April, 1932, T. M. (Maori) ate pipis taken from near the site of the old bridge, and became ill a week later. This pipi-bed was later covered with silt.

In addition to these cases four other Maoris gave a history of having eaten shell-fish before becoming ill.

Between September, 1931, and July, 1932, there were altogether twenty-three cases of typhoid reported. Of these, eight gave a definite history of having consumed shell-fish, five other cases were secondary to one of these eight, and two cases occcurred in hospital nurses by direct contact. This leaves only eight cases not accounted for, and there is no conclusive evidence that these eight persons did not consume shell-fish.

In view of the evidence collected, it was considered advisable to take all possible steps to prevent the consumption of these polluted shell-fish. A warning notice was erected on the foreshore near the reef in question, Europeans in the habit of obtaining and hawking the shell-fish were warned, and the Maori Council was interviewed and given full particulars of the danger incurred by their consumption. The Council has agreed to adopt a by-law making it illegal to bring polluted shell-fish into any pa, and has given publicity to the matter although the by-law has not yet been gazetted. These precautions appear to have been justified, as only one other case of typhoid occurred in Hawke's Bay during the remaining five months of the year.

THE BACTERIOLOGICAL CONTROL OF MILK-SUPPLIES, EAST CAPE HEALTH DISTRICT.

By Dr. H. B. TURBOTT, Medical Officer of Health.

After four and a half years of close bacteriological control it has been demonstrated in Gisborne that, without added cost to consumer, a very high-grade milk can be produced, judged by the following standards :—

(1) The absence of living tubercle bacilli—guinea pig tests negative.
(2) The absence of epidemic-producing bacteria.
(3) A low bacterial content, enhancing the keeping-qualities.
(4) Good nutritional value—chemical analyses of high standard.

Five years ago milks in this district were supervised by regular samplings for fat and milk solids content, and for gross dirt by the cotton disk sedimentation test. On the initiation of the East Cape district, chemical analyses of milk were continued, but the sedimentation test dropped, and bacteriological control substituted. In Gisborne there are forty-five bulk milk suppliers. With the available laboratory manned by one bacteriologist it was impossible to control these forty-five suppliers continuously at the one time. Therefore monthly samples were taken from all suppliers in the first twelve months, and the supplies thereafter grouped " good " and " poor " as regards bacterial quality. Control work thereafter fell into three divisions :—

(1) The building-up, if possible, of quality milks of English " certified " standard.
(2) The intermittent control of " good " quality milks.
(3) The education of bad-quality-milk suppliers.

(Routine bacteriological technique was followed in agar counts and *Bacillus coli* determinations, the latter being set out in tubes of 10 c.c., 5, 2·5, 1, 0·1, 0·01, 0·001, and 0·0001. Presence or absence of *Bacillus coli* is indicated by + or — for these dilutions : thus, — means absent throughout ; + 10 means presence in 10 c.c. dilution, but absent in all higher dilutions ; + 0·1 means present in dilutions 10 to 0·1, absent in higher dilutions.)

I. A half-dozen of the " good " group were given continuous bacteriological control in an attempt to produce excellent-quality raw milk. The Health and Agriculture Departments' Inspectors worked in the closest co-operation in this work, involving—

(*a*) Inspection and improvement of farm plants.
(*b*) Physical examination and tuberculin-testing of cows.
(*c*) Laboratory examination of milk.

The producers responded by becoming interested, and are obtaining excellent and consistent results. At the district office histograms are compiled for each supplier, the monthly results being thus readily demonstrated, and variations graphically depicted to the producer. Meetings of suppliers have been convened, and jointly addressed by the Agriculture and Health Departments' Inspectors. At one such meeting the graphic records were produced with good educational effect. This group of interested suppliers are producing milk equivalent to the English certified standard. For example :—

1. Supplier S. N. has supplied raw milk of English certified standard for over three years. His cows are examined by a veterinary surgeon three or more times yearly and are tuberculin-tested at least twice yearly. The milk is cooled and bottled on the farm and delivered in bottles to the consumer. (As some customers prefer unbottled milk, this is also supplied.) *Bacillus coli* has been persistently absent in 0·1 c.c., and on only three isolated occasions in three and a half years has the general count exceeded 30,000 colonies per cubic centimetre. Apart from these, his average count has been 17,170 colonies per cubic centimetre.

2. Supplier C. B. maintains excellent standard. In three and a half years only twice have *B. coli* been present in 0·1 c.c., and 30,000 colonies per cubic centimetre have been exceeded three times, once in each year 1929, 1930, and 1932. His average count for all other tests has been 11,150 colonies per cubic centimetre.