

Summary

Since the beginning of time, people have looked for ways to preserve food for future use. There are no records when the first preservation method was discovered. Perhaps people noticed that a fire dried food and that the smoke preserved it. By chance, people could have left food in the snow and once retrieved, found that the frozen food lasted longer than the fresh. In these ways, people might have learned how to protect foods against the effects of time. There are several ways in which salt and sugar inhibit microbial growth. The most notable is simple osmosis, or dehydration. Salt or sugar, whether in solid or aqueous form, attempts to reach equilibrium with the salt or sugar content of the food product with which it is in contact. This has the effect of drawing available water from within the food to the outside and inserting salt or sugar molecules into the food interior. The result is a reduction of the so-called product water activity (a_w), a measure of unbound, free water molecules in the food that is necessary for microbial survival and growth. Out of all the methods of preservation canning is the one that is still used most often.