A Brief History of the Flavor Industry

Compiled by Dolf DeRovira

1910	Although it is very difficult to determine the ingredients used in flavors at this time, it is safe to say that the bulk of the flavorings were obtained from natural essential oils, juice extracts, absolutes, concretes and oleoresins, and a handful of chemicals. Flavors seen in bottles obtained by myself usually included peppermint and spearmint, vanilla (using coumarin and other ingredients), vanilla extracts, banana flavors (simple esters were available of course)
1917	A.L. van Ameringen who worked for Polak and Schwartz started his own business importing essential oils from Holland
1922	Firmenich synthesized nerol and nerolidol
1926	Reichstein and Staudinger identified methyl mercaptan in coffee flavors and patented its usage in coffee flavors (artificial) also included in the patent was a series of pyrazines
1937	Raspberry Ketone discovered in raspberry juice
1945	Firmenich flavor division was created
1946	First strawberry flavor was developed by Firmenich and Tetraromes ® were developed as well.
1947	Nestle's merged with Alimentaria S.A. the manufacturer of the Maggi soup products. Hydrolized vegetable proteins which had a unique characteristic due to their tray dried production were developed
1949	The Givaudan Index - Specifications of Synthetics and Isolates for Perfumery was published containing many chemicals used in flavors as well.
1952	James and Martin wrote a paper on the development of the first gas chromatograph
1950's	• Haarman and Reimer developed a process to synthesize commercial raspberry ketone • Margarine was booming as a table spread • Pyrazines were rediscovered as important contributors to chocolate flavor (Dietrich - Firmenich) • 1-Octene-3-ol was isolated in lavender and later in the decade began to be used in mushroom flavors
1955	• First commercial Gas chromatograph developed by Perking Elmer • Delta-dodecalactone identified as an important butter flavor component
1957	A limonene to l-carvone synthesis was developed
1958	Van Ameringen and Haebler and Polak and Schwartz merged to form IFF

1959	• Flame Ionization detector for the gas chromatograph was developed. • The terpene chemistry tree was developed and expanded using simple terpenes to create a host of terpene and terpenoid alcohols, aldehydes, etc. • Givaudan developed a synthesis for linalool and citral
1960's	• Givaudan gets into the flavor industry • Publication of aroma chemicals in food approximates 500 (today it is over 7000)
1960	• FEMA publishes the first "tentative" list of GRAS flavor chemicals • Safrole was banned. Root beer was developed as a blend of safrole-like chemicals were mixed to replace Sarsaparilla. • d-carvone was also synthesized
1961	Bedoukian developed a process for leaf alcohol
1962	Nootkatone was found accidentally by running a gas chromatograph an extended period of time
1964	• Furaneol ® was first introduced by Firmenich • Nootkatone was found realized to be of great importance to grapefruit flavors
1965	• FEMA publishes the first GRAS list, GRAS III, combining I, II, and III with 2066n items. The first item which is not really a flavorant is Acacia Gum, a non flavoring ingredient • Furaneol ® as a chemical now found in strawberry and pineapple • Alpha and Beta Sinensal found in Orange Oil
1968	• IFF uses fermentation technology to develop natural chemicals, files for patents on savory flavors and forms an alliance with Monell • Pfizer patents Ethyl Maltol (Veltol Plus ®)
1969	Publication of "Perfume and Flavor Chemicals (Aroma Chemicals)" by Steffen Arctander
1970's	Wilkinson sword developed WS-3 and WS-23 cooling agents without menthol
1970	Firmenich discovers damascone and damascenone
1971	The optical rotationally specific characteristic between l- and d-carvone was determined.
1973	Haarman and Reimer commercializes the production of synthetic l-menthol
1974	Thiomenthones are discovered as ingredients found in buchu oil
1975	Pfizer patents meat flavors based on amino acid protein Maillard reactions called Corral for Beef and Corral for Chicken.
1976	Hewlett Packard develops the first benchtop Gas Chromatograph

1977	Oxathianes discovered in passionfruit
1978	NBS publishes 25,000 mass spectras aiding in flavor aroma identification
1979	Firmenich commercializes alpha- and beta-damascone
1981	BASF develops commercialization of citral
1982	• IFF enters into what they called Aroma Science - the study of how aroma affect the mood, personality, and other human responses. • p-Menthen-8-thiol identified as characterizing compound in grapefruit juice
1983	Takasago developed enantiomer-specific production of menthol
1985	Dr. Braja Mookherjee develops the idea of Living Flower ® where essences are captured by SPME
1986	Haarman and Reimer patents filbertone
1988	IFF successfully develops commercial quantities of flavor chemicals by fermentation
1990's	The acceptance of the Umami taste is more widespread
1994	Dr. Braja Mookherjee develops the idea of Living Flavor ® where essences are captured by SPME
1995	IFF develops a proprietary encapsulation technology called Captiff
1999	IFF researches sensate chemicals that display responses such as tingle, warmth and cooling.
2001	Takasago's Professor Ryoji Noyori wins the 2001 Nobel Prize for Chemistry
2004	Richard Axel and Linda Buck won the Nobel Prize for work on explaining the mechanisms of the Olfactory System