

specimens handled by the two laboratories during the year numbered 8,731 at Wallaceville and 40,340 (practically all milk) at Hamilton. The great majority of the specimens dealt with at Hamilton related to mastitis control. The work organized and carried out at Wallaceville generally has been of its previous important and extensive character. A total of 37,010 doses of vaccine for treatment of blackleg were issued during the year. Relative to contagious abortion, the number of blood-samples being received for examination is smaller, and suggests that insufficient individual effort is being made to combat the disease. The work of several years regarding the control of mastitis was finalized. The control scheme has been accepted in the Waikato as a very useful aid in controlling mastitis, but it is impossible to apply the scheme generally throughout New Zealand unless dairy companies take the matter up, the cost of doing the work by the Department alone would be considerable. The Bureau of Animal Industry appears to be taking up a somewhat similar method of control in the United States: its method includes provision for payment of compensation for condemned cows. Sterility both in cattle and sheep has been investigated, but results have not reached a stage of finality. Research has been undertaken relative to bloat in dairy cows: no evidence of correlation between the occurrence of bloat and of hydrocyanic acid was obtained. Grass staggers in dairy cows has been the subject of investigations the results of which will not be available until October or November of next year. The outbreak of the so-called "facial eczema" in sheep led to considerable investigation. The so-called "Morton Mains disease" has been investigated, and from the evidence obtained it seems probable that the mortality in lambs is due to parasites following an unsuitable type of husbandry. In regard to the sickness said to exist among Mairoa sheep, samples of blood and of bones of affected sheep have been analysed. The analyses together with post-mortem examinations of the sheep suggest that the Mairoa trouble is largely parasitic and not due to deficiencies of minerals. A poultry trouble known as leukemia has been given much consideration: experiments relative to it are incomplete. Dr. M. M. MacOwan is still holding a Carnegie Scholarship at Wallaceville and is carrying out portion of a nutritional investigation. The possibility of toxic effects from the feeding of smuts is being investigated. The wide range of important work being efficiently carried out at the Wallaceville Laboratory or associated with it is indicated concisely in the appended report of the Officer in Charge.

THE CHEMICAL LABORATORY.

As normally a large amount of work of economic value has been carried out by the Chief Chemist and his staff. It has provided evidence of the efficiency of limonite in the prevention and cure of bush-sickness. Further investigations about the nature and composition of "limonites" has been carried out. A considerable amount of work has related to the value of pampas grass as a fodder. In regard to the iodine investigation, 100 samples from Westland and thirty-five from Marlborough have been collected. Soils have been analysed in connection with the survey of littoral lands. As in previous years, the services of the laboratory have been used in connection with liming materials, weed-control, feed-stuffs, pasture samples in connection with trials being carried out by the Plant Research Station, dips and stock-licks for the Live-stock Division, and tobacco-samples for the Horticulture Division. A total of 1,046 samples were received for the 1934-35 period. The Fertilizers Act was administered as formerly: some indication of the extent of this work may be obtained from the fact that the number of brands of fertilizers registered was 851, the corresponding number for the previous year being 899. The appended report of the Chief Chemist indicates at some length the varied nature and extent of activities undertaken and the results obtained during the year by the Chemistry Section.

ADVISORY AND INSTRUCTIONAL WORK.

The volume of the advisory and instructional services sought from the Department continues to increase. The ever-increasing complexity and specialized nature of much of modern additions to our knowledge relative to farming create problems or intensify ones which already existed. These problems relate to the assimilation of the specialized knowledge into farming. Specialization during recent years has been prominent in research work relative to farming. While such specialization has certain substantial practical advantages, it also has considerable disadvantages, unless associated with effort designed specifically to give suitable consideration to the fact that sound knowledge of farming can arise only from the study of individual farms. In brief, the centre of the subject of farm-production must always be the farm itself: the problems presented in the improvement of farming cannot be split into a number of parts without danger of detriment. Fragmentation of the problems even though advisable is artificial, and may not lead to harmony