The following Table summarizes the findings regarding titratable acidity and carbohydrate variation in the plant over a period of 24 h in a day.

Table II

Winter January Bombay	Time	Temperature °C	Titratable acid number	Reducing sugars as glucose	Total sugars as glucose
	8·0 A.M.	21·0	82·12	24·8	63·0
	12·0 Noon	28·0	33·2	27·0	72·0
	4·0 P.M.	27·5	8·1	40·5	90·0
	8·0 P.M.	26·0	10·6	36·0	67·5
	4·0 A.M.	22·0	63·1	31·5	63·3

Reducing sugars are expressed as mg of glucose present in 100 g of the fresh plant material.

Discussion. These observations are in agreement to the findings of BENNET-CLARK[1] and PUCHER *et al.*[12], who have shown that carbohydrates are the main sources of organic acids and hence act as their precursors. There is reciprocal relationship between the carbohydrates and organic acid content of the plant during different hours of the day. The temperature during different hours of the day seems to have a role in the accumulation of organic acids which is maximum at the lowest temperature. This observation is in good agreement with that of BONNER[13]. The variation in titrable acidity is mainly due to variation in malic acid content.

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R. W. P. MASTER

Present Address: *Haffkine Institute, Parel, Bombay (India), September 11, 1958.*

Résumé

L'étude des variations de la quantité d'acide organique et d'hydrate de carbone dans la *Nopalea cochinelliferae* pendant les 24 h de la journée indique que les deux sont en raison inverse. Il semble que la température aussi joue un certain rôle dans leurs variations.

[12] G. W. PUCHER, H. B. VICKERY, M. D. ABRAHAM, and C. S. LEAVENWORTH, Plant Physiol. *24*, 610 (1949).

[13] J. BONNER, *Plant Biochemistry* (Academic Press Inc., New York 1950).

Formation of Histamine in a Canine Mastocytoma

It has been well established by RILEY and WEST and their co-workers that mast cells contain histamine[1]. SCHAYER[2] showed that cell suspensions from peritoneal fluid of rats could form C^{14} labelled histamine from L-histidine labelled with C^{14} in the 2-position of the imidazole ring, and he also presented evidence that the mast cells of these suspensions were responsible for the histamine formation observed.

Recently we have had the opportunity to study, with the use of SCHAYER's methods, the rate of histamine formation in a mastocytoma from a dog. The tumor was located in the abdominal skin and had the appearance of a typical mastocytoma[3]. It was excised under thiopentone anesthesia and tissue samples were taken for histological examination, for determination of histamine content by bioassay[4], and for estimation of histamine forming capacity. For the latter the tissue (about 0·5 g in each sample) in minced form was incubated with C^{14}L-histidine (40 µg) at 37°C in an atmosphere of nitrogen. The volume of each sample was made up to 2 ml by 0·1 *M* sodium phosphate buffer (pH 7·4) containing aminoguanidine in a concentration of 10^{-4} *M*. After 3 h of incubation non-isotopic histamine was added to the samples to serve as 'carrier'. The proteins were precipitated with trichloroacetic acid and the histamine extracted from the samples and purified. The radioactivity of the histamine was then determined under standardized conditions. Parallel incubations with boiled tissue provided blank values. For details about the method see SCHAYER, DAVIS, and SMILEY[5] and KAHLSON, ROSENGREN, WESTLING, and WHITE[6].

The tumor was very rich in mast cells (220000 mast cells/cm³ tissue) and its histamine content was high (320 µg/g tissue). The histamine forming capacity was also considerable. The following values (expressed in µg of C^{14}histamine formed by 1 g tissue in 1 h, with correction for blank values) were obtained: centre of tumor 0·24 and 0·27, subcutaneous tissue in close vicinity of tumor 0·06. The relative histamine binding capacity[2] was calculated to be about 20. This rate of histamine formation is surpassed only by that in cell suspensions from rat peritoneal fluid[2], rat stomach[7], and rat fetuses[6].

The observations thus show that tissue from a mastocytoma of a dog had a high capacity to form histamine. This is considered additional evidence that mast cells form histamine and not merely store it.

S. E. LINDELL, H. RORSMAN, and H. WESTLING

Institute of Physiology, University of Lund (Sweden), November 3, 1958.

Zusammenfassung

Die Aktivität der Histidindekarboxylase in einem Mastozytom beim Hund wurde *in vitro* untersucht. Die Ergebnisse bestätigen die Ansicht, dass Mastzellen nicht nur Histamin speichern, sondern es auch bilden können.

[1] CIBA Foundation Symposium on Histamine, p. 14, 15, and 398 (1956).

[2] R. W. SCHAYER, Amer. J. Physiol. *186*, 199 (1956).

[3] B. LARSSON, Nord. Vet.-Med. *8*, 130 (1957).

[4] C. F. CODE, J. Physiol. *89*, 257 (1937).

[5] R. W. SCHAYER, JANE DAVIS, and ROSA L. SMILEY, Amer. J. Physiol. *182*, 54 (1955).

[6] G. KAHLSON, ELSA ROSENGREN, T. WHITE, and H. WESTLING, J. Physiol., in press.

[7] R. W. SCHAYER, Amer. J. Physiol. *187*, 63 (1956).

Necrosin und die Leukozytenphagozytose

Wir haben bereits mehrmals darauf hingewiesen, dass die phagozytäre Tätigkeit der Leukozyten vom entzündlichen Exsudat wesentlich stärker stimuliert wird als vom Blutserum und vor allem vom Transsudat. Die Untersuchung des Phänomens ergab, dass die bei Entzündung vorliegende erhöhte Phagozytose als Resultante mehrerer Faktoren in Erscheinung tritt[1]. Die phagozytosestimulie-

[1] G. LUDÁNY, Int. physiol. Congr. Bruxelles (1956).