

(1936) investigated this problem. He found the use of iodized salt to be but 20 per cent. of the domestic consumption. Thames is the scene of an extensive fishing industry, and iodine-rich fishes were found to be widely used in the dietary. Table VIII shows the iodine content of some varieties of fish from Thames.

Table VIII.—The Iodine Content of Fish from Thames.

Variety.	Iodine Content.
Trevalli	700 micrograms/kilo fresh weight.
Kahawai	128 "
Snapper	780 "
Pipi	540 "

Watson was unable to detect the operation of any other factor which would account for the low goitre incidence.

In Table VII Clydevale would appear to be anomalous in that it has a higher goitre incidence than the level of urinary iodine excretion would suggest. However, the possibility of error and the disturbing influence which iodine medication and seasonal variation may have on iodine metabolism render it necessary to interpret the result with caution. Until this district is re-examined it will be necessary to suspend judgment.

CHAPTER VI.—PROPHYLAXIS.

(a) *Consumption of Iodized Salt.*—The history of goitre prophylaxis in New Zealand was reviewed by Hercus and Purves (1936). The importations of iodized salt showed a slow rise up to 1934, when they were equivalent to 1.82 gm. per head of population per day, estimated at less than 30 per cent. of the total domestic salt-consumption. The extent to which iodized salt is used varies considerably from district to district. The results of some recent inquiries are shown in Table IX.

Table IX.

District.	Observer.	Percentage.
Cromwell	Riley (1936)	90
Thames	Watson (1936)	20
Gisborne	Burnard and McGeorge (1937)	68
New Plymouth	Lomas and Law (1937)	14
Westport	Foote (1938)	55
Plunket Society	Irwin (1937)	58

It is apparent that for New Zealand as a whole the result is unsatisfactory and that a much greater utilization of iodized salt would be necessary to make prophylaxis effective.

(b) *Level of Iodization.*—There is as yet no general agreement as to the level of iodine supplementation necessary to maintain the health of the thyroid gland.

Table X gives the standards for iodized salts in different countries and illustrates the wide differences in supplementation which prevail.

Table X.

Country.	Supplementation.	Micrograms Iodine, per Gram.
Switzerland	1 part of potassium iodide/200,000	3.8
Norway and Sweden	1 part of potassium iodide/80,000	9.6
Michigan, U.S.A.	1 part of sodium iodide/10,000	84.7
New Zealand	1 part to 2 parts potassium or sodium iodide/250,000	3.1 to 6.8

From the data in Chapter V it is apparent that there is a wide difference in iodine intake between goitrous and non-goitrous countries. It is plain that goitre prophylaxis cannot be expected to be satisfactory unless the supplementation raises the urinary iodine excretion to the level found in non-goitrous countries. In New Zealand even with the present use of iodized salt the level is 100 micrograms per day below this level. We have found the average daily ingestion of domestic salt in New Zealand to be 5 grams to 6 grams per head per day. At the present level of supplementation this would supply from 17 micrograms to 37 micrograms. It is evident that even if 100 per cent. utilization of iodized salt were to obtain the supplementation would be grossly inadequate.

The exact amount of supplementation necessary to raise the excretion by 100 micrograms depends on the proportion of the iodine intake excreted in the urine, which is at present unknown. Until this information is available and the exact relationship of urine examination to total iodine intake determined