

bee stocks at times as high as one hundred hives, while at the same time I have been engaged in poultry-keeping, fruit-growing, and gardening. I have kept a strict account of the profits of each branch of business, which shows that the bees have paid better than any of the other lines alluded to; yet if I had increased my number of colonies of bees, and lessened some of the other branches, I don't think I should have done as well. I consider that sixty colonies of bees in one yard will give a greater amount of profit per colony than a larger number, and the owner can attend to that number and have time to look after his garden, or other pursuits; but if he increases his stocks to a hundred or more, it will necessitate devoting his whole time to his bees, and at the same time the larger number of bees working on the same area of blossoms will materially lessen the yield per colony; and then there is the fact that every now and again we have a season that is unfavorable to the secretion of nectar in the blossoms, and the bees barely make a living. Hence my advice to all about to start in life is: Don't put all your eggs in one basket; but whatever pursuit you do follow, if possible give the bees a good sized basket.

POULTRY.

Plain Talk on Successful Keeping of Poultry.

[Paper read by C. J. Daniels before the Ontario Poultry Association.]

A common and one of the worst mistakes made with poultry is over-crowding; that is, putting too many birds in too small a space. Many reason that if a dozen hens will give their owner a good yearly profit, another dozen would double the profits. This is a big mistake, and one to be avoided if you expect to realize good profits. My advice is, don't put two dozen hens in space that's only big enough for one dozen. With less space they are over-crowded, with over-crowding comes a loss of tone and vigor, making the fowls more susceptible to disease; vermin more easily finds a foothold, and a great many of the evils of the poultry-yard are traceable to an over-crowded flock. Experience teaches us that health is as necessary in the organism of a fowl as it is in the human family. When the organs of a man are deranged, he can neither appear to so good advantage, nor do anything so well as when all parts of his physical machinery is intact and properly adjusted, and the same conditions hold good in a fowl.

Your poultry-house is another consideration. Let it be cheap and simple in the construction, but see that it is properly ventilated, avoiding drafts or currents of air near roosting places. Fowls should have protection from sudden changes of temperature during all seasons of the year. Rain and sleet should not drip through the roof upon their bodies, neither should they be allowed to run out in snow, slush or cold rain. Exercise is constantly needed by fowls; they should have dry leaves, chaff, straw, hay or dry dust to scratch in. In feeding, I go into the pens and bury the grain in the leaves, etc., with my foot. I have been asked by visitors hundreds of times why I do this; I tell them my birds have to scratch for a living.

Drinking-water should always be within reach, and at all times fresh; it will also pay to always feed good, sound grain. Grit of some sort is indispensable, as it helps digestion: in fact it's the fowl's teeth. If fowls have half the care you bestow on your horse or cow, they will pay a much larger profit than either the cow or the horse; in fact, a little hen getting a reasonable amount of care is the best paying critter on the farm.

A Successful Start with Poultry.

Amos Causey, Norfolk Co., writes us:—"About three years ago I became possessor of a farm in the County of Norfolk, on which I decided to commence farming operations. On visiting the neighborhood to learn of its suitability to agricultural operations, I was led to believe that starvation awaited me if I came there. I took the advice for a time. I then commenced taking the FARMER'S ADVOCATE, in which I learned how to live and do well, even on poor land. I commenced keeping poultry in a small way, which soon enabled me to buy a cow in calf. She was giving enough milk at that time to supply our family of five and enough butter to sell to pay her feed. I am also bringing up a Jersey calf, which I bought upon the skim-milk. My wife knew nothing of butter-making until we began to read your valuable paper. I feel amply repaid for the subscription price, and would not think of doing without it upon any consideration, believing that if we follow out the teachings of the ADVOCATE we shall not starve, but be able to pay our way and lay by a little for old age."

The following is my poultry account for 1891: Commenced the year with 31 fowls, from which I sold through the season, chickens and eggs, to the value of \$62.47, which cost in all, including the loss of two hens, \$31.02. My flock now numbers 40 birds, which leaves a nice little profit from work, which was done on mornings, evenings, and holidays."

The Necessity for Exercise and Sunshine for Winter Egg Production.

BY MRS. IDA E. TILSON.

Instead of trying, as "Samantha Allen" would say, to collect my "scattered minds" upon some new topic, I will give a few "notes from the field" of Minn. Institute work. Those connected subjects, the winter egg and the early chick, continue popular. In January, I saw at Dover a good illustration of my argument that the late chicken has size without maturity and capacity for work, just as has many a rapidly grown youth. Some fine pullets, so large I should not have known them from hens, a cross of Silver Wyandottes and Light Brahmas, were proudly shown as a late June hatch. "Do they lay?" I queried. "No," said their owner. We cannot readily start a train or any vehicle on an up-grade, but if we begin on the level, the momentum gained will help carry us over the ascent. Likewise, you cannot easily, during cold weather, start fowls into laying, but if they were old enough to begin beforehand, then properly fed and continuously cared for, their laying can be triumphantly carried through the winter. Conversing lately with the Agricultural editor of the Minneapolis Tribune, I found his last summer's experience repeated my own as to that side product, our surplus cockerels. He kept a close account of the cost of food, except milk and grass. When his chicks had cost five cents each, he sold some for \$2.50 per dozen. When the remainder had cost 15 cents apiece, he again sold some for \$2.50 per dozen, likewise. And when those still left had cost 20 cents each, he got but the same, \$2.50. The price goes down faster than the size rises. Early chicks and early sales will secure the profits, until everybody joins the procession and has them.

At Dodge Center, I saw a fine lot of Brown Leghorns in a house amply warm, but they had been shut up all winter without a scratching-shed, and even without rubbish on the house bottom, consequently those naturally active, prolific birds were not laying at all, while their combs were in better condition than their feet. Every creature, I guess, has its thigh muscles attached to its trunk, and movements of the former must exercise the latter. Activity of the legs calls for more rapid pumping of blood by the heart, which, in turn, asks the lungs to hurry in purifying and thinning that blood. Those lungs then necessarily request the digestive apparatus to furnish more material. Thus, as in a mill, all the connected bands and wheels move, and we sensibly send out alike the sick man or the non-laying hen to exercise. The above hen-house was banked with straw, sides and roof, including a shed-like room on the east, used as a roosting place during summer, but abandoned in winter. The owner could not very well disturb his banking. In the shed roof was a window, which could be uncovered easiest, and, if need be, enlarged. With plenty of rubbish within, I felt sure his hens would gladly use that shed-room as a scratching place. So many tell me their shut-up hens watch every time the doors are open for a chance to step out. At Spring Valley I saw a man having a real picnic getting in some such refractory Leghorns. Other poultryers tell how their hens invade wagon and machine sheds, which reminds me that our home biddies, when deprived of certain stumps having brush growing up from them, appropriated our rose-bushes as summer shade and shelter. At the last-named place there was presented me a new idea for a scratching-shed, said shed being entirely enclosed with unbleached muslin. An old soldier evolved the idea from his familiarity with tents. A real, rough, snowy winter would probably break and rot his shed, but this has been a favorable season for such a structure. He also made window-shutters of the muslin. At first, shut-up hens lay more, because their food largely goes to make eggs, none being consumed in exercising, but such fowls are apt soon to stop laying altogether and to put on fat, since their's is an unnatural life. Sunshine, the great consumptive cure and tonic, should be administered freely to laying hens.

All good farmers know how to feed enough, but to feed for results is a different matter. Director Jordan, of the Maine Experiment Station, fed, for seventeen days, two pens of twelve Plymouth Rock cockerels each: one set on corn alone, and the other set on corn and beef scraps. Each lot had the clam-shells, gravel, potatoes, and pure water, which the farm furnished. The first lot gained 4 lbs., at a cost of 34 cents, or 8.6 a pound. The second lot gained 8 lbs., at a cost of 41 cents, or 4.7 per pound. Blood in place of beef scraps was not so successful. The above illustrates feeding for flesh. To feed for eggs requires equal discrimination. While his neighbors are pouring out corn by the bushel, getting nothing in return, the wise poultryman may, by judicious combinations and by the expenditure of a little more time and money at first, eventually receive good profits. The greatest secret—an open one, though—of growth and subsequent egg-production is variety of food sufficient to directly furnish the egg elements and to make hens vigorous enough for continuous laying. A successful poultrywoman at Janesville laughingly, but meaningly, told me she had fed everything on the farm. That fowls can and will eat so many things, is Nature's vote for variety. Feed nothing exclusively, but mingle meat, bulky vegetable food and grain. I have invested in a new \$10 bone-cutter. It works with a lever, which is easier than a crank, and does just as good work as the larger machines with cranks and

costing \$16 or so, but mine has a small hopper, and is much slower. For both machines, especially the latter, bones, except, perhaps, rib bones, must be broken by the back of an axe a little before run through. An analysis of bones, at experiment stations, shows that those of all animals contain about the same elements, but differing in amounts and solubility, hence a bone-cutter grinds out a most perfect food for the growing chick. At Spring Valley another successful poultrywoman was warming all grain fed in the winter. I have not been surprised to find boiled potato-parings causing looseness of bowels. Small potatoes, boiled entire, would be more wholesome. Where hens are unaccustomed to charcoal, those fed softwood ashes and charcoal, rather than hard ashes at first, have no difficulties.

Fresh Eggs and the Poultry Business.

BY JOHN J. LENTON.

The city consumer often asks the question, "Why is it I cannot get good, sweet, fresh eggs from my grocer?" This cannot be wholly laid at the door of the obliging city grocer. Every man, woman, and child who handles the eggs is more or less responsible for their condition at the table. But let us address a few remarks to the farmer, or, more properly, the farmer's wife, for it is she who generally looks after the welfare and comfort of the fowls, from which source she often obtains her pin-money, and frequently the necessities of life.

City people are perfectly willing to pay well for the luxury of fresh eggs if you will supply them. Take care of your eggs, and it will be money in your pocket. Gather them every day, and market them often.

In winter, supply the hens with warm, comfortable houses, and clean, dry roosts and nests. If the weather is excessively cold, give plenty of warm water twice a day. Warmth is more potent in inducing hens to lay than anything else. You can get no eggs in winter from a shivering hen. Keep the inside of the hen-house whitewashed, and sprinkle the floor frequently with slaked lime or thick whitewash. This kills the vermin, and counteracts the dangerous effects of impurities arising from filth, and keeps the air sweet and pure.

Farmers, just accept this little bit of advice: instead of investing twenty-five dollars in another cow, invest in a brood of one hundred hens, and if these hens are properly cared for, we promise they will lay you twelve to thirteen hundred dozen eggs in a year, which, if marketed fresh, will bring you in the neighborhood of one hundred and seventy-five dollars. What better investment do you want? Do not try to do too much. More than three or four hundred hens on a farm will be a burden.

The profitable laying period of a good healthy hen is about thirty months, and she should be fattened for the market during her third year. Do not sell your young hens, for they will make your best layers during the winter season, when eggs are high. Never sell a young hen, but instead fatten up your old hens and cocks once in each year, and market them. For an all-purpose fowl the Wyandottes and the Plymouth Rocks are the most popular, although there are many other good kinds. Introduce new blood into your flock each year by securing fresh male birds.

The Canadian farmers, as a rule, do not pay enough attention to their poultry for their own good. A young hen is not a worthless nuisance to be left alone to pick her own living. She is valuable property, and, if properly cared for, will pay you larger interest on your money and labor than any other farm stock. Increase your flock to two hundred hens at once. Build a suitable house for them. It will pay you. Few are aware of the value and importance of the egg trade as a source of wealth to a nation.

The amount of business done in the United States in the egg trade exclusively will amount to over \$200,000,000 each year. New York City alone consumed \$12,000,000 worth in 1890, at an average price of eighteen cents a dozen. The poultry and egg business outranks any single product, except corn raised and sold in that country.

Notwithstanding these facts, we find people who think it small business and time wasted for the farmer to give his poultry flock a little time and attention. A farmer could do a great deal worse than make poultry raising the main branch of the farm industries.

Ontario Veterinary College.

The closing exercises of the Ontario Veterinary College, which took place on March 29th, constituted quite a brilliant affair, owing not only to the number of prominent gentlemen present, but also to the creditable standing of so many students. This Institution has won for itself a reputation which draws men from all parts of the American Continent, Great Britain, the West Indies, and even from the Antipodes. Upon this occasion 150 graduates received diplomas. The prize and medal men received their trophies at the hands of the Lieutenant-Governor and other noted visitors. To Prof. Andrew Smith, F. R. C. V. S., is due hearty congratulations upon the success of the O. V. C., of which he is Principal.