

gain its oxygen. These lungs in their size, their coatings, and their rapidity of respiration, are adapted to an atmosphere of pure air containing in its bulk about twenty-one parts of oxygen to seventy-nine parts of nitrogen. This is essentially the composition of common pure air. If these proportions are materially changed, or if other gases are introduced, disorder and usually disease results.

VENTILATION.

Pure air being essential to the healthy life of poultry, it becomes necessary to provide some efficient means of supplying same constantly to the fowls. In attempting to ameliorate the conditions of our severe climate by providing shelter for the fowls, we must not cut off the supply of oxygen, or allow it to be supplanted by ammonia, carbonic acid or other useless or noxious gases arising from the fowls, their excrement or surroundings. In this line during the past year we have undertaken experimentation in brooding having for its definite object the securing "without injurious draughts, of a continuous and sufficient supply of fresh, pure air, delivered to the chickens throughout the day and night at a constant and suitable temperature." Through the kind efforts of Mr. Mark Dean, engineer, of Boston, Mass., a gravity apparatus, designed by himself by our request, was installed in one of the brooder houses of our poultry plant. The plan includes the taking of fresh air from outside the building, conducting it to a hot water radiator, where, passing between the hot pipes, it is warmed, and then rises through an automatic mixing damper to the top of the brooder box. A thermostat, placed in the conduit which carries the air to the brooder box, connected with the damper, being set for a certain temperature, causes the damper to close more or less and let in such an amount of warm and cold air as when mixed will give the right temperature. The fresh, pure, moving air of suitable temperature is constantly being supplied to the top of the brooder box, and sifts down through a cloth diaphragm into a chamber containing the chickens, thence passing out of the box in front where the chicks may at will pass in and out.

The preliminary tests of this apparatus indicate that we are on the right track. After further and most thorough testing of this and several other plans

of heating and ventilating brooders, a complete and descriptive report of the results will be published.

Enough has now been written, it is hoped, to indicate that poultry culture to succeed must be conducted along definite lines, based upon the laws of nature and of life, and that the poultryman should have as complete an understanding as possible of these laws. In order that this Station may be truly helpful our work must also have the same basis. That there may be no mistake as to the object of this statement of the situation, we would say in closing that it is not alone the fancier, but likewise the practical poultry keeper who must seek to become well grounded in the principles and natural laws involved in the breeding and keeping of poultry. Both the utility and beauty of fowls are developed most successfully by the poultryman who best understands his birds, is most familiar with the factors to be used, and studies most closely the relations of cause and effect. This statement applies to the practical farmer and the poultry keeper who seeks the most profitable results in eggs and dressed fowls for market. Neglect of first principles will defeat his object. With this idea in view, we invite the hearty co-operation of every poultryman in the State, or out of it, for that matter, in development of both our experimental and educational work for the advancement of poultry culture.

BREEDING AND EXHIBITING SILKIES.

BY F. M. COLLIS IN "FOWLS."

SILKIES are little more than a name to the great majority of poultry keepers, notwithstanding that the birds so named are such curious and beautiful little fowls, and that they are of very old pedigree. They are, as their name implies, particularly remarkable for the smooth, silky, hair-like nature of their plumage, but they are also remarkable for the decidedly purple color of the skin. Like many other of our domesticated fowls of the present day, they had their origin in the East, although they have been with us so long now that we may almost regard them as free-born Britishers.

They are certainly not profitable poultry in any ordinary sense of the word, though they are said to be good eating in spite of the purple color of the skin.