





BALANCING THE SKIN MICROBIOME IS OUR PRIMARY PASSION BUT ONCE THIS IS ACHIEVED, THERE ARE MANY EXCITING ACTIVES TO DISCOVER FOR EXCELLENT ANTI-AGEING RESULTS.

Every ingredient used in Esse is considered. We look at the production process behind each ingredient as well as its effect on the skin and its microbiome. We're certified to COSMOS organic standards by Ecocert but we impose our own standards over and above these. As an example, the COSMOS standards for organic allow the use of sulphated foaming agents like sodium lauryl sulphate, but we will not use these because we have an internal standard against sulphated surfactants.

Esse is also accredited by the Vegan Society, which means that we will not use any animal products or by-products. This even extends as far as beeswax, which is an animal by-product. We use plant-sourced replacements like carnauba or candelilla wax.

Where possible, we prefer to use wild-harvested plant material for our extracts. We have found in many instances that these extracts are more effective than extracts from domesticated plants. As an accredited partner of PhytoTrade Africa and in commitment to the Fair Trade movement, all wild-sourced ingredients are harvested sustainably and harvesters receive fair and prompt remuneration according to Fair Trade standards.

LESSON SECTIONS: KEY INGREDIENTS

- 1. Probiotics
- 2. Prebiotics
- 3. Hyaluronic Acid
- 4. Ximenia Americana oil
- 5. Acmella Oleracea (Mafane) Extract
- 6. Aloe Barbadensis (Aloe Vera Leaf) Extract
- 7. Myrothamnus Flabellifolia (Resurrection Bush) Extract
- 8. Aspalathus Linearis (Rooibos Leaf) Extract
- 9. Kigelia Africana (Sausage Tree) Fruit Extract
- 10. Adansonia Digitata (Baobab) Fruit Extract
- 11. Bellis Perennis (Daisy Flower Extract)
- 12. Harpagophytum Procumbens (Devils Claw) Root Extract
- 13. Sclerocarya Birrea (Marula) Seed Oil
- 14. Siegesbeckia Orientalis (Darutoside)
- 15. Lilium Candidium (White Lily)
- 16. Schinziophyton Rautanenii (Manketti) Seed Oil
- 17. Ptychopetalum Olacoides (Muira Puama)
- 18. Pfaffia Paniculata (Brazilian Ginseng Root) Extract
- 19. Calodendrum Capense (Yangu) Seed Oil
- 20. Ascorbyl Palmitate
- 21. Simmondsia Chinensis (Jojoba) Seed Oil

PROBIOTICS

Probiotic: A live microbe that has a beneficial effect.

The number of live microbes is measured in Colony Forming Units per gram (cfu/g). Lactobacillus is a genus that includes many probiotic species. It is a bacterium and there are 180 different species in the Lactobacillus genus. Other probiotic genera are Bifidobacterium and Bacillus.

So why would you want to use probiotics on your skin and what are the benefits to your skin when using probiotics?

- > They protect you from pathogens (like armour for your face)
- > They manufacture moisturising factors
- > They maintain skin pH (very important, don't mess with pH)
- > They maintain calm and reduce sensitivity
- > They slow ageing (healthy skin ages slower)

Don't fall short on probiotic support!

Skin armour

Probiotics protect
your skin from
pathogens. Under the
right conditions, they
colonise the surface
of skin, occupying
all available space
so that opportunistic
pathogens can't take hold.
They also produce anti-microbial
peptides that make life really tough for
undesirable species.

Probiotic moisturisers

Probiotic bacteria produce hyaluronic acid which is an intensely moisturising active that naturally holds moisture in your skin. They have also been shown to decrease trans epidermal water loss and increase

skin hydration by improving barrier function through the strengthening of tight junctions.

рH

As we age, our skin pH drifts higher and higher. Lactobacilus probiotics produce Lactic Acid and other acids that keep your skin's pH in the optimal range ... 4,5 to 5. Lactic Acid has the added benefit of improving skin hydration.

Probiotics for sensitivity

Probiotic bacteria on the skin communicate with your skin's immune system to keep it in check so that it doesn't overreact. Improved of barrier function also prevents toxins from penetrating the skin and initiating an immune response in the first place.

Graceful ageing

We can't stop the clock ... but we can't deny that if we treat skin badly, it will age

faster. Probiotics help

slow the signs of ageing by protecting your skin and by keeping your own immune response at bay. They have also been shown to reduce wrinkles and improve skin firmness and elasticity. Healthy skin ages slower.

It is very difficult to keep probiotics alive in skincare preparations. Products must be preservative-free and great care must be taken in manufacture.

Esse uses Lactobacillus in many forms - sometimes whole and alive, sometimes whole but killed and sometimes the contents of the broken cells are used.

When you see the INCI listing "Lactobacillus" on Esse products, it means that the probiotic bacteria are whole with the cell membrane intact – either alive or dead.

In the Probiotic Serum and the Sensitive Serum, the Lactobacilus are whole and alive (able to grow and form a colony – level 4). In all other products that list Lactobacillus (Sensitive Toner and Toner Plus for example), the bacteria are whole, but have been killed (level 3). In Esse products, when you see "Lactobacillus Ferment", the bacterial cells have been broken (lysed) and the cell contents have been used (level 2).

In some products, Esse will use both whole bacteria (level 3) and lysed (Level 2) bacteria, so you will see both Lactobacillus and Lactobacillus Ferment in the INCI list. In products from some other brands Lactobacillus Ferment can mean that the product contains an extract from the growing medium and not the cells themselves (level 1).

All of the extraction techniques can yield useful results in skincare.

Technically, the only technique that fits the definition of a true probiotic is level 4 ... a

live probiotic bacteria. Esse currently uses live probiotics in two retail products. In the Probiotic Serum, Esse uses a consortium of three species of Lactobacillus. These species are selected for their synergistic activity. They work well together to establish the Lactobacillus community on the skin. The goal of the product is to have a firming effect on skin and to improve skin elasticity. It is an anti-ageing product and it has been shown, in independent studies, to statistically improve skin firmness in 100% of the subjects tested. The average improvement in 28 days was 16%. Skin elasticity also improved by an average of 9% in 28 days.

In the Sensitive Serum, Esse has selected a single species of Lactobacillus. This is a resilient species and has been linked to improved barrier function. When barrier function is intact, the skin's immune system is not constantly challenged, allowing it to maintain a balanced state instead of being on high alert. This means that the skin will be less likely to experience an inappropriate inflammatory response to potential allergens.

Esse is in the process of including level 3 probiotics in the majority of the leave-on products.

PREBIOTICS

Prebiotic: a non-digestible substrate that has a positive effect on health by selectively stimulating the growth of beneficial microbes. This means that a prebiotic is a food source that cannot be used by human cells or pathogens but that can be used as food by microbes that help us.

Prebiotics are usually chains of sugars between 5 and 25 monosaccharide units

Not all sugars are the same. Normal table sugar (sucrose) is made of two monosaccharides (glucose and fructose). Sugar chains this short are very quickly and easily used as food by human cells and microbes. Freely available energy generally promotes the growth of opportunistic and pathogenic microbe species. Longer chain sugars will only be available to species that are adapted to use them. This food requires more time and energy to digest and will only be available to species that have longer-term residence on skin. If we selectively feed the beneficial species it means that they will be able to out-compete opportunistic species.

Esse includes inulin, fructooligosaccharides (FOS) and glucooligosaccharides (GOS). These longer chain sugars have all shown prebiotic activity in the gut and on skin.

Inulin occurs naturally in many plant species. Its fructose sugar chain can be from 10 to 60 monosaccharide units long. Inulin is sourced from either chicory root or blue agave. Esse prefers an average chain length of 20.



oligosaccharides (FOS) are often made from inulin and have similar sources. Esse often uses Yacon root as a source of these important prebiotics.

☐-gluco-oligosaccharides (GOS) are produced by enzymatic synthesis from maltose (corn source) and saccharose (beetroot source). The chain length used in Esse is 5 to 8 monosaccharide units.

Yacon Root (also known as Jicama root) (Polymnia sonchifolia) is produced from the juice pressed out of the tubers of this South American plant. The juice contains a high level of β -fructo-oligosaccharides (FOS) and Inulin.

Pathogenic bacteria Staphylococcus aureus and Propionibacterium acnes cannot digest prebiotics but some skin commensal species of Lactobacillus, Corynebacterium, Micrococcus and Staphylococcus epidermidis can use GOS, FOS or Inulin as food source.

Prebiotics are present in Esse's BIOME+ products as a food source that favour the growth of beneficial microbes over opportunistic microbes.

The 4 levels of probiotics in skincare



Level 1

Broth

microbes are removed and the ferment is used

Probiotic microbes are inoculated into a liquid nutrient broth; allowed to multiply and then the broth is filtered off and used in the final product.

Level 2

Lysate

microbes are broken and their contents are used







Level 3

Tyndallisation

microbes are killed by heat, but are kept whole

using heat and then added to the product.

Level 4

Live probiotic

microbes are live and able to colonise

A true probiotic product is alive and can grow to form colonies. The product will have millions of colony forming units per millilitre (CFU per ml)



HYALURONIC ACID

You have about 15 grams of hyaluronic acid (HA) in your body and one third of this is degraded and resynthesised every day. It is one of your body's main lubricating components. It allows your joints to move and lets your muscles slide over each other smoothly. It is also a major component of your skin. It is produced by the cells in your dermis but found in particularly high concentrations in the basal layer. Here HA holds water and aids in tissue repair.

If you look at the ingredient listing of any Esse moisturiser or water-based serums, you will see Hyaluronic Acid (listed as Sodium Hyaluronate). Although we don't talk much about it, this is one of the key ingredients in the range.

Hyaluronic Acid (HA) is a tricky ingredient but when it is used properly, it is one of the most effective anti-ageing ingredients in all of skincare. It reduces wrinkle depth and increases skin hydration, firmness and elasticity but there are a few catches ...

As with almost everything in the skincare industry, there is a lot of "marketing-speak" with regard to HA. "This ingredient can hold more than 1000 times its mass in water", for example or, from another brand, "1g of HA can hold 6 litres of water".

HA can hold around 10 times its own weight in water, which should be impressive enough. The frequently quoted "facts" came from an academic paper that quoted that the molecule could hold 1000% of its weight in water and once non-scientific marketers got involved things got out of hand. Brands use the frequently quoted (but inaccurate) stats to make perverse calculations and claim that they use ridiculously high percentages of HA. HA is expensive and most brands use very low levels to maximize profit.

The second important factor is the size of the molecule. HA is a polymer. A long string of repeating units. If the number of units is small then you have a small molecular size, perhaps 20 kDa. If the number of units is large then you have a much larger molecule, perhaps 7 000 kDa. For the molecule to penetrate into skin HA needs to be small but if it is too small, it creates inflammation in skin. The sweet spot is between 60 and 80 kDa but this comes at extra cost because separating this size from other sizes is difficult.

HA is a key ingredient for Esse and we feel that the extra cost is worthwhile. We also source the HA from bacteria rather than the usual source which is animal cartilage.

hyaluronic serum

Sérum pour le visage

XIMENIA

Ximenia Americana is commonly known as the wild plum, a shrub-like tree that reaches between 4 – 7m in height. The fruit contains one large seed that contains up to 60% oil content. Ximenia oil is pressed from the seeds of Ximenia Americana. The tree is found throughout the tropics and the cold-pressed seed yields a thick, sticky oil, known as "mumpeke oil" amongst locals. After degumming, the oil is golden with a unique skin feel.

There are two interesting aspects to the oil. Firstly, Ximenynic acid makes up around 20% of the oil. This fatty acid contains a very rare triple bond in the carbon chain. This bond is quite reactive and when

exposed to UV light or free radicals they break, linking with other fatty acids to form a polymer network that acts as a protective layer on skin.

Secondly, Ximenia oil contains more than 30% Very Long Chain Fatty Acids, which are uncommon in nature. Human sebum also contains long chain fatty acids which are thought to be a nutrient source for our co-evolved microbes. Pathogens are not able to use these uncommon fatty acids as energy.

Both the Ximenynic Acid and the Very Long Chain Fatty Acids creates the unique skin feel. The oil is quite thick and coats the skin for the first couple of minutes and then quickly penetrates to leave the skin matte but supple.

Ximenia is beneficial for dry skin, premature ageing and impaired sebaceous function as it is nourishing, moisturising, revitalising, softening and improves tone and elasticity.

ACMELLA OLERACEA (MAFANE) EXTRACT



in the Intensity Serum, our active is extracted from a small plant called Mafane by locals and the Electric Daisy or Buzz Buttons by chefs.

The buds cause intense salivation and a cooling, numbing sensation in the mouth. It is harvested in Reunion, a French island off the coast of Madagascar. It has been used by many societies for toothache, colds and even general pain due to the analgesic and anti-inflammatory properties of the active molecule Spilanthol.

The extract used in Esse is standardised for this component. Spilanthol is mainly found in the leaves and flower heads, it penetrates the skin easily and has muscle relaxant properties.

With the main action of this ingredient being to relax the facial muscles, it reduces the appearance of wrinkles. This effect starts almost immediately but takes approximately 3 hours to reach its peak and is reversible over 24 hours.

This ingredient gives us a rapid effect but also delivers cumulative results with continued use. Wrinkles are reduced by around 7% on day 1 (6 hours) but with continued use, can deliver an average of 16% wrinkle reduction (28 days).

ALOE BARBADENSIS (Aloe Vera Leaf Extract) Aloe Vera gel has been used for at least 1000 years to treat minor wounds and burns (including sunburn). More recently, it has been recognised for its skin hydration properties. The gel is pressed from the leaves and Esse uses it at high percentage in many products. Most of the gel is made up by polysaccharides (particularly acemannan). These are responsible for the hydrating action of the gel but can also have anti-viral activity. Aloe sterols have been shown to boost collagen production and hyaluronic acid production. Aloe gel also contains many other potential active compounds (about 75) including vitamins, minerals, amino acids and enzymes. The synergistic effect of all these actives contributes to the activity of this ingredient. Low temperature extraction of this ingredient is important to preserve activity. Aloe is known to be calming and enhance wound healing. It has strong protective properties. It is easily absorbed into the skin and enhances the absorption of other ingredients. Aloe has been widely used in the treatment of acne, sensitive skin conditions and ageing. Esse's certified organic Aloe is harvested in the northern parts of South Africa and is also Fair Trade

certified.

MYROTHAMNUS FLABELLIFOLIA EXTRACT

Known as the Resurrection plant, Myrothamnus Flabellifolia is found only in Southern Africa. It is a woody shrub between 0.5m and 1.5m tall. Esse sources it from the Namib Desert, the oldest desert in the world. where it can be three years between rains.

Most plants die if they lose 20 – 30% of their water but the Resurrection plant is able to

completely air dry and then flourish when water is available. Myrothamnus can exist for years in this air-dried, dormant state. As soon as water is available, it can resume metabolic processes within a few hours, as seen in the images below.

Myrothamnus is known as "uvukwabafile" to locals which translates to "wakes from the dead". In traditional African folklore it is believed that the plant's revival ability is passed on to an ill person receiving treatment and it is a symbol of hope. It has been used to treat a variety of illnesses, likely in part due to its ability to fight microbial pathogens.



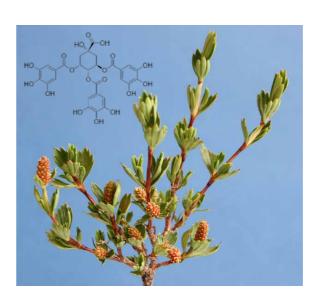






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elapsed time in hours



Up to 40% of the dry mass of the plant is made up of polyphenols (like 3,4,5-trigalloyl quinic acid above), giving the extract potent antioxidant activity. These compounds protect the plant from free radical damage while it is in the dormant state and offers the same to, protecting it from pollutants and other aggressors. The extract is also capable of rapidly boosting skin moisture with an effect that lasts up to 24 hours.

Myrothamnus is a strong antioxidant, calms sensitive skin, provides rapid hydration and assists with wound healing.

ASPALATHUS LINEARIS

(Rooibos Leaf Extract)

Rooibos grows in the Cape region of South Africa and it is part of the Fynbos, one of the most diverse plant kingdoms in the world. The San people have used Rooibos for thousands of years.

In 1772, the Swedish naturalist, Carl Thunberg, noted its use and described the method used by the local people to prepare the plant to make tea.

The standardised extraction of Green Rooibos is technical and is done in the

Esse laboratory. We use the leaves of plants sourced from Fair Trade, organic suppliers. Green rooibos extract absorbs into the skin 7 times more effectively than the cured extract.

Rooibos has been shown to help prevent the formation of cancerous tumours on skin mostly because of its antioxidant activity. The extract has also shown efficacy in wound healing and free radical scavenging and has also been shown to improve skin barrier integrity and reduce inflammation making it an ideal as protection against pollution.

Rooibos and its most prominent antioxidant, Aspalathin, have also been shown to reduce melanotic pigmentation.





KIGELIA AFRICANA FRUIT EXTRACT

Kigelia Africana is more commonly known as the Sausage Tree, derived from its long sausage-shaped fruits. The tree grows to approximately 10m in height and the hard, oblong fruits can reach 60cm in length and weigh up to 4kg.



Kigelia is one of the first African extracts used by Esse. The fruit yields two distinct extracts with different properties. The first extract has antiageing and skin firming properties, while the second extract decreases pigmentation and has shown to reduce the size melanoma by up to 68%. Kigelia has been used in a wide variety of cosmeceutical preparations from breast firming and toning products, to anti-ageing, brightening, and even after-sun preparations.



It is known for its excellent firming effect on the dermis, restoring elasticity. In traditional populations women created a paste by grinding the fruit, which was then applied to the breast area to improve firmness. It has also been used by healers to treat a variety of skin infections and heal wounds.

BELLIS PERENNIS

(Daisy Flower Extract)



Bellis perennis has shown to inhibit melanogenesis by inhibiting tyrosinase activity, which results in strong skin lightening properties as both a corrective and preventative measure. It is found exclusively in the Esse Plus Eye Contour Cream.

Bellis perennis, or the daisy flower, is a flowering plant that is small in stature, reaching between 2 – 10cm in height. In the fourteenth-century, daisy flower extract was a popular way to treat wounds. Ancient herbalists included it in love potions. Some ancient writers believed the name to be derived from "bellus" which is Latin for "pretty or charming".

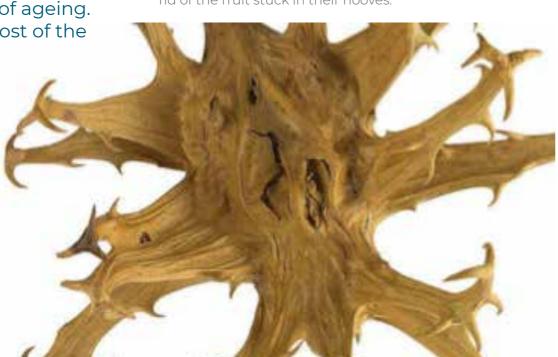
HARPAGOPHYTUM PROCUMBENS

(Devil's Claw Root Extract)

Devil's claw is an antiinflammatory ingredient with moisture-binding properties. It protects collagen and elastin, thereby improving signs of ageing. It is present in most of the

Esse Plus line.

The name "Devil's claw" is thought to originate from either the appearance of the fruit, which has grapple-like hooks and two long straight thorns, or the devilish dance animals do to try and get rid of the fruit stuck in their hooves.



ADANSONIA DIGITATA

(Baobab Fruit Extract)

The African Baobab can reach up to 30m in height with a trunk diameter of 2-10m. It takes 200 years for the tree to bear fruit, with some trees being over 1000 years old.

Many scientists believe the word "baobab" is derived from the Arabic word "buhibab", which means "fruit with many seeds" as the woody shell of the fruit contains many brown, hard seeds. It is a majestic tree, which has been referred to as "arbre a palabre" which translates to "the place where the elders meet to resolve problems". Traditional medicinal uses include the treatment inflammation, toothache, fever, microbial diseases and wound healing. Esse does not use Baobab oil, but uses an

Baobab extract
has anti-ageing
properties. It
enhances elasticity
and provides skin
firming benefits.

extract of the fruit. The extract contains soluble fibre (prebiotics) as two thirds of the total fibre. It also contains a large amount of vitamin C, which is an effective antioxidant and collagen booster. Other than vitamin C, the fruit pulp contains vitamins A, F, E and D3.



SCLEROCARYA BIRREA (Marula Seed Oil)

The Marula tree is found throughout Africa and can reach up to 18m in height. It bears yellow fruits and the seeds usually contain 2 – 3 edible, soft, white kernels. Traditionally the oil has been used to protect against dry, damaged skin and is often used to massage babies.

The oil extracted from the seeds has a nutty smell and is a pale, clear, yellow-brown colour. The Esse sources Marula seed oil from Zimbabwe and Namibia as part of community empowerment programs.

Marula fruit has 4 times more vitamin C
than an orange and is very high in powerful
antioxidants such as catechins, procyanidin
and flavonoids.

Marula seed oil reduces redness and has hydrating and nourishing properties. It is typically used as an emollient.



SIEGESBECKIA ORIENTALIS

(Darutoside)

It was initially used in skincare as an anti-stretchmark ingredient, but was later reported to improve photo ageing when applied to the face.

Siegesbeckia orientalis is also known as "The Holy Herb". It is a small shrub that grows in hot climates and has been widely used as a protective covering over burns and for various skin diseases.

Darutoside has strong antioxidant properties and has shown an anti-microbial action on opportunistic microbes. This active ingredient equips the skin with collagen restoring properties and is used in both the Esse Eye Contour Cream and Sensitive Eye Cream.

LILIUM CANDIDUM

(Madonna Lily Flower Extract)

In combination with Pfaffia paniculata and Ptychopetalum olacoides it reduces puffiness (especially in the eye area), improves hyper-pigmentation and increases elasticity.

Throughout history lilies have formed part of traditional rituals in many cultures. Lilium candidium is popularly known as the "white lily" or the "Madonna lily". It is characterised by its big, fragrant, white flowers often used for perfume, medical and ornamental purposes. It has been used in folk medicine to treat burn wounds and enhance the healing process.





PFAFFIA PANICULATA

(Brazilian Ginseng Root Extract)

It is considered an adaptogen, strengthens the immune system, strengthens the barrier function of the skin and increases keratinocyte differentiation. It also has antioxidant and anti-inflammatory properties.



Pfaffia paniculata is a ground vine that is large in size and shrub-like in appearance. In Brazil the locals know it as "para tudo" which translates to "for all things".

In Western culture it is more commonly known as Brazilian ginseng. Pfaffia has been used by the Amazonians for a wide variety of health purposes.

Brazilian Ginseng Root Extract contains a massive amount of vitamins, minerals, saponins and phytosterols. This composition makes the skin smoother, brighter, and reduces dark circles under the eyes and in general.

PTYCHOPETALUM OLACOIDES (Marapuama)

Used in combination with Pfaffia paniculata and Lilium candidum in the Ageless Serum, it exhibits wrinkle-reducing, skin lightening and brightening properties, especially when managing pigmentation and age spots.

Marapuama is traditionally used as an adaptogen to restore balance. It has strong antioxidant properties due to its free radical scavenging abilities.

Its extract contains Muirapuamine and phytosterols such as β-sitosterol, Kampesterol and Kumarine and helps ageing skin adapt better to decreased oestrogen levels.



SCHINZIOPHYTON RAUTANENII

(Manketti Seed Oil)

Schinziophyton rautanenii is a tree naturally occurring in parts of Africa. The tree reaches up to 15m in height and its flowering and fruiting commence around year 15 – 25. Fruit ripens after falling to the ground. It is locally known as Mongongo.

Manketti seeds are seen as a unit of exchange in rural communities. The seeds are used as a food source and the shells as fuel for cooking. From the seed, bright yellow edible oil is cold pressed and sourced as part of a community empowerment program. It contains a high content of vitamin E, Linoleic acid and Eleostearic acid. Eleostearic acid reacts under UV radiation and protects skin.

Manketti seed oil is easily absorbed into the skin and has been used as in hair lotions, body rubs, cleansers and moisturisers by local communities to protect skin and hair.





CALODENDRUM CAPENSE (Yangu Seed Oil)

Also known as Cape chestnut, the fruit of the tree breaks open when ripe to release roughly three black seeds from which about 60% oil is extracted. The oil is light yellow in colour and is sourced as part of a community empowerment program.

Yangu seeds provide oil that has intrinsic UV light screening properties that protect skin from UV damage. It has a unique fatty acid composition, acts as an emollient and also nurtures and moisturises the skin.

It is used predominantly in the Core range of moisturisers, Repair Oil and the Eye & Lip Cream.



ASCORBYL PALMITATE



