

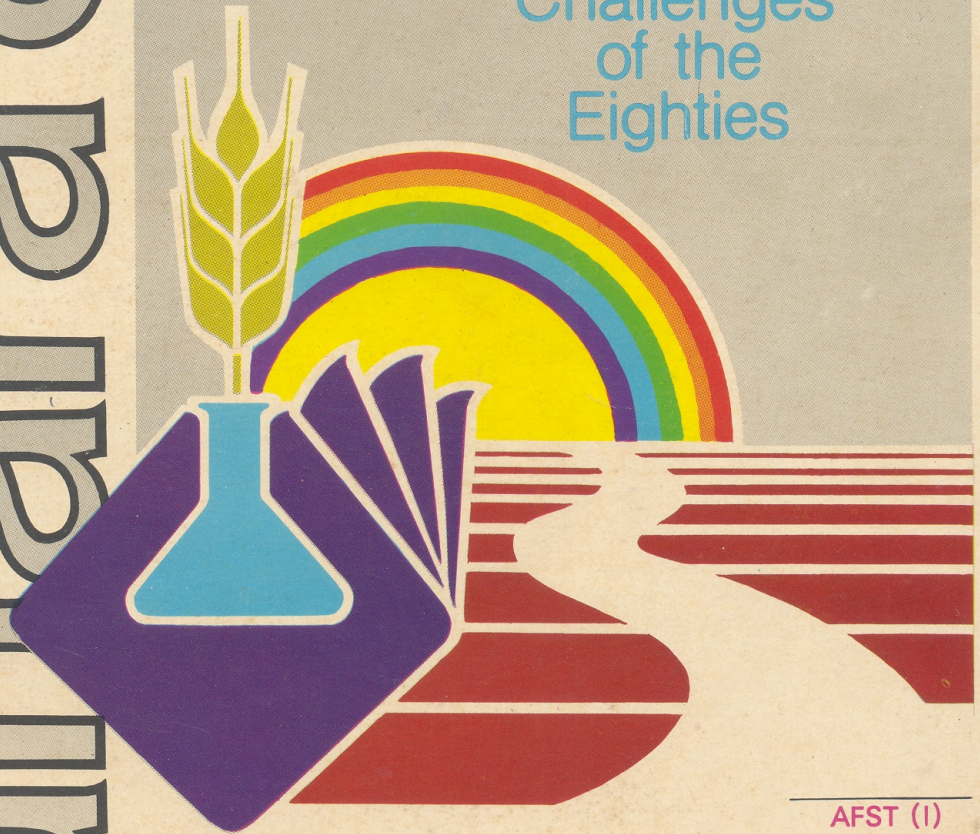
INTERNATIONAL FOOD CONFERENCE

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A.A. M. Kurlu

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Food
Challenges
of the
Eighties



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available in waste materials such as tamarind seed. After establishing optimal conditions for the adsorption of amyloglucosidase in γ -alumina, the kinetic parameters of the IME have been evaluated and compared with those of the native enzyme. The stability of the IME has been studied with respect to time, temperature and pH.

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DETERMINATION OF PROTEOSE-PEPTONE CONTENT AND BACTERIOLOGICAL QUALITY OF STORED PASTEURISED MILK

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Studies were conducted to determine the changes in the level of proteose-peptone content and increases in numbers of microorganisms in pasteurized toned milk samples under different storage conditions to evaluate the quality of such milk samples. The initial proteose-peptone content ranged between 114-221 mg/100 ml and total bacterial counts between 5,000 and 10,000 organisms/ml. Coliforms and enterococci were present in small numbers (1-10/ml). During storage of these samples, both the proteose-peptone and bacterial contents increased to a considerable extent which depended mainly upon storage conditions. At 37°C for 24 hr. the release of proteose-peptone fraction was observed to be more (230-270 mg/100 ml). In case of samples stored at 45°C for 8 hr., it was the least (145-230 mg/100 ml). However, there was no increase in its level during storage at 8-10°C upto 10 days. The total bacterial counts were observed to be more in samples stored at 37°C for 24 hr as compared to those stored at 22°C for 42 hr. or 45°C for 8 hr.

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STUDIES ON THE PRODUCTION, PURIFICATION AND SOME PROPERTIES OF RIBONUCLEASE FROM

ASPERGILLUS CANDIDUS M16a

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Ribonucleases have gained importance in the last two decades in view of their industrial and academic uses. A strain of A. candidus producing potent RNase was isolated in this laboratory. Extracellular production of RNase by this fungus does not appear to have been reported so far. Cultural conditions were optimised for the maximal production of this enzyme by surface method using a rice bran medium with 80% moisture, pH 5.0-6.0, incubated at 25°-28°C for 80-85 hr.

The enzyme was purified 130 fold with a recovery of 10-13% activity. It was found to act at an optimum pH of 4.5 and temperature 55°C. It

has no strict base specificity, although the velocity of hydrolysis was poly U RNA Poly C Poly A. This enzyme did not degrade Poly G and also DNA. From yeast RNA it formed 3'-UMP, 3'-CMP, 3'-AMP and oligonucleotides of Guanine. The enzyme was found to be fairly heat stable and insensitive to EDTA. This enzyme seems to be different from RNases reported by others.

The potential uses of this RNase for the reduction of nucleic acids in single cell proteins and recovery of the hydrolytic products are discussed.

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SUBSTITUTES FOR AMMONIA IN CAMEL PRODUCTION

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Caramel is normally prepared with ammonia being used as catalyst which causes formation of methyl-imidazole. Various organic amines were used as substitutes in the caramel production while many did not aid production of good colour intensity, ethylene amine was found to be very promising. It also did not produce methyl-imidazole.

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RHEOLOGICAL PROPERTIES OF THE MODIFIED STARCHES

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Modified starches are used in many processed foods to control the viscosity and other rheological properties of foods. Many modified starches were prepared including pregelled starches, crosslinked starches, starch phosphate and starch acetate. The rheological properties were measured by various viscometers like Haake-Rotovisco Viscometer, Brookfield viscometer and Brabender amylograph. Implications in food applications are discussed.

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EXTRACTION OF ANNATTO COLOUR FROM THE SEEDS OF BRIXA ORELLANA

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Various methods were tried for extraction of the pigments from seeds of Bixa orellana. These include water dislodging, extraction with alkali or by organic solvents. Conditions were optimised for the extraction.