

Reflections of a Retired Flavorist Before He Forgets:

Peach

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The artistic nature of the flavorist subjects him to more swings in mood than his scientific colleague. The potential of a new raw material or the discovery of a new combination of components are grounds for elation. On the other hand, the mood can get quite dark if his finest new creation flops marketwise or is soundly criticized. Likewise, to be unable to reproduce what another flavorist has created is a deep blow to the ego.

When I entered the world of flavors in the late 1930s, Fries' Peach was the target for peach. We all attempted to match it and although some approached it, no one quite made it. Before the commercial availability of aldehyde C_{14} (γ -undecalactone), attempts to match the Fries' Peach was not only more frustrating—it was impossible.

Some years ago, we had the opportunity to discuss the creation of that famous peach flavor with the late Robert Fries, Sr. According to Mr. Fries, they were processing castor oil for a government project during World War I; something went wrong and a powerful odor of peach developed. They repeated the processing exactly and again developed a peach aroma. They were unaware, at that time, that a crude γ -undecalactone was present in this reaction mixture. Nevertheless, it became the base for their peach flavor. Sometime later there apparently was a split in the Fries organization with the result that both Fries and Fries, and Alex Fries, claimed the original peach. In fact, both produced a very similar product.

All are familiar with the trend towards "natural" flavors. At a time when a "natural" lactone was not available but so necessary in peach and other flavors, we approached Vic Levey of Alex Fries with the possibility of applying that old technology and adapting it to produce a "natural" γ -undecalactone. We recalled our conversation with Mr. Fries. Vic told us that he understood that the crude lactone was only half the story of the original peach.

For reasons we never ascertained, a strong cheese had been soaked in alcohol and placed in the basement near the furnace. The modern flavorist might—the flavor researcher most certainly would—think this strange. But in the days when there were no lactones, no hexenols, no pyrazines, no raspberry ketone, etc., the flavorist had to resort to various modifications to achieve desired nuances. Thus, essential oils were fractionated or extracted in unusual ways to capture a desired nuance without other flavor effects that would warp the final product. Modern science, by pinpointing the key components of a naturally-flavored food, has lessened the flavorists' dependence on natural oils, extracts and isolates.

Many months later when the alcohol-soaked cheese was examined, it smelled estery - fruity peach and reputedly was another key component in the original Fries' Peach. What

a nightmare to try to match! This formulation wouldn't stand much chance of consistently passing today's quality control procedures either.

Back in the early 1960s, we extracted genuine peach essence and attempted a reproduction of the essence with synthetics. It proved to be straightforward and the easiest of all the fruit essences studied to reproduce. Ethyl esters, benzaldehyde and γ -lactones predominated. *l*-Carvone was the only surprise.

Flavor researchers continue to uncover lactones in many varied foods. They are an extremely important group of raw materials for the practicing flavorist. In addition to γ -undecalactone, γ -nonalactone (aldehyde C_{13}), with its predominant coconut note, is used in substantial quantities, despite the fact that it is the even numbered lactones that predominate in nature. Cost and the early availability of the C_9 and C_{11} γ -lactones account for their popularity. The flavorist has learned that in the fruit and vegetable kingdom, γ -lactones are formed whereas in animal or animal products, δ -lactones are favored.

Fries' Peach is no longer today's target. The use of traces of sulfur compounds in peach flavors give today's artificial peach flavors a lovely topnote and a "naturalness" absent from that original target. As of this writing these powerful sulfur-containing components are not available in a "natural" form. We have natural ethyl esters, benzaldehyde, fatty acids, lactones, *l*-carvone. Today's flavorist, until someone finds a way to make these sulfur-bearing components "natural," must follow the example of his predecessors and use natural components such as buchu oil or fractions thereof to try to achieve this effect.

Until these natural sulfur components, like *p*-hydroxy phenyl butanone, are available in a "natural" form, today's flavorist can create more realistic peach and raspberry flavors than "natural" ones. More and more marketing people are insisting on natural flavors especially since these newer "natural" products are only marginally more expensive to use.

We are reminded of a song from Gilbert and Sullivan that philosophized that when everyone is somebody then no one is anybody. We don't know if this realization will result in pressure to change product labelling or will someone just put out better tasting products and not worry that they are labelled artificial?

What we do know is that we no longer need to be concerned about it.

Reference

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