

is, to save the heat and freshness. Both will be lost with ventilation in the roof. I would lay a wooden box along the floor to each end of the house with two-inch auger holes every five feet, the boxes open at the ends. This will draw the fresh air equally from all parts of the house. The boxes should open into metal pipes, which enter the jacket and out through roof of building. By passing these upright pipes through the jacket, they are close to the stove, they become heated and the draught created will be surprisingly strong. The air these pipes send out is the coldest and most impure in the building, for the warm air naturally goes to the top of the building, and it has already been sent there warm and fresh through your warm air pipes. A damper in the fresh air in-take pipe will prevent the cold air coming in when the fire is not burning. A light, quick fire, for a few minutes each morning and evening, will be found to temper and freshen the air wonderfully and when the fire goes down, shut the damper in the in-take pipe if the weather is very cold. The others will ventilate your house for the rest of the time.

When no stove is used, the ventilators should be placed about ten feet apart and they should be about eight inches square inside. They must not be more than one foot from the floor, and run perpendicularly through the roof. The opening at the bottom should be covered by hanging a sack of cheese cloth which will reach to the floor, round the ventilator. This will break draughts, which I would further guard against by having all ventilators on the north side of building, as I presume the passage w. from end to end of building will run along the north wall. While the temperature at the floor of the house does not fall below 32, light no fires and leave all flues open. By this system it will be found that a very even temperature throughout the building will be acquired. Avoid making a poultry house warmer in winter than forty degrees. Double all windows and doors, making the former come down very near the floor, so that in the short days when the noonday sun is low it will reach as much of the floor as possible. Excavating for a poultry house and keeping the birds in a pit saves building material and reduces draughts, but the inmates never see the sun and the difficulty of cleaning, feeding and climbing in and out and careful inspection of house and birds is considerable. All ventilation schemes will fail if droppings are not removed, the litter short and loose. Dropping boards are necessary. When cleaned, they should have an inch of dry earth or ashes spread upon them. This makes no more work as they are so much more easily cleaned and much of the poisonous moisture is quickly absorbed. If the litter is long, it is soon trampled flat and gathers filth

and becomes glued to the floor. Lots of chopped straw one to two inches long, at least eight inches deep and frequently renewed, say once a fortnight, will keep the floor in excellent order, the hens busy and their feet warm and dry. Oats cut green make a splendid litter, as the fowls get a great deal of bulky food from it so necessary to healthful digestion. The quantity of fire and the length of time it must burn each day can only be determined by watching the thermometer and using common sense. When the temperature is above freezing point in the shade out of doors, open doors and windows and let the fowl run if they will.

### WHY NOT RAISE DUCKS?

*Editor Review:*

"**B**ADLY used up but still in the ring" is an old saying signifying a brave attempt to keep a stiff upper lip notwithstanding reverses.

Whether or not a man is justified in attempting to crawl back after being knocked clean out of the ring, is the query that is agitating me at this writing.

Picture to yourself a number of hens, each struggling to convince herself that she will eventually hatch a dozen or so buff Rocks from a like number of eggs, while three feet of ice water encircling her creates a buoyant, but not necessarily pleasant feeling. Picture to yourself the mother of handsome chicks screaming loudly, fluttering and flying around to find a dry spot for her offspring, and mistaking the top of my incubator for the roof of the ark, darting towards it as a resting place. Imagine the well-watched incubator lamp spluttering and then going out in disgust, and finally imagine the incubator itself with its load of chickens in embryo, lifted and thrown to the floor, and you will be able to judge if I am still in the ring, there being no doubt that I am at any rate in the swim.

If none but the early bird "catches the worm," then the worms in my orchard may congratulate themselves on their immunity from capture, at least by my early chicks, for we have had a flood, and as Hamlet has it, "a sea of trouble."

The flood which cavorted down the street a week or two ago undermined the foundation of my house and upsetting my incubator (also my arrangements for getting early chicks) created a general havoc.

Imagine, once more, your humble servant with his pants rolled up to his knees and the waves rolled up to his pants with a dying hard chick in his hand, and a dead hard luck kind of expression on his face, and you see the initial events which led up to the loss of every egg in the incubator and knocked me out for the time being.

Yours truly, ROBT. H. ESSEX.

Toronto, April 16, 1896.