

**U.S. DEPARTMENT OF AGRICULTURE, ARS
FOOD FERMENTATION LABORATORY; AND NORTH CAROLINA
AGRICULTURAL EXPERIMENT STATION, DEPARTMENT OF FOOD SCIENCE
NORTH CAROLINA STATE UNIVERSITY,
RALEIGH, NORTH CAROLINA 27607, USA**

SUBJECT: "Q-BAT™"—QUICK CUCUMBER BRINE ACIDITY TEST ; TABLETS

A. The Food Fermentation Laboratory, U.S. Department of Agriculture, ARS, in cooperation with the N. C. Agricultural Experiment Station, Departments of Food Science and Microbiology, N. C. State University, has developed "Q-BAT" Tablets for testing the acidity of cucumber brines. The tablets should give the same results as those obtained with the paper squares. When the brine acidity reaches approximately 0.6% lactic acid (= L. A.), as indicated by the "YELLOW" color on two consecutive days, the initial brine strength should be gradually increased to the holding strength by the addition of dry salt (NaCl) according to regular plant procedure. See opposite, or reverse, side of this sheet for examples of bloater formation in brined cucumbers.

B. Q-BAT TABLET METHOD:

1. Drop one Q-BAT tablet to the bottom of a clean test tube.²
2. Pipette or accurately measure 5-ml of the brine sample into the tube.
3. After 5 to 10 minutes, shake gently. When it appears certain that the tablet has completely dissolved and there is no further color change, select one of the three categories given below:
- 4.

RED (negative)
Less than 0.5% L. A.



R

ORANGE
About 0.55% L. A.



O

YELLOW (positive)
0.6% L. A. and higher



Y

5. Record the results in your "Brining Book" or your "Record Sheet" as either R, O, or Y.

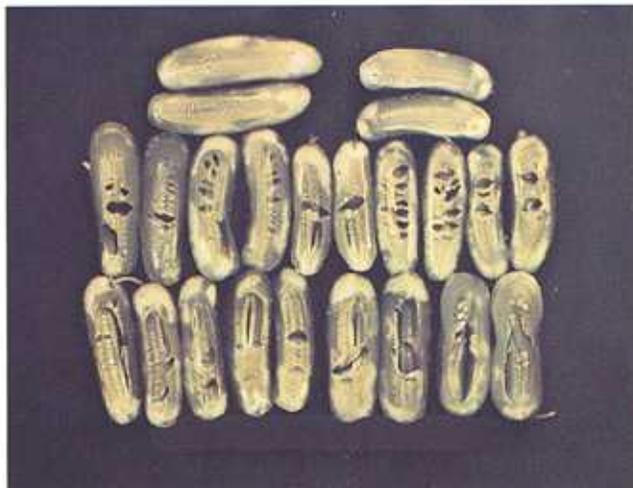
¹Reference: "A Quick Test for Cucumber Brine Acidity" by T. A. Bell, J. L. Etchells and R. E. Kelling. J. Food Sci. 36: 1036-1038. 1971. Copies of this article cited, as well as copies of this "Q-BAT" instruction sheet, may be obtained from "Pickle Packers International, Inc.," P.O. Box 31, St. Charles, Illinois 60174, USA, or by writing the authors. The same is true for obtaining copies of the "reverse" side of this sheet (from PPI, Inc.) which deals with pictures of "Bloaters."

²The test may be speeded up by adding 2 to 3 drops of water to each tube and tablet about 20 to 30 minutes before the 5-ml brine sample is added. The tablet should partly dissolve in the water and, when the brine sample is added, it should take only two or three minutes to make the test.

BLOATER CHART¹



Three Principal Types of Bloaters Found in Brine-Stock Pickles — Showing Various Degrees of Bloater Damage.



Severe Lens and Balloon Bloaters in Partially cured Brine-Stock Pickles.



Bloaters in Small-Sized Brine-Stock Pickles (About 1 Inch or Less in Diameter).

¹ Reference: J.L. Etchells, T. A. Bell, H. P. Fleming, R. E. Kelling, and R. L. Thompson (1974). North Carolina Agricultural Experiment Station, Food Science Department, North Carolina State University; and, United States Department of Agriculture, Agricultural Research Service, Southern Region, Raleigh, 27607, USA. Published and distributed by Pickle Packers International, Inc., P. O. Box 31, St. Charles, IL 60174, USA.