

Why Incubator Chicks Die in the Shell.

There seems to be a wide and varied opinion as to why chicks die in the shell. Many claim, which is true in a sense, that the germ is weak, caused by too close inbreeding. It is true also that we find weak germs at times when the parent stock is not related.

Too close confinement, with little or no exercise, or improper feeding, will also cause chicks to die in the shell, the germ not being strong enough to withstand the various changes during incubation.

The writer is fully convinced after careful demonstrations, that while the above causes are partially true, the main cause is improper ventilation. The system of ventilation in incubators of to-day is such as to cause a draft, drying the eggs too fast, causing the membrane or lining beneath the shell of the egg to become tough, so much so that at hatching time the chick is unable to break through, many even dying in the shell after being pipped; whereas, if this membrane could be kept soft and brittle as when fresh-laid, the chick would easily have picked its way out.

By placing a hygrometer under a sitting hen, the humidity or moisture will register about 60 per cent., while in almost all makes of incubators less than half that amount will be shown. Herein lies the explanation of such poor hatches in high altitudes, the air passing too rapidly through the incubator, taking the moisture from the egg too fast, drying and toughening the membrane until the chick cannot break through.

To demonstrate that chicks die in the shell from lack of ventilation, I have made an incubator in which instead of using a two-inch pipe (the size used by manufacturers) to convey the heat from the heater into the incubator, I used one of four-inch diameter, which furnished me with a much greater volume of pure warm air. Also in addition to the larger pipe I constructed within the outer wall of the heater a reservoir, containing water for evaporation. Hygrometer tests made with the heater without the reservoir showed the degree of humidity to be only 18 degrees, while with the reservoir containing water the humidity registered normal, or about 60 degrees. I am positive that the eggs to retain their natural condition must have added moisture, and some must be taken in with the supply of heat, and not from moisture pans, which affect principally the eggs near them. With the above system the air is moistened to the normal condition of the hen, which by hygrometer test, is shown to be 60 degrees, and by being carried in with the source of the heat, every egg is affected the same.

The machine constructed was of 200-egg capacity, walls 14 inches deep between the top and bottom. I made several hatches with a percentage ranging from 90 to 94 per cent. out of fertile eggs, and the finest, strongest chicks I have ever seen, no cripples, and no weak ones, and why? For no other reason than that the ventilation was right from beginning to end of hatch. These experiments were made in all kinds of temperature, varying from 98 degrees to below freezing. This demonstrates the simple fact that to secure good hatches and to prevent chicks dying in the shell the incubator must be made with more ventilation, and that the eggs must be incubated with the proper amount of humidity.—O. P. Scott, in Farm Poultry.

A Scotch minister and his servant, who were coming home from a wedding, began to consider the state into which their potatoes at the wedding feast had left them.

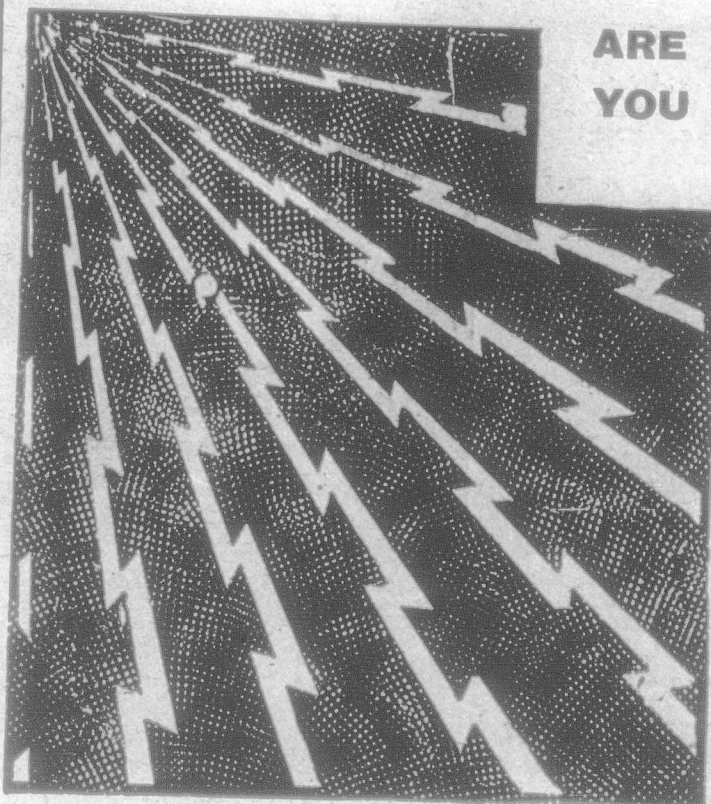
"Sandy," said the minister, "just stop a minute here till I go ahead. Maybe I don't walk very steady, and the good-wife might remark something not just right."

He walked ahead of the servant for a short distance, and then asked:

"How is it? Am I walking straight?"

"Oh, ay," answered Sandy, thickly, "ye're a' recht—but wha's that wha's with you?"

"If it's a stint He's set us, I don't see but we've got to work it out somehow. I never see anybody yet that didn't want to pick out her own stint; but mebbe if we got just the one we wanted it wouldn't be no stint."—Kate Douglas Wiggin.



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DR. C. F. SANDEN, 140 Yonge Street, TORONTO, ONTARIO.

COSSIP.

A bunch of Galloway steers, averaging 1,251 lbs., brought \$7.05 per cwt. on the Kansas City market last week, the highest price paid there since 1902; and 36 Hereford yearlings, 959 lbs., brought \$7. Both lots were bought by the Armour Packing Co.

If a farmer is depending upon his own grain for seed, he ought to make sure that the crop from which his seed has to be taken had been properly harvested and the grain properly stored after being threshed. It will be found that newly-threshed grain germinates more quickly than that which has been threshed and stored in a granary for some time.—Bruce.

The different kinds of farming are often but a choice of evils; as soon as one evil is past another cometh. No one becomes rich on the produce of the soil nowadays; but the healthy life, fresh air, early hours, pure food, love of live stock, the free life of the country, the sunshine and rain, and the stern joys of facing a storm in winter as it sweeps across the hills, have charms for many which cover a multitude of drawbacks, and which will ensure that there will never be lacking men to follow the plow while there is a furrow to be turned.—McConnell.

With the spring horse shows within a measurable distance of time ahead, many exhibitors will have made considerable progress in the schooling of the young stock which they have decided shall represent them. The turn of the older horses will come later, when the question of condition enters into the arrangements, but the two-year-olds require a very necessary course of handling and schooling in addition to being made fit for show. Nothing is worse than a hurried preparation. A horse, no matter what its age is, is sure to suffer from a sudden change of food. A preliminary course of physic, mild or otherwise as circumstances dictate, is usually necessary, and the daily allowance of stimulating food should be gradually increased. Happily, the tendency of the times is all against the over-fatted show horse. More attention is paid to the muscular development of the horses, and no one can gainsay the advantage that has attended the change of ideas.—[Live-stock Journal.

It is, of course, aggravating and irritating to have lies told about you. It mars the beautiful hours of life to know you have enemies who try to make trouble for you. But far worse than knowing you have enemies is the consciousness that you are any man's enemy.

If to do were as easy as to know what were good to do, chapels had been churches, and poor men's cottages princes' palaces.—William Shakespeare.

So long as you can look your own soul in the eyes and say, "THERE IS NO BEING ON GOD'S EARTH I WISH ANYTHING BUT GOOD; there is no one I would not do a good turn if I had the opportunity," then you have nothing to fear, here or hereafter.—Wilcox.

Seek not to know to-morrow's doom; That is not ours which is to come. The present moments are our store, The next should Heaven allow Then this will be no more; So all our life's but one instant—now. —William Congreve.

Here is a good example of a "thin-veiled" hint, which a certain Dakota editor published in his journal: "It is reported that one of Harvey's fastidious newly-married ladies kneads bread with her gloves on. The incident may be peculiar, but there are others. The editor of this paper needs bread with his shoes on. He needs bread with his pants on, and unless some of the delinquent subscribers of this 'Old Rag of Freedom' pay up before long he will need bread without a thing on, and North Dakota is no Garden of Eden in winter time."