



Study of the making of sponge cake

INTRODUCTION

Sponge cake is a basic pastry used in many pudding recipes. The most widely used recipe consists of whisking the egg yolk with sugar until a mousse is obtained and add the flour. In order to get a good quality pastry, the mousse, obtained after whisking the eggs, has to be sufficiently stable so that the air bubbles remain during the cooking. Indeed, the spongy aspect of the cake is due to evaporation of water within the mousse during cooking.

The study of the stability of the sponge cake during its process is of prime importance for the quality of the final pudding. The kinetics of coalescence of the air bubbles needs to be monitored.

Application

Food

Objective

Study the various steps of the preparation of sponge cake

Device

TURBISCAN® Classic

The Turbiscan Classic is an ideal tool to study the stability of foams in general and can be used for this kind of study (see also the application note on the "Stability of whipped egg").

METHOD

In a first step, we follow the stability of the mousse obtained by whisking the egg yolk coming from various types of egg with sugar, using the Turbiscan Classic. For that, we use an industrial egg yolk that has been pasteurised and two brands of egg yolk separated in the lab.

In a second step, we follow the stability of the raw paste by varying the time of whisking and the amount of water in the recipe.

RESULTS

1. Stability of the mousse egg yolk + sugar

The various types of egg yolks are whisked with sugar until a white mousse is obtained. The coalescence of the air bubbles is followed and we get the following results (Figure 1).

