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Pflug, Irving J. and M. A. Nicholas: (2015). Pickles and Pasteurization: The Art and the Technology. Environmental Sterilization Laboratory, Otterbein, IN 47970.

Abstract

Pickles and Pasteurization: the Art and the Technology is our (Ann Nicholas and Irv Pflug) story of fresh-pickle product manufacturing and pasteurization. The manufacture of pickles is a unique food-processing technology.

The book consists of seven chapters and ten appendices. Chapters 1 through 6 cover the science and engineering details of producing fresh-pasteurization of pickles. In chapter 7, we put the whole story together regarding how we produce quality pickles; this chapter has six parts: Production, Microbiology, Engineering, Quality, Pickle-Processing and Conclusions.

The ten appendices are individual, stand-alone stories of facets of the pickle industry. In Appendix B and C, we discuss, in detail, how we collect and analyze temperature-time data for pickle products being heated in containers. Appendix D: Determining the Pickle Heat-Pasteurization Process Value, $F_{160.0^{\circ}\text{F}}$. Appendix E: a discussion of the science of heat transfer regarding the temperature in a jar of pickles at the end of the heating section of the pasteurizer. Appendix F: the result of a laboratory experiment of in-the-jar fermentations as a function of the $F_{160.0^{\circ}\text{F}}$ process delivered to commercial, line-packed, sweet-spear pickle products. Appendix G: Experimental Studies in the Preservation of Cucumber Pickles, describes several studies carried out by Dr. Pflug and colleagues. Appendix H: Philosophy and Observations regarding pickle manufacturing. Appendix I: The Chemistry of Pickle Brines; acidity, buffers and pH by Dr. Ralph Costilow. This discussion offers the student a clear idea of the relationship of acidity, buffers, and pH. Appendix J: Classification of Pickles, is an article from Dr. F.W. Fabin and his student Mr. R.G. Switzer. Appendix K is an extensive literature citation.