

not too thick the bees will soon take it down. Twenty or twenty-five pounds may be fed in this way at once.

The packing should be placed around the hives before any hard frosts set in. One often sees a few colonies sitting under an apple tree with no covering, and the cold winds blowing in the entrance long after they should be snug for the winter. Farmer beekeepers are usually the worst offenders in this regard, as the regular apiarist does not neglect his fall work. Cut straw makes a satisfactory material for packing, as there is usually plenty of it on the farm. Dry leaves are equally good, but take too long to gather. Sawdust is too heavy and packs too closely. Packing should be four inches thick at the sides and a foot on top.

For a covering over the frames I have used burlap placed on lath or a tight board with a small opening in the centre. I don't know which is the better. I have kept ten or twelve colonies for some years, have always wintered on the summer stands, and my losses are usually from ten to fourteen per cent. This may be higher than for cellar wintering, but I think is the best way for the small beekeeper. The packing is left on until May 24th or later, as it helps to keep the brood chamber warm during the cold spring nights, thus preventing losses from chilled brood. Peterboro Co., Ont. C. S. B.

POULTRY.

Heroic Turkey Treatment.

Editor "The Farmer's Advocate":

Someone asked for a remedy, I think in one of your August numbers, for some Turkeys which had a disease causing quite large lumps to gather under their eyes and it was advised to isolate them from the rest of the flock which perhaps was a good idea. I had a pair of turkeys contract the same disease, January last, and it was with difficulty that they could eat enough to keep them living until spring, and as the warm weather came in the spring they grew some what better and layed a nest of eggs each and brought out a hatch of young turkeys and sometime afterwards the lumps began to grow larger again and all the while from the beginning they had a discharge from the nostrils and at times it was with difficulty they could breathe, and in September they grew so bad I thought they would die, so one fine day I thought I would do some experimenting although previous to this I had applied different liniments, but to no avail. I simply caught the turkeys, placed them between my knees and with a sharp pocket knife I split the lumps open and found a small amount of pus therein which I squeezed out, and afterwards washed with some lime-water which was convenient and in about two weeks I found that the incision had healed up and the lumps grew larger than before. I caught the turkey again and split open the lumps. This time I found quite a large amount of pus in them which had become dried to about the consistency of cheese and in appearance not unlike it. This I dug out clean with the point of my penknife. Afterwards I syringed the wounds out with about a 3 per cent. Carbolic Acid solution, and I have never touched her since. This last operation took place about one month ago. The lumps are gone and healed and she is the best looking bird in the flock of which I have about forty. I might just say that these turkeys have had free range and were allowed to run with the rest at will and no others are infected. Frontenac Co., Ont. D. J. DODD.

Short Course at Macdonald College.

The annual Short Course of three weeks in Poultry Raising will be held at Macdonald College, Feb. 16th to March 6th, 1915. This Short Course is adapted to meet the demand for practical experience and information on the various phases of poultry culture. The Short Course is of considerable value to all who are interested in poultry raising, and is of special service to those who are starting in the business. It is a Short Course intended to assist farmers, their wives and daughters as well as town's people. The poultry plant at the College gives good opportunity for the study of the practical side of the industry. The lecture course, which will supplement the practical work, will deal with the more important branches of the business. Students will be given an opportunity to take part in the discussion, and they will also be required to do practical work along the various lines.

The Course will be full of up-to-date information, and should enable all interested to become familiar with the principles of poultry culture. Those who anticipate taking advantage of this free Course in poultry instruction may secure an announcement and further particulars by writing the Principal, Macdonald College, Que.

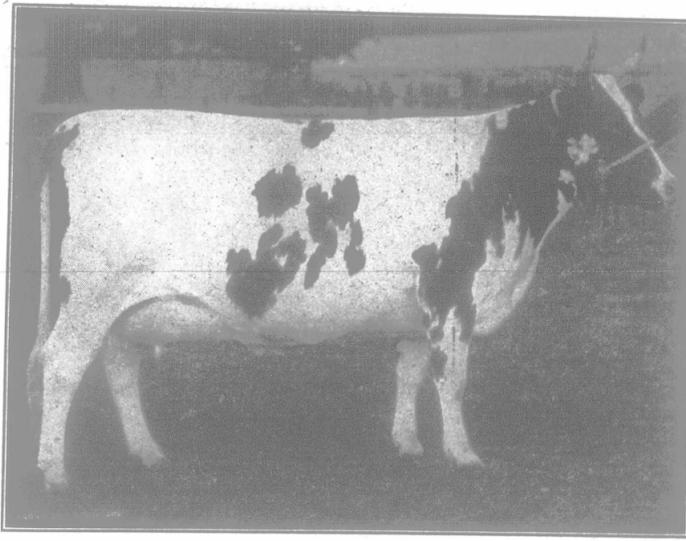
White Diarrhoea in Chickens.

Editor "The Farmer's Advocate":

With incubator-hatched chickens there is no disease more dreaded (I should say) than white diarrhoea. There does not appear to be any successful cure for it; and indeed many poultrymen of my acquaintance prefer to kill outright any affected birds. It is in cases like this that the old saw, "Prevention is better than cure" is particularly applicable. It is my intention, in this short article, to give a brief description of this scourge, and the best ways of fighting it. First of all, the disease is more common among incubator-hatched chickens, although it is by no means confined to them. The chief symptom is, as the name of the disease indicates, white diarrhoea.

The droppings are like sticky whitewash, and usually clog and paste up the vent. The chickens act in a sleepy, stupid manner, becoming weak and droopy. Usually the majority of affected birds die within the first six or seven days, and, in any case, nearly all the losses occur during the first ten days. Some chickens seem to make a recovery, but it is very rarely complete, and the birds are usually hopeless runts. Which means that they are not worth keeping alive.

The causes of white diarrhoea are several. First of them all comes eggs weak in germ vitality. This weakness may be due to several reasons. Breeding from immature stock, either male or female, is one of them. Using eggs from weak birds, or those that are too thin, or too fat, or even not properly fed, will cause it. Supposing, however, the germ vitality to be strong enough when the egg is laid, incubating stale eggs is a cause for diarrhoea. Never keep an egg intended for hatching purposes any longer than can be helped. Careless incubating, with too much heat during the period of incubation is another source of trouble. Dirty eggs, hatched in a dirty incubator, are almost certain to produce chicks that will develop diarrhoea.



Ayrshire Cow. Champion at the Highland Show, at Hawick, 1914.

The chief preventive treatment may be said to be cleanliness. Keep the incubators clean. After each hatch is out, thoroughly cleanse and overhaul the incubator. Use only clean eggs. If eggs are dirty, wash them in tepid water before putting them in the machines. Don't turn the eggs with dirty hands. Don't use too much heat during incubation. Try and hatch the eggs with as little heat as possible. For the first week, keep the temperature at 102 1/2 degrees, and for the second and third weeks keep as close to 103 as you can. After putting the eggs in the incubator, do not handle them for the first forty-eight hours. Keep the chickens comfortably warm at all times, but do not keep too many in one brooder. Any that are backward or weak should be killed. And be quite sure that the chick feed, or whatever you feed them is not musty or mouldy. Keep all drinking water perfectly clean. Musty food and foul water are both very important factors in white diarrhoea. B. C. H. C. HADDON.

Offering students an extra year standing at colleges and universities if they will join the colors cannot be expected to raise the standard of education. Canada has nearly 1,400,000 men between 21 and 39 years of age, and no small number of these are single men who will find themselves out of employment as the result of the struggle. After the war is over it will require the best trained brain power available to aid in repairing the damage done.

Poultry Notes.

Editor "The Farmer's Advocate":

Get the hens into their winter quarters before the cold weather comes so they will be snug and warm if winter arrives without any warning.

Make friends with the hens. A tame hen will lay more eggs than a wild one that flies and runs every time you come into the pen.

A layer of tar-paper on the inside of the house does not cost much and keeps out cold drafts, and increases the comfort of the hens and the result is seen in an increased egg yield.

Wheat is dear this year, but some should be fed. Try some buckwheat and cracked peas. They are good.

If you get your oats for the horses rolled, try the hens on some. They like them and oats in this form make good feed and help keep the feed bill down.

What have you for green feed? The hens like cabbage, beets, mangels, apples or clover. The latter, either red or alfalfa can be fed dry or soaked or steamed. Try pouring boiling water on some when the weather is around zero. The hens like it hot and it warms them up.

Don't crowd too many hens into the house. Each hen requires four or five square feet of floor space. A few hens with plenty of room will pay better than double the number crowded into the same house. York Co., Ont. R. H. CROSBY.

FARM BULLETIN.

Birds and Worms.

Editor "The Farmer's Advocate":

I noticed under the heading "Nature's Diary, by A. B. Klugh, M.A." that mention was made that certain birds destroyed army worms, and asking for information about other birds destroying said worms.

About fifteen or sixteen years ago we had a warm spring, which, no doubt, was favorable for the development of army worms. I had thoroughly underdrained a low-lying field which was in splendid condition for early seeding, and was pleased to see a fine crop of oats growing, which, when fully headed out, I considered or estimated would yield about 100 bushels per acre. One evening I thought that they had changed in appearance, and I walked through them to investigate. When it was getting dark I heard a ticking noise, and, while looking round me, saw large stout worms like caterpillars, but almost as tough as leather, creeping up the oat stalks and biting off the stems that held the oats; the ground being almost covered with oats. These army worms

were very shy and worked entirely in the dark, when the day birds could not get them; also, they only cut off the oats on lower part of stalk and not the top oats, and they also worked more through the middle part of the field and not much around the outside next fences, and in the daylight scarcely one worm could be seen, as they were hidden in the soft ground or under sods, clods of earth, or sticks. We had to cut the oats partly green to save them, and the worms cut the oats off very much when shocked up. We shovelled up and bagged loads of oats and chaff from under the shocks. About that time, we fortunately had a very heavy rain, which packed the clay ground down firmly, and when daylight came the army worms could not hide in the ground, and had to remain on the surface where the birds could get at them. Now, very few farmers can speak a good word for the "dear little English sparrows." Also, I saw in an article in "The Farmer's Advocate" lately, I think by A. B. Klugh, that cow birds were not useful, and at that time I felt like speaking a good word for them, but I wish to state when the army worms were on the ground in the day time the sparrows and cow birds came in thousands, and in a day or two not a live worm was to be seen, and the sparrows, those pugnacious birds, when they could not eat any more slaughtered them by thousands, and left them there, and I concluded that the English sparrows and cow birds are useful sometimes.

The worms which we had were nearly two inches long, broad across middle, and so tough