The survey has definitely shown that the boron content of raspberry-leaves in many Nelson gardens, and in certain gardens in Central Otago, is approximately 50 per cent. of the average boron figure of all leaf samples so far tested.

Zinc, Copper, and Manganese Contents of Raspberry-leaves.—Estimations of zinc, copper, and manganese were made on many of the leaf samples collected for the boron survey. The figures for these elements varied greatly for different leaf samples, particularly with manganese, where the content occasionally rose to over 450 p.p.m. Some instances of relatively high copper contents were probably connected with the use of Bordeaux sprays. The zinc contents were usually restricted to a small range of values, except for two leaf samples from Hawke's Bay.

The average figure for zinc in raspberry-leaf samples collected from twenty-one gardens, mainly located in the Nelson district, but including samples from other parts of New Zealand, was 58·7 p.p.m. The range of zinc content was from 13·8 to 189·5 p.p.m., with the majority of the samples about 30 to 50 p.p.m.

The average figure for copper in sixteen leaf samples was 14·8 p.p.m. The range of copper figures was 6·2 to 37·0 p.p.m., with the majority of samples falling between 10 and 15 p.p.m.

The average figure for manganese in sixteen samples of raspberry-leaves was 256 p.p.m., but the range was very great (67 to 480 p.p.m.) on different samples. Adjoining gardens even showed great variation in some cases.

Intake of Plant Nutrients by Glasshouse Tomato-plants.—To obtain information on the manurial requirements of glasshouse tomatoes, a plot of tomatoes grown on sterilized soil and manured with a standard fertilizer mixture was reserved for plant analysis.

Four examinations were made during the development of the tomato-plants commencing on 27th October, 1949, and concluding on 26th January, 1950. On each date of sampling the same number of plants was removed and separated into leaves, stalks, and fruits. Records were taken of both green and dry weights of the component parts and analyses were then made for the content of plant nutrients. As a result of this work it is possible not only to record the nutrients status of the plants on the 26th January but also to show the quantities taken in by the plants at four periods during the development of the plants and the fruits.

Each ton of tomatoes grown on the experimental plots would have contained 103 lb. of dry matter, and associated with the production of 1 ton of tomatoes there was 26·4 lb. of dry matter in the stalks and 40·3 lb. of dry matter in the leaves—*i.e,* the production of 1 ton of tomatoes was associated with a total dry-matter weight of tomatoes, stalks, and leaves of 170 lb. The analyses calculated from the last examination (26th January, 1950), showed that the total intake of nutrients by tomato-plants per ton of fruit was: phosphoric acid, 1·742 lb. (fruit, 0·994; stalks, 0·277; leaves, 0·471); potash, 8·071 lb. (5·911, 1·210, 0·950); and nitrogen, 3·751 lb. (2·245, 0·411, 1·095).

Based on these figures, a 60-ton crop of glasshouse tomatoes, which is considered a satisfactory yield under Nelson conditions of culture, would require for the full developments of the plants and the crop not less than 523 lb. superphosphate, 970 lb. sulphate of potash, and 1,125 lb. sulphate of ammonia or other equivalent nitrogenous fertilizer. These figures are lower than those reported from overseas experiments, and it may well prove that, for optimum yield and the highest quality of tomatoes, larger quantities of fertilizers than those enumerated above are desirable for Nelson conditions.