

Vitamin content of
Australian, New Zealand
And English Butters.

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**VITAMIN CONTENT OF
AUSTRALIAN, NEW ZEALAND
AND ENGLISH BUTTERS**

**By M. E. F. Crawford, E. O. V. Perry
and S. S. Zilva**

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PREFACE

THIS Report gives an account of investigations forming part of a scheme of research into the vitamin content of foodstuffs, particularly fruits, vegetables, and dairy products, and into the effects upon it of different methods of cultivation, preparation, transport, and storage. These studies are made by Dr. S. S. Zilva and his assistants, working in the service of the Medical Research Council at the Lister Institute, London, with valuable collaboration by workers in the Dominions. A grant for the cost of the work during a period of years was made to the Council by the Empire Marketing Board.

Accounts of other parts of these investigations have already been published, either in monograph form or as papers contributed to scientific journals, and the present report deals only with the work done on the vitamin content of butters of Empire origin. The subject has importance in that butter, among ordinary foodstuffs, is at its best a particularly good source of the fat-soluble accessory food factors, vitamins A and D, which are essential for the normal growth of children and for the maintenance of good health. Vitamin A plays a part in maintaining resistance to infections, while vitamin D is necessary for the proper formation of the bones and teeth, and a deficiency of it causes rickets in children and gives increased liability to dental decay. Potency in respect of these two factors is therefore an extremely important quality in butter, and the fact that butters marketed in this country come from many different sources made it desirable to investigate the influence upon their vitamin content brought by the varying conditions of production, transport, and distribution.

From a practical point of view, it is gratifying to find from the Report that the butters imported from Australia and New Zealand show a high and uniform potency in vitamins A and D. They are equal in this respect to the best summer butters produced at home, and even to butter made from the milk of cows whose diet has been fortified by an artificial supply of the vitamins. The finding is the more important in that these butters from the southern hemisphere are available in our winter, when it is known that the vitamin content of milk and butter produced in northern latitudes falls below its summer level. Butter from the southern Dominions, moreover, constitutes an increasing proportion of our total supply: in 1913 some 20 per cent. of the United Kingdom imports of butter came from the southern Dominions, while in 1927 the proportion had increased to 30 per cent., and last year to no less than 44 per cent.

It is also satisfactory to note that the fat-soluble vitamins in butter have great stability in cold-storage. There is, indeed, no fear of sig-

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