Essential Oils: Premium Quality Yields Premium Results

Published in Massage Magazine, March 2010

While it is widely accepted that aromatherapy – or the use of essential oils to benefit health and/or well-being – can improve a massage, not many massage therapists know why choosing quality essential oils is important, or what determines the quality of the essential oil.

Essential oil quality is important in aromatherapy because poor quality oils may contain ingredients that render the oil less effective or result in adverse skin reactions. Essential oils contain more than 100 individual naturally occurring chemicals. Terms such as “therapeutic grade”, “pharmaceutical grade” or “food grade” have absolutely no meaning in relation to the quality of essential oils. Quality, however, does depend on the following four areas:

* Composition
* Oxidation
* Contamination
* Adulteration

Composition
Because essential oils are natural, plant-derived substances, there is a variation in composition, depending on factors such as where the plants are grown, soil composition, weather conditions, or time of day or year that the plant is harvested, etc. However, the constituents of an essential oil should still conform to certain maximum and minimum ranges for that particular oil.

The amounts of specific chemicals present in a particular oil may make it more or less useful/desirable for aromatherapy purposes. For example, a good quality peppermint oil will be high in menthol (peppermint’s main active ingredient) and low menthofuran and pulegone (both slightly toxic). However, a peppermint that is not of good quality in this sense could still be certified as organic on the basis of the growing conditions of the plant.

Oxidation
Many essential oils are prone to oxidation. This is a process in which some essential oil constituents combine with atmospheric oxygen to form “breakdown” chemicals – peroxides and hydroperoxides - many of which are skin allergens. As an essential oil ages and oxidizes, it loses its therapeutic potency, because many of the “active ingredients” oxidize to quite different chemicals.

“Thinner” essential oils such as citrus, pine and frankincense are generally more likely to be oxidation-prone than the viscous ones.

To avoid using oxidized essential oils:
* Replace bottle caps immediately after use.
* Store essential oils in a refrigerator when not being used.
* Do not leave essential oils near a source of heat, or in direct sunlight.
* Discard any essential oils that are more than 12 months old.
* Discard essential oils when there are only a few drops left in the bottle.

Contamination
Potential contaminants include antioxidants, herbicides and pesticides (collectively known as biocides), industrial solvents and phthalates.

Antioxidants
If an antioxidant has been added to a pure essential oil, this would technically be classified as a contaminant, since it is not a natural constituent of the oil, nor an adulterant (it does not increase profits). However, oxidation-prone essential oils will remain purer with added antioxidant than without, since with no antioxidant, breakdown chemicals will form. These can eventually reach very high percentages (up to 50% of the oil) while an antioxidant is only added at 0.1% or less.

Biocides
Biocides are very likely to be found in cold-pressed citrus oils from non-organic fruit peel. They may also be found in non-organic steam distilled oils, though water-soluble biocides will probably not carry over into an essential oil. Simply because they are used in such small quantities, the amount of a biocide absorbed from aromatherapy is negligible compared to the amount ingested in non-organic foods and beverages. However, it will still contribute to biocidal body-burden. There is some evidence that essential oils from organically grown plants are of better quality than those from non-organic, but so little research has been carried out that it’s impossible to make any definitive statements.

Industrial solvents
These are used for the extraction of absolutes and resinoids. For example, there is no essential oil of benzoin (only a resinoid) and almost all jasmine “oil” is jasmine absolute. Rose absolute is also very common, though there is an essential oil as well, known as rose otto. Solvents commonly used include hexane and cyclohexane. Most of the solvent used for extraction is recovered and re-used, but traces do remain, at about 1-10 parts per million. Some prefer not to use absolutes because of the solvents present in them, but these amounts are completely non-toxic, being several hundred times below minimal toxic levels.

Pthalates
There are a number of phlalate esters, commonly known as phthalates (the “ph” is silent) and they are used in the manufacture of many plastics. They help to make the plastic pliable. Since plastic tubing is used in citrus oil extraction, many citrus oils (organic or not) contain traces of phthalates. Manufacturers try to minimize phthalate quantities, which again are present at extremely low levels.

Phthalates may also be artificially added to essential oils as adulterants, where they will be present in much higher concentrations.

Adulteration
An adulterant is anything added to “extend” the genuine substance in order to increase profits. Adulterants include cheaper essential oils, synthetic aromachemicals, phthalates, and other materials. Most adulteration is not easy to identify from smelling an essential oil, but may show up in a gas chromatographic (GC) analysis. However, GC analysis is meaningless unless the person reading it knows what to look for. So, the provision of a GC trace is not proof of purity per se.

Summary
The quality of an essential oil depends on a number of factors including its initial composition, the presence of adulterants or contaminants, and the extent of oxidation. Organic certification addresses only some of these issues, and neither this, nor the production of a GC trace, is a guarantee of quality. There is no official standard for “therapeutic grade” essential oils, but there are ISO standards, which are international. The prevention of oxidation is very much within the control of practitioners and consumers.

The benefits of aromatherapy are many—and massage therapists who want to add aromatherapy to their practices must take the time to research essential oil quality. Read labels, and request information from aromatherapy companies. Make an effort to have a conversation with a representative of any company offering essential oils. Invest in high quality aromatherapy products to achieve the best results for clients.