Some proteins have stabilities that depend on the cooling rate, but this is primarily due to electrolytes (e.g., sodium chloride) and stabilizers (e.g., glycine) in the composition. These will crystallize out and give the cake structural strength so that T_s increases, but their presence, as well as the initial freezing rate, will modify the positions of the two curves, so that a slow cooling rate may provide a different (and sometimes worse) cake than when a fast cooling rate is employed.

These aspects have been discussed in detail by Franks (1990), Levine and Slade (1988), Mackenzie (1977) and Suzuki and Franks (1993).

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