All studs in the area (12) were affected and 232 pigs from 31 sows and 15 boars were involved. A total of 117 young pigs had normal jaws and 115 showed the crooked condition. Twenty-six of the breeding-sows were normal and 5 were crooked. All boars were normal. The 5 sows with crooked jaws produced 50 pigs, of which 50 per cent. were crooked.

Examination of the pedigrees up to the grandparent stage showed that 33 studs in New Zealand were represented. If the condition is an inherited one, it must be present in some degree in all of those which were situated in Taranaki, Waikato, and Bay of Plenty districts. Though the condition is classed as a defect for stud-book purposes, none of the stock examined was apparently handicapped in grazing, fattening, or reproduction, so that the economic importance of the trouble appears negligible.

The survey brought out one outstanding fact about the effect of inheritance: the incidence of crooked jaw is almost the same in matings where one parent is affected as in matings where neither is affected. This indicates that it would be very difficult to breed out the defect.

Observations on the Milk Yield of Sows.—Five sows were used for milk-yield observations, the general objective being to determine the lactation level and the characteristics of the lactation curve of New Zealand sows in relation to the growth of suckling pigs.

The average milk-production per sow for the eight weeks of suckling was 605 lb. and 86·4 lb. per pig. This level is substantially higher than overseas figures, typical values for which are 367 lb. for sow and 55 lb. per pig. This may be a major factor explaining the high weaning weights in New Zealand relative to those of overseas breeding-sows.

The shape of the lactation curve of the Ruakura sow was such that the peak level of output was reached in the sixth week. This again departs from overseas results where the peak is attained in the third week.

The economy of live-weight gain made by the litter of 3·6 feed units per pound is the same as overseas figures for sows and litters similarly fed.

From further studies of this type it is hoped to obtain correlation between sow-milk yield and piglet growth which will permit more accurate selection of breeding-stock on a basis of milk-yield difference and which will enable studies of sow nutrition in relation to milk yield to be carried out effectively.

Trace Elements

Cobalt: Aerial Top-dressing.—Pasture samples have been collected at intervals from the 1,800-acre area of bush-sick country near Taumarunui aerially top-dressed during August, 1947, with 20 oz. of cobalt sulphate per acre. Analyses show that aerial top-dressing has greatly increased the cobalt content of the pasture and that the top-dressing has so far remained effective for more than a year. Over the easy country a fairly even spread has been obtained, but over the more broken areas there was greater variation in spread. Analyses of samples from outside the prescribed areas have indicated that in some cases loss of cobalt because of wind occurred during top-dressing. For future undertakings it is recommended that where accurate placing is required, as on small or irregularly-shaped farms, top-dressing should be carried out in winds not exceeding five miles per hour.

Toxicity of Cobalt to Sheep.—To investigate the feasibility of distributing cobalt through the fæces by administering heavy drenches of cobalt sulphate to sheep, ewes were given single massive doses of the mineral varying from ½ oz. per sheep to 3 oz. per sheep. Three ounces were in all cases fatal, and one sheep out of five succumbed to a dose of ½ oz. Deaths occurred within a few hours of drenching. It was concluded, therefore, that this method of top-dressing was not likely to be satisfactory.