



Meet Your New R&D Partner – Your Equipment Manufacturer

How Equipment Manufacturers are Assisting Food Companies Improve Their Processes and Products

By Michael Campbell

In today's ever changing food market of expanding product lines with new products, improving current products, etc., the research and development groups for food processing plants and ingredient facilities are turning to equipment manufacturers to help develop their concepts and provide them with the equipment to carry their ideas from concept to finished product in a manner that saves time and money.

In many situations the research and development people for food processing plants are working on small batch/stove top projects in which they test out a new recipe or perhaps an existing product improvement for taste or texture. With the recipe or concept in hand they turn to the equipment manufacturing research group to see how that team can take the recipe and provide a continuous process with a desirable finished product.

The task set before the equipment manufacturing research and development group is to take the recipe and review with the food processing group the key elements they need to see or taste in the finished product. The product texture, look and taste are very important when it comes to selecting equipment for a food processing group. Does the customer expect a specific flavor or note that might need to be

added to enhance the taste of a product? Does the product need to have a silky mouth feel or perhaps a grainy look when the product has set up? Is the product sensitive to high heat, or are there any issues with particulates? All of those questions need to be addressed before the equipment manufacturer can provide the proper equipment, and in many cases the equipment research group needs to actually make the customer's product and demonstrate to the food processing company that color, taste and texture will meet the expectations of the customer.

Equipment manufacturing research groups generally will work from a base sample of the customer's final product, plus the initial recipe. They will take that recipe and process the product, making necessary changes for color shifts, moisture retention, etc., and begin the process of selecting the appropriate equipment that will give the customer the desired finished product while providing improvements in time savings, energy savings, and increased levels of production. Potentially any and all of those things are important to the customer. If the product requires heating, the equipment research group will process the product using indirect and direct contact heat methods to determine the most efficient method that

brings the product to temperature quickly, while retaining all the essential elements of that product (taste, texture, color, etc.). The same holds true for cooling a product. The equipment supplier should be looking at ways to cool a product while still retaining the desired finished look of the base sample.

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The end result is that the equipment manufacturing research group takes the customer's recipe and runs various trials using different equipment to determine what process will give the customer an acceptable finished product that adheres to texture, taste, and color if required, while providing a continuous operation at a reasonable cost for equipment. At the conclusion of testing the equipment manufacturer should provide research reports noting changes, if any, to the recipe that were required to meet the objectives of continuous operation, include any sensory evaluations, plate counts if required, and finished samples for customer evaluation. Most important is the equipment list necessary to take a batching operation and turn the process into a continuous operation, or the equipment needed to provide that enhanced final improvement to an existing product.

What this means for the food processing manufacturer or ingredient producer is that in an ever-changing market where consumers want new flavors, new textures, different choices, etc., that they can turn to the equipment supplier and their research group to work up a formulation, modify an existing formulation and create a process that will meet the goals and expectations of the food processor for their desired product.