

wonderful record has been brought about by good breeding, extra care, and good feeding. Have a good, warm, well-lighted, well-ventilated, comfortable stable, roomy, single stalls, fresh running spring water and salt always before them, fastened with chains around their necks, giving freedom, allowed to run out for an hour or two twice a week on fine days, but kept in on stormy and bad or cold days. We believe in feeding well, and find it pays to do so. We feed as follows: First thing in the morning, before milking, clover hay; after milking, feed 20 lbs. ensilage, with 6 lbs. of grain feed put on top of it in the manger; at noon they are fed a little wheat or oat straw for a change; at 4 p. m., just before milking, they are fed ensilage and grain same as in the morning, and in the evening, after milking, fed clover hay. Grain feed most generally consists of 6 lbs. bran, 3 lbs. pea meal, 2 lbs. cotton-seed meal feed, average from 11 lbs. to 12 lbs. per day; feed some cows more and some less, according to the amount of milk they are giving; feed our best cow, No. 56, from 16 to 20 lbs. per day, according to amount of milk she is giving; same proportions and mixtures as the other cows. I may say the different kinds of grain feed are well mixed before feeding: weigh out and mix up two days' rations at a time. We sometimes feed oil cake in place of the cotton seed, and corn meal in place of pea meal, but prefer the cotton seed and pea meal, particularly in the summer season, as cotton seed fed in the summer improves the quality of butter—makes it firmer. Now feeding corn meal in place of pea meal, for the reason that peas are so high in price this winter, costing from \$7 to \$8 per ton more than corn. Feed 2½ lbs. corn meal, 2½ lbs. cotton-seed meal, with 6 lbs. bran per day. Our clover hay is good, well saved, cut early (on the green side), well cured in cocks covered with cotton hay caps, protecting hay from rain, sun or dew whilst curing. Our daily winter ration is 40 lbs. ensilage and 10 to 12 lbs. of grain-feed mixture per day. If cotton seed and oil cake were both the same price, we would feed in winter half the quantity of each, but just now oil cake costs \$7 to \$8 per ton more than cotton-seed meal, so that we are not feeding any oil cake to our cows this winter. We are greatly in favor of corn ensilage, both for winter and summer feed; find it to be the best, cheapest, and most convenient for feeding, both for the summer as well as winter. Last summer we fed a half-winter's ration of both ensilage and grain feed all summer, and the result was that our cows averaged 1,220 lbs. more milk this year than last;—milk worth \$1 per 100 lbs. would be \$12.20. Our milk, cream and butter net us 90c. per 100 lbs. milk, clear of all expenses in manufacturing and selling. Skimmed milk is worth 20c. for feed. The extra cost would be 20 lbs. ensilage at 10c. per 100 lbs.—2c.; 5 lbs. grain feed at 60c. per 100 lbs.—3c.; making the extra cost for summer feeding 5c. per day per cow, and for 150 days would be \$7.50; deduct extra cost of feed (\$7.50) from the extra quantity of milk (worth \$12.20) would leave a net balance of \$4.70 per cow, and for the 55 cows would be \$258.50 net gain for the season, as the extra manure saved would more than pay for the extra labor in feeding.

In making the above estimate I have left out my best cow, No. 56, which if included would make a still better showing of profits on summer feeding. You will see that I have not included my best cow, No. 56, in making up this year's record. By putting her in with the 40 would bring the yearly average up to 11,800 pounds for this season, but as there are 14 cows yet to come into this year's record which are still milking, we may find it necessary to put our best cow in with them in order to keep up the average of the herd of 55 cows to the 11,000 lbs. average as stated above.

We are greatly in favor of alfalfa clover for green summer feed, both for cows and pigs; have been growing it four years experimentally; now have four acres. It produces wonderful crops; we cut four times a year, and feed it green to our 300 hogs once a day, and feed it to our cows alternately with the ensilage once a day. Cows, like ourselves, like a change and a variety of food.

I might add that we weighed the milk from our best cow daily for three or four months after she came in, the 4th of last April, and for the first month she averaged daily 88 lbs. milk, testing 3 1-10 fat, which would be equal to 21 lbs. butter-fat in seven days, or 24½ lbs. butter in seven days. I see that the best record at the International Exposition at Omaha dairy test was 13½ lbs. fat in seven days, so I am a long way ahead. I see that in the milking test made at Brantford last month the best cow, Calamity Jane, made a record of 17½ lbs. of fat in seven days, so I am considerably ahead of both records.

Our cows are mostly Holstein-Friesian breed, one-fourth of them pure-bred, the remainder are three-quarters to seven-eighths Holstein blood, crossed with Shorthorn cows fifteen years ago.

Yours truly, E. D. TILSON.
"Annandale Farm," Oxford Co., Ont.

Waterwheel to Run Cream Separator.

THOS. CAIRNS, B. C.: "Could any of your readers give dimensions for waterwheel to run cream separator, De Laval No. 2 Baby? The water discharge on head will be four inches in diameter."

[We invite readers, who can, to give us the information desired. We presume a turbine water-wheel is what Mr. Cairns should use.]

POULTRY.

How to Handle Breeding Stock in Order to Get a Large Percentage of Well Fertilized Eggs for Hatching.

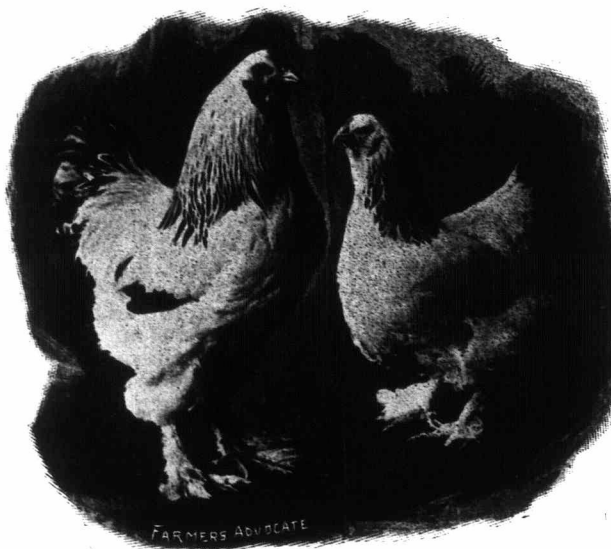
BY E. W. ANDREWS.

The breed of fowls kept should depend mainly on the object sought, whether it be eggs or table poultry. Not more than twelve fowls should be kept in one breeding flock. If these are in vigorous health and properly fed, not only will almost every egg prove fertile, but there will be no difficulty in raising the chicks.

To keep a hen in good condition for laying she should never have a full crop during the day. It is not wrong to give a light meal of warm mixed food in the morning. I do not believe in feeding soft, sloppy food at all. The fowls should go away from the trough unsatisfied and should then seek their food, getting it grain by grain, engaging in healthy exercise in order to obtain it. Feeding soft food leads to many errors on the part of the beginner.

I believe in free range, providing the range is good. During the summer months the hens require less food than in the winter, though it depends somewhat on how they are situated and how many eggs they lay. When on the range they cannot fail to secure a full supply of all they require if they are active and industrious. When hens are confined in their winter quarters without range, their morning food should consist of a warm mash, made from equal parts of corn meal, wheat bran, and ground oats. If it is customary to mix vegetables in the morning mash, these can be used in conjunction with the above mixture. Feed what you think is about half enough in the morning, and let them try to find the remaining quantity desired.

Keep them at work. Give clover hay, chopped fine and scalded, meat and bone, three or four times



FIRST PRIZE WINNING PAIR OF LIGHT BRAHMAS.
OWNED BY T. A. COX, BRANTFORD. SEE PAGE 105.

a week, and wheat at night. Keep plenty of grit before your fowls at all times, and plenty of clean fresh water. It is a good plan to change the variety of grain two or three times a week. Do not fail to give fresh ground meat. Follow this plan and you will get fertile eggs.

The majority of poultry raisers begin to set their incubators during the winter months. They fill them with eggs from hens that are confined in small buildings and not properly fed. What are the results? Not twenty-five per cent. of the eggs hatch. They continue in this way all winter, and condemn the incubator. Toward spring, when the weather begins to warm up, the fowls are turned out into the runs or given free range. Then they get a change of food in the way of green grass and insects. The hens' combs begin to get red, they are more active and in much better condition, and lay more eggs. As soon as a hen begins to get broody, eggs from these thrifty hens are placed under her, and the result is a good hatch.

Now, on the other hand, if the breeder had been able to have his hens sit in the winter when he started his incubators, on eggs from hens that were not properly fed and in poor condition, what would have been the result? It would have been no chicks at all. Would he have said the hens were no good, and that they could not hatch chicks? No, he would say it was the fault of the eggs—that they were chilled or not fertile. Readers, if you will give your hens the proper exercise and food in winter, plenty of meat and vegetables to take the place of insects, green grass, etc., that they get when they have the range in the spring, you will find that a well-made incubator will hatch a larger per cent. of strong, healthy chicks than any hen on earth was ever known to do.

The incubator is a necessity on any well-conducted poultry plant. The incubator chick is free from vermin, therefore is stronger, and if placed in a first-class brooder, made of good material, it will continue to thrive, and a hundred can be raised with less trouble than a dozen under an old hen. The fancier who has a small place in a city or town should give his fowls as much range as possible, but

if you are obliged to confine them in small pens and yards, avoid crowding. Be sure to feed animal foods to take the place of insects that the hens get when they have free range. The poultry raiser on the farm should have a good comfortable laying-house for his fowls, and not allow them to lay the eggs under the barns and other buildings.

All early pullets that will be matured by the time winter sets in should be kept growing, but be very, very careful not to let them get fat. That is a condition a fowl should be in when ready for market, but fat is a detriment to all laying hens. Overfeeding causes more diseases than anything else. If the pullets are not fully feathered when winter comes, as well as being in good condition, they will only be a dead expense until spring, when almost any kind of a scrub will lay. If you keep common hens, commence culling them out as soon as possible and fatten the culls for market, keeping only those you can see are liable to do you good service this winter. Keep only the roosters you wish to breed from, and I would advise you to keep them by themselves until breeding time. Your chicks, as well as the winter egg-basket, will prove to you that you were wise in doing so.—*Artificial Incubating and Brooding.*

VETERINARY.

The New Cure for Milk Fever.

The new cure for milk fever by the injection into the udder of a solution of iodide of potash is claimed by veterinarians and others to give very excellent results, and already it is becoming recognized in certain quarters as one of the most reliable remedies yet introduced. As already pointed out in these columns, it consists in injecting into the udder (through the teats) one dram of iodide of potassium mixed with one quart of boiling water, cooled down to 98 degrees Fahr. before being used. Half a pint of this is to be injected into each quarter of the udder. The animal should then be placed in a comfortable position on her chest, and the udder gently rubbed. Her position should be changed every two or three hours, and only one injection is necessary. It should be borne in mind that before the injection is given the udder and teats should be carefully washed with soap and water, to which a little carbolic acid has been added.—*Farmers' Gazette (Ireland).*

[Dr. Wm. Mole, M. R. C. V. S., writes us as follows, commenting on the above: "With reference to the new treatment for milk fever by the mammary absorption process, I cannot speak with any degree of certainty, but it is in accordance with my ideas of the disease, and should be looked upon with favor until proved incorrect. If you will refer to my account of milk fever and the controversy that once took place in the ADVOCATE, you will see that I have always argued that it was due to re-introduction of the milk into the circulation at the time of parturition, due in many cases to want of water, causing toxic blood poisoning, coma, and death from exhaustion, so that by injecting a material that could be absorbed along the same lines, the brain pressure would be relieved and the animal recover rapidly. There is quite a mass of correspondence in the veterinary journals as to this matter, and the general opinion of those men who I know to be good observing practitioners is that after repeated trials of both methods the chloral hydrate treatment is more successful. On the other hand, many men just as good pin their faith to the new method of the injection through the teats of a weak solution of iodide of potassium as detailed in the above statement."]

Bog Spavin.

Professor McCall, Glasgow, at a recent meeting of veterinarians held at Manchester, Eng., is said by the *Horseman* to have given his opinion on bog spavin as an unsoundness, and on the merits of the new treatment introduced by Mr. Deans, of Bishop Auckland. Bog spavin, whether large or small, constituted legal unsoundness; but he ventured to say in ninety-five cases out of one hundred they in no way affected the animal's usefulness and powers of endurance. He said he had paid the greatest attention to these enlarged capsules of the hock, and rarely, in comparison to their numbers, had he found lameness of the hock associated with their presence. Indeed, if a horse pleased him in other respects, and had the power of free flexion and extension of the hock joints, although he could not pass the animal as sound, he would seldom reject him. Professor McCall maintained that a horse with a straight conformation of the hind limb invariably has the capsules of his hock joints distended, and the straighter the limb the more distended was the swelling or so-called bog spavin in front. "In Scotland," said Professor McCall, an eminent breeder of Clydesdales himself, "we have a family of Clydesdale horses in which this conformation is conspicuous. The celebrated Prince of Wales stallion belonged to this family, and, being one of the most impressive sires, he has transmitted the same conformation of hocks to a large number of his progeny. He lived for twenty years and averaged one hundred miles per annum. When four years old, on account of the conformation of his hocks, he was condemned for bog spavins, and lost the prize for which he was contending. I knew the horse during the whole of his life. He never was lame, and to the day of his death his action was the admiration