# Hard Coat Sugar Panning

## *Guides for in-process control and guidance to avoid some common problems that could be encountered.*

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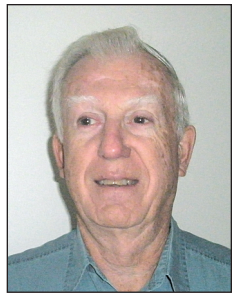
ORIGINALLY, SUCROSE WAS the sole ingredient used in hard coat panning and is still used in some applications today. However, it has some disadvantages and dextrose has largely replaced it in most hard-panning operations. As an ingredient that represents the greater part of the coating, sugar for some time has been more expensive than dextrose. It also produces a coating that chips easier and doesn't color as well. The syrup is sensitive to heat, producing some caramelization, which is fine if you are producing burnt peanuts or similar products. It also will invert if you use too much acid in the coating. Dextrose, on the other hand, suffers fewer of these problems, and coaters, having been fortunate enough to experience the transition from sugar to dextrose, adapted very quickly and were enthusiastic to make the change.

The materials used in coating follow:

- Dextrose for syrups and engrossing.
- Gum arabic, modified food starches, maltodextrin, tapioca dextrin.
- Flavors as a liquid or spray dried.
- Colors in the form of water-soluble dye solutions or lake dispersions.
- Polishing agents such as beeswax, carnauba wax, mixtures of the two or candelilla wax.
- Confectioner's glaze as refined glaze or containing an ingredient to reduce tack.

This paper presents the dextrose hard-panning process of sugarcoating. The materials used, the conditioning of the product during various stages of the process, conditions required in the plant and the steps in the coating process are outlined. Guides for in-process control and guidance to avoid some common problems that could be encountered are offered. Some suggestions that may be helpful to those who are coating in the lab are also offered.



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### THE COATING PROCESS

Since most of my recent experience in sugar panning is with dextrose, that is the area that will be covered here. When I talk about goods to be panned they will be gum, the area where I have the most experience. Conditioning the goods to be panned, the conditions in the pan room and the pan air will be covered all together in the beginning rather than piecemeal throughout the process.

#### Conditions/Conditioning

Conditions (the temperature and relative humidity in an area of the plant) and conditioning (the process of permitting the product to be panned to reach equilibrium with its surroundings) are closely connected. There are probably few products more sensitive to these effects than chewing gum. Other products that share some common processing parameters with gum might be expected to experience similar changes. ➤