In the later growing and fruiting stages the influence of fertilisers is under investigation, and also the effect of light, temperature, humidity, and other physiological factors. None of the artificial fertilisers produced any notable effect on the tomato crop; the withholding of phosphates caused some depression, but the withholding of nitrogen and potash had little, if any, effect. It must be remembered that the soil is virgin soil, and the results seem to be on a par with the old antagonism between vegetative growth and fruiting. Mr. Spencer Pickering obtained very similar results at Woburn in his manurial experiments with fruit trees and bushes. The result is contrary to the usual experience, and indicates that a marked distinction must be made between virgin soils and soils that have been in use for some time. The reason for the distinction, however, is not clear.

In the case of cucumbers, phosphates in some circumstances actually depressed the crop, as has been noted elsewhere with cotton and sugar-cane. The determining factor in the case of cucumbers under the conditions of the experiment was the temperature, and the experiments show in a striking way how easy it is for the leaves to become overheated in a glasshouse—a phenomenon already discussed by Francis Darwin. The cooler part of the cucumber-house gave in the first year 25, and last year 9, per cent. more fruit than the warmer part. Proper appliances have been installed for the study of this important problem, and the results will be awaited with much interest. E. J. R.

## THE NEW FOOD ORDERS.

THE reduction of the available supply of certain articles of diet, especially of meat, flour, sugar, and potatoes, has had the effect of changing to some extent the point of view with regard to economy in diet. While until recently economy in all things was desirable, it has now become necessary to exercise, in addition, special economy in the case of the four things mentioned above. This is due partly to deficiency in means of transport, but, in the case of potatoes, chiefly to bad crops. It must also be remembered that the large proportion of the population serving in the Army or Navy require more than they had in their previous occupations. For these reasons, it has been recommended by some that those who are well-to-do should endeavour to utilise the more costly articles of food, leaving a greater supply of the less costly, but restricted, articles for those who cannot afford the former. With regard to the Army rations, there is some reason to suppose that the allowance of 16 oz. of meat per day is unnecessarily large, at all events for men in the trenches; perhaps it may be the cause of certain diseases which are apt to occur, such as "trench nephritis." This affection seems to have some relation to diet. The meat allowance might, with advantage, and probably with appreciation by the men, be exchanged for an equal energy-value in carbohydrate.

The new arrangement of rationing by bulk, as applied to restaurants, is undoubtedly an advance. As the present writer has pointed out in another place, the old system of limiting the number of courses led to an undesirable increase in the consumption of meat, as compared with other foods. The present allowance of 12 oz. of meat per day gives about 70 grams of protein, in addition to that in bread and other articles—a perfectly adequate supply. It is, however, not quite clear why households should be allowed only about 6 oz. per head. In some cases, no doubt, the smaller consumption by children compensates. But it must always be kept in mind that children require more protein in proportion to their weight than adults, since they are forming new body-tissues, and it is only up to a certain age that children require absolutely less protein than adults. It would probably be correct to say that quite half the total number of households consist of persons requiring the protein ration of adults. Of course, meat is not the only source of protein; oatmeal especially is an excellent source, and, at present, the necessary energy-value can be made up with this, at the same time as the increase in protein.

With regard to the materials to be added to wheat-flour, would it not be better to limit them to those not readily used by themselves, such as barley and rye? Beans, especially, seem to the writer an undesirable constituent of bread. If oatmeal, for example, is to be used in large quantities for mixing with wheat-flour, is it not probable that the price will rise considerably?

The new Order with respect to hoarding of food is rather difficult to understand. Presumably, it is not intended to prevent the purchase of fairly large amounts at a time, provided that these amounts are made to last as long as if bought in small parcels; nor to prevent the storage of sugar for the purpose of making jam by the householder in the autumn. W. M. BAYLISS.

## A MINISTRY OF HEALTH.

WITH the terrible wastage of the lives of the best of the nation's manhood in the European conflict, and with a birth-rate the lowest on record, if the country is to recover after the termination of the war and to maintain its place among the nations as a great and thriving industrial Power, it will be necessary for us to conserve to the utmost those lives which we possess and those which we may expect to be born to us. While it may not be practicable at present to anticipate a definite increase in the birth-rate, though it is to be hoped there will before long be a change for the better, it is possible to do much to reduce disability and loss of life from preventable disease. The campaign against venereal disease, the crusade against tuberculosis, the care now being taken of munition and other workers, and the medical consultations at infant welfare