

## Back to Basics – Aerated Confections

# Nougat and Marshmallow Processing

***Creativity and process know-how can evolve basic nougat and marshmallow recipes into a tremendous number of products.***

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Ralph Lee has been with Masterfoods USA for nearly 20 years. He is currently responsible for process development of chocolate products as well as management of the Hackettstown, New Jersey, pilot plant and R&D facilities. Prior to Masterfoods he was with Nabisco which included work at Mercken's Chocolate.

Nougat and marshmallow, while not necessarily identified as such, have been around for a long time. Both are aerated sugar syrups with or without the addition of flavorings and/or inclusions. Their roots can be found in the recipes for traditional products such as *montélimar* and *torrone*. Large-scale commercial production of nougat products began about 85 years ago, during the 1920s. At that time everything was batch processed. Eggs were separated by hand (Figure 1). Egg whites were whipped in large mixing bowls. Cooked syrup was manually poured into the egg whites and whipped further to make a frappé. Frappé was combined with other ingredients, flavoring and rework in a large blender. After blending, the candy was dumped onto a table and spread by hand. The slab was marked off to the correct dimensions, then armies of workers moved in with large knives to cut the pieces to size.

### PROCESSING STEPS

The recipes and general process steps for producing nougat and marshmallow really have not changed much since the 1920s. The whipping agent is prepared and beaten; the

cooked syrup is added to the whipping agent; the mixture is aerated; flavors and other ingredients are blended into the mixture; the mixture is cooled; and the product is formed. Each of these process steps will be addressed, with an emphasis on aeration.

### Batch versus Continuous

While nougat and marshmallow recipes and process steps have not changed much, process equipment has evolved. The first process decision that needs to be made is whether to use a batch, continuous or hybrid batch/continuous process. This decision will depend upon the required volume of product.

### 1920s Processing— Cracking and Separating Eggs



Figure 1