MATURING LATE HATCHED CHICKS.

Late hatched chicks are frequently started with enthusiasm and well balanced rations. As the summer passes more and more carelessness is mixed into their management and finally they go into the winter about half matured and with little opportunity of being profitable. When late-hatched chicks are to be raised to maturity, every effort must be made to develop them rapidly or they will be more or less stunted in growth. They will then seldom lay until the next spring, they will be of little or no value as breeders and they will cost their owner more than they will ever be worth. It will usually pay better to sell half a flock rather than try to mature the whole flock on half rations.

Sour milk is an important factor in causing late-hatched chicks to grow rapidly. A well-balanced dry mash should be before the birds at all times. They must receive a range where there is plenty of green food and shade must be provided to eliminate the dangers of too great exposure to hot summer sun. Both the hot and the cold winds which sweep over a poultry range during late summer and early fall, will do considerable injury to the young birds, and so shade and protection are very essential.

The late-hatched chicks must be rigidly culled in the fall. It is probably best to sell all the cockerels as broilers as soon as they reach broiler age. The earlier hatched cockerels make larger and more vigorous breeders in our experience, especially if they are to be mated with year-old hens about the first of January for early hatching eggs. We do not like to keep late-hatched cockerels into the cold weather except for home use, and even those are out of the way by the Christmas holidays. The late hatched pullets need severe culling to remove every bird that will not stand a show of laying by the first of January. There is no money in keeping undersize pullets over winter when they are physically unable to lay until well along into the next spring. A Mediterranean pullet should be in a laying condition at six months of age and the heavier breeds should lay at eight months. There is no use in trying to make them lay before that age as they need that much time to reach their natural development. If they do not lay by that age, there is something wrong with the feeding or the general management. June-hatched Leghorns have between six and seven months growth by the first of January and should be ready to fill the egg basket by that time.

The problem with the late-hatched chicks is to keep them growing rapidly with just the right amount of forcing and no more. It is hard to express that in words, but the experienced poultryman soon learns just how much food and care a pullet needs to keep her stepping right along toward maturity. Boiled oats are cheap, desirable feed. The chicks will eat a large quantity and it will stretch their crops and give them the capacity of large consumers. In the early fall the birds can be forced by mixing boiled pumpkin with the dry mash until it is a crumbly mixture. This seems to stimulate the appetite and the birds are able to eat a great deal of growth-making material. When feed is high there is a temptation to try and raise the late-hatched chicks as cheaply as possible. Often it results in underfed stock. That is the kind that never pay for the little that they do get. The underfed late-hatched pullet is bound to cut down poultry profits. They are sufficiently cut already.

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H. V. ANDREWS

13 CHURCH ST., TORONTO

Dehorning Calves.

Many dairymen object to the horns on dairy cattle, and practice dehorning the cattle they are to keep in their herds. The horns are of no value, and may be a source of injury to the cattle themselves and to the care taker.

In the case of pure-bred cattle intended for show purposes it is advisable to leave well-shaped horns on the animals, as the horns add to the appearence of their heads. In some cases sales of animals might depend upon whether or not they have horns.

In dehorning dairy animals the decrease in milk flow is not so great as commonly believed. In the case of one herd of 25 cows in milk which were dehorned, the milk flow was lowered for three days, but after this time became normal, and at the end of the first week after dehorning was slightly higher than the previous week, as shown by the daily milk sheet. The greatest difficulty in dehorning is getting the animal securely tied.

For this purpose a strong chute or cattle stocks should be used. It is best not to dehorn cows heavy in calf, as they may injure themselves in the chute. When the animal is securely tied the horns can be taken off by means of a special horn clipper, or sawed off with a sharp saw. In order to get a well-shaped poll and to insure against the horn growing again, one should so cut the horn that it will have a ring of hair when it is removed.

Should the animal bleed too freely, this can generally be successfully stopped by using pine tar and cotton. It is best to dehorn in the early spring or late fall, thus avoiding the danger that flies may cause to open wounds.

A more simple and humane method is to kill the horns on the young calf by means of caustic potash or caustic soda. This will also give the cattle a better shaped head. In using this method the calves must be treated before they are two weeks old, or at least while the little button-like growths are still very small and soft.

Chickens of a size should flock together, else the larger and stronger thrive at the expense of the weak. It is because the "survival of the fittest" is a law which operates among chickens that along in the summer, when young stock has been a considerable period on free range, the poultry-keeper should cull out the small, inferior, unthrifty birds. There are always such in a flock of any size. He should give them a coop and run by themselves and feed them fairly.

It is not likely that any of these, either pullets or cockerels, will be suitable to keep for laying or breeding purposes, but they will unless diseased, grow under the treatment suggested and can be marketed profitably for meat.

Culling should be a persistent, continuous process the first year. Undersized, misshapen, and crippled chickens should be groomed for market as soon as their ineligibility for the permanent flock is noted. Crippled hens make poor layers because they do not get enough to eat in competition with the rest of the flock. Undersized hens usually lay small eggs and few of them—they have not capacity to convert feed in large enough quantities. Misshapen birds can usually be safely suspected of deficiencies in the productive functions. Culls of these sorts should be penned by themselves in preparation for market.

A one to two-year old sod, when ploughed under, will enrich the soil as much as would manure applied at the rate of 10 to 12 tons per acre.

THE ART OF BUYING COWS

By Chas. E. Richardson.

Every dairyman that is up-to-date, knows all of the fine points about judging cattle. That is, the large twisted milk veins, large udder with well placed teats, wedge shape body and other markings which go to show that a cow is a good animal for the purpose which one wants her for. But, there are other things which are necessary to know when one has to buy a cow.

There is the risk one must take when getting a strange animal—tuberculosis. There are not, to the ordinary purchaser at least, any external signs which would give him a clew to her being tubercular. Of course, if she was so bad that she was going to die within a very short while, then there might be some indications that all was not all right. But a cow in that condition would not be up for sale. It is the cow that is apparently well, and still has tuberculosis which will develop, that the buyer makes the mistake when purchasing. There seems to be only one way that one can protect himself when he is buying strange cows; that is to know that the cow has been tested recently. Unless one is getting a cow very cheap it does not pay to take a chance getting an untested cow from strangers. And then, if a cow is sold too cheaply, then is the time to suspect that there must be something wrong somewhere, or she would not be sold cheap!

One thing that I always do when I am looking a cow over that is for sale, is to feel her udder all over. I bought a cow once that I neglected to do that to, and after getting her home I found there were lumps in her udder. While I never have had any bother from them, I do not think that it is well to buy a cow with such; they may develop into something serious.

I do not remember of ever reading in any book about trying a cow's teats, to see if she milks easy. I have learned that to have a hard milker, is trying on one's patience. So I always try each teat to see if they are easy to get the milk out of.

Of course, there are supposed to be ways to tell how old a cow is by looking for the rings on her horns. The first ring is supposed to mean three years and each other one represents another year. But there has to be more or less judgment used with this method, I have found. Especially if the horns have been broken or worn a lot. Then again, there are many cows that are without horns. I always look at the front teeth, which, if nice and even, I would be more apt to feel that she was not very old, as old cows sometimes have teeth that are well worn off or broken. But with all these ways to tell, one must do a lot of "sizing up" also, one old farmer told me he did when he bought cows. I do not remember of ever finding a cow over ten or twelve years old that was for sale. After that age it seems to be easy for the owner to forget. Unless one has a particular reason, it is well not to buy an old cow; if a young cow is bought and does not suit it is much easier to get rid of her than an older one.

If one can buy a cow just before she "comes in" here is a better chance then to get some money back that has been invested; the calf is worth something. And then again she can be taken care of and one can get the full benefits from her, where if she was bought later on she man have dropped off in her milk flow, enough so that to get her to do her best, one would have to wait until she freshens again.

If one buys a cow that is fresh or about to freshen there is less chance that she is an aborter. Purchasing a cow that has had her calf for some months, or one that has had her salf just sold (?) makes the risk of getting a cow that has abortion greater. Once abortion gets into a herd, it is hard to get it out. There is no test for abortion. It sometimes takes years to get it out of a herd. Of course, if one can buy from a reliable owner the chances are lessened, but one cannot be too careful.

When one buys a cow that is perfect in every way, that is the time to "look out." She may be a "sucker," or perhaps she is "breechy," that is, jump fences like a deer. Or maybe she will kick you off the seool when she has to be milked.

Really, the only right way to build up a herd is to raise your own stock from a pure-bred bull. Then you know somewhere near what you are doing. But to go out and buy a good cow, now-a-days is a "game of chance," even to the experienced.

A scheme that I have when I want to buy a cow is as follows: I go into the barn of the owner of a cow that is for sale. I look her over carefully and let him tell his story. I feel, though, that he is selling the cow that he thinks is the poorest in his herd. I look over the other cows and ask about them. Generally I can find one or two that look pretty good to me. The chances are that they are the ones that he does not want to sell. Then I feel that if he wants to keep them they must be all right and I try to get him to set a price. I try to buy one of them. Even at a better price, they are generally worth more. Ireason that the seller wants money. He picks out the poorest cow to sell, as cheap as he can. If I offer a good price for a good cow and he needs the money, I may get a good cow rather than take chances on the cheap one. I have succeeded many times in getting nice animals by trading this way. I would rather pay more and be sure than take chances and perphas lose.

Wise Brother Billy.

Brother Billy shows no liking
For the dusty joys of "hiking";

Never do you hear him wishing
That he had a day for fishing.

Rarely do you see him straying
Where the other bays are playing.

On the ball ground you will find them,
But he does not seem to mind them.

When the others talk of tramping
Into woods remote for camping,

Billy says, "I'd like to do it,
But I've work, and must get through it!"

Do you think him odd and silly?
Then you wrong your brother Billy.

It is not that he despises
Sports and games and exercises;

His condition's not alarming—
It is simply that he's farming;

And his garden—see it yonder?—
Truly it is quite a wander!

He began it in the Maytime,
And it's giving him a gay time.

Not a single weed is showing
Where the corn and beans are growing;

Not an insect, crawling, leaping,
Where the little vines are creeping;

Every bed is kept in order,
Trimmed and graded at the border.

When the day is dark and rainy,
Billy never gets complainy.

"It is just the thing I needed
For the onion bed I seeded!"

Ev'ry sunny day he's working—
Never has a thought of shirking;

Here and there you'll see him going,
Weeding, watching, thinning, hoeing,

Whistling sometimes Tipperary,
Sometimes Mary, Quite Contrary;

And his eyes are bright and snappy,
For his heart is very happy.

Wise he is, I hold,—not silly,—
Patriotic Brother Billy!

GOOD ROADS SAVED FRANCE.

State of Highways of Importance Both in War and Peace.

Good roads have twice saved France in the present war. Had it not been for the radiating road system maintained by the French Government, the Germans would have won the battle of the Marne and reached Paris. The Germans had calculated on only three divisions being sent out from Paris to stop the invasion. Instead, the excellent system of highways made it possible for five divisions to be sent to this front.

Again, shortly after the battle of Verdun started, the French railroad which was to furnish many of the supplies to the troops was destroyed. The French Government, however, had a macadam road 32 feet wide on which four lines of traffic, two in either direction, were maintained. Day and night 14,000 motor trucks carried men and equipment.

The traffic never stopped. When a hole was made in the road a man with a shovelful of rock slipped in between the lines of trucks and threw the rock into the hole, then jumped aside to let the trucks roll the rock down. Then another man would follow his example, and so on until the hole was filled. Trucks that broke down were shoved aside, and repaired almost instantly. Had the French depended on their railroad or on poor highways the Germans would have won the battle.

There are few places in which good roads will win great military victories. But there are many places in which they will win great victories in time of peace Whenever a crisis—military, economic, or social—occurs in the life of a community, the condition of the roads is a significant factor in determining whether the community will go up or down, forward or backward. The community with good roads is the community that will deliver the goods when the necessity comes.

TORONTO FAT STOCK SHOW.

The Toronto Fat Stock Show, who are running an advertisement in this issue, have been steadily adding to their premium list, and this year are offering a prize for the best carload of cattle in the show. A few months more feeding might land this for one of our feeders. The cash premium and the big price always obtained in auction sale of prize winners would more than recompense him for the additional time and feed required.

Mothers and daughters of all ages are cordially invited to write to this department. Initials only will be published with each question and its answer as a means of identification, but full name and address must be given in each letter. Write on one side of paper only. Answers will be mailed direct if stamped and addressed envelope is enclosed.

Address all correspondence for this department to Mrs. Helen Law, 235 Woodbine Ave., Toronto.

Mrs. E. C. C.: To remove freckles try the following lotion: bismiuth subnitrate, 2 drams; unguentum simplex, 2 ounces. Mix and apply to the skin at night, and remove in the morning, previous to washing, with a little cold cream. When troubled with chronic eczema, one should avoid fats, starches and coffee. To ease a pinched finger, plunge it into water as hot as can be borne, as this will lessen the pain and prevent the throbbing.

Roxina: There is no excuse for icing cakes at all now. Every day we are being reminded more and more forcibly that sugar must be saved. Your little girl will enjoy her birthday party all the better if you make her understand that in having a cake with no icing she is adding her mite to the food supply of the little French and Belgian children.

Picnicker: No, you cannot take sandwiches to your picnic. It is against the law to serve them in the middle of the day in public eating houses and exactly the same applies to picnics, teas and all other entertainments.

Farm Girl: All I can say in answer to your question is—eat more fish! Don't get cheap fish and fish that is cheap mixed up in your mind. There is a considerable difference. Too many women associate "cheap fish" with something unpleasant. As a matter of fact, through the efforts of the Canada Food Board, fish of the most excellent quality is now being sold all over the country at extremely low rates. In Toronto demonstrations of the best means of cooking fish are being put on all over the city. This example might well be followed in other parts. More and more will the people of Canada be called upon to eat fish. In the year 1883 a London publication contained the following: "This country has got to be largely a fish-eating country for many years to come and the fishing industry is going to be the great stand-by of the nation." If this was true of Britain 35 years ago, how much truer it is of Canada to-day! Canada is a long way behind European countries where her animal herds are concerned. As a hog producing country she raises three hogs in comparison with Germany's fourteen. As a cattle producing country she raises six head of cattle os against Germany's sixteen and as a sheep-raising country she produces two sheep only as compared with Great Britain's fifty-two and Australia's fifty-eight.

But when it comes to fish no country in the world has a better supply. It takes time to make people realize this, however.

Well-Wisher: Couldn't you get the local women's organizations stirred up to inaugurate a community canning centre in your district? It is astonishing what can be done when women get together and make a dead set at some object. Working under the Department of Agriculture in the United States are no fewer than 1,150 trained women who are in the homes of the farmers, teaching them better ways of living and showing them new methods of conservation. Last year these women taught 1,900,000 women and girls how to can and dry vegetables and fruits. Something of a similar nature might be started in Canada through the agency of the Women's Institutes or some similar organization. Already this body has volunteered to help any community desiring to start a canning centre, as far as Ontario is concerned. The article that appeared on this page last week, entitled "Canning With a Conscience," will show you what can be done to preserve garden products. Of course it merely indicates various phases of the canning situation. Full and authoritative information may be obtained by writing to the Canada Food Board direct for copies (5 cents each) of the new illustrated booklet dealing with canning and drying vegetables; or to Mr. Geo. Putman, Superintendent of Women's Institutes for information about community canning. No time to be lost!

INTERNATIONAL LESSON AUGUST 4.

Lesson V. Christian Growth—Luke 2. 42-52; 2 Peter 1. 5-8. Golden Text, Prov. 4. 18.

Luke 2. 42-52

Verse 42. When he was twelve years old—We have no knowledge of the life of Jesus from his infancy to this period. At the age of twelve the Jewish boy was called "a son of the law" and began his instruction in the law as to worship, fasting, and the like. It was therefore quite in place that he now should go up with his parents to the great feast of the Passover, which was one of the three important festivals enjoined by the law of Moses (Pentecost and Tabernacles being the other two). It was the educational effect of these festivals which was so important to the growing boy, for in them were crystallized much of the real essence of the Jewish faith. After the custom of the feast—Meaning that they followed the custom of the annual attendance upon this feast.

43. When they had fulfilled the days—Seven days, according to Exod. 12. 15: "Seven days shall yet eat unleavened bread." The boy Jesus tarried behind in Jerusalem; and his parents knew it not—Here is a picture of the usual mode of traveling to the feast—in caravans, neighbors and friends moving freely back and forth, and the children probably getting together in groups, among their relatives, as they traveled. Thus, as Luke tells us, the parents supposed their boy was somewhere in the caravan and did not worry about him.

45. Returned to Jerusalem, seeking for him—A lost child was a serious affair, especially at this time, when great crowds thronged the city. It was an anxious and sorrowful time for the parents, who doubtless pictured the disaster's which might have befallen him.

46. After three days—According to the Jewish mode of speaking this probably means on the third day. Sitting in the midst of the teachers—We may conceive of him at the feet of a teaching rabbi, sitting in their circle. But to conceive of him as on an equality with the teachers is not in accordance with the text, since the report would not have limited the action of the child to the "hearing and asking." The questioning here is of the pure and holy desire for knowledge, not that of a guest joining in the conversation.

47. Amazed at his understanding and his answers—They were the responses of an unusual "son of the law," as indicating unusual discrimination and spiritual perception for a twelve-year-old boy.

48. Were astonished . . . Son, why hast thou thus dealt with us?—A natural rebuke that he had not told them of his wish to remain behind and also a picture of the absorbing interest the boy had in the discussions over the law.

49. Knew ye not that I must be in my Father's house—Literally, "in the things of my Father?" "Why did you have trouble in finding me, when here would be the natural place to look for me—where my Father's affairs were concerned?"

50. They understood not the saying—Thus his first appearance at the feast was a marvelous revelation to them of something extraordinary in him.

51. He went down with them, and came to Nazareth . . was subject to them—Here, after all, was the normal boy, not puffed up with conceit but considerate and obedient. On the so-called house at Nazareth today is read the Latin phrase "subjiciebat parentibus"—"He was subject unto his parents." His mother kept all these sayings in her heart—Here, evidently, was in Jesus a consciousness of divine sonship, the expression of which his parents did not understand.

2 Peter 1. 5-8

Verses 5-8. Adding on your part all diligence, in your faith supply virtue—Faith as an attitude of the soul is to have certain elements of positive strength in the progressive development of the Christian character. Virtue—The word means literally any eminent endowment or quality. In one version it is used of God to denote his excellences (1 Peter 2. 9) and in the Septuagint is used also to set forth the splendor and glory of God (Hab. 3. 3). Applied to men it means moral excellence, such as purity, modesty. The term "virtues" is thus used by the old philosophers to denote the distinguishing excellences of a man. Peter says in effect, Let your faith be associated with noble qualities of mind and heart. Knowledge—This signifies in general intelligence and understanding but here refers to moral wisdom which is seen in right living. Patience—The characteristic of a man who is unswerved from his deliberate purpose and his loyalty to faith and piety even by the greatest sufferings. Godliness—A reverent attitude toward God and a life conformed to divine ideals. Brotherly kindness—The love which Christians cherish for one another as brethren; the social bond which connects us as children of the heavenly Father and members of the family of God. Love—Inadequately translated "charity" in the Authorized Version. While we are to have a special regard for the "brethren," the characteristic of love is to mark our relations with all mankind; an attitude of good will and benevolence and kind consideration for men generally. If these things are yours and abound—An idle or unfruitful life is impossible if these great qualities mark your Christian character, for they inevitably indicate the spirit of Christ and a growing knowledge of him.

When a black dress becomes stained and spotted try sjonging it with some strong cold tea. This should cause the blemishes to entirely disappear.