Pam Gesford, (Speaker #12)
Tuesday, April 14, 2015 4:00 p.m.

Questions

1. What is an oleoresin?

An oleoresin is a naturally-occurring mixture of essential oils and resin exacted from plants or parts of plants. In the case of savory ingredients, these can be exacted concentrates of spices or herbs that are sometimes used as flavors (especially those like capsicum that impart the heat of pepper).

2. How important is it to only use one supplier for a specific ingredient in a batch of product, or can a mix of supplier ingredients be used?

A mix can be used but the important thing is that the ingredients from both suppliers match in every attribute that affects the quality of the product initially and throughout shelf life including but not limited to flavor, texture, shelf life, moisture, water activity, etc.

3. What can be done to help milk chocolate adhere to pretzels or potato chips?

Choosing a variety of potato chip with low surface oil (check with supplier) would be helpful. As for pretzels, thinning the chocolate down with additional fat (milk fat probably more than cocoa butter) and emulsifiers (lecithin and/or PGPR) may help make the chocolate coating more flexible. According to Blommer Chocolate Company's website, in an experiment they had done with chocolate coating on pretzels, the higher the milkfat the lower the number of cracks. Also, according to that same study, allowing the pretzels to equilibrate to the environment prior to coating has a protective effect.

4. Are there any PAH issues with smoke-cured bacon?

Polycyclic Aromatic Hydrocarbons and Heterocyclic Amines are associated with high heat and the burning of meat or from smoke processing. According to the Handbook of Meat Processing edited by Fidel Toldra, the PAH associated with smoked meats can range in molecular weights depending on how they are processed. Lower molecular weight compounds have not caused as much concern as those of larger molecular weight which were shown to cause cancer in some animal studies. You may be able to test incoming samples or discuss with your supplier.

5. What is the lower Aw range that promotes increased fat rancidity?

The rate of fat oxidation as water activity increases is "U" shaped. So it is at the lowest rate between water activities of 0.3 to 0.5 according to the Water Activity – Stability Diagram on Aqualon's website (based on T. Labuza).

6. Do all grains have lipase enzyme problems in untreated, raw form? Can you use anything other than heating to control this?

According to the Handbook of Cereal Science and Technology edited by Karel Kulp, all cereals have lipase activity but it varies widely from grain to grain. The highest activity is found in

wheat, barley, oats and pearl millet. Heat processing is the most common, like toasting or steaming. However, salts added to whole wheat flour for instance have been shown to reduce lipase activity.

7. **Is there a specific definition of cooked bacon? Cooked but still soft versus cooked to crispy?**

There is no official definition that I can find on what constitutes cooked but I would think as long as the kill temperature of bacteria is reached, it would be fine.

8. **Is the USDA involved when a product has less than or equal to 2% meat per serving or package?**

It is 2% by weight of the formula. 2% is proportional, so whether it is 0.6 g in a 30 g serving or 9 g in a 453 g package, it is still 2%.