

# PASTEURIZED PICKLES?

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**W**IDESPREAD APPLICATION of a specially adapted pasteurization process has greatly enlarged the market for cucumbers by making a new type of pickles available. These are fresh-pack pickles, mostly sweet slices and dills, prepared without the usual fermentation or curing in brine.

These new products are proving extremely popular with consumers because they retain the characteristic crispness, flavor and appearance of the fresh cucumber. The use of pasteurization has also proved helpful in preserving the quality of brined pickle products.

More than half the pickle manufacturers in the United States now use this process, and a number of plants use the pasteurization process as a standard method of preserving and maintaining the quality of their entire pickle output.

Besides leading to the production of fresh-pack pickles, pasteurization has proved advantageous in putting up some types of brine-cured products. It improves the keeping quality of dills as well as that of some types of sweet pickles made from brined cucumbers. In the production of brined sweet pickles, pasteurization permits the use of less vinegar, which is desired by some consumers, without the addition of preservatives.

The increased sale of pickles resulting from the pasteurization process has brought a corresponding increase in the demand for fresh cucumbers grown by farmers. About one and one-half to two million bushels of cucumbers each year, representing 15 per cent of the total crop, are now consumed in fresh-pack, pasteurized pickles.

## Result of Joint Research\*

This innovation in the pickle-packing industry is the result of joint research conducted by the Bureau of Agricultural and Industrial Chemistry and the Department of Horticulture of

the North Carolina Agricultural Experiment Station in cooperation with the Charles F. Cates & Sons Company, pickle packers at Faison, North Carolina.

Before these investigations, pasteurized pickles were considered a novelty. Little or no information on their production was available to manufacturers generally, although a few companies produced fresh-pack sweet slices by secret and costly methods, often involving heavy losses.

Meanwhile, the entire industry needed a new line of products to supplement the output of standard sweet, sour and mixed pickles and relishes. For this reason, packers became greatly interested in the possibility of processing part of the cucumber crop immediately after harvest. This would eliminate the delay caused by the long brining process ordinarily used to prepare cucumbers for pickling and would thus spread the packing season over a much longer period, provided spoilage of the fresh-pack products could be prevented.

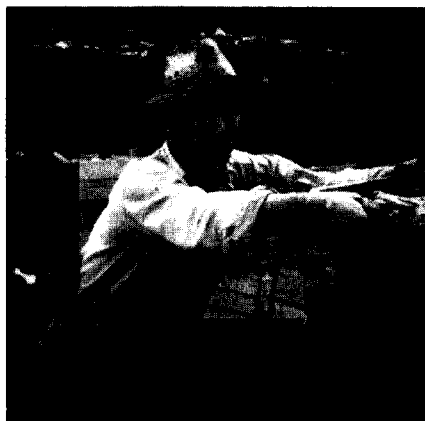
It was believed the pasteurization process long used to protect milk, butter and other perishable products could be used under the right conditions. A number of carefully controlled experiments were conducted in a commercial plant to determine the exact amount of heat required to kill the types of microorganisms responsible for the spoilage of cucumbers while retaining the maximum crispness and flavor characteristic of the fresh vegetable.

After thoroughly checking results by bacteriological and chemical tests under commercial conditions during several packing seasons, a suggested pasteurization procedure adaptable to either continuous or batch cucumber-pickling operations was worked out. It has proved successful, and the details of its application have been widely published.

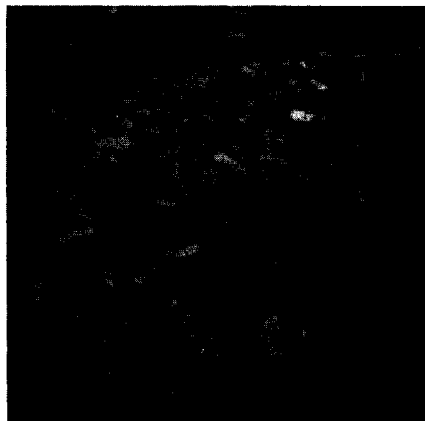
\* See Research Achievement Sheet 138(c). Processed. U. S. Department of Agriculture. June 1951.



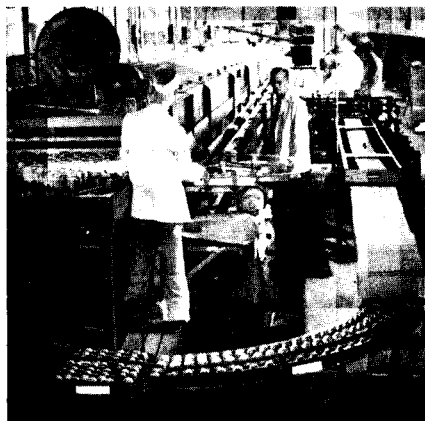
From the field . . .



. . . to the crate . . .



. . . to the vat . . .



. . . to the jar