Officinale</i>		*	*											*			
Jobba <i>Buxus Chinensis</i>			*														
Juniper <i>Juniperus Communis</i>				*									*				
Kelp <i>Algae</i>		*		*				*				*			*		
Kiwi Fruit <i>Actinidia Chinensis</i>																	
Kukui <i>Aleurites Moluccana</i>			*														
Ladys Mantle <i>Alchemilla Vulgaris</i>		*		*		*					*		*	*	*		
Lavender <i>Lavandula Angustifolia</i>		*				*	*	*			*	*	*	*			
Lemon <i>Citrus Limonum</i>				*			*				*						





## In Use Experience

## Functional Performance

### Herbal Extract

Herbal Extract	In Use Experience					Functional Performance											
	CLEANSING	SOOTHING	MOISTURISING	TONING (ASTRINGENT)	STIMULATING	ANTI-INFLAMMATORY	REFRESHING	ANTI-IRRITANT	FIRMING	ANTI-WRINKLE	ANTISEPTIC	ANTI-DANDRUFF	ANTI-HAIRLOSS	RELAXING	ANTI-CELLULITE	SKIN LIGHTENING	HEALING
Rosemary <i>Rosmarinus Officinalis</i>	*		*					*					*				*
Rosepetal <i>Rosa Centifolia</i>		*	*	*		*				*							
Rosewood <i>Aniba rosaeodora</i>				*					*								*
Royal Jelly <i>Royal Jelly</i>																	
Saffron <i>Crocus Sativus</i>				*													*
Sage <i>Salvia Officinalis</i>			*	*		*				*		*					*
St. John's Wort <i>Hypericum Perforatum</i>				*		*				*							
Sandalwood <i>Santalum Album</i>		*		*				*									
Sea Buckthorn <i>Hippophae Rhamnoides</i>	*			*													
Sea Parsley <i>Levisticum Officinale</i>	*																
Seaweed <i>Fucus Vesiculosus</i>		*		*				*			*			*			
Seaweed (Mixed)		*		*				*			*			*			
Self Heal <i>Prunella Vulgaris</i>				*							*						*
Soya <i>Glycine Soja</i>		*															
Shave Grass <i>Equisetum Arvense</i>				*		*			*								
Speedwell <i>Veronica Officinalis</i>				*													*
Starflower <i>Borago Officinalis</i>			*			*											
Strawberry <i>Fragaria Vesca</i>				*													
Sunflower <i>Helianthus Annuus</i>																	
Sweet Balm <i>Melissa Officinalis</i>	*	*								*							
Sweet Flag <i>Acorus Calamus</i>														*			
Sweet Sedge <i>Acorus Calamus</i>														*			
Tangerine <i>Citrus Nobilis</i>				*		*											
Tea <i>Camelia Sinensis</i>		*		*	*												
Tea Tree <i>Melaleuca Alternifolia</i>	*	*				*				*	*						*
Thyme <i>Thymus Vulgaris</i>	*					*				*							*
Tomato <i>Solanum Lycopersicum</i>																	
Valerian <i>Valeriana Officinalis</i>														*			
Vanilla <i>Vanilla Planifolia</i>			*														
Violet <i>Viola Odorata</i>		*				*											
Walnut <i>Juglans Regia</i>			*	*		*											
Watercress <i>Nasturtium Officinale</i>	*	*		*	*					*							
Water Melon <i>Citrullus Vulgaris</i>								*									
Water Mint <i>Mentha Aquatica</i>		*		*	*			*									
Wheatgerm <i>Triticum Vulgare</i>																	
Willow <i>Salix Alba</i>		*		*		*		*		*		*					*
Witchhazel <i>Hamamelis Virginiana</i>		*		*		*	*	*		*		*					*
Wormwood <i>Artemisia Absinthium</i>						*				*							
Yam <i>Dioscorea Villosa</i>																	
Yarrow <i>Achillea Millefolium</i>		*	*	*		*	*										*
Ylang Ylang <i>Cananga Odorata</i>								*		*		*					
Yucca <i>Yucca Schidigera</i>																	

Details of the bases in which plant extracts are available can be found on the individual range data sheets.

The list of extracts is constantly evolving. If you do not see the extract you want please contact us on the telephone or fax numbers below, email us (address below) or visit our web site [www.botanicalsearch.com](http://www.botanicalsearch.com).

This leaflet has been compiled in good faith, from recognised literature references, however PJCD does not hold itself responsible for the accuracy of the contents. PJCD reserves the right to discontinue non-selling extracts without notice.



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