

rate, New Zealand is in a particularly favourable position to continue the investigations already carried out, and so help in the solving of what is now a problem of national interest. The Province of Canterbury, with its three million acres of farming-country and its agricultural institutions, together with its already well-developed hydro-electric-power supply, offers every facility for the carrying-out of electro-culture on a large scale.

Preliminary experiments have already been made at Christchurch in connection with the Lake Coleridge power-supply, with most encouraging results. More extensive investigations are to be made this year, and it is anticipated that as a result the commercial possibilities of electro-culture in New Zealand will be still further demonstrated. The following description of last season's experiments will serve to indicate two of the directions in which the practical applications of electricity have met with considerable success.

The first experiment was carried out in a glasshouse belonging to Mr. E. Lunt, of Spreydon. The house is 80 ft. by 30 ft., and is provided with the usual means of heating by steam-pipes. In August last year 1,400 tomato-plants were set out in this house. A week after planting one of the steam-pipes burst, crippling the whole heating installation, and of course depriving the plants of any protection from the severe frosts. Eight days elapsed before the heating-apparatus could be got into working-order, and during that time a sharp frost so damaged the plants that it was considered unlikely that they would mature at all. Ten days after the fracture of the steam-pipe the house was provided with an electrical installation consisting of fifteen 100 candle-power nitrogen-filled lamps with frosted globes. The lamps, provided each with a 9 in. enamelled-iron shade, were hung at a height of 2 ft. from the ground, the area under influence of each lamp being 100 square feet. The current was switched on each night at 9 p.m., and off again the following morning at 5 a.m. The restored steam-heating was used in conjunction with the electric lighting for one month only; after that it was discontinued altogether. The plants rapidly recovered from their frost-bite and made vigorous growth. As the height of the plants increased the lamps were raised accordingly, until the tops of the plants completely enveloped them. As a result of the electrical treatment the plants not only entirely recovered from their serious setback, but the crop was a very heavy one and matured relatively earlier than that in another house in which steam-heating had been used during the whole season. Owing to the breakdown of the heating-system it was not possible to obtain a direct comparison between two crops under exactly similar conditions except for the use of electric light, but there was sufficient evidence to