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SHORT COMMUNICATION

LUTEOFOROL IN STRAWBERRY LEAVES

E. C. BATE-SMITH

Agricultural Research Council Institute of Animal Physiology, Babraham, Cambridge

and

L. L. CREASEY

Department of Pomology, Cornell University, New York

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A CONSTITUENT having the properties of luteoforol (3′,4′,5,7-tetrahydroxyflavan-4-ol) described in the preceding communication[1] was observed by one of us[2] in leaf discs of the cultivated strawberry varieties "Lassen", "Shasta" and "Fresno" floated on 0·05 molal sucrose solutions. Leaves of "Lassen", "Shasta" and "Cambridge Favourite" grown under glass and examined in January were also found to contain luteoforol; but the leaves of "Cambridge Favourite" and other commercial varieties growing in the field and examined in July contained none.

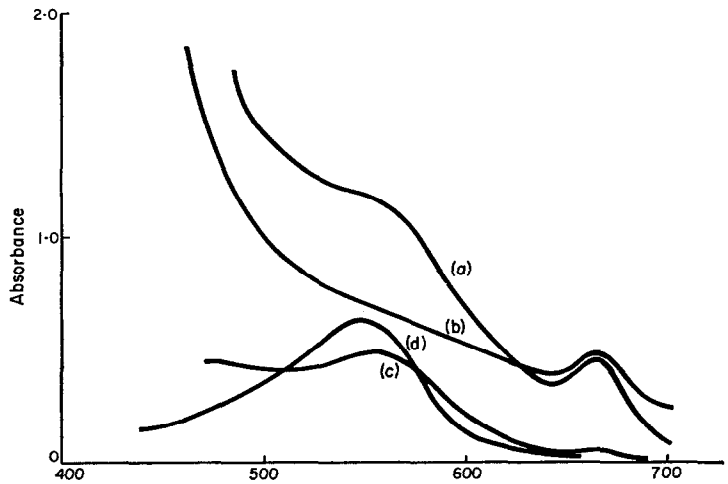

FIG. 1. (*a*) ABSORPTION OF METHANOLIC EXTRACT OF LEAVES OF STRAWBERRY VAR. Lassen TREATED, COOLED IN ICE, WITH CONC. METHANOLIC H_2SO_4; (*b*) ABSORPTION OF EXTRACT OF LEAVES OF *Crataegus pyracantha* SIMILARLY TREATED; (*c*) ABSORPTION OF (*a*) LESS (*b*); (*d*) ABSORPTION OF SOLUTION OF LUTEOFOROL SIMILARLY TREATED.

[1] E. C. BATE-SMITH, *Phytochem.* **8**, 1803 (1969).
[2] L. L. CREASY, Ph.D. Thesis, Davis, California (1964).

The demonstration of luteoforol in strawberry leaves is more difficult than in those of sorghum because of the presence in the former of large amounts of the flavonols quercetin and kaempferol. The absorption of these substances in concentrated H_2SO_4 extends far enough into the visible region to interfere with that of the luteoforol reaction production (Fig. 1). However, compensation of the flavonol absorption by the equal and opposite absorption of an extract free from luteoforol enabled the absorption due to the latter, and its λ_{max}, to be clearly demonstrated. The extract used was that from the leaves of *Crataegus pyracantha*. In each case the methanolic extract of the leaves was first extracted with petroleum ether to remove the bulk of the chlorophyll, then treated, in the cold, with twice its volume of 63·5 per cent methanolic H_2SO_4, bringing the concentration of H_2SO_4 to 43 per cent, which is optimal for the development of the luteoforol reaction product.[3]

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[3] E. C. BATE-SMITH and V. RASPER, *J. Food Sci.* **34**, 203 (1969).