
Panning: The Science behind the Practice

It is easier to understand the complex process of panning by breaking it down into smaller units. The characteristics of water and how various food ingredients bind water are two keys.

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THE PROCESS OF PANNING is several thousand years old. The ancient Chinese and later the Egyptians, Greeks and Romans all used honey to coat nuts and seeds. The process was designated panning because these early confectioners swirled the centers in a pan over a fire to facilitate coating and drying. Today in Europe, many people often refer to panned goods as dragées, which comes from the Roman confectioner Julius Dragratus, who lived around 180 B.C. By the 16th century a wide variety of dried fruits, seeds and nuts were being panned with sugar. Manually cranked, rotating pans first appeared in the early 19th century. From a geometry point of view, these tulip-, apple- or pear-shaped pans have not changed much over the last 300 years.

Today there are hundreds, if not thousands, of panned confections and pharmaceuticals on the market. We pan every type of confection from a grain of sugar to pressed tablets. Anything that will tumble in a pan can be coated to a greater or lesser degree. With a process this old, one would expect it to be well understood. In the confectionery industry the process has been

considered an art, a craft and even a sport. This paper is an attempt to present some of the science behind this complex process. It is not intended in any way to diminish the considerable skills the artist or craftsman has learned and freely shared over the centuries. Time will not allow me to go into all the process details for chocolate, soft and hard panning. Instead, I will use hard panning as the model to discuss the panning process and talk about the other panning areas in relation to the hard-panning discussion.

PROCESS OVERVIEW

The hard-panning process involves placing the centers to be coated in a revolving pan and successively adding layers of liquid sugar (which is often called engrossing syrup) and drying that liquid (Figure 1). Layers are successively painted on the center until the desired shell thickness or weight is achieved. In the case of chocolate panning, the layers are chocolate or the appropriate fat-based compound coating. The shell structure is a result of sugar crystals growing together or fusing (Figure 2). Other ingredients—corn syrup, invert sugar, ➤



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