

CHEMISTRY.

The Chemistry Department, because of financial support, has been able during the last year to continue its co-operation with other departments of the College and with farmers in performing analytical work. About 2,000 hours of working time of analysts in this department have been devoted to work on projects of the Pasture Committee, the Plant Pathology Department, the Vegetable Crops Committee, the Agronomy Department and other departments. Several hundred other analyses have been made for farmers.

The soil fertility studies have been continued under the direction of Dr. R.R. McKibbin, with Mr. H.J. Atkinson as assistant and with the close co-operation of Prof. P.H.H. Gray of the Bacteriology Department. The previous findings in this work are being subjected to further careful study during the present year. All the results to date have confirmed the previous work. See last year's report under "Soil Fertility Studies".

Biochemical work relative to genital diseases of cattle is in progress under Dr. J.B. McCarthy. Mr. Duckworth is studying the composition of the blood of cattle of a strain in which sporadic infertility occurs. He has made periodic determinations of calcium and inorganic phosphorus in samples of blood taken from (1) a herd of 8 cows, (2) 8 daughters of those cows by one bull suspected as a source of possible infection, (3) 7 daughters of the same cows by a second bull similarly suspected, (4) 12 cows unrelated to the others but constituting a herd in which only 2 cows calved normally. He has found no definite relation between disease and blood composition but has found evidence of seasonal variations in the normal