NOVA SCOTIA

Factsheet Potentially Hazardous Foods

What is a Potentially Hazardous Food?

It is a food that allows for growth of bacteria or formation of toxins associated with certain bacteria is considered a potentially hazardous food (PHF). Foodborne illness and outbreaks are often associated with PHFs.

Six Factors that Constitute a PHF

Food – Protein-rich foods often encourage bacterial contamination and growth. There must be enough nutrients and proteins available to support microbial growth. Some carbohydrate-rich foods can also support the growth of some illness-causing bacteria.

Acidity – Is measure on a pH scale of 1-14. One (1) is very acidic and 14 is very basic or alkaline. PHFs usually have a pH between 4.6 and 7.0. High acid foods rarely support disease-causing microbial growth. Lowering the pH of a food will help act as a barrier to these organisms.

Time– Microorganisms take time to multiply and may cause illness in those consuming the food. After being in the ***Temperature Danger Zone*** more than two hours, bacteria have time multiply and/or produce toxins that could lead to foodborne illness.

Temperature – The **Temperature Danger Zone** is a temperature range of 4°C to 60°C (40°F to 140°F) and is the optimal growing temperature for bacteria. It is important to note that bacteria may still grow outside the **Danger Zone** and toxins that are produced may not be destroyed by temperatures above 60°C (140°F).

Oxygen – Certain bacteria require an oxygen-rich environment to grow while others thrive best in low or oxygen-free environments. Many bacteria associated with foodborne illness, however, can grow in the presence or absence of oxygen.

Moisture– The quantity of the available water found in foods is considered to be its water activity (A_w). If the A_w of a food is less than 0.85, the food is not potentially hazardous. Should the A_w be greater than 0.85, the food is considered a PHF. Many foods have A_w levels of between 0.97 and 0.99. Dehydrating, freezing, adding sugar or salt or otherwise changing the A_w in a food will prevent microbial growth or toxin production, and makes the food less hazardous.

For more information on food safety, contact your local Food Safety Specialist, or visit the Department of Agriculture's food safety website at http://www.gov.ns.ca/agri/foodsafety