



Poultry House No. 2, Ontario Agricultural College, showing Yards and Fencing.

of poultry from his earliest recollection. His first experience was with common stock; but after a time he imported some purebred birds from New York State and commenced work on a larger scale, selecting his stock especially with reference to such utility points as egg production, early maturity, etc., and laying less stress on fancy points. Mr. Graham entered the Ontario Agricultural College in 1890 and completed his course in 1894, receiving the degree of B.S.A., when he engaged with Mr. James Rankin, of South Easton, Mass., one of the largest and most successful poultrymen in America. At the end of one year he returned to Belleville, where he commenced raising chickens and ducks for the Montreal market. In this venture he was very successful, as also in the production of eggs during the winter months.

From this short description it will be readily seen that Mr. Graham has brought to his new field of work a wide and varied experience in practical poultry culture. In a letter recently received he sends us the following data regarding the buildings shown in the illustrations:

"The small houses in the foreground of house No. 1 are for housing the young stock in summer. They are fitted with flat perches about three inches wide, and are constructed so as to be as cool as possible, but without draughts. The siding consists of a single boarding of dressed lumber and is battened. Two small windows face the northwest. These houses are ten feet wide and fourteen feet long, four feet six inches high at the south and nine feet at the north.

House No. 1 is 140 x 15 feet and is seven feet high at the eaves. It is built of double boards, the front and back being sided upon the inside studding with tar paper inside the sheeting, making a complete dead air space. The roof is enclosed by a ceiling on the collar beams. The house is fitted with double doors and windows. House No. 2 is 108 x 15 feet and is six feet six inches high to the eaves. In both houses the walks at the rear are three feet six inches wide and extend the full length of the buildings. The pens are 11 x 14 feet in size and are divided in halves; one half is floored and contains the roost, nests, etc., the other half has a gravel floor and is for exercise. The yards are 120 x 14 feet. The fencing is three feet wide, one-inch mesh at the base, topped with four feet wide two-inch mesh. The one-inch mesh has been found sufficient to stop the cocks from fighting through."

Mr. Graham, who has his work mapped out ahead, writes us regarding the way he intends conducting this department as follows:

"While in my charge the poultry department will be conducted strictly on practical lines, I do not intend discarding the fancy altogether, but will make the practical the main object in view. Some experiments will be conducted such as are of real practical value to the farmer and poultryman. It may be necessary to dispose of some of

the small varieties of fowls in order to make room for more of the general purpose breeds.

"The production of eggs, especially in winter, and the raising of young chicks and ducks for market purposes will be among our main objects. Some work will also be done along the line of individual records of each hen in certain breeds, the object being to establish a strain that will lay a large number of eggs; also to cull out all those which lay a very small number of eggs.

"Two experiments will be conducted this summer to ascertain the exact cost of growing a duck for the market, and also the growing and the fattening of chickens for the English market. The cost of the fowls will include the eggs, oil for the incubator and feed while growing. Several different rations will be tested with the ducks. We want to get a ration that will grow them rapidly and yet at a minimum cost.

"We will endeavor to show about how much money can be made from a hen in a year. The labor of taking care of the hen will not be taken into consideration. The profit will simply represent the wages of taking care of the hen. We shall endeavor to show a profit after the department has secured a few more equipments in the way of a brooder house, a cramming machine, etc."

In an experiment being conducted at the present time with the object of showing the relative value of cooked food, and food wet with skim-milk for feeding ducks, Mr. Graham reports that the latter food had the advantage in growth for the first month by $\frac{3}{4}$ of a pound each. Their weights were $2\frac{1}{2}$ pounds each at one month. But this is only an experiment, and results as yet must be considered as such.

Destroying Wild Mustard

An Experiment Conducted at the Ontario Agricultural College with Copper Sulphate

Mr. M. W. Doherty, M.A., assistant Professor of Biology at the O.A.C., Guelph, has recently been conducting some interesting experiments in the destruction of wild mustard. This plant flourishes in many places in this province where the conditions of the soil are suitable for its growth, and any remedy that will enable the farmer in such districts to get rid of the weed will be a blessing indeed. Some authorities claim, and there appears to be some good foundation for their contention, that if the growth of wild mustard be due to a certain condition of the soil therefore, if the composition of such soils be changed, the plant would not grow therein. Certain forms of phosphate are said to have this power, and if applied to land where mustard is growing will produce such a changed condition of the soil that the plant cannot thrive therein.

Mr. Doherty's experiments, however, have not been along this line, but have been directed towards finding out substances which if applied directly to the plant will destroy the mustard but will not injure the grain crop. From a letter recently received from Mr. Doherty we gather that some of the experiments have turned out very satisfactorily. About a month ago he tried three different strengths of iron sulphate and three of copper sulphate on six plots. The iron sulphate did not do any injury at all to the crop, nor did it entirely destroy the mustard. A 4 per cent. solution of copper sulphate (4 lbs. of copper sulphate and 10 gallons of water) has been found to be very effective in destroying the mustard and has caused very little if any injury to the grain crop. The cost of the chemicals sprayed will be somewhere about \$1 per acre.

In regard to the effect of this treatment upon the crop Mr. Doherty says:

"According to my Experimental Notes the mustard sprayed on June 24th was dead on June 28th, and there was no apparent injury to the crop. As regards the effect on the crop I may say that the sprayed oats headed out about three or four days later than the unsprayed, and are from four to six inches longer in the straw. I expect that