The Art of Control

As much an art as a science, panning confections requires a mindful approach to the handling of the environment, the inputs and the equipment.

FROM HARD CANDY to chewy items and products coated in chocolate, panned confectionery covers a broad range of segments and, as can be expected, requires certain tactics to ensure a quality finished product.

"It is an art form," says Walt Vink, president of Vink Associates Inc. "We seem to want to follow the pharmaceuticals industry because they are far more automated, but one of the things you have to keep in mind is that we are making sugar-coated, or sugarfree-coated, products. We're not film coating, which is the norm for the pharma industry."

However, he notes innovations in panning often come from that industry, adding confectioners should strive to achieve comparable levels of automation. "No matter what you do, you have to have an understanding of the basics, and most problems stem from that," Vink notes.

While mastering the fundamentals is paramount, Katherine Clark, vice-president of sales for Capol, LLC, explains panning processes are specific to each facility. "Every plant operates under different conditions that influence the end product. It comes back to the equipment, climate and cost parameters."

That said, sources agree keeping tight controls on variables such as the environment and machine speed are critical to successfully panning products.

CONTROLLING THE ENVIRONMENT

The condition of the air being applied to the product is of the utmost importance, according to Clark. "It's not just ensuring you have the right air in the context of humidity, but also the velocity of air."

Manufacturers who skimp on air control processes are setting themselves up for headaches, according to Vink. He explains it's much more than simply blowing hot air onto a product, as factors in the air impact crystal formation, particularly in finishing hard-panned items. These factors also influence overall smoothness of each piece as well as color.

Dennis Zak, managing partner of TMResources, LLC, says manufacturers need to balance capital costs versus controlling variables for the operator. "If you're a small manufacturer, you don't want to spend huge amounts of capital to get good air control and environmental conditions." However, the less sophisticated this part of the process is, the more pressure it puts on operators, he explains, adding: "That's the tradeoff and challenge."

He notes that for larger operations with more leeway in overhead investments, environmental challenges are less of a factor. "It all has to do with the scale and size of equipment," Zak says. "There's more science in larger control systems, whereas it's more of an art if you don't have those structures and the operator has to constantly adjust."

In addition, he says investing in good air control systems can reduce labor costs per pound dramatically.

For smaller manufacturers, room air can be used, but a control system should be in place for both temperature and humidity.

Zak notes that depending on the product, these variables will change, explaining that for soft and hard panning, an ideal setting is 70 degrees with about 50 percent humidity. Chocolate panning requires lower temperatures, but he notes this must be balanced with operator comfort.

"It's hard to put an operator in a room in 40 degree temperatures for eight hours," he says. "They are not going to be as efficient in terms of product per hour."

When to apply air is also an important consideration, according to Vink. He notes that as syrup begins to dry it becomes adhesive, yet requires the operator's attention because moisture on the surface can migrate into coatings beneath it and soften the item.

"When it reaches a point of maximum adhesiveness, we hit it with the air," he explains, cautioning that air temperature control is again crucial. "You don't want to get a product temp up too high. If you have a chocolate lentil, for example, you can actually melt the center. Gum centers will soften and deform if the air is too hot as well."

CONTROLLING THE FINISH

Although hard, soft and chocolate panning require somewhat different approaches, Zak says polishing and glazing transcend all three, noting unfinished panned products tend to have dull surfaces.

He says a common practice is for manufacturers to buy a customized polishing system. "In all cases, what you have is crystalline material, which refracts light. What you're trying to do is put down film of non-crystalline material to make it look shiny, similar to waxing a car, filling in cracks and voids, resulting in a smooth, reflective surface."

Capol's Clark notes that selecting a finish is dependent on a number of factors, namely the