THE TISSERAND INSTITUTE

ESSENTIAL OILS AS ANTIMICROBIALS

3500+ years of known history

1375 BC

Milkili, an Egyptian officer, wrote a letter to his pharaoh Amenophis IV, which included the words: "...and let the King, my Lord, send troops to his servants, and let the King, my Lord, send myrrh for medicine."

1550 BC

The use of myrrh as a wound salve is mentioned in ancient Egyptian papyri. Myrrh was dissolved in water and placed on the wound or mixed with flour, honey, beef fat, butter, and fibers from plants then applied to the wound.

1ST CENTURY AD

Columella (Roman writer) describes how to prevent wine turning to vinegar (a process catalyzed by Acetobacter bacteria) "...then sprinkle on myrrh, cassia, cardamom, saffron, six other spices, and more resin."

10TH CENTURY

Distillation invented in the Middle East

1564

"Distilled oils are found by experience to be more valid, more efficacious, more pleasant, and of more rapid effect than any other, to cure all kinds of difficult diseases, especially wounds, ulcers..." L'Agriculture et Maison Rustique by Charles Estienne & Jean Liébault

16TH CENTURY

"I put in each wound a tent...the said tents were anointed with a medicament made of the yellow of eggs and Venice turpentine, with a little oil of roses." Ambroise Paré, French surgeon.

17TH CENTURY

Bacteria first observed by Antonie van Leeuwenhoek using a microscope, an invention he helped develop

1860'S

Bacteria linked to infection by Louis Pasteur and others in Europe

1880'S

The first published in vitro research on essential oils as antimicrobial agents. Thyme oil and eucalyptus oil used as surgical antiseptics.

1920'S

Australian chemist Arthur Penfold publishes the first in vitro research on antimicrobial properties of tea tree oil. A group of French doctors have success treating men with chronic infected war wounds using essential oils – primarily lavender oil, supplied by René-Maurice Gattefossé

1930

TRené-Maurice Gattefossé publishes his book Aromathérapie – the first time the word was used in print. He describes the various post-war treatments using essential oils in the 1920s.

1946

The first use of antibiotics fed to farm animals (chickens) as "growth promoters"

1950'S

Bacterial resistance recognized as a problem in medicine. The immediate resistance of some bacteria to new antibiotics suggests that resistance is an ancient phenomenon, and may in part be due to the widespread use of herbs and other medicines over millennia. For example, red soils in Jordan are an ancient remedy that have given rise to some modern antibiotics

1963

Antibiotic resistant bacteria first seen in feedlots

1964

Aromathérapie by Dr. Jean Valnet published in French. He discusses the problems of antibiotic resistance, and the lack of resistance to essential oils.

1972

An FDA task force warns that antibiotic-resistant microbes in animals could be passed to humans.

1995

First research, by Australian microbiologist Christine Carson and others, on an essential oil (tea tree) being active against an antibiotic-resistant bacterium (MRSA).

2001

First (and possibly only) recorded treatment of a deep MRSA infection with essential oils

2002

CDC study finds antibiotic resistance in 63.6% of E. coli isolates from humans and animals

2013

Methanolic extracts of myrrh found to be effective against several wound-infective bacterias

2013

The CDC reports that pneumococcal bacteria are resistant to one or more antibiotics in 30% of cases.

2016

WHO calls antibiotic resistance one of the biggest threats to global health, food security, and development today

2012 - PRESENT

Growing recognition in the scientific community that essential oils are promising candidates for addressing antibiotic-resistant infection.