no XO was detected in the cerebellum of the mouse. In spite of the high XO of blood serum of the cow[8], the brain presented comparatively low values. The failure of previous workers to find XD activity in the brain tissues could be explained by the low sensitivity of the methylene blue method used and the necessity to increase the dehydrogenation reaction by the previous incubation with NAD. The function of XO in the brain is not yet known; however, the variations in virus infection and the decrease during narcosis by barbiturates suggest a possible role of this enzyme in the metabolism of the central nervous tissues[9,10].

Résumé. La xanthine oxydase a été déterminée dans la partie surnageante des homogenéisats centrifugés de cerveau et cervelle de divers animaux (souris, rat, cobaye, lapin, vache) par spectrophotométrie de l'acide urique produit après incubation de 2 h avec l'hypoxanthine. Le cerveau du rat et du cobaye sont les plus riches en cette enzyme, mais la cervelle de la souris est dépourvue d'activité. La xanthine déhydrase s'est montrée plus active après incubation avec le NAD.

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[8] G. G. VILLELA, O. R. AFFONSO and E. MITIDIERI, Experientia *12*, 477 (1956).

[9] The analytic reagents used were: xanthine (British Drug House), hypoxanthine chromatographic pure (California Corporation for Biochemical Research), NAD (SIGMA) and TPTC (Eastman Organic Chemicals).

[10] The author is grateful to Conselho Nacional de Pesquisas (Brazilian Research Council) for a fellowship.

Fatty Acid Composition of Mycelium of *Penicillium chrysogenum* Grown in Different Carbohydrates as a Sole Source of Carbon

Carbohydrate constituents of mycelia of *Penicillium chrysogenum* grown under different carbon sources have been studied by IRANI and GANAPATHI[1]. The various carbon sources used were pentoses, hexoses and sugar acids. The amounts of various components of carbohydrates changed with the change in the carbon source.

On similar lines we are presenting some of our observations on the gross fatty acid composition of the mycelium of *P. chrysogenum* grown on different carbohydrates as sole carbon source. The different carbohydrates used include: 3 pentoses, namely D-arabinose, D-xylose and D-ribose; 2 hexoses, glucose and fructose and a disaccharide, sucrose. The synthetic medium of GITTERMAN and NIGHT[2] was used to cultivate the mycelia and consisted of 5 g/l ammonium nitrate, 5 g/l potassium dihydrogen phosphate, 0.5 g/l magnesium sulphate ($7H_2O$), 0.1 g/l ferrous sulphate, 0.01 g/l zinc sulphate, 0.01 g/l manganese chloride and 0.01 g/l calcium chloride; pH was adjusted to 6.5 with NaOH. The desired sugar was aseptically added to the medium at the concentration of 2%. 100 ml medium in 500 ml Erlenmeyer flask was inoculated with 10 ml of the seed culture of *P. chrysogenum* (HA-6 strain) and grown on the rotary shaker giving 250 rpm for 48 h. Mycelia were harvested by centrifugation, washed with phosphate buffer and dried under vacuum.

The dried mycelia were finely powdered, and preweighed amounts of this powder were used to extract the lipid by FOLCH's method[3] using 2:1 chloroform and methanol mixture. After determining the amount of lipid, this fraction was hydrolysed and methylated by the usual standard procedures. The methyl esters of fatty acids were separated and estimated on gas chromatogram with flame ionization detector on a 6-foot column of DEGS (20%), coated on chromosorb P at 195 °C.

The results of the various analyses are given in the Table. It appears from the Table, that in the presence of pentoses as the sole carbon source, total lipids of the mycelia are kept low, while it is 2–3 times more when pentoses are replaced by hexoses or disaccharide as a sole carbon source. Though there is vast difference in the lipid content of the mycelia grown on pentoses and hexoses, the gross fatty acid composition of all the mycelia appears to be more or less similar. Fatty acids ranged from C-12 to C-20, although the lower acids C-12 to C-15 were observed to be present in traces. C-17 was almost absent and only glucose grown mycelia showed traces of this acid. C-18:2 was maximal in all the mycelia amounting to about 40–50% of the total fatty acids. A good portion of C-16 was also noted while the rest were below 10% or in trace amounts.

Fatty acid composition of mycelium of *P. chrysogenum* grown on different carbon sources

	Carbon source used					
	D-arabinose	D-xylose	D-ribose	D-glucose	D-fructose	Sucrose
Total lipids (g %)	4.67	6.67	4.33	12.7	18.7	19.0
Fatty acids	Percentage distribution					
C-12	Trace	Trace	Trace	Trace	Trace	Trace
C-14	0.31	Trace	Trace	Trace	Trace	Trace
C-15	0.63	Trace	Trace	1.8	1.25	1.2
C-16	36.37	25.95	27.5	23.8	24.25	17.3
C-16:1	0.47	0.25	0.4	3.0	0.7	1.15
C-17	–	–	–	Trace	–	Trace
C-18	3.55	8.60	4.2	9.0	12.4	8.85
C-18:1	4.31	18.70	5.4	4.7	9.6	11.25
C-18:2	54.32	40.4	53.8	48.0	36.0	53.0
C-20	–	2.1	3.0	4.5	5.8	6.3
C-20:4	–	3.75	5.7	4.2	9.8	0.65

Zusammenfassung. Der bisher wenig bekannte Fettsäuregehalt in Mycelien wird untersucht.

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