ABSTRACTS

FERMENTATION TECHNOLOGY LABORATORY

1. PECTIN DECOMPOSITION BY SPECIES *Pseudomonas* AND THEIR ROLE IN THE RETTING OF MALVACEOUS PLANTS. S. M. Betrabet and J. V. Bhat, *Appl. Microbiol.*, 1958, **6**, 89.

Qualitative and quantitative studies of the microflora associated with the retting of *Malachra capitata* and *Hibiscus cannabinus* at 24 to 26 and 37°C with and without aeration have been reported. It has been shown that at the lower temperature the retting process is mostly brought about by species belonging to the genus *Pseudomonas*. By chemical analysis the ability of the pseudomonads to decompose citrus pectin has been demonstrated.

2. MICROBIAL METABOLISM OF OXALIC ACID. W. B. Jakoby and J. V. Bhat, *Bacteriol. Rev.*, 1958, **22**, 75.

A survey of the literature pertaining to distribution and metabolism of oxalic acid in animals, plants and micro-organisms has been made and details of the oxalic acid formation and cleavage by the enzyme systems established to be present in plants and micro-organisms have been discussed. A list of bacteria established to possess the ability to utilize oxalic acid has also been presented.

3. ANTIMETABOLITES IN THE NUTRITION OF THE SILKWORM *Bombyx mori* L.—I NIACIN AND PYRIDOXINE ANTAGONISTS. M. B. Shyamala and J. V. Bhat, *J. Insect Physiol.*, 1958, **2**, 137.

Growth inhibition with antimetabolites and its reversal with metabolities has been employed as a criterion for studying the nutritional requirement of the silkworm for niacin and pyridoxine. By the use of 3-acetyl pyridine and desoxypyridoxine for producing niacin and pyridoxine deficiency respectively, the essentiality of the vitamins for the growth of the silkworm has been established.

4. SALICYLATE AS INTERMEDIATE IN THE BREAKDOWN OF AROMATIC RING BY *Pseudomonas convexa var. hippuricum*. Maya G. Bhat, T. Ramakrishnan and J. V. Bhat, *Canadian J. Microbiol.*, 1959. **5**, 109.

The problem as to how benzoic acid is initially attacked has been an obscure one and the finding that salicylate is an intermediate has been reported. This was accomplished by the use of *Pseudomonas convexa* var. *hippuricum* cells harvested from hippurate medium and by the demonstration of their ability to oxidize hippurate, benzoate, salicylate and catechol without a lag phase. That salicylate could be the intermediate has also been shown by using acetone-dried cell preparations for bringing about the oxidation of the intermediary compounds and by the fact that almost all of the *Pseudomonas* strains isolated from hippurate enrichments could utilize salicylate as the sole source of carbon and energy.