INVERTASE ACTIVITY IN COCONUT

S. M. D. Nalinie Senaratne and K. Balasubramaniam
(Department of Biochemistry, University of Colombo)

Invertase activity was examined in the soft mesocarp tissue connecting the stalk and eyes of the young coconut. Extraction was done at 0°—5°C using 0.2 M. Acetate buffer pH 4.5. The extract was centrifuged at 900g and the particulate fraction was used in the experiments. When 0.5% (v/v) Triton X-100 was used 72% of the total enzyme in the pellet were solubilized. The invertase activity was assayed against sucrose (13% w/v) Acetate buffer pH 4.5, using dinitro salicylic acid reagent.

Mercapto Ethanol (5×10^{-3} M) increased the invertase activity by 115%. This increase in activity could be due to the increased release of the enzyme from the pellet or due to increase in activity of the enzyme or both. Further experiments will be designed to test this hypothesis.

Sodium chloride increased the release of the enzyme from the pellet. The increase in protein concentrations and enzyme activity were linear up to 0.30 M Sodium chloride. This suggests that proteins and the enzyme invertase were held in particulate form by ionic bonds.

The effect of pH on the release of the enzyme from the pellet in the pH range 3.5 to 5.8 was not significant.

EDTA inhibits the activity of the enzyme suggesting that it is a metallo enzyme. The inhibition by EDTA may be due to the chelation of metals by EDTA.