



3. SPICES AND CULINARY HERBS APPLICATIONS

3.1. CONDIMENTS

3.2. INFUSIONS

3. SPICES AND CULINARY HERBS APPLICATIONS

Spices and culinary herbs applications comprise various sectors, as exemplified by the food industry, the perfume industry, cosmetics, hygiene and cleaning products and the pharmaceutical industry. Taking into account the current situation on food and its influence on human health, the food industry and aromas tend to search endlessly natural products, biologically active, in order to meet the varied needs of the population, representing a total of 40% of world production of herbs, competing with the 35% absorbed by the pharmaceutical industry. In turn, the dairy industry and its derivatives are also major consumers of spices and herbs of all classes, with special emphasis on cheese. However, the list of consumers is extensive, as soups, sauces, vinegar, as well as cereals and beverages industries.

3.1. CONDIMENTS

There are several spices and herbs used in cuisine as condiments, from rosemary to thyme, but the consumer interest in trying new flavors and herbs available on the market has increased. The innovation in the sector is not limited to herbs available but also the way they are made available. Currently the food industry has focused on developing mixed herbs ready for use by the consumer and even food including herbs in the constitution, such as aromatic oils, liqueurs and dairy products. The development of mixtures of spices is therefore an opportunity to innovate and grow in the market, however there are several factors that must be taken into account so that the result is a balanced blend with high quality, namely the harvest, drying, particle size, the storage and preservation, and packaging the formulation of the mixtures according to the organoleptic characteristics of herbs and balance.

The distinction of herbs and spices is made by several authors that state that first come from leaves (fresh or dry) of aromatic plants that normally grow in a variety of climates, while the spices are the result of different plant parts, including shoots, fruits, berries, roots or bark, usually dried, from plants usually grow in tropical regions. However, their role in cooking is similar, to enrich the taste of food and give life to food dishes.

Rosemary (*Rosmarinus officinalis*):

Origin: Mediterranean Region.

Usable parts: leaves (fresh and dried) and essential oil

Rosemary has a balsamic and camphor aroma and represents a classic flavoring in Mediterranean cuisine, with its fresh and astringent flavor blending well with starchy foods, "scones" and bread and pork, lamb and duck. In the food industry, the plant extracts are used as antioxidants, also being tapped for the cosmetics and aromatherapy industry.

Coriander (*Coriandrum sativum*):

Origin: Southern Europe and Middle East

Usable parts: leaves, seeds and essential oil

The leaves are used as flavoring in stews, salads, sauces, soups, and some bread dishes. Used commonly in Portugal, the leaves are also part of the Thailand, India, Mexico and Brazil cuisine. The ground seeds are a classic spice used in baked goods, meat dishes, grilled fish and vegetable dishes. Both the fruit and the essential oil are ingredients of certain aperitifs and liqueurs and as flavoring in pastry and food industry, particularly in Central Europe.

Fennel (*Foeniculum vulgare*):

Origin: Native of the Mediterranean region, is grown worldwide.

Usable parts: fruit, root, leaves and essential oil.

It has a sweet flavor and its taste is reminiscent of licorice. In cooking the leaves can be used to flavor soups, salads, sauces, and used to accompany fish and ham. The essential oil is also used as a flavoring in medicines, toothpaste and pastries.

Basil (*Ocimum basilicum*):

Origin: African and Indian origin but is now grown worldwide.

Usable parts: leaves and essential oil of the aerial part.

The taste is spicy and gives freshness to dishes.

In cooking, the leaves are used as a condiment, particularly in salads, vegetable dishes and sauces. Basil is one of the ingredients of the typical Italian pesto sauce and is usually associated with tomatoes.

Oregano (*Origanum vulgare*):

Origin: Native of the Mediterranean region, being widely distributed throughout Asia, North Africa and the Middle East.

Usable parts: leaves and essential oil.

The oregano have an intense smell and taste slightly sweet and very refreshing. In cooking is classically used in pizzas and pasta dishes. In addition to bind well dishes that contain pumpkin, zucchini and peppers and still roast beef or pork. The food industry uses the essential oil of this plant in pre-processed sauces and food.

Parsley (*Petroselinum crispum*):

Origin: Possibly originating from South-Eastern Europe or Western Asia.

Usable parts: leaves, fruits, essential oil of fruit and root.

In cooking the leaves are used as a condiment, present in most dishes, useful for appetizer and with digestive action. The food industry uses the essential oil of the leaves for the preparation of sauces, pickles and beverage preparation

Sage (*Salvia officinalis*):

Origin: Eastern Mediterranean region

Usable parts: Leaves, flowering aerial parts and oil essential.

In cooking is used as a condiment in classic Italian cuisine in dishes like saltimbocca and tortellini with sage butter. It is used to flavor tomato, potatoes, vegetables, minced meat and fillings of birds. The dried leaves have a more intense aroma than fresh ones. The essential oil is mostly used in toothpaste and cosmetics. It is valued for its antioxidant properties and is used in the food industry for flavoring liqueurs, vinegars, vermouth, salads, fillings and other birds.

Thyme (*Thymus vulgaris*):

Origin: Mediterranean region.

Usable parts: leaves.

The aroma of thyme is poignant as well as the taste, which is due to the presence of their volatile oils, in particular thymol. It can be used as an ornamental plant and especially for sausage and for flavoring spiced pizzas. In cooking provides depth to soups, casseroles, stews and most dishes containing meat.

Savory (*Satureja montana*):

Origin: Mediterranean region.

Usable parts: leaves.

Also known as savory-wild or savory-of-winter.

When used in the kitchen it can turn dishes more interesting with lighter or neutral flavors. It goes well with egg dishes, vegetables, soups and stews. It can also be used in baked, poultry and pork, and even fish.

3.2. INFUSIONS

Infusion is the process of extracting chemical compounds or flavors from plant material in a solvent such as water, oil or alcohol, by allowing the material to remain suspended in the solvent over time (a process often called steeping). An infusion is also the name for the resultant liquid. The liquid is typically boiled (or brought to another appropriate temperature) and then poured over the herb, which is then allowed to steep in the liquid for a period of time. The liquid may then be strained or the herbs otherwise removed from the liquid. Unless the infusion is to be consumed immediately, it may then be bottled and refrigerated for future use.

The amount of time the herbs are left in the liquid depends on the purpose for which the infusion is being prepared. Usually steeping for not more than 15 to 30 minutes, or until the mix cools, will create a beverage with optimal flavor. Steeping for a longer time typically results in a somewhat **bitter**-tasting infusion. Four (4) hours, however, is a more appropriate length of time for achieving herbal potency if health benefits are the priority. Quantities of the herb and liquid used will vary according to the herb or how strong the infusion is required to be. A common proportion used is 28 g of herb to 0.5 L of liquid.

Hot infusions draw out vitamins, enzymes, and aromatic volatile oils. A few good herbs for hot infusions include Chamomile, Holy Basil, Ginger and Peppermint. Cold Infusions are ideal for slimy herbs and herbs with delicate essential oils. A few good herbs for cold infusions include Chia seed and fresh Lemon Balm.

Today, tea and herbal infusions are the second most consumed beverage in the world after water, with literally thousands of blends in existence. Most infusions contain large quantities of calcium, magnesium and other minerals, including trace minerals, in their most absorbable form. They also contain essential fatty acids, vitamins and protein. In addition, they each have particular medicinal qualities, actions and uses:

The detox

Black, green, white and oolong teas are all high in antioxidants, which makes them all beneficial for general health and wellbeing. When it comes to detoxifying herbal infusions, the suggestions are calendula, roasted dandelion, chicory root and nettle.

Dandelion and nettle have a diuretic effect, which helps the liver to flush out our body's toxins, reduces fluid retention and aids digestion.

Slimming down

Many scientific studies have shown green tea can assist in weight loss, partly because of its caffeine content but also because of its antioxidants, which have a thermogenic effect. This means it increases the metabolic rate, burning stored fat.

A digestif

Peppermint is pretty key here as it reduces bloating and flatulence and will help with indigestion. Fennel seeds are also beneficial. They increase the secretion of digestive enzymes and can help with digestion that way. And if there's any pain or cramping, herbs like lemon balm can help relax the muscles around the bowel. Camomile and dandelion are also worth a try.

Reducing inflammation

The healing properties of rooibos, or redbush, are referred as reducing inflammation. It's up there with green tea with its antioxidants but it's also high in minerals and there's no caffeine. It's also a broad anti-inflammatory because of its high vitamin, mineral and antioxidant content.

A boost in the morning

Lemonbalm is suggested as fantastic for the nervous system, and liquorice root, which promotes sustained energy release. Siberian ginseng boosts memory, concentration and energy generally.

Calming tonics

Passionflower is an anti-anxiety herb, which is good for beating stress.

If you want a homemade stress buster, camomile tea is recommended, which is more readily available. Limeflower is also known for easing nervous tension, as is lemonbalm.

Camomile is relaxing and gently loosening so it's very good for people who get a tense stomach when they're stressed or lose their appetite. Linden has been referred throughout the ages for nervous tension, mild anxiety and may aid with sleeplessness.

Lavender is another good option before bedtime.

Immunity boost

Echinacea is key in immunity-boosting since it increases white blood cell levels, so that helps fight infection. You can also look at other ingredients like elderberries and rosehip, which are high in vitamin C and can help fight infection.

A winter warmer

"Lemongrass and ginger are good for winter. Recommendations are brewing up a chai on those cold, winter days. It's black tea based and you can add all those spices to it, which warms your system and supports digestion.

A cool-off in summer

Peppermint is the most obvious cooling tea, but any tea can be drunk hot or cold.

Lemongrass and ginger mixed with apple juice is a good solution. To make a healthy ice tea, make a pot of tea and steep your herb for five minutes then strain and add your mixer - apple juice is a really good one. In a normal glass, use 150ml of mixer to 50ml of the tea once it's been brewed. Then add ice.

Skin, hair and nail health

Horsetail is very high in silica, a mineral which is the base for promoting healthy hair, skin and nails.

For skin, rooibos is also referred - "also known as a complexion tea" - and detox herbs.

Nettle is also high in silica and other minerals, and chlorophyll is great with cleansing the blood.

Preparing for childbirth

Raspberry leaf tea is well-known as a uterine tonic among mothers-to-be. It softens the uterus and prepares for labour so it's good in the last trimester - along with anything that relaxes you and aids in sleep.

Breastfeeding support

Rooibos tea is the perfect tea for new mums. It's relaxing, it's high in minerals, it's got no caffeine. In South Africa where it's grown, they actually give it to babies for colic.

If the milk supply is not good, aniseed, fennel seeds and caraway seeds boost lactation. While you can make the infusions at home using what you have on your spice rack, they would first need to be crushed with a mortar and pestle so the nutrients are extracted and even then, you may not get the full flavour.

Herbal Preparations

Teas (for fresh or dried herbs)

Steep an arbitrary amount of an herb in an arbitrary amount of hot (not quite boiling) water for an arbitrary length of time. Strain and drink.

"Nourishing" Infusions

These preparations should be made from nutrient rich "food herbs" such as Oatstraw, Nettles, Red Clover, and the like, and probably not when using plants with a more overtly "medicinal" action.

Pour water just off the boil over dried herbs in a mason jar in the following proportions:

Roots and Barks

28 g of dried herb to a pint of water; steeped for 8 hours.

Leaves

28 g of dried herb to a quart of water; steeped from 4 to 10 hours.

Flowers

28 g of dried herb to a quart of water; steeped 20 minutes to 2 hours.

Seeds and Berries

28 g of dried herb to a pint of water; steeped for 30 minutes.

*(If using fresh herbs, use 2*28 g)*

Cap the jar while steeping. Nourishing Infusions can be consumed throughout the next day, rather than making them in the morning and having to wait up to 10 hours to drink some. Discard any leftovers after one day.

Decoctions (for dried or fresh roots, barks, berries or seeds)

For a more concentrated preparation, add 28 g of herbs to a quart of water. Slowly bring to a boil, and reduce volume by about half. Strain, cool and drink. Not a good choice for aromatic roots and barks.

Cold Infusions

Some herbs are impaired or otherwise rendered inferior by heat, and should be prepared as a cold infusion: suspend the herb via a strainer or piece of muslin in cool to cold water, and allow to soak for several hours (proportions really do depend on the herb). Wild Cherry bark needs to be prepared by cold infusion.

Steam Inhalations

Steam inhalations are great for breaking up sinus or lung congestion. Simply fill a pot with water and, say, Sage, cover and bring to a boil. Remove the pot from heat, and lean over it with a towel over your head to catch the steam. Inhale slowly and fully.

Infused Oils

Solar Infusions: Pack a mason jar as tightly as possible with a fresh herb of your choice. Pour Olive Oil into the jar and then press the herbs with a clean spoon or something to squeeze out *as much of the trapped air as possible*. Repeat until you can't get any more air bubbles out, then cap the jar and set it directly in the sun for a month or two. Then strain the oil through cotton or cheesecloth, squeezing as much from the wet herb as possible. Let the strained oil sit for two or three days. Any

water in your oil will settle to the bottom. Slowly pour the oil into a clean jar being careful not let any of the settled water come along with it. Cap and store in a cool, dark place.

"Kitchen" Infusions: Combine dried or fresh herbs and Olive Oil in a crock-pot or double boiler. Use a ratio of 7*28 g oil to every 28 g of dried or 2*28 g of fresh herb. Heat over the lowest heat possible for several hours - the longer the better. Strain into clean mason jars, and if using fresh herbs, separate the oil from any water as described above.

Salves

Infuse salve ingredients in oil as described above. Heat the oil, and to every 28 g of oil add 1-2 teaspoons of grated beeswax. You can drop some of the molten salve onto a piece of wax paper and let it harden to check the consistency. If too soft, add more beeswax; if too hard, add more oil. When you're happy with the consistency, pour into clean jars.

Liniments

In a mason jar, pour rubbing alcohol over the desired herbs. For Dry herbs, 5* 28 g of alcohol per 28 g herbs; for fresh herbs, 2*28 g of alcohol per 28 g. Let sit for two weeks, shaking daily, then strain into clean bottles. Because liniments use rubbing alcohol, make sure they are labeled "FOR EXTERNAL USE ONLY!" Rubbing alcohol can be fatal if taken internally.

Poultices

This is an external application of bruised fresh or brewed dried herbs. For example, bruise a handful of fresh plantain leaves (or chew them to make a "spit poultice" for greater bio-activity) and apply to a wound to facilitate cleaning and faster healing. For a dried poultice, steep some dried chamomile and apply to raw, enflamed skin. Tea bags make very good poultices. Cover and let it soak in for ½ to a few hours, or overnight.

Tinctures

On the most basic level, a tincture is made from a fresh or dried herb that has been soaked in an alcohol/water solution (called a "menstrum").

References

<http://www.primaryinfo.com/culinary-herbs.htm>

<http://www.sps186.org/downloads/basic/363646/Chapter%2016.2%20Herbs%20&%20Spices.pdf>

https://en.wikibooks.org/wiki/Cookbook:Spices_and_Herbs