The amylose complexes are not degraded by α -amylase and β -amylase. The action of α -amylase and of β -amylase on amylopectin is inhibited in the presence of amylose complexes; the inhibition is of an uncompetitive type.

The increase in the absorption of the amylose-iodine complex in the presence of complexing agents, followed by a fall in the absorption at a higher concentration, accompanied by a blue shift in $\lambda_{\max}$, and the resistance to the action of α -amylase and β -amylase acquired by the amylose on complexing with these ligands appear to be due to the ligand-induced conformational changes.

Isolation and Characterization of High-Molecular-Weight Amylose by Dispersion of Starch Granules with Urea

By N. B. PATIL and N. R. KALE (*Department of Chemistry, Division of Biochemistry, University of Poona, Poona-7, India*)

Amylose, the linear component of starch, is susceptible to degradation in the presence of O_2 during dispersion of starch granules by heating, and hence dispersion of starch granules under anaerobic conditions or in the presence of dimethyl sulphoxide is recommended to avoid the degradation. Wet potato-starch granules were quantitatively dispersed in buffered urea (8–10M), pH 6.2, by prolonged contact at room temperature (26–28°C). Microscopic observations have shown that the starch granules in contact with urea are considerably swollen, accompanied by the loss of birefringence and followed by a progressive liberation of the starch components, leading to complete dissolution. Amylose is isolated by fractional precipitation with ethanol, followed by purification by complexing with butan-1-ol. Trace quantities of amylose in the amylopectin fraction are removed by adsorption on defatted cellulose. The purified components are recovered by addition of ethanol, and washed free of urea with aqueous ethanol. The amylose isolated by this procedure has the following properties: intrinsic viscosity, $[\eta]$, 3.56; iodine-binding capacity, 19.8, determined by a potentiometric method; blue value, 1.42, determined by a spectrophotometric method; β -amylolysis limit, 96–98%, indicating the high purity and high molecular weight of the linear polymer.

Factors Affecting Aflatoxin Production on a Synthetic Medium

By T. V. REDDY, L. VISWANATHAN and T. A. VENKITASUBRAMANIAN (*Department of Biochemistry, Vallabhbhai Patel Chest Institute, University of Delhi, Delhi-7, India*)

A completely synthetic medium containing sucrose, asparagine and salts (SL medium) on which stationary cultures of *Aspergillus parasiticus* A.T.C.C. 15517 give high aflatoxin yields has already been reported from this laboratory. A detailed study was carried out on the effects of the concentrations of different components of SL medium and of other carbon and nitrogen sources on aflatoxin production. For optimal aflatoxin production, the ranges of sucrose, asparagine and ammonium sulphate concentrations were found to be 80–100, 10–15 and 2–5g/l respectively. Glucose, maltose and sucrose supported good aflatoxin production, whereas arabinose, fructose and starch were less effective. Of a number of the carbon sources studied, only glycerol and ethanol gave high yields.

The omission of Fe^{3+} , $Mo_7O_{24}^{6-}$ or H_3BO_3 from the medium had no marked effect on aflatoxin production. $ZnSO_4$ up to 25 mg/l stimulated aflatoxin formation, but considerable amounts of aflatoxins were formed even in the absence of Zn^{2+} . The omission of Mn^{2+} increased aflatoxin yields. Unlike many of the media recommended for aflatoxin production, SL medium gave equally good yields on both stationary and shake cultures.

Effect of Ionic Media on the Intestinal Transport of Amino Acids in Rats *in vitro*

By AKHTAR MAHMOOD and D. P. SHARMA (*Department of Biochemistry, Postgraduate Institute of Medical Education and Research, Chandigarh, India*)

Intestinal transport of methionine and glycine have been studied in rats by using the everted-sac technique. Both of the amino acids are actively transported by the intestinal epithelium and show an absolute requirement for Na^+ for their transport. Replacement of Na^+ by other ions of group I, namely Li^+ , Rb^+ and Cs^+ , in the incubation medium results in complete inhibition of the transport process, suggesting that Li^+ , Rb^+ and Cs^+ cannot substitute for Na^+ in the incubation medium. The results will be discussed in light of the recent concept of a polyfunctional membrane carrier, having different interacting sites for each of Na^+ , amino acids and sugars, located at the mucosal border of the small intestine.