inactivation of the thrombin by the blood. If both processes have similar optima at about 37·5°, but different temperature coefficients, a peaked curve such as we find would result. In this connexion the 37·5° curve in Fig. 1 is illuminating, since the clot does not grow after the fourth minute, but actually becomes smaller, to an extent which is not significant from the statistical point of view, but may be real, and due to syneresis. Although some later workers have not found it, Landsberg[1] in 1913 reported a maximum clotting rate, under some conditions, at 25°, and our work appears to be confirmatory. There may be adaptive significance in the results, since clotting is normally required not in the recesses of the body, but at the surface, where the shed blood is not at 37·5° but at a lower temperature, whilst clotting in deeper and warmer positions is sometimes dangerous.

The details of the experiments will be published elsewhere.

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[1] Landsberg, W., *Biochem. Z.*, **50**, 245 (1913).

d-Glyceric Aldehyde and Tumour Glycolysis

IT was found some years ago[1] that *dl*-glyceric aldehyde inhibits glycolysis of tumour cells. Anærobic glycolysis is inhibited about 75 per cent by 10^{-3} M., whereas aerobic glycolysis is not affected by this concentration. Aerobically, it takes four times this amount to produce the same effect. Concentrations higher than 4×10^{-3} M. of the aldehyde are toxic.

In 1932 experiments were carried out with *d*-glyceric aldehyde kindly supplied by Dr. A. I. Virtanen of Helsingfors (Finland). As this compound was prepared by bacterial action on *dl*-glyceric aldehyde, there was some doubt as to its purity and we hesitated to publish our results. Now having obtained the pure *d*-glyceric aldehyde prepared synthetically by Prof. H. O. L. Fischer and Dr. E. Baer, of Toronto, to whom we are much indebted for a gift of the aldehyde, we were able to reproduce the results obtained five years ago, thus confirming the purity of Dr. Virtanen's preparation.

On April 19, 1932, we found that 10^{-3} M. of racemic glyceric aldehyde inhibited anærobic glycolysis of Jensen rat sarcoma 74 per cent, whereas the same concentration of *d*-glyceric aldehyde gave only the slight inhibition of 11 per cent. With 2×10^{-3} M. we found inhibition of 91 per cent with the racemic and 33 per cent with *d*-glyceric aldehyde.

In recent experiments carried out with the new synthetic preparation the following results were obtained:

INHIBITION OF ANAEROBIC GLYCOLYSIS OF RAT SARCOMA 39 BY GLYCERIC ALDEHYDE.

Conc. of Aldehyde	Racemic	*d*
10^{-3} M.	78 per cent	0 per cent
	68	3
	74	0
2×10^{-3} M.	95	33
	84	32
	92	33

INHIBITION OF AEROBIC GLYCOLYSIS OF RAT SARCOMA 39 BY GLYCERIC ALDEHYDE.

Conc. of Aldehyde	Racemic	*d*
2×10^{-3} M.	52 per cent	12 per cent
3×10^{-3} M.	66	18
4×10^{-3} M.	83	31

As the strong inhibition of tumour glycolysis found with small amounts of racemic glyceric aldehyde is not brought about by the *d*-component, the effect is obviously due to the *l*-form, which therefore should be at least twice as effective as the racemic. Lately some experiments have suggested the possibility that *l*-glyceric aldehyde may even be three to four times as active as the *dl*-form.

In this connexion it is noteworthy that J. Needham[2] recently obtained similar results in his most interesting experiments with *d*-glyceric aldehyde on glycolysis of chick embryo. We are able to confirm his results.

Addendum, January 3: With a new sample of *d*-glyceric aldehyde, just obtained, no inhibition either of anærobic or ærobic glycolysis was found with concentrations given in the above tables.

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[1] Mendel, B., *Klin. Woch.*, **8**, 169 (1929).
[2] Needham, J., and Lehmann, H., NATURE, **140**, 198 (1937). *Biochem. J.*, **31**, 1210, 1913 (1937).

Drift of Net Assimilation Rate in Plants

IN reply to the letter from R. F. Williams[1], may I say that I much regret not having mentioned his paper[2] and that of Ballard and Petrie[3] in my note on the effect of age on net assimilation and relative growth-rates in the cotton plant[4], but I have just seen them for the first time. In stating that the absence of general trend of net assimilation rate up to time of flowering in my experiments was not *proved*, I was merely mentioning an inherent characteristic of the statistical test of significance. In testing the significance of a linear regression coefficient, the hypothesis is made that its true value is zero. This hypothesis may be disproved, at a given level of significance, in which case a significant general trend is shown, but it can never be finally *proved*. My results were clearly consistent with the hypothesis that the linear regression of net assimilation rate on time up to first flowering was zero, that is, that there was no general rise or fall, and it would seem, therefore, that to claim that my data confirmed the findings of Gregory[5] for barley was justifiable. Furthermore, my results agreed with those obtained for cotton by Crowther[6] in the Sudan, although no rigid statistical test was in the latter case applied.

With regard to the contention that the basis of estimation is important, it is worth noting that conversion of my data from a dry weight to a leaf area basis would introduce a rising tendency, since the area per unit leaf dry weight for the cotton plant falls somewhat in time[7]. If a significant upward trend were thus produced, my results for cotton would conflict even more markedly with the findings of Ballard and Petrie, and of Williams, that the net assimilation rate falls in time during the vegetative phase.