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INFLUENCE OF BILE AND BRILLIANT GREEN ON
RATE OF GROWTH OF COLON BACILLI

HAROLD W. COLES AND MAX LEVINE

Evaporated bile may inhibit or stimulate growth of colon bacilli depending on concentration of bile, reaction of the medium, and the strain of organism employed.

With all samples of bile employed, a concentration of 2.0% was found to accelerate growth whereas 5.0% was inhibitory in acid media (about pH 6.0), and stimulating in alkaline media (pH 7.3-7.8).

With 2.0% dried bile concentrations of more than 1-50,000 brilliant green distinctly retarded growth, and with 5.0% evaporated bile concentration, of 1-20,000 or less of the dye were not considered inhibitory.

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BACTERIAL BLACKENING OF CANNED VEGETABLES

C. H. WERKMAN AND HELEN WEAVER

"Sulfur stinker" is the trade name given to canned sweet corn which has undergone an anaerobic decomposition resulting in a blackened condition of the germ, and the evolution of hydrogen sulfid gas. The condition is caused by an anaerobic, gram positive, sporulating, hydrogen sulfid producing thermophile whose spores resist boiling temperature for five hours. Vegetative cells are destroyed by 10 min. at 100°C. Optimum temperature for multiplication is 55°C.; the upper limit is 65°C. Growth and blackening of corn occur at room temperature if incubation is sufficiently long — 6-8 weeks. The organism occurs singly or in chains of as many as eight bacilli. Twenty-four sugars, glucosids and alcohols were tested, but none has been attacked with acid production. Nitrates are reduced with no liberation of gas; blood agar is hemolyzed.

Spores are difficult to demonstrate. They are oval; cause little distension of the vegetative cell walls and are best produced in blood medium.

Granules are produced in the cell (one to six in an organism), which retain the methyl violet stain after the remaining part of the cell decolorizes with acetone.

Canned peas are very susceptible to infection developing a black