NEWS and VIEWS

Soil-less Cultivation

A REVIEW of the recent progress in soil-less cultivation has recently been given by Prof. R. H. Stoughton (*J. Min. Agric.*, **49**, 25; 1942). In spite of many misconceptions and difficulties, steady progress has been made both in the laboratory and on small-scale semi-commercial installations, and a stage appears to have been reached when some reliable judgment can be formed on the question. Two types of systems are in use: (1) in which the plants are grown in a tank of nutrient solution with the roots immersed in a liquid medium; (2) where the permanent substratum is an inert material such as sand or gravel, to which nutrient solution is supplied at intervals. Carefully controlled trials have shown that in general the first of these is unsuitable for use in Great Britain, owing to the difficulty of securing adequate aeration for the roots, and the low light intensity. Far more promising results have been obtained with the second method, which may be considered under two main headings, namely, sand and sub-irrigation culture. In sand culture the plants are fed by watering on the nutrient solution from above, the surplus liquid draining away. Tomatoes, chrysanthemums, lettuce and a wide range of vegetables gave very satisfactory crops under these conditions, and promising results have been obtained with carnations using a slightly modified and simplified technique.

The disadvantages of the system, however, are the care needed in the control of the moisture content of the medium, and wastage of materials through drainage, but these are to some extent offset by the small cost of the outlay compared with the sub-irrigation method. In the latter case, the nutrient solution is pumped at intervals from below into the growing-tank until the gravel is flooded to the top, the pump is then shut off and the liquid flows back by gravity to the supply tank. The watering and feeding can thus be made almost automatic, the aeration of the medium is excellent and considerable economy in fertilizer materials is effected. Further, chemical sterilization of the gravel is easily carried out. To meet the criticism that soil-less cultivation results in crops of lower nutritional value, chemical analysis of the carbohydrate, protein, inorganic constituents and vitamin C content were carried out. No significant differences could be established between plants grown in gravel and those grown in soil. Experiments are now in progress at the University of Reading, under a grant from the British Electrical and Allied Industries Research Association, to test, among other things, the effect of heating the solution in the sub-irrigation culture of tomatoes. Work is also proceeding on the chemical testing of the solution by simple colour tests, so that its composition may be readily controlled according to the requirements of the crops.

American Newspaper Reporting of Science News

A REVIEW with this title by Hillier Krieghbaum has been published in the *Kansas State College Bulletin* (**25**, No. 5, Aug. 15, 1941; pp. 1–73); it is the sixteenth in a series of surveys of specialized branches of journalism. The beginnings of newspaper science reporting are traced: there was little interest among the early colonists, but as communities stabilized the outlook of editors grew. Benjamin Franklin could write with authority on science, but more usually items were reprints or grossly misinformed, and coverage was spasmodic. In the 1830's there occurred the rise of the penny Press and stunts and hoaxes became common; but editors were sceptical about the Atlantic cable, and Darwin's theory of evolution was barely mentioned. Again, in 1903, very few newspapers noted the first flight of the Wright Brothers. The section of the American Press led by Hearst and Pulitzer began, at the turn of the century, to search more widely for news sensations, but a fuller appreciation of science as news had to come through the War of 1914–18. E. W. Scripps was a pioneer in encouraging specialist writers for the Press, and it was his *New York Times* that was alone in publishing in 1919 an accurate story on the implications of the confirmation of Einstein's theory of relativity. In 1922 several writers attended the annual meeting of the American Association and one of them received a Pulitzer Prize for his work.

Scripps' interest in science led to the foundation and endowment of Science Service, formally known as the "American Society for the Dissemination of Science", launched in 1921 with the co-operation of three of the national scientific organizations. It was to be composed exclusively of men of science, with a layman journalist as editor; while not intended to be run at a profit, a fair charge for its services was to be made. Trustees were selected from the scientific bodies, the journalistic profession and the Scripps Estate. The first weekly issue of *Science News Bulletin* appeared in April 1921, edited by Dr. E. E. Slosson. To-day it is published for the general public as *Science News Letter*, and for the Press and radio there are syndicated news and features services; the director is Watson Davis, a member of the organization since its foundation. A technique was developed of writing stories for future release from advance information, and these are supplemented by regular articles by specialists. In 1941 the daily newspapers served in the United States reached eight million subscribers, with another million abroad before the present War. Science Service has aimed at being a liaison agency between the scientific world and the general public.

Scientific workers have felt in the past some antagonism—often justifiably—towards newspapermen: the independent scientific journalists of experience realized this and in 1934 formed in the United States the National Association of Science Writers, which now has twenty-eight members. The Association works with organizers of scientific conferences, and usually receives special facilities for advance information and 'off the record' talks. It is a mark of the success of the Association that in 1937 several of its members shared the Pulitzer Prize for reporting. To-day many of the large research laboratories and industrial organizations themselves issue material to the general Press. The 'science column' has become a permanent feature of many of the leading American newspapers, with additional activity in the fields of broadcasting and films, and a high standard of accuracy is maintained.

Early Astronomy in South America

IN Leaflet No. 159 (May 1942) of the Astronomical Society of the Pacific, Roscoe F. Sanford gives a brief account of early astronomy in South America. Our knowledge of the subject results from a number