Biochemistry

Testing of Proposed New International Standard for Vitamin D.—At the request of the Medical Research Council, London, tests have been carried out at Wallaceville Laboratory as one of a series of laboratories collaborating in the assay of the proposed new International Standard for vitamin D. The proposal is to replace the existing International Standard for vitamin D (a solution of irradiated ergosterol) with a crystalline preparation of D_3.

To obtain data on the antirachitic potency of this new preparation, four solutions were issued by the Medical Research Council to participating laboratories. Of these solutions one was a solution of the existing standard, one of pure calciferol, a third contained the proposed new standard material, and a fourth another vitamin D preparation. The solutions were labelled W, X, Y, and Z, and only the issuing committee knows which is which.

All four solutions were tested at four dose levels, in the ratio 1 : 2 : 4 : 8, using 10 rats on each dose of each preparation. A total of 200 rats was used in the assays, the method used being the prophylactic bone ash technique. Results were tabulated, the ratio of potencies of the four preparations calculated, and data sent in to the Medical Research Council. Information on the final assessment of potency of the preparation will be received after deliberation at the International Standards Conference to be held in April of this year.

Digestibility Studies on New Zealand Foodstuffs.—A large amount of additional data has accumulated on the digestibility and nutritive value of New Zealand pastures in the course of intake investigations. These have involved continuous digestibilities throughout the past two seasons on typical high-producing dairy pastures under three different starting rates. When completely analysed these should provide a fairly complete picture of seasonal changes in the nutritive value of dairy pastures and of the effect of major variations in management.

Similarly, a number of trials (seven from 1944 to 1947) have permitted examination of the nutritive value of autumn-saved pasture. The following table summarizes the data obtained :—

Nutritive Value of Autumn-saved Pasture (Percentage Dry-matter Basis)

Type of Feed.	D.O.M.	D. Pr.	S.E.
Autumn-saved pasture	66·5	15·6	60·9
High-quality spring pasture	70·8	17·8	65·8
Average-quality silage	60·4	5·0	49·1
Average-quality hay	51·2	4·3	32·6

It is clear that the autumn flush of pasture, if preserved *in situ*, will retain a high feed value throughout the winter and thus enable it to be used by early-calving cows at a period of pasture shortage. All the data available suggests that autumn-saved pasture is almost as good as high-quality spring pasture.

"Unknown" Water-soluble Fractions in Fodder Plants.—Analyses to confirm the existence and amount of unknown water-soluble fractions in pasture and fodder plants have been extended to include cocksfoot. The amount of this fraction in plants expressed to date has been—

	Per Cent.
Blue lupins (stem, leaf, flower)	17·2
Blue lupins (stem, leaf, pod, seed)	16·4
Rape (stem, leaf)	10·4
Red clover (stem, leaf, flower)	9·6
Paspalum (stem, leaf)	5·2
Cocksfoot (leaf, stem)	2·8