VALUABLE AUTHORITY ON SEWAGE DISPOSAL—SEWAGE FARMS—THE BERLIN FARM.

AT a recent Scientific Society Meeting in London, E., Dr. C. R. Drysdale, F. R. C. S., &c., read a paper on the sewage of London, Paris, and Berlin. (Sanitary Rec.) In his discourse he demonstrated that the only rational and satisfactory method of treating the sewage of large cites was that now employed at Berlin, Paris, Croydon, and at a few other places on a less extensive scale; and its agricultural application on suitable soils. In his opinion London presented a very bad example to other cities in the manner in which it dealt with the sewage of the metropolis by turning at least 150 million gallons daily into the Thames, at the outfalls of Barking and Crossness, and by unwisely and inadequately dealing with the solid matters. Glasgow and Dublin were even more lamentable in this respect than the metropolis. At the present time Paris had 1,500 acres of land cultivated by small proprietors, who made use of about 20,000,000 tons per annum to irrigate their farms. Some 3,000 acres had also been acquired at Acheres, which it was proposed to cultivate in the same manner; and still another sewage farm was contemplated. The effluents were perfectly pure, and were even drinkable. At Berlin the area of the sewage farms amounted to 19,000 acres. To these the sewage was pumped from twelve pumping stations, through pipes 40 inches in diameter, and most of the farms had been under cultivation during the past fifteen years. About 2,000 hands were constantly employed, and not a single case of typhoid occurred during the whole of last year. The general salubrity was vouched for by the fact of two convalescent hospitals having been established on the farms themselves. The crops grown were grass, roots, cereals, potatoes, cabbages, and fruit. Money to the amount of £3,211,000 had been borrowed for successfully dealing with the sewage of 1,500,000 inhabitants, while Sir R. Rawlinson estimated that the present sewage experiments in London with over 5,000,000 inhabitants would cost 10 millions sterling for no purpose whatever. The paris Commission recently sent to Berlin had reported a perfect success, and if the London County Council would send a Commission, their report must be equally satisfactory.

Berlin (from condensed report in sanitary News) is divided into twelve districts, which have each of them its own pumping station, which sends out the sewage of its part of the one and a half million of inhabitants composing the population of Berlin to the different farms purchased by the municipality. These pumping stations sent in the year 1888-89 44,919,000 cubic metres of water to the farms to be purified there. This means daily, and per head of the population, 103 litres; and as only 64 litres per head are furnished by the water companies daily, 38 litres per head are added from the rain-fall in the city and the various wells of salt and fresh water therein. The total extent of the farms used for the purification of the sewage is 7,614 hectares, which, at the rate of 2½ acres to the hectare, gives nearly 19,000 acres devoted to this purpose in Berlin. London has not a single acre utilized for the purification of its sewage. The farms situated partly on the north and partly on the south of Berlin. The southern ones, Osdorf, Heinersdorf and others, are most beautiful and successful farms, and about 71 per cent. of the ground of these farms is irrigated by the sewage; 96 per cent. of this irrigated part is drained. The length of the pipes which convey the sewage to the farms varies from 964 metres (about five-eighths of a mile) to 18,626 metres, or about 11½ miles, and the diameter of the main tubes varies from one metre to three-quarters of a metre. Once arrived at the farms the diameter of the pipes is lessened, and finally those used to convey the sewage to the fields do not exceed one-fifth of a metre. The conduits end at the highest point of the ground to be irrigated, and the most inclined fields are employed as