

were the suspected poison; in the other case a caustic salt of sodium was evidently the cause of death. The lesson to be learnt from these cases is the importance of extreme care in tending driven stock when they are in such a ravenously hungry and thirsty condition that they will eat any vegetable or drink any liquid.

SUGAR-BEETS.

A small number of sugar-beets obtained from five different sources were examined and the results published in the *Journal* for October, 1920. The large size of the beets grown in New Zealand, coupled with the high yield per acre and the good percentage of sugar, indicate that the possibility of successfully establishing the beet-sugar industry in the Dominion should certainly be fully investigated.

COMMERCIAL LEATHERS.

A number of samples of leather have been examined to discover whether any injurious compound has been used which, while cheapening and hastening the process of manufacture, would tend to lower the quality of the finished product. Sulphuric acid was found in one sample in amount which indicated that it was added in the manufacture, and would probably result in an inferior product which would tend to crack in dry weather. This inquiry would seem to show that some supervision of the leather industry is required.

MISCELLANEOUS WORK.

In addition to the work already mentioned in this report the Director-General and other responsible officers of the Department have from time to time been advised on various minor matters of a chemical nature in which they were concerned.

SAMPLES RECEIVED.

The following is a list of samples received during the twelve months under review: Soils collected by field officers, 254; miscellaneous soils, 41; fertilizers sampled under the Fertilizers Act (official and unofficial) samples, 81; miscellaneous commercial fertilizers, 70; reputed fertilizers and phosphate rocks, 55; milk, 10; butter for export, 53; casein, 10; potable waters, 18; various other waters, 3; stock foods, 2; sheep and cattle dips, 5; spraying-compounds, 4; commercial quick or caustic lime, 4; limestones (natural), 240; commercial ground limestones, 6; paint, paint-making materials, and diatomaceous earths, 27; tanning barks and materials, 24; toxicological specimens, 20; sugar-beets, 6; wheats for milling test, 27; leathers, 17; miscellaneous specimens, 46: total, 1,023.

LIMESTONES TESTED.

The following is a list of the more useful limestones tested during the year. The results are given in percentages of carbonate of lime (CaCO_3) on samples as received, the preceding letter and figures being the Laboratory record number.

North Island.

Hokianga County: M 553A, 67; M 553B, 68, M 553C, 74.
 Bay of Islands County: M 941, 87 (unground shells).
 Hobson County: M 67, 89 (hard grey stone with a vein of calcite); M 68, 69.
 Whangarei County: M 260, 66; M 261, 67; M 262, 68; M 510, 78.
 Otamatea County: M 32, 51; M 69, 75; M 185A, 66; M 185B, 62; M 248, 91; M 249, 91; M 250, 91; M 251, 92; M 253, 62; M 254, 75; M 255, 75; M 256, 71; M 257, 79; M 258, 82; M 259, 76; M 655, 62; M 936, 79 (ground limestone); M 937, 75 (ground limestone).
 Rodney County: M 11, 76; M 12, 82; M 13, 57; M 14, 71 (very soft material); M 15A, 60; M 15B, 96 (sinter); M 16, 75; M 17, 85; M 18, 72 (very soft material); M 43, 78; M 123, 80 (marly stone); M 124, 51; M 416, 76 (marly stone); M 557, 65 (soft white stone); M 558, 54; M 703, 86; M 704, 56 (marly stone); M 705, 68 (marly stone).
 Waitemata County: M 71, 78 (marly stone); M 72, 79 (marly stone); M 73, 56 (marly stone); M 291, 71 (marly stone); M 406, 75 (marly stone); M 407, 72 (marly stone); M 554, 53; M 641, 64 (marly stone); M 642, 66 (marly stone); M 643, 55 (marly stone); M 806, 91 (ground limestone); M 807, 71 (ground limestone); M 862, 70 (ground limestone).
 Eden County: M 35, 97; M 36, 90; M 37, 88; M 38, 78.
 Manukau County: M 822, 74; M 823, 70; M 824, 73 (soft sinter).
 Piako County: M 40, 71.
 Raglan County: M 284, 50 (soft marly stone); M 736, 51 (marly stone); M 737, 50 (marly stone); M 739, 59 (marly stone).
 Waitomo County: M 153, 98; M 154, 97; M 425, 94; M 619, 79 (limestone screenings); M 638, 96; M 639, 75; M 640, 86; M 817, 84; M 818, 83; M 819, 87; M 820, 67; M 837, 92; M 838, 94; M 839, 96
 Ohura County: M 114, 82; M 115, 82.
 Egmont County: M 880, 81 (sinter).
 Waitotara County: M 340, 67; M 341, 52; M 342, 68; M 601, 96; M 602, 60; M 871, 77.
 Rangitikei County: M 63, 66.
 Pohangina County: M 587, 70 (soft shelly limestone).
 Pahiatua County: M 89, 85; M 90, 94; M 91, 94 (friable white stone, needing no grinding); M 92, 95 (friable white stone, needing no grinding); M 93, 75.
 South Wairarapa County: M 677, 91 (ground limestone).
 Hauraki Plains County: M 309, 88 (shell deposit); M 310, 73 (shell deposit); M 311, 86 (shell deposit); M 312, 84 (shell deposit).
 Opotiki County: M 851, 78 (crushed shell); M 842, 80 (finely ground shells).
 Cook County: M 556, 86 (ground limestone).
 Wairoa County: M 614, 75.
 Hawke's Bay County: M 102, 62 (calcareous sand); M 240, 88 (soft limestone).
 Waipukurau County: M 752, 86; M 753, 82; M 754, 83 (shelly grit).
 Dannevirke County: M 895, 72.
 Patangata County: M 307, 74; M 669, 71 (shelly rubble).