



Evaluation and Definition of Potentially Hazardous Foods –
Chapter 3. Factors that Influence Microbial Growth

2.1. Moisture content

Microorganisms need water in an available form to grow in food products. The control of the moisture content in foods is one of the oldest exploited preservation strategies. Food microbiologists generally describe the water requirements of microorganisms in terms of the water activity (a_w) of the food or environment. Water activity is defined as the ratio of water vapor pressure of the food substrate to the vapor pressure of pure water at the same temperature.

The a_w of pure water is 1.00 and the a_w of a completely dehydrated food is 0.00.

The a_w of a food describes the degree to which water is "bound" in the food, its availability to participate in chemical/biochemical reactions, and its availability to facilitate growth of microorganisms.

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No moisture beads on the proofing bread or exposed butter means no cross-contamination from other products!

