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# Herbal Medicines

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Name: \_\_\_\_\_  
Biology 401: Applied Plant Science

## Herbal Medicine

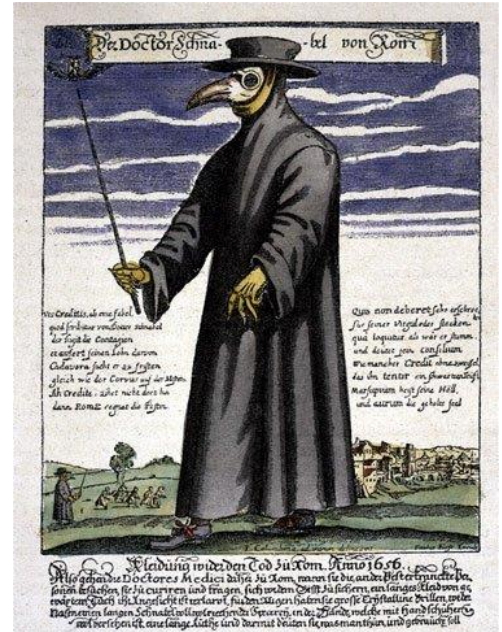
Traditional societies relied heavily on plants for medicinal purposes. Modern medicine began its turn away from the traditional forms of herbal medicines beginning in 1897 when chemists working at Bayer AG Company in Germany devised a buffered form of aspirin. This was arguably the beginning of the modern pharmaceutical industry. In recent years there has been an upsurge in interest of herbal medicines. Indeed, Ethnobotany and Ethnomedicine have become important research areas. In today's lab we will look at just one of many aspects of herbal medicine; that of aromatherapy.

## Aromatherapy

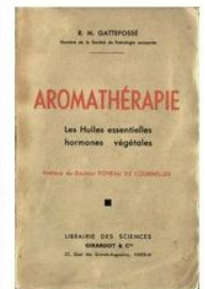
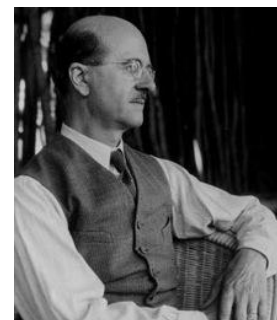
Aromatherapy is a form of herbal medicine that uses plant materials and essential plant oils to aid in the altering of mood, cognitive, psychological or physical wellbeing. Aromatherapy utilizes blends of essential oils to stimulate a desired response by applying the materials through topical application, massage, inhalation or water immersion. Essential oils have been used for thousands of years as healing and embalming agents. Ancient Egyptians used cedarwood and myrrh in mummification practices. There are references to essential oils in ancient texts that give recipes for anointing oils make with hyssop, cassia (cinnamon) and rosemary. In the Middle Ages those who worked in perfume factories and apothecaries that dispensed fragrant materials were rarely struck with the Bubonic Plague. Essential oils high in phenols, such as carcarcrol, thymol, and terpenes have a strong bactericidal effect on *Yersinia pestis* the bacterium that causes Bubonic Plague. The "plague doctors" in the Middle Ages wore hoods fitted with large "beaks" that were filled with herbs, spices and oils. Though dubious methods were often employed to "cure" plague victims, the crude understanding that poisonous vapors were a partial cause led to the use of fragrant materials to cleanse the air and eliminate what was thought to be the stench of pestilence.

Aromatherapy began in the early 1900's in Europe. The term aromatherapy first appeared in print in 1937 in a French book *Aromathérapie: Les Huiles Essentielles, Hormones Végétales* by the chemist René-Maurice Gattefossé. The English version of the text was published in 1993. Gattefossé badly burned his hand in laboratory accident in 1910 and claimed he treated it effectively with lavender oil. After immersing his injured hand into undiluted lavender oil, Gattefossé experienced pain relief, no infection, and quick recovery with no scarring. Jean Valnet, a French surgeon, initiated the use of essential oils as antiseptics in the treatment of wounded soldiers during World War II. Aromatherapy can "trigger" responses in our bodies such as the stimulation of mental activity, calming of nerves, or the regulate hormone activity. Aromatherapy helps restore balance to the body, mind & spirit.

Plant essential oils are derived from leaves, flowers, roots, seeds and fruits. There are ~200 known essential plant oils that are therapeutically useful.



Paul Fürst, Der Doctor Schnabel von Rom (Holländer version)  
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René-Maurice Gattefossé  
[http://fr.wikipedia.org/wiki/Ren%C3%A9-Maurice\\_Gattefoss%C3%A9#mediaviewer/File:Ren%C3%A9-Maurice\\_Gattefoss%C3%A9.jpg](http://fr.wikipedia.org/wiki/Ren%C3%A9-Maurice_Gattefoss%C3%A9#mediaviewer/File:Ren%C3%A9-Maurice_Gattefoss%C3%A9.jpg)

## Procedure:

Add 1.5 ounces (40 ml) of distilled water, and 0.5 ounce (10 ml) of Witch Hazel extract to a glass or plastic bottle. Determine which combination of oils you want to use. Your choice needs to contain a "Top Note", "Middle Note", and "Base Note". Hold all three bottles a little distant from your nose and pass the bottles back and forth while inhaling. Once you find a combination you like, add drops of the individual oils to bring the total to 10 drops. The oils are very concentrated, thus it will not take a lot of material. The Witch Hazel extract will help suspend the oils in the water. If separation occurs, shake the sample before each use.

## Aromatherapy Bath Salts

Unfortunately the term bath salts is now used in North America to describe a number of recreational drugs. The term "bath salts" is a ruse to hide the true use of the drugs. The bath salts drugs are often crystals or white powders that resemble Epsom salts. Indeed the drugs' packaging often states "not for human consumption" in an attempt to circumvent drug prohibition laws. In this section of the laboratory we will be creating Bath Salts (note the capital letters) which are inorganic solid products (usually sodium chloride or Epsom salts) that are designed to be added to a bath, either to improve cleaning or the experience of bathing, provide medical improvement, or serve as a vehicle for cosmetic agents. Bath Salts have been developed that mimic properties of natural mineral baths or hot springs. The earliest writings concerning bath salts was published in China around 2700 years BCE. Hippocrates encouraged his fellow healers to make use of salt water to heal various ailments by immersing their patients in sea water. The ancient Greeks continued this and Dr. Charles Russel, an English author and physician, published "The Uses of Sea Water" in 1753.

Bath Salts are made in much the same manner as the Pillow Spray. We will use a base note (the smell stays the longest on the skin), middle note (smell stays second longest), and top note (smell of oil evaporates first). Because the oils all evaporate at different rates the Bath Salt may smell different as time progresses.

## Making Bath Salts

Making your own therapeutic bath salt is really very simple. Bath salts are a wonderful way to implement aromatherapy benefits.

### 1. Ingredients.

- *Salt:* Epsom salts can be used and are often used for a portion of the salt in a good bath salt mixture. Epsom salts are inexpensive and can make up all of the salt used. Mixing it more expensive salts can make for a higher quality bath salt. Your options include a wide variety of textures, sizes, colors, and mineral contents in various types of sea salts. Recommended salt types: Sea Salt, Dead Sea Salt, Himalayan Pink Salt, or a combination these.
- *Moisturizer:* While not necessary, it is often a good idea to have a moisturizer. Oils such as olive oil, peanut oil, grapeseed oil, avocado oil, or mineral oil can be used. You can also use Vitamin E oil, Aloe Vera gel, and glycerin to help moisturize the skin while using bath salts.
- *Fragrance:* Essential plant oils are recommended for this aromatherapy. Choose a scent that you like or that will accomplish a certain goal (such as mint for refreshment or lavender for relaxation).
- *Baking soda:* Baking soda itself has a lot of great uses and benefits; it can be the perfect touch to finish off the perfect salts.

2. **Mix the salts.** The salts that you have chosen need to be mixed in a large plastic jar. For this project measure 1/2 cup of Epsom salt and 1 tablespoon of Baking Soda. Mix well.
3. **Add moisturizer.** Add 10 drops of moisturizer one at a time. Make sure you stir the salts well between adding the moisturizer. You will want to coat the salt, but it should not look wet or feel overly moist.
4. **Add the fragrance.** You do not want your fragrance to become overwhelming. Because of that, you will want to add a few drops of essence or fragrance oil and mix well. Add a few more and continue on. Make sure you take the time to analyze between adding more. Your total number of drops should be 10. Be sure to have a base, middle, and high note in your fragrance mixture.