stressed in the ensuing discussion by Dr. B. A. Keen, who gave a striking instance of the way in which erroneous ideas of the influence of a deep water-table on surface moisture conditions can still enter into questions of compensation in public schemes for water supply.

Dr. A. B. Stewart dealt with a group of problems in applied pedology by describing the methods used in the advisory service at the Macaulay Institute, Aberdeen. The problems are attacked by three methods, namely, (*a*) field experiments, (*b*) pot experiments, and (*c*) laboratory examination. Since the last method is the cheapest and most convenient, a considerable amount of work has been devoted to correlating laboratory results with field and pot trials. The work is concerned chiefly with the investigation of deficiencies in lime, phosphate and potash. Field and pot experiments are generally in good agreement in the case of potash. In the case of phosphate, agreement is less satisfactory, and the necessity for taking the subsoil conditions into account is suggested. Laboratory methods are, to a large extent, arbitrary and empirical, but, with adequate interpretation, can serve as useful guides to the application of manures and fertilizers.

Soil problems were also dealt with in the session of the Forestry Sub-Section on September 10, where, arising out of an interesting series of papers on afforestation, an animated discussion took place on the possible disadvantages of purely coniferous planting. There was also a discussion on the position of British soils in a world system at a meeting of the British section of the International Society of Soil Science, held in connexion with the Blackpool meeting. G. W. R.

Work of the Government Laboratory

PRESENTING his first report as Government Chemist, Dr. J. J. Fox* refers to the considerable increase in volume and complexity of the work carried out in the Government Laboratory under the direction of his predecessor, Sir Robert Robertson, who held office from March 1921 until April 1936. During this period, the number of samples examined annually rose from about 300,000 to nearly 550,000, whilst the literature of chemistry has been enriched by many accounts of investigations arising out of fiscal and technical developments.

The subject matter of the report follows familiar lines, and provides ample material for satisfaction that the hand of the Government Chemist is on the pulse of so many activities affecting the health and revenues of the nation. Thus one paragraph commences with the words, "In order to ensure that no tea but that which is fit for human food shall pass into the country for human consumption . . .", and records the fact that of the 22,741 samples of imported tea examined during the year ended March 31, 1936, 100 samples, representing 311 packages, were found to contain foreign substances or to be unfit for human consumption. The increase in the number of samples was due principally to the necessity for re-examining nearly 10,000 samples after outbreaks of fire in the warehouses. It is of interest to note that damaged or condemned tea may be used, free of duty, for the manufacture of caffeine, after being suitably denatured with nauseous materials.

Tobacco smokers are informed that in order to maintain the moisture in tobacco and to improve its quality, glycerol or diethylene glycol is added by foreign manufacturers, but such additions are illegal in Great Britain, and the prohibition automatically extends to imported manufactured tobacco. Offal tobacco is used for manufacturing nicotine; now, however, an alkaloid, anabasine, from *Anabasis aphylla*, a weed growing in eastern Europe and northern Africa, is produced for use as a substitute for nicotine in insecticidal preparations. This fact has necessitated researches into methods for the detection of anabasine, and for distinguishing it from nicotine.

Beer is of interest in the Government Laboratory principally in its relation to the revenue, but we are informed in the report that of the 2,115 samples of beer and brewing materials examined, 23 were found to contain arsenic in slight excess of the limit recommended by the Royal Commission on Arsenical Poisoning, namely, the equivalent of one hundredth of a grain of arsenious oxide per pound in solid materials or per gallon in liquids.

Services are rendered to numerous Government departments and offices. Thus the Prison Commission for Scotland desired an opinion on soap; the Post Office on gum, gold thread and ink, among other things; the Mines Department on bath water; the Ministry of Labour on refuse dumps; the Home Office on seized drugs and on matters affecting the health of factory workers; the Ministry of Pensions on Stores supplied to hospitals; and the Board of Inland Revenue on stamps and documents.

Once again we reproduce comments on the composition of cheese and cream. In the paragraph on cheese we read: "The water ranged from 27·0 to 66·8 per cent; the proportion of fat varied from 7·9 to 40·4 per cent of the cheese. . . . As, however, there are no regulations relating to the marking of skimmed or partially skimmed cheese, no exception could be taken to any of the importations". Of tinned cream it is said: "The percentage of fat varied greatly. Two samples contained 50–52 per cent of fat, and the remainder [88] contained from 19–30 per cent. Since there is no standard for cream in this country, exception could not be taken to the samples in respect of low proportion of fat, even when the tins were labelled 'thick cream'". We remind ourselves, with Little Buttercup, that things are seldom what they seem, but we do not find the thought entirely satisfactory.

* Report of the Government Chemist upon the Work of the Government Laboratory for the Year ending 31st March, 1936; with Appendices. Pp. 46. (London: H.M. Stationery Office, 1936.) 9*d*. net.