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### **Effect of fill weight and initial temperature on processing time for a home pickled jicama relish**

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Pickled vegetables are popular home preserved condiments. The increasing variety of produce in the marketplace offers opportunities for greater diversity in condiments such as salsas and relishes than has traditionally been available in the U.S. Jicama was studied for its potential use in home pickled products with a crisp texture.

The objective of this study was to determine the effect of typical consumer procedural variations on heat penetration when processing an acidified jicama relish recipe.

Variations were made in fill weight and initial temperature (IT) of the filled jars. An original recipe with an equilibrium pH of 3.5 was developed for heat penetration studies using a hot pack, pint jars and boiling water canner. Product temperatures were continuously recorded at the predetermined cold spot throughout come-up time, 35 minutes in boiling water, and air cooling of jars. Fifteen jars (five jars in each of three canner loads) were used for each procedural variation of fill weight and IT. Processing was done in a 17-quart boiling water canner on a household gas range.

Fill weight had a significant impact on both maximum jar temperature obtained and final process time recommendation. Heat applied during come-up had no effect on jar temperature with the overfill. A decrease of 5°C (64.5 vs 69.7) in IT had no effect on either maximum jar temperature reached at the end of come-up or the 35 minutes at boiling. However, analysis of the worst case low IT jar would result in a longer process time than for the higher IT product.

This study documents the effects of some consumer practices on process lethality for a cubed relish product. Overfills should be avoided to insure expected heating rates and final maximum temperatures. Specifying a minimum number of jars to a home canning recipe could be considered.