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# High pressure thermal processing and pressure assisted thermal sterilization an overview

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High pressure thermal processing aims to improve food safety and food quality by elimination of spoilage organisms and foodborne pathogens through application of pressure at a temperature of 40 °C to 121 °C. The term high pressure thermal processing (HPTP) refers to processes that employ high hydrostatic pressure at 40 – 100 °C to target vegetative cells of bacterial foodborne pathogens as well as spores of bacterial or fungal spoilage organisms. Processes that operate at high pressure and 110 – 121 °C to eliminate bacterial endospores of concern for food safety or food spoilage and are referred to as pressure assisted thermal sterilization (PATS). This presentation aims to provide an overview on key developments that facilitated the introduction of high pressure processing to industrial food production as well as key discoveries related to high pressure thermal processing and pressure assisted thermal sterilization. Based on currently available data, the science on what can or cannot be achieved with high pressure thermal processing or pressure assisted thermal sterilization is largely available. In addition, food engineering provided the technology to deliver equipment for commercial scale high pressure thermal processing or pressure assisted thermal sterilization.