LETTERS TO THE EDITORS

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Nutritive Value of Composite Dishes

IN McCance and Widdowson's analytical tables, "Chemical Composition of Foods", values are given for a series of cooked dishes containing several ingredients. These values were calculated from the composition of the listed ingredients and the (experimentally determined) change in weight on cooking.

Clearly, such values can only be utilized in dietary survey work if the recipes of the observed composite dishes approximate very closely to those used by McCance and Widdowson. These authors made a preliminary study of several cookery books so as to ensure that the recipes they used should be 'standard' ones. But the war situation has since changed our ideas even of 'standard recipes', and composite dishes tend to vary from day to day, depending on what is available and what needs using up. Besides which, the composition of one of the most common ingredients (flour) has itself been changed.

It is true that there are limits to the variation which can be introduced without entirely altering the nature of the finished dish, but our experience suggests that, at least for the more watery items, these limits are pretty wide. The accompanying table gives values we have found in practice.

Values per 100 gm.	Calories	Protein (gm.)	Calcium (mgm.)	Iron (mgm.)
Rice pudding 1	158	4·9	138	0·17
,, ,, 2	183	4·8	129	0·17
,, ,, 3	88	2·7	81	0·09
,, ,, 4	97	2·6	73	0·09
(McC. and W.)	185	4·5	138	0·14
Porridge 1	66	1·7	33	0·29
,, 2	91	2·9	53	0·54
,, 3	117	3·4	62	0·63
,, 4	135	4·0	46	0·99
(McC. and W.)	45	1·5	6	0·47
Stew with meat 1	103	9·2	21	1·81
,, ,, ,, 2	101	8·0	23	1·57
,, ,, ,, 3	89	3·5	8	0·96
,, ,, ,, 4	97	7·3	31	1·48
,, ,, ,, 5	61	6·0	15	1·23
(McC. and W.)	108	11·1	14	2·49
Shepherd's pie 1	165	8·3	6	1·72
,, ,, 2	149	7·8	17	1·61
,, ,, 3	139	8·0	13	1·67
(McC. and W.)	125	7·1	15	2·31

These values have been obtained by the calculation method as employed by McCance and Widdowson, and the figures from their tables have been included for comparison.

Our method, when dealing with composite dishes in survey analyses, has always been to obtain the recipes and to note the cooking times and methods, and then to apply a concentration factor to give us the relation between uncooked weight and cooked. Recorded weights (as eaten) were then converted back to their equivalent uncooked weights and these broken down into the proportional weights of the various ingredients. As a general rule, the concentration factor applied was that found by McCance and Widdowson, but if observation showed the dish as served to be wetter or drier than is customary, then the concentration factor was varied accordingly.

We prefer this method because we think it makes for greater accuracy. Concentration factors may have differed more than we allowed for, but we feel they will certainly vary within much narrower limits than the list and amounts of the ingredients. There are, however, other advantages also. For example, it enabled us to make direct comparison between one intake and another in terms of basic foodstuffs, since they were known as a total and were not distributed among such items as puddings, stews, cakes, etc. It is easier to make recommendations for improving a dietary when the amounts of different foodstuffs already being used are known. This is particularly true at present when it is necessary to keep within allocated allowances. Moreover, this method enables us to calculate the cost of the dietary without further detailed analysis.

MARGARET W. GRANT.
(University of London Postgraduate Dietetics Course.)

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Cancer Research in the U.S.S.R.

IN November last we received a request from Prof. S. A. Sarkisov of the Institute of the Brain in Moscow, who was then in London, to supply some mice bearing transplantable tumours which were to be sent to Moscow for Prof. L. Shabad, formerly director of the Laboratory of Cancer Research in the Institute of Experimental Medicine, Leningrad.

The mice were to be sent by air, and probably they would be exposed to considerable changes of climate, and possibly of atmospheric pressure also. Three batches each of four mice were got ready bearing the following tumours freshly grafted: (*a*) mammary carcinoma 63; (*b*) the Crocker tumour; and (*c*) a sarcoma induced here by Dr. Hieger with the non-saponifiable fraction of human livers. The inclusion of the last tumour was appropriate because these mice embodied a development of the original discovery by Prof. Shabad in 1937, since then confirmed in several other laboratories, that extracts of human livers could produce sarcoma in mice.

Each batch of mice was placed in a wooden box (45 cm. × 30 cm. × 12 cm.) having three apertures of 5 cm. diameter covered with perforated zinc for ventilation, with hay and sawdust as bedding, and a quantity of oats, puppy biscuits and a proprietary rat food sufficient for many weeks. Water was supplied from the bulbs in use here for laboratory animals, and a syringe for filling these and directions to be translated into Russian were provided. The boxes were dispatched on November 23, and Prof. Shabad has reported that all the mice arrived safely in mid-December, and that the three tumours had been grafted successfully in the mice available in his laboratory.

Perhaps this is the longest journey yet accomplished by mice used for the purposes of research; the distance covered was probably of the order of five or six thousand miles. Before the War many such mice crossed the Atlantic on liners, chiefly from west to east, in charge of the butcher, who at sea is the custodian of animals living and dead, but this is a shorter journey without halts and changes, and the conditions of temperature are uniform.

E. L. KENNAWAY.
J. A. MARSH.
Chester Beatty Research Institute,
Royal Cancer Hospital (Free),
London, S.W.3.
W. E. GYE.
Imperial Cancer Research Fund,
The Ridgeway, London, N.W.7.